2015 WATER AND WASTEWATER UTILITY RATE STUDY AND LONG-TERM FINANCIAL PLAN

CITY OF EDMOND, OKLAHOMA

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Prepared by:

WILLDAN | Economists.com

Dallas Office Address:

5500 Democracy Drive, Ste. 130

Plano, Texas 75024

(972) 378-6588

www.Willdan.com www.Economists.com

Project Manager: Dan V. Jackson

Project Analyst: Rebecca Schafer

CITY OF EDMOND, OKLAHOMA
EDMOND PUBLIC WORKS AUTHORITY
WATER AND WASTEWATER RATE STUDY
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The project team has relied upon the extensive data supplied by the City and EPWA. Thus, the integrity of the study is largely dependent upon the accuracy of this financial and volumetric data. Every effort has been made by the project team to validate and confirm the information contained herein prior to the preparation of the final study documents. This report presents no assurance or guarantee that the forecast contained herein will be consistent with actual results or performances. These represent forecasts based on a series of assumptions about future behavior, and are not guarantees. Any changes in assumptions or actual events may result in significant revisions to the forecast and its conclusions. The cash flow projections and debt service coverage calculations are not intended to present overall financial positions, results of operations, and/or cash flows for the periods indicated, which is in conformity with guidelines for presentation of a forecast established by the American Institute of Certified Public Accountants.

Executive Summary

Executive Summary

Background

In January 2015, Edmond Public Works Authority ("EPWA") of Edmond, Oklahoma (the "City") engaged Economists.com, now a part of Willdan Financial Services, to conduct a water and wastewater rate study and long-term financial plan. EPWA is a public trust and legal entity created under applicable Oklahoma statutes in October 1970 to finance, develop and operate the electric, water, wastewater, drainage and solid waste services for the City. EPWA identified numerous objectives for this study, including but not limited to the following:

- A comprehensive analysis and evaluation of the water and wastewater systems' current cost of service and revenue requirements
- A forecast of operating expenses over the next decade, taking into consideration such factors as inflation, system growth, and increases in staffing levels
- A thorough review of the water and wastewater systems' known capital improvement needs, as well as a determination of the need for funding capital requirements through the issuance of long-term debt
- An evaluation of current cash balances in the water and wastewater utilities; to recommend cash balance goals and to develop a methodology for computing cash balance goals in the future
- An estimate of current and forecast accounts, volumes and billing units for the ten year forecast period
- A review of the current practice of basing summer wastewater charges for residential and commercial customers based on winter water usage and make recommendation for more effective cost recovery if applicable
- The development of alternative rate structures that would recover EPWA's cost of service, ensure equitable, just and reasonable treatment of identified customer classes, and maintain critical financial ratios
- A comparison of recommended alternative rate structures for water and wastewater rates that will distribute costs equitably. Included in this objective is the development of equitable, legally defensible wholesale rates for water sales and wastewater treatment services provided to entities outside the Edmond municipal limits

In conjunction with City staff, the project team evaluated several alternative rate structures which would enable EPWA to achieve these objectives while continuing to provide ratepayers with superior quality water and wastewater services. After a series of meetings with EPWA and City officials, the project team narrowed its recommendations to the water and wastewater rate designs contained in this study. The analysis and recommendations presented in this study achieve all of the objectives outlined above.

Water and Wastewater Rate Comparison

Table ES-1 compares Edmond's monthly water and wastewater charges to those of nearby cities in Central Oklahoma. A volume of 10,000 gallons water and 5,000 gallons wastewater were used for the residential comparison as it represents typical usage levels for an average household. The rate data is based on published rates and ordinances posted by each municipality on their website or obtained by telephone inquiries as of June 2015. These rates do not include sales tax, activation or other charges beyond the basic minimum and volume charges.

TABLE ES-1

CITY OF EDMOND / EPWA

Total Monthly Residential Charges for 10,000 Gallons Water and 5,000 Gallons Wastewater Service

	2013 Population	2009-2013 Median HH Income	10,000 Gallons Water	5,000 Gallons Wastewater	Total	% of Median HH Income
Edmond	87,004	$ 71,215	$ 58.91	$ 25.30	$ 84.21	1.42%
Broken Arrow	103,500	65,484	45.16	19.54	64.70	1.19%
Enid	50,725	42,279	47.40	17.83	65.23	1.85%
Lawton	97,151	43,269	44.26	16.45	60.71	1.68%
Midwest City	56,756	43,536	36.13	21.40	57.53	1.59%
Moore	58,414	57,294	36.95	30.00	66.95	1.40%
Muskogee	38,863	33,664	40.37	16.43	56.80	2.02%
Nichols Hills	3,853	120,439	50.00	22.30	72.30	0.72%
Del City	21,990	40,760	26.39	36.55	62.94	1.85%
Norman	103,595	44,801	43.25	18.50	61.75	1.65%
Oklahoma City 2015	610,613	45,824	39.30	23.37	62.67	1.64%
Oklahoma City 2016	610,613	45,824	41.14	24.64	65.78	1.72%
Oklahoma City 2017	610,613	45,824	42.99	25.97	68.96	1.81%
Stillwater	47,186	31,196	66.00	21.75	87.75	3.38%
Tulsa	398,121	41,241	39.15	33.35	72.50	2.11%
State Ave - 2014 OML Survey		$ 45,339	$ 49.36	$ 18.49	$ 67.85	

Source: Population and MHI: US Census Bureau (Quick Facts)
Rate data from City Ordinances and websites June 2015

Water and Wastewater Customers and Meters – Test Year & Ten Year Forecast

The majority of the accounts served by EPWA are residential accounts, with the balance being municipal, commercial, industrial and public. Multi-family accounts are included in the residential rate class. At the present time, the rate structure is the same for all rate classes. Account growth has improved considerably since the economic downturn. Overall water accounts are forecast to increase from **29,591** in the test year to **34,729** in FY 2025, an average annual increase of **1.80%.** The City has a lot of land available for expansion; however not all growth is expected to connect to City services. Approximately 90% of new water accounts are forecast to connect to EPWA wastewater services as well.

There is a strong potential that the City may begin providing service to two or three types of wholesale water accounts and a wholesale wastewater account within the next two years, and in preparation, rates for these accounts were developed in the course of this study. Assumptions provided by EPWA staff served as the basis for development of the forecast volumes for the wholesale accounts. Once these accounts have been connected to the system and actual consumption totals and patterns can be analyzed, the project team recommends that EPWA consider an update of the rate study to verify and correct the assumptions made herein, and to revise the rate plan if necessary.

Table ES-2 presents total water and wastewater accounts for EPWA for the test year and forecast period.

TABLE ES-2

CITY OF EDMOND - EPWA
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TOTAL ACCOUNTS
WATER Customer Classes

	Residential	COE Internal	Commercial	Industrial	Public	Wholesale (All Yr.)	Wholesale (w/Peaking)	Total
WATER Total Accounts (Historical)								
FY 2014	25,954	120	2,157	16	162	-	-	28,409
Est FY 2015	26,483	126	2,214	15	163	-	-	29,001
WATER Total Accounts (Forecast)								
TY 2016	27,033	126	2,254	15	163	-	-	29,591
FY 2017	27,583	126	2,294	15	163	1	1	30,183
FY 2018	28,133	126	2,334	15	163	1	2	30,774
FY 2019	28,683	126	2,374	15	163	1	2	31,364
FY 2020	29,233	126	2,414	15	163	1	2	31,954
FY 2021	29,758	126	2,464	15	163	1	2	32,529
FY 2022	30,283	126	2,514	15	163	1	2	33,104
FY 2023	30,808	126	2,564	15	163	1	2	33,679
FY 2024	31,308	126	2,614	15	163	1	2	34,229
FY 2025	31,758	126	2,664	15	163	1	2	34,729

TOTAL ACCOUNTS
WASTEWATER Customer Classes

	Residential	COE Internal	Commercial	Industrial	Public	Wholesale	Total
WASTEWATER Total Accounts (Historical)							
FY 2014	27,341	47	2,063	12	83	-	29,546
Est FY 2015	27,863	48	2,091	15	84	-	30,101
WASTEWATER Total Accounts (Forecast)							
TY 2016	28,358	48	2,127	15	84	-	30,632
FY 2017	28,853	48	2,163	15	84	1	31,164
FY 2018	29,348	48	2,199	15	84	1	31,695
FY 2019	29,843	48	2,235	15	84	1	32,226
FY 2020	30,338	48	2,271	15	84	1	32,757
FY 2021	30,811	48	2,316	15	84	1	33,275
FY 2022	31,283	48	2,361	15	84	1	33,792
FY 2023	31,756	48	2,406	15	84	1	34,310
FY 2024	32,206	48	2,451	15	84	1	34,805
FY 2025	32,611	48	2,496	15	84	1	35,255

Capital Improvement Plan and Debt Service

Like most utilities, EPWA maintains an extensive and detailed capital improvement program to repair, maintain and expand its water and wastewater system. EPWA staff and their engineers completed a Water and Wastewater System Master Plan in December 2013. Using this Master Plan along with continued studies and refinements EPWA staff have developed a comprehensive ten-year CIP that includes the following major projects:

Water

- An expansion of the Arcadia Water Treatment Plant from 10.5 Million Gallons Per Day ("MGD") to 30.0 MGD
- A new raw water intake structure for Arcadia Lake to increase the supply capacity from the lake
- Construct a new 36" transmission line to Interstate 35
- Build 2 new water towers
- Expand and fund needed repairs and replacements to the water distribution system

Wastewater

- Expansion of the Chisholm Creek Lift Station and replacement of the Spring Creek Lift Station
- Expansion of the Coffee Creek Wastewater Treatment Plant from 9.0 MGD to 12.0 MGD
- Expand the wastewater collection system, particularly interceptor lines
- Fund needed repairs and replacements to the wastewater collection system
- Fund the expansion of the EPWA's wastewater systems into unsewered areas

Major capital expenditures, such as treatment plant expansions are forecast to be funded through long-term debt. Capital Improvements for the water and wastewater CIP projected by City staff to be funded through debt for the forecast period under the Base Scenario are summarized in **Table ES-3.** For this analysis, the project team is assuming that the debt has a term of 30 years at 4.0% interest, and 2.0% issuing cost, with level debt service payments and reserve requirements incorporated into the bond issues.

TABLE ES-3

CITY OF EDMOND / EPWA

FORECAST BOND ISSUES FOR CAPITAL IMPROVEMENTS

SCENARIO: Base; Alt 1 Status Quo

Year	Total	Water	Wastewater
FY 2016	$ 28,700,000	$ -	$ 28,700,000
FY 2017	194,200,000	100,000,000	94,200,000
FY 2018	7,700,000	-	7,700,000
FY 2019	-	-	-
FY 2020	-	-	-
FY 2021	5,200,000	-	5,200,000
FY 2022	6,300,000	-	6,300,000
FY 2023	3,500,000	-	3,500,000
FY 2024	700,000	700,000	-
FY 2025	5,000,000	3,200,000	1,800,000

Net Revenue Requirement

Table ES-4 presents the test year and ten year forecast for EPWA's net revenue requirement to be raised from rates for the Base Scenario. As shown in the tables, debt service becomes an increasing portion of the total revenue requirement as additional debt is issued to pay for CIP projects. Detailed calculations are presented in the rate model contained in Appendix A of this report. These net revenue requirements must be raised from rates in the test year FY 2016 and the forecast period.

TABLE ES-4

CITY OF EDMOND / EPWA

CURRENT AND FORECAST REVENUE REQUIREMENT

SCENARIO: Base; Alt 1 Status Quo

TOTAL Revenue Requirement

	Operating Expenses	Capital Outlays	Debt Coverage	Total Debt Service	Total Cost of Service	Less Non-Rate Revenues	Net Revenue Requirement
FY 2016	$ 21,444,045	$ 21,540,007	$ 1,032,834	$ 4,131,336	$ 48,148,222	$ 7,408,485	$ 40,739,737
FY 2017	22,578,857	23,462,007	1,908,262	7,633,047	55,582,173	7,585,424	47,996,749
FY 2018	23,288,967	10,764,007	4,019,638	16,078,553	54,151,165	7,671,809	46,479,356
FY 2019	23,624,895	14,364,007	4,552,382	18,209,528	60,750,812	7,757,313	52,993,499
FY 2020	24,037,412	15,564,007	4,568,849	18,275,398	62,445,666	7,767,494	54,678,172
FY 2021	26,551,145	12,364,007	4,567,976	18,271,906	61,755,035	7,895,201	53,859,834
FY 2022	27,638,293	12,564,007	4,644,022	18,576,088	63,422,410	8,082,746	55,339,664
FY 2023	28,781,598	13,064,007	4,738,896	18,955,583	65,540,084	8,275,918	57,264,166
FY 2024	29,981,188	12,964,007	5,252,626	21,010,505	69,208,326	8,415,241	60,793,084
FY 2025	31,004,634	13,164,007	4,032,875	16,131,501	64,333,017	8,484,661	55,848,356

All data used in the development of the revenue requirements was obtained from the financial statements, budgets and other information provided by EPWA. Detailed calculations are presented in the rate model contained in Appendix A of this report. For rate design purposes, revenue requirements are developed separately for the water and wastewater systems. It should be noted that if EPWA materially revises its CIP, or if EPWA chooses to issue water and wastewater revenue bond debt in a timeframe or total different from that contained in this study, the rate plan alternatives may be subject to potentially significant revision.

Water and Wastewater Rate Recommendations

Numerous alternative rate designs were reviewed with staff, and the final rate plans presented to Council are provided in this report. **These rate plans do not recover sufficient equivalent revenues to meet all operating and capital obligations; rather they are designed to maintain the fund balance objectives identified in the report, utilizing fund balance drawdown as needed to mitigate rate adjustments and provide rate stabilization. Revenue requirements and volume projections are the same for each of the alternatives.**

Water and Wastewater Alternative 1 – Status Quo

Under Alternative 1, the projected rate revenues in conjunction with forecast utility fund balance contributions would collect sufficient revenues to fund all operating and capital obligations in each of the forecast years, including the issuance of $103,900,000 of new water debt and new $147,400,000 of new wastewater debt over the ten year forecast period. In this rate alternative, uniform adjustments are applied to the existing base and volumetric rates for each rate class. There is no change to the basic rate structure other than the uniform annual adjustments. **Table ES-5** presents a summary of the water rate plan proposed for EPWA under this alternative, and **Table ES-6** presents a summary of the wastewater rate plan proposed for EPWA under this alternative. **Exhibit ES-7** presents a detailed summary of the rate model for both the **Water Alternative 1 and the Wastewater Alternative 1.** This summary includes the full ten year forecast of rates, projected revenues and expenses as well as the projected reserve balances and debt coverage ratios.

TABLE ES-5

City of Edmond/ EPWA

Water Alternative 1 -Status Quo Rate Plan

Scenario: Base; Alt 1 Status Quo	Current	Effective Nov-15	Effective Nov-16	Effective Nov-17	Effective Nov-18	Effective Nov-19
WATER -- Retail						
Monthly Charge -- 1st 1,000 Gal						
5/8" or 3/4"	$ 6.70	$ 7.04	$ 7.39	$ 7.83	$ 8.38	$ 8.96
1"	11.03	11.58	12.16	12.89	13.79	14.76
1 1/2"	21.63	22.71	23.85	25.28	27.05	28.94
Volume Charge						
2,000 3,000	5.49	5.76	6.05	6.42	6.87	7.35
4,000 10,000	5.89	6.16	6.45	6.82	7.27	7.75
11,000 Above	6.49	6.76	7.05	7.42	7.87	8.35

TABLE ES-6

City of Edmond/ EPWA

Wastewater Alternative 1 -Status Quo Rate Plan

Scenario: Base; Alt 1 Status Quo	Current	Effective Nov-15	Effective Nov-16	Effective Nov-17	Effective Nov-18	Effective Nov-19
WASTEWATER -- Retail						
Base Charge	$ 11.50	$ 12.77	$ 14.17	$ 15.73	$ 17.30	$ 19.03
Volume Charge Per 1,000 Gal	2.76	3.06	3.40	3.77	4.15	4.57

EDMOND PUBLIC WORKS AUTHORITY
WATER/WASTEWATER COST OF SERVICE MODEL

Forecast Summary
Scenario: Base; Alt 1 Status Quo

			Current	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025
1A Water Rates – Residential													
Annual Adjustment				5.0%	5.0%	6.0%	7.0%	7.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Min Chg	5/8" or 3/4"		$ 6.70	$ 7.04	$ 7.39	$ 7.83	$ 8.38	$ 8.96	$ 8.96	$ 8.96	$ 8.96	$ 8.96	$ 8.96
	1"		11.03	11.58	12.16	12.89	13.79	14.76	14.76	14.76	14.76	14.76	14.76
	1 1/2"		21.63	22.71	23.85	25.28	27.05	28.94	28.94	28.94	28.94	28.94	28.94
	2"		30.61	32.14	33.75	35.77	38.28	40.96	40.96	40.96	40.96	40.96	40.96
	3"		61.39	64.46	67.68	71.74	76.77	82.14	82.14	82.14	82.14	82.14	82.14
Usage Chg	2,000	3,000	5.49	5.76	6.05	6.42	6.87	7.35	7.35	7.35	7.35	7.35	7.35
	4,000	10,000	5.89	6.16	6.45	6.82	7.27	7.75	7.75	7.75	7.75	7.75	7.75
	11,000	Above	6.49	6.76	7.05	7.42	7.87	8.35	8.35	8.35	8.35	8.35	8.35
1B Water Rates – Wholesale (Arcadia)													
Master Meter Charge			$ 185.97	$ 195.27	$ 205.03	$ 217.33	$ 232.55	$ 248.83	$ 248.83	$ 248.83	$ 248.83	$ 248.83	$ 248.83
Usage Charge Per Thousand Gallons			5.63	5.91	6.20	6.58	7.04	7.53	7.53	7.53	7.53	7.53	7.53
Service Availability Excess Rate													
2A Wastewater Rates – Residential													
Annual Adjustment				11.0%	11.0%	11.0%	10.0%	10.0%	7.5%	4.0%	0.0%	0.0%	0.0%
Minimum Charge			$ 11.50	$ 12.77	$ 14.17	$ 15.73	$ 17.30	$ 19.03	$ 20.46	$ 21.28	$ 21.28	$ 21.28	$ 21.28
Usage Charge			2.76	3.06	3.40	3.77	4.15	4.57	4.91	5.11	5.11	5.11	5.11
2B Wastewater Rates – Wholesale													
6" Meter Charge			$ 185.97	$ 195.27	$ 205.03	$ 217.33	$ 232.55	$ 248.83	$ 248.83	$ 248.83	$ 248.83	$ 248.83	$ 248.83
Usage Charge Per Thousand Gallons			3.86	4.29	4.76	5.28	5.81	6.39	6.87	7.15	7.15	7.15	7.15
3 Average Monthly Charges – Residential													
5,000 Water, 5,000 WW			$ 54.76	$ 58.98	$ 63.57	$ 68.89	$ 74.70	$ 81.01	$ 84.15	$ 85.95	$ 85.95	$ 85.95	$ 85.95
Increase				4.22	4.59	5.32	5.80	6.31	3.14	1.80	-	-	-
10,000 Water, 10,000 WW			$ 98.01	$ 105.12	$ 112.84	$ 121.85	$ 131.78	$ 142.58	$ 147.43	$ 150.21	$ 150.21	$ 150.21	$ 150.21
Increase				7.11	7.72	9.01	9.94	10.79	4.85	2.78	-	-	-
30,000 Water, 10,000 WW			$ 227.81	$ 240.41	$ 253.89	$ 270.17	$ 289.08	$ 309.49	$ 314.34	$ 317.12	$ 317.12	$ 317.12	$ 317.12
Increase				12.60	13.48	16.27	18.92	20.40	4.85	2.78	-	-	-
50,000 Water, 10,000 WW			$ 357.61	$ 375.70	$ 394.95	$ 418.48	$ 446.38	$ 476.40	$ 481.25	$ 484.04	$ 484.04	$ 484.04	$ 484.04
Increase				18.09	19.25	23.54	27.90	30.02	4.85	2.78	-	-	-
4 Customer and Usage Data													
Water -- Usage (Gallons)													
Residential				2,871,369,641	2,929,789,102	2,988,208,564	3,046,628,025	3,105,047,487	3,160,811,518	3,216,575,550	3,272,339,581	3,325,448,182	3,373,245,924
Non-Residential				850,320,256	888,152,822	911,285,387	923,467,953	935,650,519	950,878,726	966,106,933	981,335,140	996,563,347	1,011,791,554
Total Water				3,721,689,897	3,817,941,924	3,899,493,951	3,970,095,978	4,040,698,005	4,111,690,244	4,182,682,482	4,253,674,721	4,322,011,529	4,385,037,478
Water -- Accounts													
Residential				27,033	27,583	28,133	28,683	29,233	29,758	30,283	30,808	31,308	31,758
Non-Residential				2,558	2,600	2,641	2,681	2,721	2,771	2,821	2,871	2,921	2,971
Total Water				29,591	30,183	30,774	31,364	31,954	32,529	33,104	33,679	34,229	34,729
Wastewater -- Accounts													
Residential				28,358	28,853	29,348	29,843	30,338	30,811	31,283	31,756	32,206	32,611
Non-Residential				2,274	2,311	2,347	2,383	2,419	2,464	2,509	2,554	2,599	2,644
Total Wastewater				30,632	31,164	31,695	32,226	32,757	33,275	33,792	34,310	34,805	35,255

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EDMOND PUBLIC WORKS AUTHORITY
WATER/WASTEWATER COST OF SERVICE MODEL

Forecast Summary
Scenario: Base; Alt 1 Status Quo

5 CAFR -- RESOURCES AND COSTS

	Current	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025
ESTIMATED RESOURCES											
REVENUES:											
Water Charges for Service		$ 24,071,110	$ 25,844,422	$ 27,754,155	$ 29,976,325	$ 32,489,048	$ 33,921,174	$ 34,505,504	$ 35,089,833	$ 35,652,592	$ 36,172,209
Water Development Fees		876,918	957,829	955,652	954,546	955,652	921,464	921,464	921,464	887,388	814,524
Water Non-Rate Revenues		3,496,014	3,574,929	3,642,988	3,702,895	3,708,103	3,819,346	3,933,926	4,051,944	4,173,503	4,298,708
WW Charges for Service		12,023,495	13,616,586	15,368,092	17,245,164	19,277,805	21,246,105	22,743,495	23,470,431	23,812,984	24,127,504
Wastewater Development Fees		680,008	745,247	742,416	742,416	742,416	722,228	722,228	722,226	696,661	634,009
WW Non-Rate Revenues		2,353,545	2,307,419	2,330,753	2,357,456	2,361,323	2,432,163	2,505,128	2,580,281	2,657,690	2,737,421
Total Revenues		43,503,090	47,046,432	50,794,056	54,978,802	59,534,347	63,062,480	65,331,745	66,836,181	67,880,817	68,784,375
OTHER RESOURCES:											
Debt/Loan Proceeds		28,700,000	194,200,000	7,700,000	-	-	5,200,000	6,300,000	3,500,000	700,000	5,000,000
Long-Term Capital Improvement Plan		(28,700,000)	(194,200,000)	(7,700,000)	-	-	(5,200,000)	(6,300,000)	(3,500,000)	(700,000)	(5,000,000)
Restricted Prior Year Reserves		-	-	-	-	-	-	-	-	-	-
Debt Coverage		1,032,834	1,908,262	4,019,638	4,552,382	4,568,849	4,567,976	4,644,022	4,738,896	5,252,626	4,032,875
Net Revenues for Contingency and Coverage		(4,645,132)	(8,535,741)	(3,357,109)	(5,772,010)	(2,911,319)	1,307,446	1,909,335	1,296,098	(1,327,509)	4,451,357
Unrestricted Prior Year Reserves		42,004,602	33,747,172	18,583,952	15,889,372	8,897,735	7,643,946	14,826,814	23,289,505	30,620,596	33,218,204
TOTAL ESTIMATED RESOURCES		81,895,394	74,166,125	70,040,537	69,648,546	70,089,612	76,581,848	86,711,915	96,160,680	102,426,530	110,486,811
ESTIMATED USES											
DIRECT COSTS BY FUNCTION											
Personal Services		4,883,008	4,986,844	5,085,058	5,179,695	5,261,739	5,490,997	5,732,846	5,988,120	6,257,715	6,515,558
Materials and Supplies		1,863,926	1,909,523	1,944,885	1,991,914	2,033,565	2,144,932	2,263,105	2,388,569	2,520,727	2,647,281
Other Services and Charges		6,227,004	6,347,454	6,594,904	6,683,732	6,856,186	7,961,799	8,360,323	8,784,429	9,233,651	9,513,628
Non-Department		-	-	-	-	-	-	-	-	-	-
Capital Outlay		21,540,007	23,462,007	10,764,007	14,364,007	15,564,007	12,364,007	12,564,007	13,064,007	12,964,007	13,164,007
Debt Coverage		1,032,834	1,908,262	4,019,638	4,552,382	4,568,849	4,567,976	4,644,022	4,738,896	5,252,626	4,032,875
Debt Service		4,131,336	7,633,047	16,078,553	18,209,528	18,275,398	18,271,906	18,576,088	18,955,583	21,010,505	16,131,501
TOTAL ESTIMATED COSTS		39,678,115	46,247,137	44,487,045	50,981,258	52,559,744	50,801,618	52,140,391	53,919,604	57,239,231	52,004,850
TRANSFERS											
Transfers In		-	-	-	-	-	-	-	-	-	-
Transfers Out		(8,470,107)	(9,335,036)	(9,664,120)	(9,769,554)	(9,885,922)	(10,953,417)	(11,282,019)	(11,620,480)	(11,969,094)	(12,328,167)
NET TRANSFERS IN (OUT)		(8,470,107)	(9,335,036)	(9,664,120)	(9,769,554)	(9,885,922)	(10,953,417)	(11,282,019)	(11,620,480)	(11,969,094)	(12,328,167)
Total Cost of Service		48,148,222	55,582,173	54,151,165	60,750,812	62,445,666	61,755,035	63,422,410	65,540,084	69,208,326	64,333,017
OTHER USES:											
Reserve for Emergencies and Shortfalls		33,747,172	18,583,952	15,889,372	8,897,735	7,643,946	14,826,814	23,289,505	30,620,596	33,218,204	46,153,794
TOTAL OTHER USES		33,747,172	18,583,952	15,889,372	8,897,735	7,643,946	14,826,814	23,289,505	30,620,596	33,218,204	46,153,794
TOTAL ESTIMATED USES		81,895,394	74,166,125	70,040,537	69,648,546	70,089,612	76,581,848	86,711,915	96,160,680	102,426,530	110,486,811
LEVEL OF EMERGENCY RESERVES											
Percentage of Total Revenues		77.6%	39.5%	31.3%	16.2%	12.8%	23.5%	35.6%	45.8%	48.9%	67.1%
Number of Days of Revenue		283	144	114	59	47	86	130	167	179	245
One Day of Operating Expense		58,751	61,860	63,805	64,726	65,856	72,743	75,721	78,854	82,140	84,944
Fund Balance Days of Operating Expense		574	300	249	137	116	204	308	388	404	543
Debt Coverage		5.34	3.21	1.71	1.72	1.94	2.00	2.03	2.01	1.80	2.34

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EDMOND PUBLIC WORKS AUTHORITY
WATER/WASTEWATER COST OF SERVICE MODEL

Forecast Summary
Scenario: Base; Alt 1 Status Quo

		Current	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025
6	Cash Basis -- Cost of Service											
1	Water Rate Revenues		$ 24,071,110	$ 25,844,422	$ 27,754,155	$ 29,976,325	$ 32,489,048	$ 33,921,174	$ 34,505,504	$ 35,089,833	$ 35,652,592	$ 36,172,209
2a	Water Development Fees		878,918	957,829	955,652	954,546	955,652	921,464	921,464	921,464	887,388	814,524
2b	Water Non-Rate Revenues		3,496,014	3,574,929	3,642,988	3,702,895	3,708,103	3,819,346	3,933,926	4,051,944	4,173,503	4,298,708
3	WW Rate Revenues		12,023,495	13,616,586	15,368,092	17,245,164	19,277,805	21,246,105	22,743,495	23,470,431	23,812,984	24,127,504
4a	WW Development Fees		680,008	745,247	742,416	742,416	742,416	722,228	722,228	722,228	696,661	634,009
4b	WW Non-Rate Revenues		2,353,545	2,307,419	2,330,753	2,357,456	2,361,323	2,432,163	2,505,128	2,580,281	2,657,690	2,737,421
5	**Total Revenues**		**43,503,090**	**47,046,432**	**50,794,056**	**54,978,802**	**59,534,347**	**63,062,480**	**65,331,745**	**66,836,181**	**67,880,817**	**68,784,375**
6	Operating Expenses											
7	Water Treatment Plant (Div 332)		5,254,067	5,347,922	5,481,424	5,623,693	5,769,186	6,794,561	7,105,193	7,433,017	7,777,361	8,010,681
8	Water Wells (Div 333)		1,384,755	1,421,056	1,459,035	1,496,994	1,536,171	1,629,317	1,729,499	1,837,307	1,952,782	2,021,322
9	FS - Water Utility Line Maint (Div 431)		2,059,566	2,106,782	2,133,876	2,168,550	2,190,516	2,285,876	2,386,196	2,491,786	2,602,733	2,719,118
10	Wastewater Treatment Plant (Div. 352)		2,827,324	2,899,462	3,061,119	3,054,949	3,134,673	3,304,236	3,485,595	3,679,699	3,886,786	4,056,051
11	FS-Wastewater Utility Line Maint (Div 451)		1,448,226	1,468,599	1,489,393	1,511,155	1,520,944	1,583,739	1,649,790	1,719,309	1,792,432	1,869,294
12	Transfers		8,470,107	9,335,036	9,664,120	9,769,554	9,885,922	10,953,417	11,282,019	11,620,480	11,969,094	12,328,167
13	Non-Department		-	-	-	-	-	-	-	-	-	-
14	Total Operating Expenses		21,444,045	22,578,857	23,288,967	23,624,895	24,037,412	26,551,145	27,638,293	28,781,598	29,981,188	31,004,634
15	Net Revenues Available for Debt and Capital		22,059,045	24,467,575	27,505,089	31,353,907	35,496,935	36,511,335	37,693,451	38,054,584	37,899,629	37,779,741
16	Capital Outlays		21,540,007	23,462,007	10,764,007	14,364,007	15,564,007	12,364,007	12,564,007	13,064,007	12,964,007	13,164,007
	Debt Coverage		1,032,834	1,906,262	4,019,638	4,552,382	4,568,849	4,567,976	4,644,022	4,738,896	5,252,626	4,032,875
17	Debt Service -- Current		4,131,336	6,462,087	6,462,275	4,607,194	4,673,065	4,669,572	4,667,024	4,674,903	6,523,371	1,603,077
18	Debt Service -- Forecast		-	1,170,960	9,616,278	13,602,333	13,602,333	13,602,333	13,909,064	14,280,680	14,487,134	14,528,424
19	Sub-Total		26,704,177	33,003,316	30,862,198	37,125,917	38,408,254	35,203,889	35,784,117	36,758,486	39,227,138	33,328,383
20	**Total Cash-Basis Cost of Service**		**48,148,222**	**55,582,173**	**54,151,165**	**60,750,812**	**62,445,666**	**61,755,035**	**63,422,410**	**65,540,084**	**69,208,326**	**64,333,017**
21	Net Revenues for Contingency and Coverage		(4,645,132)	(8,535,741)	(3,357,109)	(5,772,010)	(2,911,319)	1,307,446	1,909,335	1,296,098	(1,327,509)	4,451,357
22	Percent of Revenues		-10.7%	-18.1%	-6.6%	-10.5%	-4.9%	2.1%	2.9%	1.9%	-2.0%	6.5%
	Debt Coverage (11/(13+14))		5.34	3.21	1.71	1.72	1.94	2.00	2.03	2.01	1.80	2.34
	Less Drawdown of Fund Balance for Rate Stabilization		4,645,132	8,535,741	3,540,766	5,772,010	2,911,319	-	-	-	1,437,289	-
	Less Set Aside for Repair and Replacement		-	-	-	-	1,000,000	7,000,000	7,000,000	7,000,000	7,000,000	7,000,000
	W & WW Repair & Replacement Fund Balance		-	-	-	-	1,000,000.00	8,000,000.00	15,000,000.00	22,000,000.00	29,000,000.00	36,000,000.00

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Water Alternative 2 – Revised Residential Rate Tiers and Phased-In AWWA Meter Equivalencies

As with Alternative 1, the projected rate revenues in conjunction with forecast utility fund balance contributions would collect sufficient revenues to fund all operating and capital obligations in each of the forecast years. Water Alternative 2 has the same funding requirements as Alternative 1, but the rate design incorporates two types of changes for the water rates in addition to the annual adjustments. The first change is a revision of the volumetric water consumption tiers for the Residential rate class only as shown in **ES-8**. The second change is a gradual phase in over three years of American Water Works Association ("AWWA") meter equivalency charges to the existing minimum charges for water and for wastewater. EPWA already assesses water minimum charges according to meter size, and this change just takes the next step to align them with the recommended flow rate equivalencies as recommended by AWWA.

TABLE ES-8

City of Edmond/EPWA

Alt 2 Changes to Residential Water Rate Tiers

Volumetric Rate Blocks		
Current	Proposed	Total Gallons
		and up
	Proposed Block 3: Usage above 20,000 Gallons	24,000
		23,000
		22,000
		21,000
		20,000
Block 3: Usage above 10,000 Gallons		19,000
		18,000
		17,000
	Proposed Block 2: Next 10,000 Gallons	16,000
		15,000
		14,000
		13,000
		12,000
		11,000
		10,000
Block 2: Next 7,000 Gallons		9,000
		8,000
		7,000
	Proposed Block 1: Next 9,000 Gallons	6,000
		5,000
		4,000
Block 1: Next 2,000 Gallons		3,000
		2,000
Base: Includes 1,000 Gallons		1,000

Table ES-9 presents a summary of the water rate plan proposed for EPWA under this alternative and **Table ES -10** presents a summary of the wastewater rate plan.

TABLE ES-9

City of Edmond/ EPWA

Water Alternative 2 - Water Meter Equivalencies & Revised Residential Tiers

Scenario: Alt 2 Revised Residential Rate Tiers (WITH Mtr Equiv)		Current	Effective Nov-15	Effective Nov-16	Effective Nov-17	Effective Nov-18	Effective Nov-19
WATER - Retail; Residential							
Monthly Charge -- 1st 1,000 Gal							
5/8" or 3/4"		$ 6.70	$ 7.10	$ 7.46	$ 7.83	$ 8.14	$ 8.39
1"		11.03	12.43	14.91	19.57	20.36	20.97
1 1/2"		21.63	24.86	29.83	39.15	40.72	41.94
Volume Charge							
2,000	10,000	5.49	5.82	6.11	6.42	6.67	6.87
11,000	20,000	5.89	6.82	7.11	7.42	7.67	7.87
21,000	Above	6.49	8.52	8.89	9.27	9.59	9.84
WATER - Retail; Non-Residential							
Monthly Charge -- 1st 1,000 Gal							
5/8" or 3/4"		$ 6.70	$ 7.10	$ 7.46	$ 7.83	$ 8.14	$ 8.39
1"		11.03	12.43	14.91	19.57	20.36	20.97
1 1/2"		21.63	24.86	29.83	39.15	40.72	41.94
Volume Charge							
2,000	3,000	5.49	5.82	6.11	6.42	6.67	6.87
4,000	10,000	5.89	6.22	6.51	6.82	7.07	7.27
11,000	Above	6.49	6.82	7.11	7.42	7.67	7.87

TABLE ES-10

City of Edmond/ EPWA

Wastewater Alternative 2: Phase In of AWWA Meter Equivalencies

Scenario: Alt 2 Revised Residential Rate Tiers		Current	Effective Nov-15	Effective Nov-16	Effective Nov-17	Effective Nov-18	Effective Nov-19
WASTEWATER -- Retail							
Base Charge	**5/8" or 3/4"**	$ 11.50	$ 12.77	$ 14.17	$ 15.73	$ 17.30	$ 19.03
	1"	11.50	12.77	14.91	19.57	20.36	20.97
	1 1/2"	11.50	24.86	29.83	39.15	40.72	41.94
	2"	11.50	42.61	59.66	78.30	81.43	83.87
Volume Charge							
Per 1,000 Gal		2.76	3.06	3.40	3.77	4.15	4.57

Tables ES-11 presents the comparative impact of Alternative 1 and Alternative 2 on Residential water bills and **Table ES-12** presents this comparison on wastewater bills. **Exhibit ES-13** presents a detailed summary of the rate model for both the **Water Alternative 2 and the Wastewater Alternative 2.** This summary includes the full ten year forecast of rates, projected revenues and expenses as well as the projected reserve balances and debt coverage ratios.

TABLE ES-11

City of Edmond/ EPWA

Comparison of Water Alternatives 1 and 2 Impact on Residential Ratepayers

5,000 Gallons Residential		Current	Effective Nov-15	Effective Nov-16	Effective Nov-17	Effective Nov-18	Effective Nov-19
WATER – Monthly Retail Charge							
Status Quo	Alt 1	$ 29.46	$ 30.89	$ 32.40	$ 34.29	$ 36.64	$ 39.15
Increase			1.43	1.50	1.90	2.34	2.51
Revised Resid Rate Tiers w /Mtr Equiv.	Alt 2	29.46	30.38	31.90	33.49	34.83	35.88
Increase			0.92	1.52	1.59	1.34	1.04
10,000 Gallons Residential		**Current**	**Effective Nov-15**	**Effective Nov-16**	**Effective Nov-17**	**Effective Nov-18**	**Effective Nov-19**
WATER – Monthly Retail Charge							
Status Quo	Alt 1	$ 58.91	$ 61.72	$ 64.66	$ 68.37	$ 72.96	$ 77.87
Increase			2.81	2.95	3.71	4.59	4.91
Revised Resid Rate Tiers w /Mtr Equiv.	Alt 2	58.91	59.48	62.45	65.57	68.20	70.24
Increase			0.57	2.97	3.12	2.62	2.05
20,000 Gallons Residential		**Current**	**Effective Nov-15**	**Effective Nov-16**	**Effective Nov-17**	**Effective Nov-18**	**Effective Nov-19**
WATER – Monthly Retail Charge							
Status Quo	Alt 1	$ 123.81	$ 129.36	$ 135.19	$ 142.53	$ 151.61	$ 161.33
Increase			5.55	5.83	7.34	9.08	9.72
Revised Resid Rate Tiers w /Mtr Equiv.	Alt 2	123.81	127.67	133.55	139.73	144.92	148.97
Increase			3.86	5.88	6.18	5.19	4.05

TABLE ES-12

City of Edmond/ EPWA

Comparison of Wastewater Alternatives 1 and 2 on Retail Ratepayers

		Current	Effective Nov-15	Effective Nov-16	Effective Nov-17	Effective Nov-18	Effective Nov-19
WASTEWATER – Monthly Retail Charge							
5,000 Gallons; 5/8" or 3/4" Meter							
Alt 1	Status Quo	$ 25.30	$ 28.08	$ 31.17	$ 34.60	$ 38.06	$ 41.87
	Increase		2.78	3.09	3.43	3.46	3.81
Alt 2	Meter Equivalency	25.30	28.08	31.17	34.60	38.06	41.87
	Increase		2.78	3.09	3.43	3.46	3.81
10,000 Gallons; 5/8" or 3/4" Meter							
Alt 1	Status Quo	$ 39.10	$ 43.40	$ 48.18	$ 53.47	$ 58.82	$ 64.70
	Increase		4.30	4.77	5.30	5.35	5.88
Alt 2	Meter Equivalency	39.10	43.40	48.18	53.47	58.82	64.70
	Increase		4.30	4.77	5.30	5.35	5.88
20,000 Gallons; 2" Meter							
Alt 1	Status Quo	$ 66.70	$ 74.04	$ 82.18	$ 91.22	$ 100.34	$ 110.38
	Increase		7.34	8.14	9.04	9.12	10.03
Alt 2	Meter Equivalency	66.70	86.13	97.84	114.64	123.76	133.28
	Increase		19.43	11.71	16.80	9.12	9.53

EDMOND PUBLIC WORKS AUTHORITY
WATER/WASTEWATER COST OF SERVICE MODEL

Forecast Summary
Scenario: Alt 2 Revised Residential Rate Tiers (WITH Mtr Equiv)

			Current	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025
1A Water Rates – Residential													
Annual Adjustment				6.0%	5.0%	5.0%	4.0%	3.0%	3.0%	0.0%	3.0%	0.0%	0.0%
Min Chg	5/8" or 3/4"		$ 6.70	$ 7.10	$ 7.46	$ 7.83	$ 8.14	$ 8.39	$ 8.64	$ 8.64	$ 8.90	$ 8.90	$ 8.90
	1"		11.03	12.43	14.91	19.57	20.36	20.97	21.60	21.60	22.25	22.25	22.25
	1 1/2"		21.63	24.86	29.83	39.15	40.72	41.94	43.20	43.20	44.49	44.49	44.49
	2"		30.61	42.61	59.66	78.30	81.43	83.87	86.39	86.39	88.98	88.98	88.98
	3"		61.39	87.89	134.23	176.17	183.22	188.72	194.38	194.38	200.21	200.21	200.21
Usage Chg	2,000	10,000	5.49	5.82	6.11	6.42	6.67	6.87	7.08	7.08	7.29	7.29	7.29
	11,000	20,000	5.89	6.82	7.11	7.42	7.67	7.87	8.08	8.08	8.29	8.29	8.29
	21,000	Above	6.49	8.52	8.89	9.27	9.59	9.84	10.10	10.10	10.36	10.36	10.36
1B Water Rates – Wholesale (Arcadia)													
Master Meter Charge			$ 185.97	$ 426.12	$ 596.57	$ 783.00	$ 814.32	$ 838.74	$ 863.91	$ 863.91	$ 889.82	$ 889.82	$ 889.82
Usage Charge Per Thousand Gallons			5.63	5.96	6.26	6.58	6.84	7.04	7.26	7.26	7.47	7.47	7.47
Service Availability Excess Rate													
2A Wastewater Rates – Residential													
Annual Adjustment				11.0%	11.0%	11.0%	10.0%	10.0%	7.5%	4.0%	3.0%	3.0%	0.0%
Minimum Charge			$ 11.50	$ 12.77	$ 14.17	$ 15.73	$ 17.30	$ 19.03	$ 20.46	$ 21.28	$ 21.91	$ 22.57	$ 22.57
Usage Charge			2.76	3.06	3.40	3.77	4.15	4.57	4.91	5.11	5.26	5.42	5.42
2B Wastewater Rates – Wholesale													
6" Meter Charge			$ 185.97	$ 426.12	$ 596.57	$ 783.00	$ 814.32	$ 838.74	$ 863.91	$ 863.91	$ 889.82	$ 889.82	$ 889.82
Usage Charge Per Thousand Gallons			3.86	4.29	4.76	5.28	5.81	6.39	6.87	7.15	7.36	7.58	7.58
3 Average Monthly Charges – Residential													
5,000 Water, 5,000 WW			$ 54.76	$ 58.46	$ 63.07	$ 68.09	$ 72.89	$ 77.75	$ 81.96	$ 83.76	$ 86.28	$ 87.72	$ 87.72
Increase				3.70	4.61	5.02	4.80	4.85	4.22	1.80	2.51	1.45	-
10,000 Water, 10,000 WW			$ 98.01	$ 102.88	$ 110.63	$ 119.05	$ 127.02	$ 134.95	$ 141.91	$ 144.69	$ 149.03	$ 151.26	$ 151.26
Increase				4.87	7.75	8.42	7.97	7.93	6.96	2.78	4.34	2.24	-
30,000 Water, 10,000 WW			$ 227.81	$ 256.31	$ 270.61	$ 285.90	$ 299.65	$ 312.08	$ 323.68	$ 326.46	$ 335.58	$ 337.82	$ 337.82
Increase				28.50	14.29	15.30	13.74	12.43	11.60	2.78	9.12	2.24	-
50,000 Water, 10,000 WW			$ 357.61	$ 426.80	$ 448.37	$ 471.30	$ 491.46	$ 508.90	$ 525.65	$ 528.43	$ 542.86	$ 545.10	$ 545.10
Increase				69.19	21.57	22.93	20.16	17.44	16.75	2.78	14.43	2.24	-
4 Customer and Usage Data													
Water – Usage (Gallons)													
Residential				2,871,369,641	2,929,789,102	2,988,208,564	3,046,628,025	3,105,047,487	3,160,811,518	3,216,575,550	3,272,339,581	3,325,448,182	3,373,245,924
Non-Residential				850,320,256	888,152,822	911,285,387	923,467,953	935,650,519	950,878,726	966,106,933	981,335,140	996,563,347	1,011,791,554
Total Water				3,721,689,897	3,817,941,924	3,899,493,951	3,970,095,978	4,040,698,005	4,111,690,244	4,182,682,482	4,253,674,721	4,322,011,529	4,385,037,478
Water – Accounts													
Residential				27,033	27,583	28,133	28,683	29,233	29,758	30,283	30,808	31,308	31,758
Non-Residential				2,558	2,600	2,641	2,681	2,721	2,771	2,821	2,871	2,921	2,971
Total Water				29,591	30,183	30,774	31,364	31,954	32,529	33,104	33,679	34,229	34,729
Wastewater – Accounts													
Residential				28,358	28,853	29,348	29,843	30,338	30,811	31,283	31,756	32,206	32,611
Non-Residential				2,274	2,311	2,347	2,383	2,419	2,464	2,509	2,554	2,599	2,644
Total Wastewater				30,632	31,164	31,695	32,226	32,757	33,275	33,792	34,310	34,805	35,255

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EDMOND PUBLIC WORKS AUTHORITY
WATER/WASTEWATER COST OF SERVICE MODEL

Forecast Summary
Scenario: Alt 2 Revised Residential Rate Tiers (WITH Mtr Equiv)

		Current	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025
6	**Cash Basis -- Cost of Service**											
1	Water Rate Revenues		$ 23,747,541	$ 26,098,668	$ 28,291,569	$ 30,187,432	$ 31,705,775	$ 33,174,151	$ 34,135,556	$ 35,287,673	$ 36,268,924	$ 36,796,454
2a	Water Development Fees		878,918	957,829	955,652	954,546	955,652	921,464	921,464	921,464	887,388	814,524
2b	Water Non-Rate Revenues		3,496,014	3,574,929	3,642,988	3,702,895	3,708,103	3,819,346	3,933,926	4,051,944	4,173,503	4,298,708
3	WW Rate Revenues		12,023,495	13,620,481	15,374,009	17,252,065	19,284,843	21,253,361	22,750,876	23,888,674	24,964,151	25,604,379
4a	WW Development Fees		680,008	745,247	742,416	742,416	742,416	722,228	722,228	722,228	696,661	634,009
4b	WW Non-Rate Revenues		2,353,545	2,307,419	2,330,753	2,357,456	2,361,323	2,432,163	2,505,128	2,580,281	2,657,690	2,737,421
5	**Total Revenues**		**43,179,521**	**47,304,573**	**51,337,387**	**55,196,809**	**58,758,112**	**62,322,712**	**64,969,178**	**67,452,264**	**69,648,317**	**70,885,494**
6	Operating Expenses											
7	Water Treatment Plant (Div 332)		5,254,067	5,347,922	5,481,424	5,623,693	5,769,186	6,794,561	7,105,193	7,433,017	7,777,361	8,010,681
8	Water Wells (Div 333)		1,384,755	1,421,056	1,459,035	1,496,994	1,536,171	1,629,317	1,729,499	1,837,307	1,952,782	2,021,322
9	FS - Water Utility Line Maint (Div 431)		2,059,566	2,106,782	2,133,876	2,168,550	2,190,516	2,285,876	2,386,196	2,491,786	2,602,733	2,719,118
10	Wastewater Treatment Plant (Div. 352)		2,827,324	2,899,462	3,061,119	3,054,949	3,134,673	3,304,236	3,485,595	3,679,699	3,886,786	4,056,051
11	FS-Wastewater Utility Line Maint (Div 451)		1,448,226	1,468,599	1,489,393	1,511,155	1,520,944	1,583,739	1,649,790	1,719,309	1,792,432	1,869,294
12	Transfers		8,470,107	9,335,036	9,664,120	9,769,554	9,885,922	10,953,417	11,282,019	11,620,480	11,969,094	12,328,167
13	Non-Department		-	-	-	-	-	-	-	-	-	-
14	Total Operating Expenses		21,444,045	22,578,857	23,268,967	23,624,895	24,037,412	26,551,145	27,638,293	28,781,598	29,981,188	31,004,634
15	Net Revenues Available for Debt and Capital		21,735,476	24,725,716	28,048,420	31,571,914	34,720,700	35,771,567	37,330,885	38,670,666	39,667,128	39,880,860
16	Capital Outlays		21,540,007	23,462,007	10,764,007	14,364,007	15,564,007	12,364,007	12,564,007	13,064,007	12,964,007	13,164,007
	Debt Coverage		1,032,834	1,908,262	4,019,638	4,552,382	4,568,849	4,567,976	4,644,022	4,738,896	5,252,626	4,032,875
17	Debt Service -- Current		4,131,336	6,462,087	6,462,275	4,607,194	4,673,065	4,669,572	4,667,024	4,674,903	6,523,371	1,603,077
18	Debt Service -- Forecast		-	1,170,960	9,616,278	13,602,333	13,602,333	13,602,333	13,909,064	14,280,680	14,487,134	14,528,424
19	Sub-Total		26,704,177	33,003,316	30,862,198	37,125,917	38,408,254	35,203,889	35,784,117	36,758,486	39,227,138	33,328,383
20	**Total Cash-Basis Cost of Service**		**48,148,222**	**55,582,173**	**54,151,165**	**60,750,812**	**62,445,666**	**61,755,035**	**63,422,410**	**65,540,084**	**69,208,326**	**64,333,017**
21	Net Revenues for Contingency and Coverage		(4,968,701)	(8,277,600)	(2,813,778)	(5,554,002)	(3,687,555)	567,678	1,546,768	1,912,180	439,991	6,552,477
22	Percent of Revenues		-11.5%	-17.5%	-5.5%	-10.1%	-6.3%	0.9%	2.4%	2.8%	0.6%	9.2%
	Debt Coverage (11/(13+14))		5.26	3.24	1.74	1.73	1.90	1.96	2.01	2.04	1.89	2.47
	Less Drawdown of Fund Balance for Rate Stabilization		4,968,701	6,277,600	3,003,353	5,554,002	3,687,555	-	-	-	820,957	-
	Less Set Aside for Repair and Replacement		-	-	-	-	1,000,000	7,000,000	7,000,000	7,000,000	7,000,000	7,000,000
	W & WW Repair & Replacement Fund Balance		-	-	-	-	1,000,000.00	8,000,000.00	15,000,000.00	22,000,000.00	29,000,000.00	36,000,000.00

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Notes on Rate Recommendations

The forecast and recommendations presented in this study represent a combination of the best information available from EPWA and the project team's expertise. However, this forecast relies in part on assumptions about future events and events beyond the control of the project team (such as account growth rates within EPWA). The forecast and recommendations contained in this study may be subject to revision if any of the following events occurs:

- Actual growth in accounts and consumed volumes is less than (or significantly greater than) forecast
- Capital improvement plan funding costs increase significantly due to the rising cost of materials or other factors
- An unforeseen event impacts EPWA, such as an extended recession, natural catastrophe or terrorist attack
- Increases or decreases in interest rates, coverage requirements or reserve requirements for municipal long-term debt.
- City budget levels or priorities change significantly from those forecast in this study

It should be noted that none of these events are foreseen by the project team or EPWA at this time.

If any of these events occur EPWA may be compelled to consider further adjustments to its water and wastewater rates.

Section I

SECTION I

Introduction and Demographic Profile

Background

In January 2015, Edmond Public Works Authority ("EPWA") of Edmond, Oklahoma (the "City") engaged Economists.com, now a part of Willdan Financial Services, to conduct a water and wastewater rate study and long-term financial plan. EPWA is a public trust and legal entity created under applicable Oklahoma statutes in October 1970 to finance, develop and operate the electric, water, wastewater, drainage and solid waste services for the City. EPWA identified numerous objectives for this study, including but not limited to the following:

- A comprehensive analysis and evaluation of the water and wastewater systems' current cost of service and revenue requirements
- A forecast of operating expenses over the next decade, taking into consideration such factors as inflation, system growth, and increases in staffing levels
- A thorough review of the water and wastewater systems' known capital improvement needs, as well as a determination of the need for funding capital requirements through the issuance of long-term debt
- An evaluation of current cash balances in the water and wastewater utilities; to recommend cash balance goals and to develop a methodology for computing cash balance goals in the future
- An estimate of current and forecast accounts, volumes and billing units for the ten year forecast period
- An evaluation of the current customer rate classifications by service and a recommendation for any changes required to bring the utilities current with industry practices and standards
- A review of the current practice of basing summer wastewater charges for residential and commercial customers based on winter water usage and make recommendation for more effective cost recovery if applicable
- The development of alternative rate structures that would recover EPWA's cost of service, ensure equitable, just and reasonable treatment of identified customer classes, and maintain critical financial ratios
- A comparison of recommended alternative rate structures for water and wastewater rates that will distribute costs equitably. Included in this objective is the development of equitable, legally defensible wholesale rates for water sales and wastewater treatment services provided to entities outside the Edmond municipal limits

In conjunction with EPWA and City staff, the project team evaluated several alternative rate structures, which would enable EPWA to achieve these objectives while continuing to provide ratepayers with superior quality water and wastewater services. After a series of meetings with EPWA and City officials, the project team narrowed its recommendations to the water and wastewater rate designs contained in this study. The analysis and recommendations presented in this study achieve all of the objectives outlined above.

Report Organization

This report is organized into the following sections:

Section I – Introduction and Demographic Profile - outlines the background, objectives and scope of this rate study and long-term financial plan. Also presents EPWA's current rate structures and a demographic profile of the City of Edmond. This includes a comparison of EPWA's water and wastewater charges with other Oklahoma cities.

Section II – Water and Wastewater Test Year and Forecast Volumes – analyzes EPWA's customer base, total accounts and current volumes of treated water and wastewater. This section presents totals for the current year and a forecast ten years into the future.

Section III – Water and Wastewater Test Year and Forecast Revenue Requirement – outlines the process of analyzing EPWA's current water and wastewater utility cost structure. The total current or "test year" revenue requirements are developed, and costs are functionalized between treatment, distribution/collection, administration and customer billing. Using the test year as a basis, costs are forecast for a ten year period.

Section IV – Water and Wastewater Rate Design – presents rate recommendations for EPWA and City staff to consider which would enable it to meet its revenue requirements over the next decade. Also presents an analysis of the impact of these rate plans on each defined customer class.

Appendix A – presents a hard copy printout of the interactive Microsoft Excel spreadsheet model developed for EPWA to calculate water and wastewater current and future revenue requirements. The model automatically generates all calculations based on a set of defined user inputs.

Utility and City Background

The City of Edmond provides utility services including water and wastewater services to its residents under the legal entity known as the Edmond Public Works Authority ("EPWA"). The Water Resources group within EPWA manages water and wastewater via three divisions; *Water Production*, which includes the Arcadia Lake water treatment plant, water towers, storage tanks and pumping stations; *Water Wells*, and *Wastewater Treatment*, which includes the Coffee Creek Wastewater Treatment Plant and 9 lift stations. Both the Water Production and Wastewater Treatment divisions have received extremely high compliance ratings and numerous awards over the past several years. Groundwater is sourced from the Garber-Wellington Aquifer through 56 wells owned and operated by EPWA, and Arcadia Lake provides surface water. Additional potable water is purchased from Oklahoma City as needed under an agreement originally signed in 2001.

Permits were received in April 2014 from the Oklahoma Water Resources Board based on the outcome of the Arcadia Lake Yield Study giving the City increased usage rights for Arcadia Lake. Accordingly the City plans to build a new intake structure for Arcadia Lake which will increase the yield and expand the water treatment plant capacity from 10.5 million gallons per day ("MGD") to 30 MGD. These measures will enable the City to assume control of their water supply and to cease purchases of water from Oklahoma City during times of peak demand.

The City's Field Services Department has responsibility for the maintenance of over 430 miles of sanitary sewer collection lines, 500 miles of water distribution lines, 4,000 hydrants, and more than 27,000 service connections. The Utility Customer Services Department includes a Field Services division which has responsibility for the completion of all field orders. Utility Customer Services also provides financial services such as utility statement production, and service order processing; contractual services including the establishment of new service, maintenance of customer contracts, and collections; customer service including inbound call center operations and posting of payments; and meter services which performs monthly water meter readings.

In the late 1800's Edmond, originally known as Summit, got its start as a coal and watering station for the Sante Fe Railroad. It became an overnight boomtown during the Oklahoma Land Run in 1889. Over the years, agriculture, trading and education became the backbone of Edmond's early economy. Today, the City has a strong base of knowledge-based industries, well suited to its highly educated population.

Located just thirteen miles north of Oklahoma City, Edmond sits at the crossroads of two major interstate highways, I-35 and I-44, in the center of the State of Oklahoma. The City has experienced considerable growth in the past twenty years and was recently identified as number 1 in the CNBC listing of "10 Perfect Suburbs." It was also named as one of the "Best Places to Live" in 2010 by CNN, which noted the City's family friendly environment, affordability and low crime rate. Today, the City is a prosperous, thriving community of professionals drawn to the area for its quality of life, outstanding schools, and accessibility.

City Leadership

The City of Edmond operates under a Council-Manager form of government. The Council consists of the Mayor and four council members elected from each of the four wards. The Council appoints the City Manager who implements the policies adopted by the council and is responsible for the day-to-day operations of Edmond as the chief executive officer of the City. The City has a Public Works Committee, which is made up of 2 council members and one citizen. The City Council members are the Trustees, and therefore the governing body, of the Edmond Public Works Authority. All changes to the water and wastewater rate structure must be recommended by the Public Works Committee, accepted by the EPWA and set by resolution of the City Council. **Table I-1** lists current serving City officials.

The City utilizes standard governmental accounting procedures for its general and enterprise funds. The Fiscal Year begins on July 1st and ends on the following June 30th.

TABLE I-1

CITY OF EDMOND / EPWA

CITY OFFICIALS - MAY 2015

Elected Officials		Senior City Staff	
Charles Lamb	*Mayor*	Larry Stevens	*City Manager*
Victoria Caldwell	*Councilmember - Ward 1*	Steve Commons	*Asst. City Manager - Administration*
Elizabeth Waner	*Councilmember - Ward 2*	Jim Smith	*Asst. City Manager - Operations*
Darrell Davis	*Councilmember - Ward 3*	Andrew Conyers	*Assistant to the City Manager*
Nick Massey	*Councilmember - Ward 4*	Ross VanderHamm	*City Finance Director / City Clerk*
		Herbert Blomquist	*Public Works Director*
Stephen Schaus	*City Treasurer*	Kris Neifing	*Superintendent - Water Resources*
		Steve Manek, P.E.	*City Engineer*

Population – Current and Projected

The City of Edmond experienced a surge in growth between 1970 and 2000, and has continued to expand at a steady rate throughout the past decade. The City's population increased from 68,315 in 2000 to 84,757 in 2015; an increase of nearly 25% in only 15 years, which is particularly notable as several of those years occurred during the 2008 – 2009 recession. While growth was slower during 2008-2011, the pace picked up considerably beginning in 2012 and development is expected to continue at a robust pace for at least the next ten years, barring unforeseen circumstances such as another economic downturn. **Table I-2** presents the past 40 years of historical population growth as well as projected growth through 2030 for the State of Oklahoma, Oklahoma County and the City of Edmond according to the Oklahoma Department of Commerce. **Table I-3** presents population projections for the City as a whole, as well as projections for only the portion expected to reside within the City's service area. These projections are from the City of Edmond 50 Year Water Supply Plan (CDM 2009) and were also used for the City's Water Master Plan (Carollo 2013).

TABLE 1-2

CITY OF EDMOND

Historical and Forecast Population

	State of Oklahoma	% Annual Growth	Oklahoma County	% Annual Growth	City of Edmond	% Annual Growth
1970	2,559,229		527,717		16,633	
1980	3,025,290	1.69%	568,933	0.75%	34,637	**7.61%**
1990	3,145,585	0.39%	599,611	0.53%	52,310	**4.21%**
2000	3,450,654	0.93%	661,829	0.99%	68,315	**2.71%**
2010	3,751,351	0.84%	718,633	0.83%	72,550	**0.60%**
P2020	4,024,202	0.70%	735,400	0.23%	89,000	**2.06%**
P2025	4,163,279	0.34%	751,100	0.21%	102,930	**1.46%**
P2030	4,302,501	0.33%	765,600	0.19%	110,430	**0.71%**

Growth percentage represents average annual % change from previous entry

TABLE 1-3

CITY OF EDMOND / EPWA

POPULATION PROJECTIONS

Year	Total Population, City of Edmond	Population with City Water Service	Water Service Area Population	Annual Percentage Growth
2012	84,180	84.9%	71,469	
2017	91,680	85.2%	78,111	1.8%
2022	99,180	85.4%	84,700	1.6%
2027	106,680	85.7%	91,425	1.5%
2032	114,180	85.9%	98,081	1.4%
2042	129,180	86.4%	111,612	1.3%

Source: Population projections from City of Edmond 50 Year Water Supply Plan (CDM 2009); also used for Water Master Plan (Carollo Dec 2013 -Table 2.1)

In addition to residential growth, the City is also experiencing strong commercial growth, and is committed to supporting all growth with improvements and expansions of infrastructure and city services.

Water and Wastewater Current Rates

Table I-4 summarizes EPWA's current water and wastewater rate structure.

TABLE I-4

CITY OF EDMOND / EPWA

CURRENT WATER AND WASTEWATER RATES

		Residential / Commercial Industrial / Public	
WATER Rates			
Minimum Charge	5/8" or 3/4"	$	6.70
(includes first 1,000 Gallons)	1"		11.03
	1 1/2"		21.63
	2"		30.61
	3"		61.39
	4"		92.89
	6"		185.97
Volume Rate	2,000 - 3,000		5.49
Per 1,000 Gal	4,000 - 10,000		5.89
	11,000 +		6.49
WASTEWATER Rates			
Minimum Charge		$	11.50
Volume Rate			
Per 1,000 Gal			2.76

Billed wastewater gallons are derived from winter average water consumption

All water customers are assessed the same minimum monthly charges (based on meter size) and tiered volume charges. The minimum charge includes the first 1,000 gallons for all accounts. Consumption is rounded down to the nearest thousand gallons each month; however all usage is captured and billed over time. Rates for the small number of customers outside Edmond city limits are twice those for inside city limits. There is one residential development outside the City that is an exception to this due to an agreement with the developers. The developers of this area built a well and gave it to the City in exchange for inside rates. There are only three small commercial accounts outside city limits.

All wastewater accounts are assessed a base charge of $11.50, regardless of meter size or classification of account. Winter averaging is applied to all rate classes. Volumetric wastewater charges are based on each customer's average metered water consumption during the months of November, January and February. In the case of users not on a metered basis, an estimated water consumption based on a comparison of the non-metered user with a metered user of similar class is used. The volume charge per thousand gallons is the same for all accounts.

The City has implemented annual adjustments to both water and sewer rates for each of the past five years in accordance with the rate plan adopted in September 2010 at the conclusion of the 2010 rate study performed by Economists.com. The last adjustment took effect in November 2104. Adjustments were applied to both base and volumetric components each year.

Water and Wastewater Rate Comparison

Table I-5 compares Edmond's monthly water and wastewater charges to surrounding cities in Central Oklahoma. Volumes of 10,000 gallons water and 5,000 gallons wastewater were used for the residential comparison as it represents typical usage levels for an average household. The rate data is based on published rates and ordinances posted by each municipality on their website or obtained by telephone inquiries as of June 2015. These rates do not include sales tax, activation or other charges beyond the basic minimum and volume charges. Additionally, where appropriate, certain cities that charge for service based on cubic feet of water have had their rates converted to an equivalent charge per 1,000 gallons.

The following points are also notable:

- EPWA's rates as a percentage of median household income are lower than all but two cities in the sample.
- Many cities do not assess rates that recover the full cost of service, choosing instead to subsidize their water and wastewater utilities with other revenues or to defer needed repairs and maintenance at the expense of system reliability and integrity.
- Some cities use tax bonds to fund water/wastewater system construction. This results in lower rates but higher ad valorem taxes.

TABLE I-5

CITY OF EDMOND / EPWA

Total Monthly Residential Charges for 10,000 Gallons Water and 5,000 Gallons Wastewater Service

	2013 Population	2009-2013 Median HH Income	10,000 Gallons Water	5,000 Gallons Wastewater	Total	% of Median HH Income
Edmond	87,004	$ 71,215	$ 58.91	$ 25.30	$ 84.21	1.42%
Broken Arrow	103,500	65,484	45.16	19.54	64.70	1.19%
Enid	50,725	42,279	47.40	17.83	65.23	1.85%
Lawton	97,151	43,269	44.26	16.45	60.71	1.68%
Midwest City	56,756	43,536	36.13	21.40	57.53	1.59%
Moore	58,414	57,294	36.95	30.00	66.95	1.40%
Muskogee	38,863	33,664	40.37	16.43	56.80	2.02%
Nichols Hills	3,853	120,439	50.00	22.30	72.30	0.72%
Del City	21,990	40,760	26.39	36.55	62.94	1.85%
Norman	103,595	44,801	43.25	18.50	61.75	1.65%
Oklahoma City 2015	610,613	45,824	39.30	23.37	62.67	1.64%
Oklahoma City 2016	610,613	45,824	41.14	24.64	65.78	1.72%
Oklahoma City 2017	610,613	45,824	42.99	25.97	68.96	1.81%
Stillwater	47,186	31,196	66.00	21.75	87.75	3.38%
Tulsa	398,121	41,241	39.15	33.35	72.50	2.11%
State Ave - 2014 OML Survey		$ 45,339	$ 49.36	$ 18.49	$ 67.85	

Source: Population and MHI: US Census Bureau (Quick Facts)
Rate data from City Ordinances and websites June 2015

Section II

SECTION II

Water & Wastewater Test Year and Forecast Volumes

In order to accurately forecast future revenues and expenses, it is necessary to examine current water and wastewater utility conditions. The first step in developing cost of service rates is to analyze patterns of usage, both for the system as a whole, and for specified customer classes.

For the City of Edmond, water and wastewater records maintained by EPWA were reviewed for the eight year period beginning in October 2006, but with a particular emphasis on the past five years. These records provided information on the monthly water volumes distributed system-wide as well as the number of accounts for each month by defined customer class and the associated revenues. Additionally, these records provided the number of accounts, billing units and revenues by month for all classifications of wastewater customers.

According to standard utility ratemaking methodology, in order to allocate revenue requirements equitably among system users, customers must be classified into relatively homogeneous groups with similar usage characteristics or service demands. Costs are then allocated to the customer classes in proportion to the usage characteristics of each class. For the water system, costs are typically allocated to customers based on their average and peak water demands. For the wastewater system, costs are allocated to customers based on their estimated wastewater flows, and in some cases, based on wastewater strengths.

After thoroughly examining volume and customer data, the project team made no revisions to EPWA's existing rate classifications. The project team finds these customer class distinctions to be reasonable and appropriate, meeting the criteria of homogenous groups with similar usage patterns.

In this section EPWA's functional customer classes and test year usage patterns will be thoroughly analyzed. A ten-year projection of customers and usage will also be presented. These forecasts, along with the revenue requirements, will form the basis of the proposed alternative rate designs.

There is a strong potential that the City may begin providing service to two or three types of wholesale water accounts and a wholesale wastewater account within the next two years, and in preparation, rates for these accounts were developed in the course of this study. Assumptions provided by EPWA staff served as the basis for development of the forecast volumes for the wholesale accounts. Once these accounts have been connected to the system and actual consumption totals and patterns can be analyzed, the project team recommends that EPWA consider an update of the rate study to verify and correct the assumptions made herein, and to revise the rate plan if necessary.

The first of the new water rate classifications is for residents of the Town of Arcadia. This community of approximately 300 residents occupies a one square mile area within the city limits of Edmond, as shown in **Figure II-1**. It is expected that the Town will be served through one 6" master meter beginning in FY 2017. Usage is forecast to be approximately 30,000 to 50,000 gallons daily with limited peaking as some residents may continue to use well water for irrigation. The rate

classification and rates developed for this account are shown as **"Wholesale – All Year Usage"** in the rate model and this report. EPWA will also provide wastewater treatment services for Arcadia. The new wastewater account developed for Arcadia is shown as **"Wholesale".**

FIGURE II-1

The second of the new water rate classifications is for a subdivision being developed within Oklahoma City, but without access to Oklahoma City water or sewer service. It is anticipated that approximately 100 households served through one 6" master meter will begin water service from EPWA beginning in FY 2017, with a second 6" master meter serving another 100 accounts beginning service in FY 2018. Usage for the first 100 households is forecast to be approximately 20,000 to 45,000 gallons daily with traditional residential peaking similar to the EPWA residential rate class. Usage is forecast to double in the second year with the addition of another 100 households. This area will not receive wastewater treatment services from EPWA. The water rate classification and rates developed for this account are shown as **"Wholesale w/Peaking"** in the rate model and this report.

One additional wholesale water rate classification was developed within the rate model for any potential wholesale accounts needing water service solely during times of high consumption for "peaking only" usage. This potential rate class is identified in the rate model as **"Wholesale – Peaking Only".** As this type of usage requires year round capacity within the system, but with unpredictable peak usage only, the peak to average ratio is far greater, resulting in a substantially greater volumetric charge under the methodology prescribed by the AWWA. Monthly usage for this rate class was assumed to be zero for all months except July, August and September in which monthly usage would be 600,000 gallons. There are no current plans to serve any wholesale entities within this rate classification.

Water and Wastewater Customers and Meters – Test Year & Ten Year Forecast

The majority of the accounts served by EPWA are residential accounts, with the balance being municipal, commercial, industrial and public. Multi-family accounts are included in the residential rate class. **Table II-2** presents total water accounts for EPWA for the test year and forecast period.

TABLE II-2

CITY OF EDMOND - EPWA

TOTAL ACCOUNTS
WATER Customer Classes

	Residential	COE Internal	Commercial	Industrial	Public	Wholesale (All Yr.)	Wholesale (w/Peaking)	Total
WATER Total Accounts (Historical)								
FY 2012	24,893	107	2,080	16	159	-	-	27,254
FY 2013	25,416	109	2,118	16	157	-	-	27,817
FY 2014	25,954	120	2,157	16	162	-	-	28,409
Est FY 2015	26,483	126	2,214	15	163	-	-	29,001
WATER Total Accounts (Forecast)								
TY 2016	27,033	126	2,254	15	163	-	-	29,591
FY 2017	27,583	126	2,294	15	163	1	1	30,183
FY 2018	28,133	126	2,334	15	163	1	2	30,774
FY 2019	28,683	126	2,374	15	163	1	2	31,364
FY 2020	29,233	126	2,414	15	163	1	2	31,954
FY 2021	29,758	126	2,464	15	163	1	2	32,529
FY 2022	30,283	126	2,514	15	163	1	2	33,104
FY 2023	30,808	126	2,564	15	163	1	2	33,679
FY 2024	31,308	126	2,614	15	163	1	2	34,229
FY 2025	31,758	126	2,664	15	163	1	2	34,729
WATER New Accounts (Historical)								
FY 2010	173	3	44	0	4	-	-	224
FY 2011	235	5	43	(0)	2	-	-	285
FY 2012	368	3	33	0	(0)	-	-	404
FY 2013	523	3	38	(0)	(1)	-	-	562
FY 2014	537	11	39	(0)	5	-	-	592
FY 2015	530	6	57	(1)	1	-	-	593
WATER New Accounts (Forecast)								
TY 2016	550	-	40	-	-	-	-	590
FY 2017	550	-	40	-	-	1	1	591
FY 2018	550	-	40	-	-	-	1	590
FY 2019	550	-	40	-	-	-	-	590
FY 2020	550	-	40	-	-	-	-	590
FY 2021	525	-	50	-	-	-	-	575
FY 2022	525	-	50	-	-	-	-	575
FY 2023	525	-	50	-	-	-	-	575
FY 2024	500	-	50	-	-	-	-	550
FY 2025	450	-	50	-	-	-	-	500

For each of the historical years, the average number of accounts for the year is shown and the growth reflects the difference from one year's average to the next year's average. Account growth has improved considerably since the economic downturn. Overall water accounts are forecast to increase from **29,591** in the test year to **34,729** in FY 2025, an average annual increase of **1.80%.** The City has a lot of land available for expansion; however not all growth is expected to connect to City services. Approximately 90% of new water accounts are forecast to connect to EPWA wastewater services as well.

Table II-3 presents the project team's ten-year forecast of wastewater account growth. Wastewater accounts are forecast to increase from **30,632** in the test year to **35,255** in FY 2025, for an average annual increase of **1.57%**.

TABLE II-3

CITY OF EDMOND - EPWA

TOTAL ACCOUNTS
WASTEWATER Customer Classes

	Residential	COE Internal	Commercial	Industrial	Public	Wholesale	Total
WASTEWATER Total Accounts (Historical)							
FY 2012	26,334	41	2,019	11	84	-	28,489
FY 2013	26,782	40	2,044	11	82	-	28,959
FY 2014	27,341	47	2,063	12	83	-	29,546
Est FY 2015	27,863	48	2,091	15	84	-	30,101
WASTEWATER Total Accounts (Forecast)							
TY 2016	28,358	48	2,127	15	84	-	30,632
FY 2017	28,853	48	2,163	15	84	1	31,164
FY 2018	29,348	48	2,199	15	84	1	31,695
FY 2019	29,843	48	2,235	15	84	1	32,226
FY 2020	30,338	48	2,271	15	84	1	32,757
FY 2021	30,811	48	2,316	15	84	1	33,275
FY 2022	31,283	48	2,361	15	84	1	33,792
FY 2023	31,756	48	2,406	15	84	1	34,310
FY 2024	32,206	48	2,451	15	84	1	34,805
FY 2025	32,611	48	2,496	15	84	1	35,255
							-
WASTEWATER New Accounts (Historical)							
FY 2010	367	-	9	1	-	-	378
FY 2011	59	(3)	25	-	4	-	85
FY 2012	326	-	2	-	-	-	328
FY 2013	447	(1)	26	-	(2)	-	470
FY 2014	559	7	19	1	1	-	587
FY 2015	522	1	28	4	1	-	555
WASTEWATER New Accounts (Forecast)							
TY 2010	495	-	36	-	-	-	531
FY 2011	495	-	36	-	-	1	532
FY 2012	495	-	36	-	-	-	531
FY 2013	495	-	36	-	-	-	531
FY 2014	495	-	36	-	-	-	531
FY 2015	473	-	45	-	-	-	518
FY 2016	473	-	45	-	-	-	518
FY 2017	473	-	45	-	-	-	518
FY 2018	450	-	45	-	-	-	495
FY 2019	405	-	45	-	-	-	450

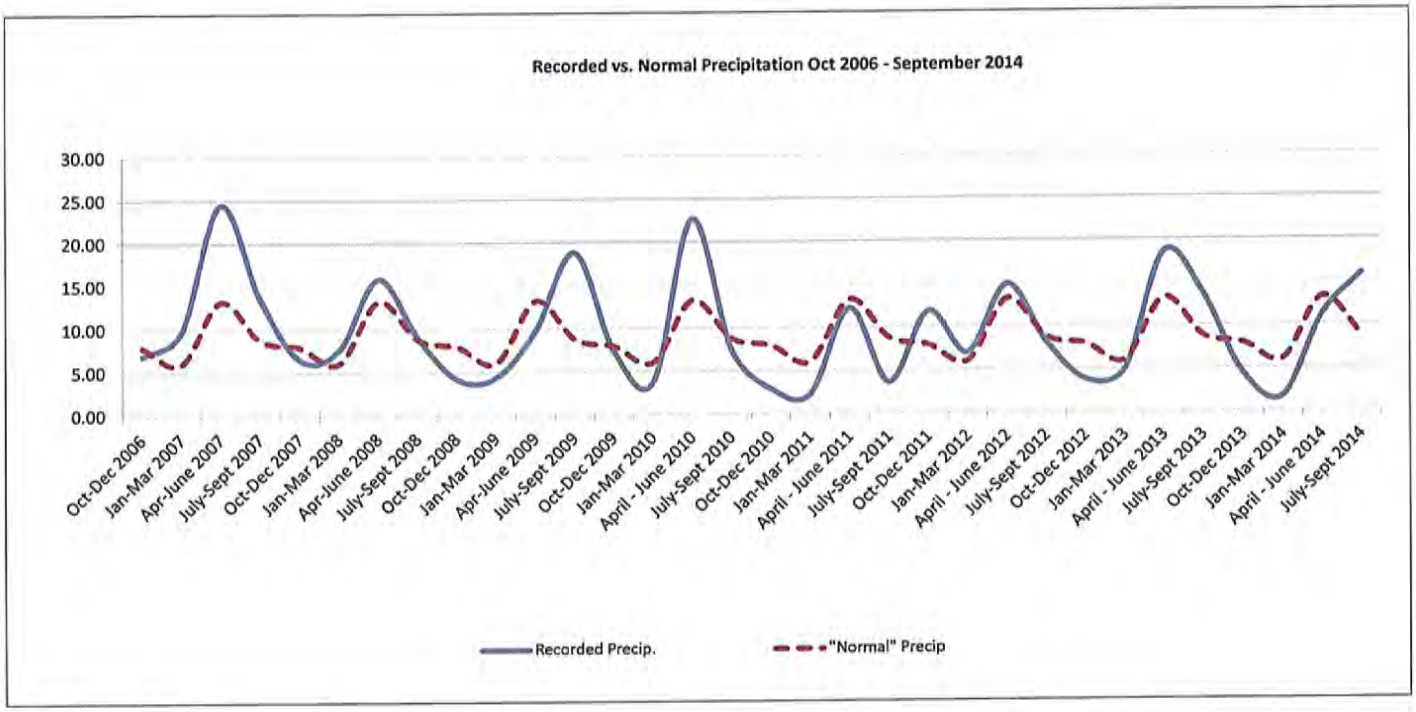
Historical Water Consumption and Precipitation

In accordance with AWWA Manual M50, *Water Resource Planning*, a "weather-normalized" forecast was developed to forecast consumption patterns anticipated for each customer class. Historical consumption for each account class was analyzed using the historical consumption and account data provided for October 2006 through November 2014 in conjunction with monthly precipitation totals and temperature variances from average.

Historical weather records were analyzed to calculate the average high temperature for each month as well as the total precipitation by month. These historical averages were compared against Oklahoma climate summary "normal" averages for the City, and the high temperature variance and precipitation variance between the actual and "normal" measurements were calculated to find the most normal period of weather during the period for which consumption data was provided. Total normal annual precipitation for Edmond is approximately 36.05". Published monthly normal totals were compiled to obtain the quarterly totals compared in **Chart II-4** to the historic reported actual precipitation totals for October 2006 – September 2014.

Quarterly rainfall totals for October 2007 through September 2008 were nearly identical to those considered to be "normal" or average for the area in both quantity and timing, while the ensuing twelve month period has only slightly more variance from normal. Notably however, a comparison of average consumption per account by rate classification for this period of time to the same parameters for the most recently recorded 12 month period revealed that consumption patterns have shifted towards increased conservation even during periods of less than normal rainfall.

CHART II-4



While weather patterns play a significant role in the discretionary consumption of water, other key factors include economic conditions, price elasticity, adoption of low flow fixtures, changes in consumer behavior in response to rate structures designed to encourage conservation and mandated irrigation restrictions. For these reasons, the test year forecast includes certain additional adjustments, and subsequent year forecasts include an elasticity factor in conjunction with increasing water rates which will slightly reduce consumption per account over the course of the forecast period.

Table II-5 presents a comparison by year of billed water consumption for the past seven years and the development of the test year forecast consumption using average consumption per account by rate classification. The analysis revealed a downward trend in consumption that is consistent with declining household consumption being reported by other providers. This reduction in usage may be attributed to a number of factors, including but not limited to weather fluctuations, watering restrictions imposed during times of drought, installation of low flow fixtures and smaller lot sizes in new homes, retrofitting of older homes with low flow fixtures, the impact of conservation based water rates and price elasticity, and changes in the consumer mindset to embrace water conservation for ecological as well as financial reasons. The net result of this has been an overall reduction in household water consumption, and in wastewater billing units. This data was utilized in conjunction with the normalized forecast and rate design alternatives for this study.

TABLE II-5

CITY OF EDMOND/EPWA
Scenario: Base; Alt 1 Status Quo

WATER CONSUMPTION SUMMARY
(Average Monthly Consumption Per Account)

	Annual Rainfall	April - Sept. Rainfall	Residential	COE Internal	Commercial	Industrial	Public	Total Water
Total FY 2008	43.61	24.88	8,981	17,839	26,731	83,637	59,021	3,318,725,000
Total FY 2009	27.44	28.65	9,213	23,748	25,390	64,641	54,106	3,402,673,000
Total FY 2010	52.63	30.13	8,710	24,883	29,174	34,870	52,098	3,374,682,000
Total FY 2011	24.86	15.85	10,496	33,044	24,392	32,547	65,675	3,860,619,000
Total FY 2012	37.38	23.09	10,780	31,367	33,265	46,118	68,507	4,230,039,000
Total FY 2013	35.53	32.24	9,607	30,928	26,355	46,542	61,311	3,765,056,000
Total FY 2014	30.96	27.09	8,843	26,398	26,178	35,821	57,000	3,585,470,000
Dec '13- Nov '14.	33.36	27.09	8,695	27,264	25,216	34,324	58,993	
Jun '14 - May '15	50.47	40.69	8,261	27,171	23,773	53,230	55,703	
Average for past 3 years	37.58	31.78	8,851	27,941	25,380	42,479	58,252	
Prev. 12 months	40.72	33.89	8,261	27,171	23,773	53,230	55,703	
(Omits high FY 2012 totals)								
Est.FY 2015 Accts			26,483	126	2,214	15	163	
Est. FY 2015 Consumption			**2,625,208,148**	**41,082,399**	**631,601,484**	**9,581,471**	**108,954,628**	3,416,428,130
Plus Additional Account Growth			550	-	40	-	-	
Additional Consumption Due to Growth			54,520,427	-	11,411,048	-	-	
Total TY 2016 (Est.)			**2,679,728,576**	**41,082,399**	**643,012,532**	**9,581,471**	**108,954,628**	3,482,359,605

Additionally, historical consumption by rate block for the residential and commercial multi-unit accounts and for the residential and commercial standard accounts was analyzed to determine patterns of usage throughout the year, the impact of precipitation and the distribution of usage between the three rate tiers for the past five years. This analysis was helpful in assessing the potential impact of modifying the current inverted block rate structure. Results of the analysis are summarized in **Table II-6 and Table II-7** on the following pages.

EPWA - Commercial Water Consumption by Block by Class by Month, Jan 2010 - November 2014

Class	Gallons (thousands)		Total CY 2010	Total CY 2011	Total CY 2012	Total CY 2013	Past 12 mos. Dec 2013-Nov 2014
Commercial			**All Commercial Accounts -- Revenue Analysis**				
	Revenue Analysis		**Annual revenues and percentage in each rate block**				
	Base Revenues		$ 417,704	$ 429,999	$ 484,594	$ 509,534	$ 535,073
Total for Check	**Tier Revenues**		$ 2,582,583	$ 3,207,100	$ 3,465,436	$ 3,333,102	$ 3,544,470
	Consumption		617,854	1,186,659	679,731	621,684	645,583
	Accounts		1,570	1,617	1,649	1,652	1,684
1	0-1,000	0--1,000	$ -	$ -	$ -	$ -	$ -
2	1,001-3,000	2-3,000	$ 316,761	$ 365,587	$ 424,524	$ 439,398	$ 455,850
3	3,001 - 10,000	4 - 10,000	$ 417,971	$ 498,569	$ 549,963	$ 559,988	$ 611,789
4	10,001 and up	11,001 & up	$ 1,847,851	$ 2,342,945	$ 2,490,915	$ 2,263,716	$ 2,476,831
			$ 2,582,583	$ 3,207,100	$ 3,465,401	$ 3,263,102	$ 3,544,470
Net total after min			$ 2,582,583	$ 3,207,100	$ 3,465,401	$ 3,263,102	$ 3,544,470
1		% Tier One	0%	0%	0%	0%	0%
2		% Tier Two	12%	11%	12%	13%	13%
3		% Tier Three	16%	16%	16%	17%	17%
4		% Tier Four	72%	73%	72%	69%	70%
			100%	100%	100%	100%	100%
Commercial			**All Commercial Accounts -- Consumption Analysis**				
	Consumption Analysis (in 000's)		**Annual 000's gallons and percentage in each rate block**				
Total for Check							
1	0-1,000	0--1,000 Base	53,291	53,402	54,625	54,559	54,422
2	1,001-3,000	2-3,000	77,675	84,865	88,622	87,504	86,787
3	3,001 - 10,000	4 - 10,000	98,785	105,955	105,989	103,230	108,259
4	10,001 and up	11,001 & up	383,062	442,437	430,495	376,121	396,115
			612,813	686,659	679,731	621,414	645,583
Net total after min			612,813	686,659	679,731	621,414	645,583
1		% Tier One	8.70%	7.78%	8.04%	8.78%	8.43%
2		% Tier Two	12.68%	12.36%	13.04%	14.08%	13.44%
3		% Tier Three	16.12%	15.43%	15.59%	16.61%	16.77%
4		% Tier Four	62.51%	64.43%	63.33%	60.53%	61.36%
			100.00%	100.00%	100.00%	100.00%	100.00%
Commercial			**All Commercial Accounts -- Account Analysis**				
	Account Analysis		**Total Accounts and % with Consumption in each rate block**				
1	0-1,000	0--1,000	1,570	1,617	1,649	1,652	1,676
2	1,001-3,000	2-3,000	1,279	1,335	1,352	1,426	1,378
3	3,001 - 10,000	4 - 10,000	952	999	1,023	1,110	1,028
4	10,001 and up	11,001 & up	570	623	612	590	621
			1,570	1,617	1,649	1,652	1,684
Net total after min			1,570	1,617	1,649	1,652	1,684
1		% Tier One	100.00%	100.00%	100.00%	100.00%	99.55%
2		% Tier Two	81.47%	82.54%	81.99%	86.28%	81.86%
3		% Tier Three	60.63%	61.78%	62.06%	67.17%	61.02%
4		% Tier Four	36.30%	38.54%	37.14%	35.70%	36.89%

Yearly High Temperature Total Average to Actual

Normal Average Temperature, Fahrenheit	71.3	71.3	71.3	71.3	71.3
Average Monthly High Temp	69.6	74.7	75.5	71.1	72.0
Difference between Normal and Average Month, degrees	(21.1)	38.0	37.1	(7.3)	8.0
Comment					

Yearly Precipitation Total Average to Actual

Normal Moisture, inches	38.2	38.2	38.2	38.2	38.2
Actual Monthly Precipitation, inches	36.8	30.0	33.9	41.6	34.6
Difference between Normal and Actual Month, inches	(1.4)	(8.2)	(4.3)	3.4	(3.6)
Comment					

	April to September 2010	April to September 2011	April to September 2012	April to September 2013	April to September 2014
Normal Moisture, inches	23.2	23.2	23.2	23.2	23.2
Actual Monthly Precipitation, inches	30.1	15.9	23.1	32.2	27.1
Difference between Normal and Actual Month, inches	6.9	(7.4)	(0.1)	9.0	3.9
Comment					

EPWA - Residential Water Consumption by Block by Class by Month, Jan 2010 - November 2014

Class	Gallons (thousands)		Total CY 2010	Total CY 2011	Total CY 2012	Total CY 2013	Past 12 mos. Dec 2013-Nov 2014
Residential		**All Residential Accounts -- Revenue Analysis**					
		Annual revenues and percentage in each rate block					
		Revenue Analysis					
		Base Revenues	$ 1,740,934	$ 1,966,632	$ 2,241,506	$ 2,416,612	$ 2,587,278
Total for Check		Tier Revenues	$ 10,854,712	$ 14,826,604	$ 14,729,870	$ 12,582,087	$ 13,739,192
		Consumption	2,811,748	3,365,013	3,084,080	2,581,249	2,729,223
		Accounts	23,454	23,804	24,128	24,571	24,959
1	0-1,000	0--1,000	-	-	-	-	-
2	1,001-3,000	2-3,000	$ 2,180,360	$ 2,341,146	$ 2,790,715	$ 2,937,617	$ 3,141,966
3	3,001 - 10,000	4 - 10,000	$ 4,288,862	$ 4,888,577	$ 5,543,489	$ 5,137,927	$ 5,638,374
4	10,001 and up	11,001 & up	$ 4,385,490	$ 6,634,184	$ 6,395,666	$ 4,276,840	$ 4,958,843
			$ 10,854,712	$ 13,863,907	$ 14,729,870	$ 12,352,384	$ 13,739,183
Net total after min			10,854,712	13,863,907	14,729,870	12,352,384	13,739,183
1		% Tier One	0.00%	0.00%	0.00%	0.00%	0.00%
2		% Tier Two	20.09%	16.89%	18.95%	23.78%	22.87%
3		% Tier Three	39.51%	35.26%	37.63%	41.59%	41.04%
4		% Tier Four	40.40%	47.85%	43.42%	34.62%	36.09%
Residential		**All Residential Accounts -- Consumption Analysis**					
		Consumption Analysis (in 000's)	**Total Accounts and % with Consumption in each rate block**				
Total for Check							
1	0-1,000	0--1,000 Base	314,528	317,513	325,099	331,145	339,829
2	1,001-3,000	2-3,000	960,491	580,410	582,858	584,971	598,292
3	3,001 - 10,000	4 - 10,000	1,015,087	1,122,412	1,069,017	953,294	997,730
4	10,001 and up	11,001 & up	912,642	1,344,678	1,107,106	711,839	793,372
			3,202,748	3,365,013	3,084,080	2,581,249	2,729,223
Average monthly consumption per account				6,875	6,353	6,801	6,344
Net total after min			3,202,748	3,365,013	3,084,080	2,581,249	2,729,223
1		% Tier One	9.82%	9.44%	10.54%	12.83%	12.45%
2		% Tier Two	29.99%	17.25%	18.90%	22.66%	21.92%
3		% Tier Three	31.69%	33.36%	34.66%	36.93%	36.56%
4		% Tier Four	28.50%	39.96%	35.90%	27.58%	29.07%
			100.00%	100.00%	100.00%	100.00%	100.00%
Residential		**All Residential Accounts -- Account Analysis**					
		Account Analysis	**Total Accounts and % with Consumption in each rate block**				
1	0-1,000	0--1,000	23,454	23,804	24,128	24,489	24,959
2	1,001-3,000	2-3,000	22,303	22,718	22,940	23,072	23,522
3	3,001 - 10,000	4 - 10,000	17,784	18,579	18,397	17,729	18,208
4	10,001 and up	11,001 & up	6,027	7,517	6,757	5,221	5,838
			23,454	23,804	24,128	24,571	24,959
			23,454	23,804	24,128	24,571	24,959
1		% Tier One	100.00%	100.00%	100.00%	99.66%	100.00%
2		% Tier Two	95.10%	95.44%	95.08%	93.90%	94.24%
3		% Tier Three	75.83%	78.05%	76.25%	72.15%	72.95%
4		% Tier Four	25.70%	31.58%	28.00%	21.25%	23.39%

Yearly High Temperature Total Average to Actual

Normal Average Temperature, Fahrenheit	71.3	71.3	71.3	71.3	71.3
Average Monthly High Temp	69.6	74.7	75.5	71.1	72.0
Difference between Normal and Average Month, degrees	(21.1)	38.0	37.1	(7.3)	8.0
Comment					

Yearly Precipitation Total Average to Actual

Normal Moisture, inches	38.2	38.2	38.2	38.2	38.2
Actual Monthly Precipitation, inches	36.8	30.0	33.9	41.6	34.6
Difference between Normal and Actual Month, inches	(1.4)	(8.2)	(4.3)	3.4	(3.6)
Comment					

	April to September 2010	April to September 2011	April to September 2012	April to September 2013	April to September 2014
Normal Moisture, inches	23.2	23.2	23.2	23.2	23.2
Actual Monthly Precipitation, inches	30.1	15.9	23.1	32.2	27.1
Difference between Normal and Actual Month, inches	6.9	(7.4)	(0.1)	9.0	3.9
Comment					

EPWA - Multi-Unit Commercial Water Consumption by Block by Class by Month, Jan 2010 - November 2014

Class		Gallons (thousands)		Total CY 2010	Total CY 2011	Total CY 2012	Total CY 2013	Past 12 mos. Dec 2013-Nov 2014
Commercial Multi-Unit			**Commercial Multi-Unit -- Revenue Analysis**					
		Revenue Analysis	Annual revenues and percentage in each rate block					
		Base Revenues		$ 191,757	$ 190,558	$ 211,602	$ 220,815	$ 229,078
Total for Check		Tier Revenues		$ 390,451	$ 456,282	$ 520,125	$ 530,417	$ 568,805
		Consumption		131,441	135,956	140,129	137,747	139,661
		Accounts		119	120	120	119	120
1	0-1,000	0--1,000		$ -	$ -	$ -	$ -	$ -
2	1,001-3,000	2-3,000		$ 210,867	$ 244,362	$ 288,242	$ 298,163	$ 305,296
3	3,001 - 10,000	4 - 10,000		$ 155,342	$ 187,644	$ 210,311	$ 214,046	$ 236,863
4	10,001 and up	11,001 & up		$ 24,243	$ 24,275	$ 21,572	$ 18,208	$ 26,646
				$ 390,451	$ 456,282	$ 520,125	$ 530,417	$ 568,805
Net total after min				$ 390,451	$ 456,282	$ 520,125	$ 530,417	$ 568,805
1		% Tier One		0%	0%	0%	0%	0%
2		% Tier Two		54%	54%	55%	56%	54%
3		% Tier Three		40%	41%	40%	40%	42%
4		% Tier Four		6%	5%	4%	3%	5%
				100%	100%	100%	100%	100%
Commercial			**Commercial Multi-Unit -- Consumption Analysis**					
		Consumption Analysis	Annual 000's gallons and percentage in each rate block					
Total for Check								
1	0-1,000	0--1,000	Base	34,640	34,758	35,692	35,910	35,338
2	1,001-3,000	2-3,000		55,057	56,728	60,165	59,381	58,126
3	3,001 - 10,000	4 - 10,000		36,717	39,888	40,532	39,441	41,936
4	10,001 and up	11,001 & up		5,027	4,582	3,740	3,015	4,261
				131,441	135,956	140,129	137,747	139,661
Net total after min				131,441	135,956	140,129	137,747	139,661
1		% Tier One		26.35%	25.57%	25.47%	26.07%	25.30%
2		% Tier Two		41.89%	41.73%	42.94%	43.11%	41.62%
3		% Tier Three		27.93%	29.34%	28.92%	28.63%	30.03%
4		% Tier Four		3.82%	3.37%	2.67%	2.19%	3.05%
				100.00%	100.00%	100.00%	100.00%	100.00%
Commercial			**Commercial Multi-Unit-- Account Analysis**					
		Account Analysis	Total Accounts and % with Consumption in each rate block					
1	0-1,000	0--1,000		119	120	120	119	120
2	1,001-3,000	2-3,000		117	117	117	116	116
3	3,001 - 10,000	4 - 10,000		64	67	69	66	64
4	10,001 and up	11,001 & up		5	5	4	5	7
				119	120	120	119	120
Net total after min				119	120	120	119	120
1		% Tier One		100.00%	100.00%	100.00%	100.00%	100.00%
2		% Tier Two		97.97%	97.84%	97.77%	97.68%	97.08%
3		% Tier Three		53.57%	56.17%	57.95%	55.80%	53.38%
4		% Tier Four		4.55%	4.32%	3.14%	4.57%	5.92%

Yearly High Temperature Total Average to Actual

Normal Average Temperature, Fahrenheit	71.3	71.3	71.3	71.3	71.3
Average Monthly High Temp	69.8	74.7	75.5	71.1	72.0
Difference between Normal and Average Month, degrees	(21.1)	38.0	37.1	(7.3)	8.0
Comment					

Yearly Precipitation Total Average to Actual

Normal Moisture, Inches	38.2	38.2	38.2	38.2	38.2
Actual Monthly Precipitation, inches	36.8	30.0	33.9	41.6	34.6
Difference between Normal and Actual Month, inches	(1.4)	(8.2)	(4.3)	3.4	(3.6)
Comment					

	April to September 2010	April to September 2011	April to September 2012	April to September 2013	April to September 2014
Normal Moisture, Inches	23.2	23.2	23.2	23.2	23.2
Actual Monthly Precipitation, inches	30.1	15.9	23.1	32.2	27.1
Difference between Normal and Actual Month, inches	6.9	(7.4)	(0.1)	9.0	3.9
Comment					

EPWA - Multi-Unit Residential Water Consumption by Block by Class by Month, Jan 2010 - November 2014

Class		Gallons (thousands)	Total CY 2010	Total CY 2011	Total CY 2012	Total CY 2013	Past 12 mos. Dec 2013-Nov 2014
Residential			Residential Multi-Unit -- Revenue Analysis				
		Revenue Analysis	Annual revenues and percentage in each rate block				
		Base Revenues	$ 147,219	$ 161,357	$ 200,907	$ 225,502	$ 254,833
Total for Check		Tier Revenues	$ 453,787	$ 511,130	$ 531,284	$ 564,080	$ 551,431
		Consumption	142,571	143,024	139,699	142,906	139,557
		Accounts	67	69	87	92	95
1	0-1,000	0--1,000	-	-	-	-	-
2	1,001-3,000	2-3,000	$ 213,485	$ 236,955	$ 261,401	$ 291,998	$ 317,519
3	3,001 - 10,000	4 - 10,000	$ 227,828	$ 259,040	$ 257,918	$ 253,515	$ 218,969
4	10,001 and up	11,001 & up	$ 12,474	$ 15,135	$ 11,966	$ 18,568	$ 14,943
			$ 453,787	$ 511,130	$ 531,284	$ 564,080	$ 551,431
Net total after min			453,787	511,130	531,284	564,080	551,431
1		% Tier One	0.00%	0.00%	0.00%	0.00%	0.00%
2		% Tier Two	47.05%	46.36%	49.20%	51.77%	57.58%
3		% Tier Three	50.21%	50.68%	48.55%	44.94%	39.71%
4		% Tier Four	2.75%	2.96%	2.25%	3.29%	2.71%
Residential			Residential Multi-Unit -- Consumption Analysis				
		Consumption Analysis	Total Accounts and % with Consumption in each rate block				
Total for Check							
1	0-1,000	0--1,000 Base	30,409	29,553	33,204	34,958	37,923
2	1,001-3,000	2-3,000	55,736	55,057	54,624	58,129	60,464
3	3,001 - 10,000	4 - 10,000	53,844	55,187	49,815	46,749	36,772
4	10,001 and up	11,001 & up	2,582	2,867	2,056	3,070	2,398
			142,571	142,664	139,699	142,906	139,557
Net total after min			142,571	142,664	139,699	142,906	139,557
1		% Tier One	21.33%	20.72%	23.77%	24.46%	27.17%
2		% Tier Two	39.09%	38.59%	39.10%	40.68%	43.33%
3		% Tier Three	37.77%	38.68%	35.66%	32.71%	27.78%
4		% Tier Four	1.81%	2.01%	1.47%	2.15%	1.72%
			100.00%	100.00%	100.00%	100.00%	100.00%
Residential			Residential Multi-Unit -- Account Analysis				
		Account Analysis	Total Accounts and % with Consumption in each rate block				
1	0-1,000	0--1,000	67	69	87	92	95
2	1,001-3,000	2-3,000	66	68	81	88	92
3	3,001 - 10,000	4 - 10,000	48	48	49	49	48
4	10,001 and up	11,001 & up	2	4	5	4	3
			67	69	87	92	95
Net total after min			67	69	87	92	95
1		% Tier One	100.00%	100.00%	100.00%	100.00%	100.00%
2		% Tier Two	98.39%	97.59%	93.84%	95.67%	96.68%
3		% Tier Three	70.83%	69.07%	57.07%	53.29%	50.57%
4		% Tier Four	3.46%	6.38%	5.20%	4.06%	3.23%

Yearly High Temperature Total Average to Actual

Normal Average Temperature, Fahrenheit	71.3	71.3	71.3	71.3	71.3
Average Monthly High Temp	69.6	74.7	75.5	71.1	72.0
Difference between Normal and Average Month, degrees	(21.1)	38.0	37.1	(7.3)	8.0
Comment					

Yearly Precipitation Total Average to Actual

Normal Moisture, inches	38.2	38.2	38.2	38.2	38.2
Actual Monthly Precipitation, inches	36.8	30.0	33.9	41.6	34.6
Difference between Normal and Actual Month, inches	(1.4)	(8.2)	(4.3)	3.4	(3.6)
Comment					

	April to September 2010	April to September 2011	April to September 2012	April to September 2013	April to September 2014
Normal Moisture, inches	23.2	23.2	23.2	23.2	23.2
Actual Monthly Precipitation, inches	30.1	15.9	23.1	32.2	27.1
Difference between Normal and Actual Month, inches	6.9	(7.4)	(0.1)	9.0	3.9
Comment					

Forecast Water Consumption

Chart II-8 presents the percentage of total consumption by customer class in the test year and **Chart II-9** presents historical and forecast consumption totals for the ten year forecast period.

CHART II-8

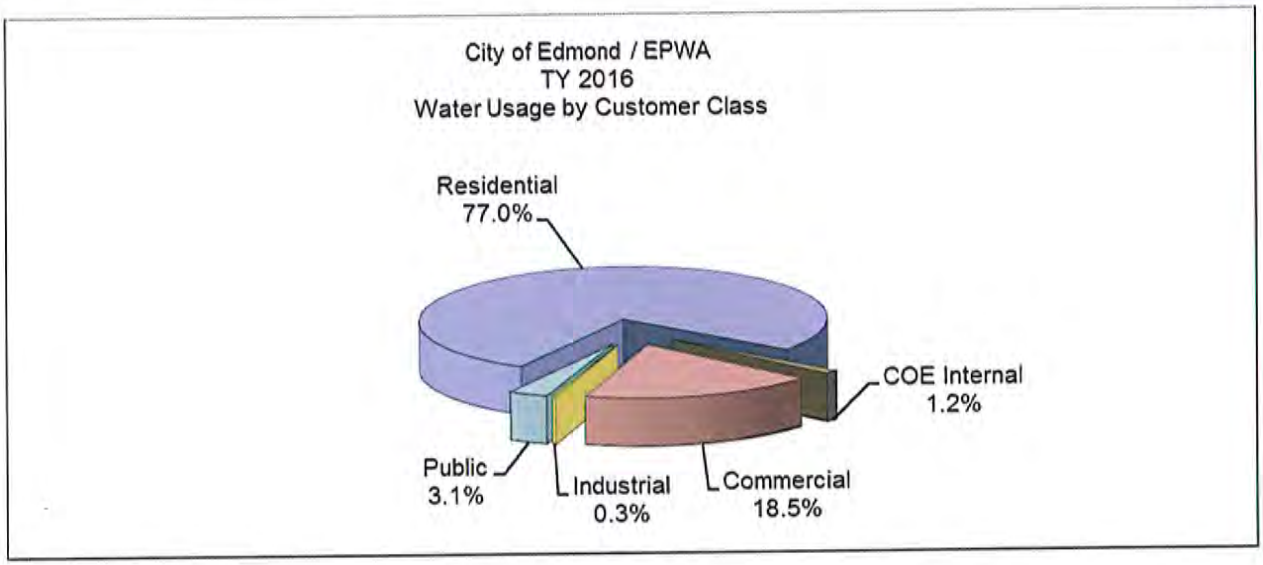


CHART II-9

CITY OF EDMOND - EPWA
Scenario:
Base; Alt 1 Status Quo

FORECAST CONSUMPTION -- GALLONS
WATER Customer Classes

	Residential	COE Internal	Commercial	Industrial	Public	Wholesale (All Yr.)	Wholesale (w/Peaking)	Total
WATER Historical Volume								
FY 2012	3,220,193,000	40,087,000	830,329,000	8,993,000	130,437,000	-	-	4,230,039,000
FY 2013	2,929,962,000	40,485,000	669,857,000	8,936,000	115,816,000	-	-	3,765,056,000
FY 2014	2,754,126,000	38,093,000	675,694,000	6,806,000	110,751,000	-	-	3,585,470,000
Est FY 2015	2,625,208,148	41,082,399	631,601,484	9,581,471	108,954,628	-	-	3,416,428,130
WATER Forecast Volume								
FY 2016	2,871,369,641	42,246,046	686,487,575	7,646,285	113,940,350	0	0	3,721,689,897
FY 2017	2,929,789,102	42,246,046	698,670,141	7,646,285	113,940,350	12,900,000	10,950,000	3,816,141,924
FY 2018	2,988,208,564	42,246,046	710,852,706	7,646,285	113,940,350	12,900,000	21,900,000	3,897,693,951
FY 2019	3,046,628,025	42,246,046	723,035,272	7,646,285	113,940,350	12,900,000	21,900,000	3,968,295,978
FY 2020	3,105,047,487	42,246,046	735,217,838	7,646,285	113,940,350	12,900,000	21,900,000	4,038,898,005
FY 2021	3,160,811,518	42,246,046	750,446,045	7,646,285	113,940,350	12,900,000	21,900,000	4,109,890,244
FY 2022	3,216,575,550	42,246,046	765,674,252	7,646,285	113,940,350	12,900,000	21,900,000	4,180,882,482
FY 2023	3,272,339,581	42,246,046	780,902,459	7,646,285	113,940,350	12,900,000	21,900,000	4,251,874,721
FY 2024	3,325,448,182	42,246,046	796,130,666	7,646,285	113,940,350	12,900,000	21,900,000	4,320,211,529
FY 2025	3,373,245,924	42,246,046	811,358,873	7,646,285	113,940,350	12,900,000	21,900,000	4,383,237,478

Rate plans presented with greater water rate adjustments reflect slightly lower forecast consumption levels due to the inclusion of price elasticity coefficients. The following excerpt from the AWWA Manual of Water Supply Practices M1-Principles of Water Rates, Fees and Charges explains the concept of price elasticity:

> *"Price elasticity of water demand measures the sensitivity of water use, relative to changes in the price of water, after controlling for the influence of other factors that can also alter water demand, such as income and the weather. Price elasticity measures the responsiveness of use to price changes. Estimating price elasticity is an important component of water revenue forecasting and rate design. If a rate change is anticipated, the water utility must consider its effect on usage and revenues."*

Peaking Factors

The cost of providing water to customers depends not only on the amount of water each class uses, but also on how that usage occurs over time. The maximum-day and maximum-hour peaking requirements of a water utility's customers are an important influence on the utility's costs. Because water utilities attempt to meet all of the demands of their customers, water systems are sized to meet customers' peak requirements. Therefore, during off-peak periods, there are usually significant costs associated with the unused capacity of the system. These costs must be allocated to customers in proportion to the contribution of each customer class to the system peak, in order to develop equitable cost-based rates. Thus, it is necessary to determine the peak rate of use relative to the average rate of use for each class. This ratio is called a ***Peaking Factor***.

EPWA does not maintain detailed information on peak hour factors, which is not uncommon; however, EPWA does track peak consumption by day. This data and the consumption data by class provided by EPWA were utilized in the rate model to calculate the peak day factor and peaking factors for individual rate classes. Consumption data forecast for the wholesale water account was estimated and should be replaced once actual consumption totals become available.

The calculation of peaking factors for individual classes relies on available pumping and consumption information as well as professional judgment. If customer meters could record daily flow rates for each customer, more refined information could be obtained on peaking factors. This is not feasible because of the enormous cost that would be imposed on the utility. Therefore, it is accepted practice in the water industry to develop peaking factor estimates based on standard formulas using system peak day information and monthly customer class usage records. This is a conservative methodology, since customer class peaking factors based on peak months will inevitably be lower than the system-wide peaking factor, which is based on the peak day.

Based on AWWA guidelines, the customer class peaking factors calculated in this study are for non-coincidental peaks. The peaking factors developed for this analysis are based on actual monthly water consumption by customer class for the December 2013 through November 2014. The calculations of the peaking factors by class are calculated in **Table II-10** and presented graphically in **Chart II-11**. The system peak to average ratio of 2.2 used in the rate model was taken from the City's 2013 Water Master Plan (page 2-7).

TABLE II-10

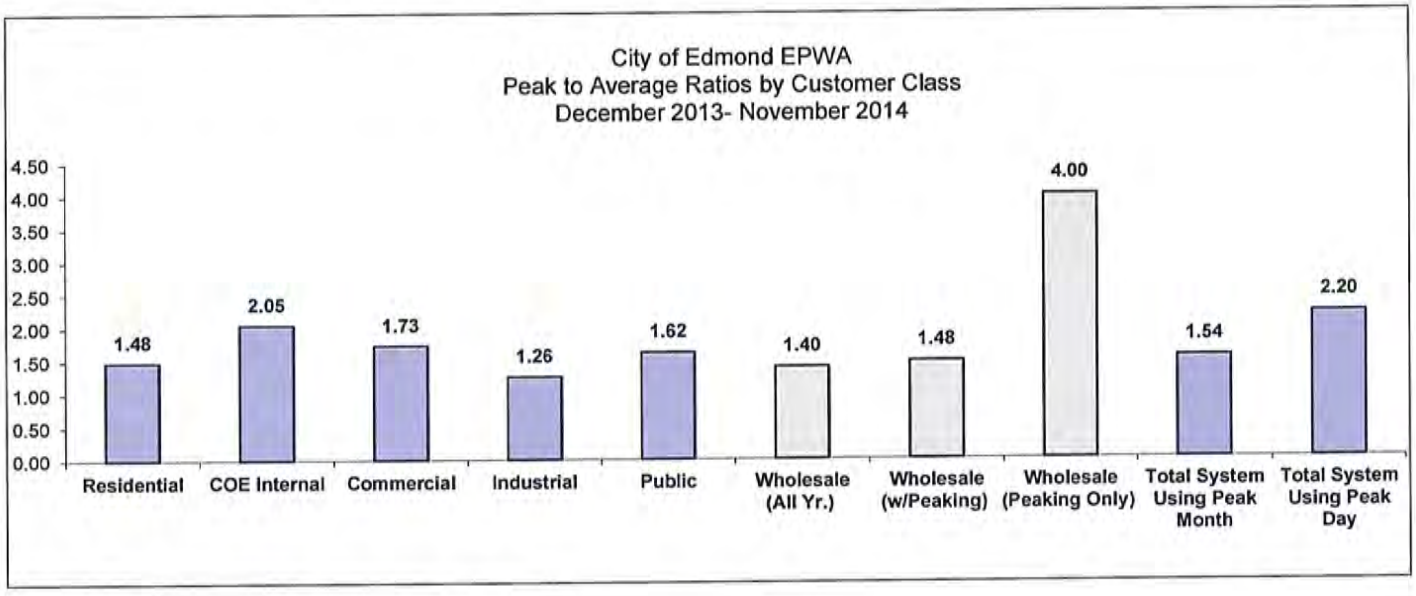
CITY OF EDMOND / EPWA

Previous 12 Months Water Consumption and Peak to Average Ratios by Peak Day

Projections Only - No Historical Data Available

	Residential	COE Internal	Commercial	Industrial	Public	Wholesale (All Yr.)	Wholesale (w/Peaking)	Wholesale (Peaking Only)	Total
Dec-13	159,410,000	1,921,000	42,644,000	594,000	6,938,000	900,000	600,000	-	211,507,000
Jan-14	154,238,000	1,367,000	44,899,000	481,000	5,657,000	900,000	600,000	-	206,642,000
Feb-14	161,402,000	1,512,000	44,956,000	476,000	8,184,000	900,000	600,000	-	216,530,000
Mar-14	147,715,000	1,116,000	42,589,000	362,000	6,985,000	900,000	800,000	-	198,767,000
Apr-14	184,994,000	1,356,000	56,923,000	412,000	8,667,000	900,000	800,000	-	252,352,000
May-14	256,922,000	4,253,000	59,473,000	573,000	12,701,000	1,200,000	900,000	-	333,922,000
Jun-14	268,930,000	4,253,000	62,273,000	515,000	9,497,000	1,200,000	1,200,000	-	345,468,000
Jul-14	259,659,000	3,427,000	55,232,000	564,000	8,618,000	1,500,000	1,300,000	600,000	327,500,000
Aug-14	304,088,000	5,092,000	56,807,000	621,000	10,664,000	1,500,000	1,300,000	600,000	377,272,000
Sep-14	337,053,000	6,753,000	94,868,000	665,000	15,532,000	1,200,000	1,350,000	600,000	454,871,000
Oct-14	272,814,000	5,065,000	40,653,000	523,000	12,841,000	900,000	900,000	-	331,896,000
Nov-14	221,663,000	3,473,000	56,598,000	564,000	8,694,000	900,000	600,000	-	290,992,000
Total	**2,728,888,000**	**39,588,000**	**657,915,000**	**6,350,000**	**114,978,000**	**12,900,000**	**10,950,000**	**1,800,000**	**3,547,719,000**
Peak Month	337,053,000	6,753,000	94,868,000	665,000	15,532,000	1,500,000	1,350,000	600,000	454,871,000
Monthly Average	227,407,333	3,299,000	54,826,250	529,167	9,581,500	1,075,000	912,500	150,000	295,643,250
Peak / Avg. Ratio for Model	**1.48**	**2.05**	**1.73**	**1.26**	**1.62**	**1.40**	**1.48**	**4.00**	**1.54**
						Master Meter for	Master Meter for	Master Meter	
Average Total Accounts	26,483	126	2,214	15	163	150	100	n/a	29,001
Avg. Usage (Gallons)	8,587	26,183	24,763	35,278	58,782	7,167	9,125	n/a	10,194

CHART II-11



Historical and Forecast Wastewater Flows

Like many cities across the country, EPWA uses monthly water sales as a basis for determining wastewater billing units for its wastewater accounts. While it is quite common for Residential accounts to be billed using a winter average, EPWA currently bills all customer classes based on their winter average usage. As the City grows and the Commercial and

Industrial rate classes grow and become more diverse, EPWA is reevaluating this approach to wastewater billing for its non-residential accounts. Currently, all wastewater customers are charged a minimum monthly charge of $11.50 plus a usage charge of $2.76 per thousand gallons. As with water billed consumption, the project team prepared a ten year forecast of wastewater billing units. The forecast is derived using anticipated growth in accounts as depicted in Table II-2. The results of the forecast are presented in **Table II-12.**

The table reveals that wastewater-billing units are forecast to increase by an annual average of **1.61%** during the forecast period.

TABLE II-12

CITY OF EDMOND - EPWA

FORECAST WASTEWATER BILLING UNITS
WASTEWATER Customer Classes

	Residential	COE Internal	Commercial	Industrial	Public	Wholesale	Total
WASTEWATER Historical Volume							
FY 2012	2,096,202,000	7,162,000	369,085,000	5,093,000	54,970,000	-	2,532,512,000
FY 2013	2,047,763,000	7,110,000	363,276,000	5,390,000	60,306,000	-	2,483,845,000
FY 2014	2,172,853,000	9,920,000	386,181,000	4,640,000	64,339,000	-	2,637,933,000
Est FY 2015	2,126,504,000	11,032,000	389,761,000	4,719,000	64,408,000	-	2,596,424,000
Forecast Annual Wastewater Volume							
TY 2016	2,041,656,490	8,825,600	469,662,005	9,714,000	32,204,000	-	2,562,062,095
FY 2017	2,077,294,404	8,825,600	477,611,150	9,714,000	32,204,000	8,640,000	2,614,289,155
FY 2018	2,112,932,318	8,825,600	485,560,296	9,714,000	32,204,000	8,640,000	2,657,876,214
FY 2019	2,148,570,232	8,825,600	493,509,441	9,714,000	32,204,000	8,640,000	2,701,463,273
FY 2020	2,184,208,146	8,825,600	501,458,586	9,714,000	32,204,000	8,640,000	2,745,050,332
FY 2021	2,218,226,155	8,825,600	511,395,018	9,714,000	32,204,000	8,640,000	2,789,004,773
FY 2022	2,252,244,164	8,825,600	521,331,450	9,714,000	32,204,000	8,640,000	2,832,959,213
FY 2023	2,286,262,172	8,825,600	531,267,882	9,714,000	32,204,000	8,640,000	2,876,913,654
FY 2024	2,318,660,276	8,825,600	541,204,313	9,714,000	32,204,000	8,640,000	2,919,248,189
FY 2025	2,347,818,569	8,825,600	551,140,745	9,714,000	32,204,000	8,640,000	2,958,342,914

Section III

SECTION III

Water & Wastewater Forecast Revenue Requirement

In this section of the water and wastewater rate study and long-term financial plan, EPWA's test year and forecast water and wastewater utility revenue requirements are developed. The test year consists of EPWA's fiscal year, July 1, 2015 through June 30, 2016. The estimates presented in this section are based on EPWA's budget for FY 2016, as well as a forecast of EPWA's future capital improvements and debt obligations.

The calculation of a revenue requirement differs from a utility's budget in that it represents only that amount that must be raised through EPWA's user rates. This means that non-rate revenue (such as connection fees, late payment charges and interest) must be subtracted from the budgeted operating and capital expenditures to determine the net revenue requirement to be raised from rates.

According to the American Water Works Association ("AWWA") Manual **M-1**, there are two generally accepted approaches to determining revenue requirements. Manual M-1 specifically pertains to water ratemaking, although these principles are equally applicable to wastewater ratemaking as well. The two approaches are defined within the manual as follows:

Cash Needs Approach – this approach seeks to ensure that utility revenues are sufficient to recover total cash needs for a given period. The revenue requirement components of this approach include O&M expenses, debt-service principal and interest payments, and capital outlays that are not funded by long-term debt. Depreciation expense is not considered to be a cash expense and is therefore not included. The cash-needs approach is generally used by government-owned utilities for *customers who reside inside the city limits.*

Utility Approach – this methodology is used by investor-owned utilities and for government utilities in jurisdictions where the utility is regulated by a state commission or regulatory body. *The Utility basis is particularly applicable to those customers located outside the geographical limits of a government-owned utility.* When a government-owned utility provides service to customers outside its geographical limits, the situation is similar to that of an investor-owned utility to its customers because the owner (the political subdivision) provides service to non-owner customers (customers outside the geographical limits of the city). In this situation, the government-owned utility is entitled to a reasonable return from non-owner customers based on the value of the plant it constructs to provide service to these customers. Also included in the revenue requirement under the Utility Basis are O&M expenses and depreciation.

As is typical for publicly owned utilities, EPWA's system revenue requirements were developed using the cash basis of ratemaking for all rate classes and this was determined to be appropriate despite the fact that EPWA may soon service wholesale customers. The Town of Arcadia is actually contained within the City's borders, and accounts within the potential Oklahoma City suburb would be expected to pay water and wastewater impact fees just as new accounts within Edmond city limits would. Therefore, neither of the rate classes necessarily fits within the "outside" rate classification.

Under the cash basis, as defined by the AWWA Manual M-1, system revenue requirements consist of cash expenditures and other financial commitments (such as debt service coverage or reserves) that must be met through system operating revenues and other revenue sources. All data used in the development of the revenue requirements was obtained from the financial statements, budgets and other information provided by EPWA. Detailed calculations are presented in the rate model contained in Appendix A of this report. For rate design purposes, revenue requirements are developed separately for the water and wastewater systems.

The assumptions utilized in this expense forecast will be thoroughly detailed in this section of the report. These assumptions, particularly those associated with EPWA's capital expenditure budget, are critical to the development of both the revenue requirement and the ultimate rate recommendation. The project team reviewed these assumptions with City staff and considers all to be consistent with staff recommendations.

In this section, current and forecast Operating Costs, Capital Outlays and Debt Service will be examined first. Non-rate revenues will be subtracted from the total to yield the Net Revenue Requirement. The Test Year, FY 2016, revenue requirements presented in this section are applicable for all of the rate scenarios presented in this study. The rate designs for various scenarios are described in Section IV of this report.

Operating Expenses and Capital Outlays – Test Year

Table III-1 summarizes the test year FY 2016 operating expenses and capital outlays for EPWA. **Table III-2** on the following pages presents the FY 2016 operating budgets for each of the divisions in detail by line item.

TABLE III-1

CITY OF EDMOND - EPWA

TEST YEAR OPERATING EXPENSES AND CAPITAL OUTLAYS

	FY 2016 Rev Rqmt	WATER Utility	WASTEWATER Utility
Budget Operating Expenses			
OPERATING EXPENSES			
Water Treatment Plant (Div 332)	$ 9,407,431	$ 9,407,431	$ -
Water Wells (Div 333)	1,425,577	1,425,577	-
FS - Water Utility Line Maint (Div 431)	2,888,304	2,888,304	-
Wastewater Treatment Plant (Div. 352)	5,488,361	-	5,488,361
FS-Wastewater Utility Line Maint (Div 451)	2,235,372	-	2,234,372
Total Operating Expenses	$ 21,445,045	13,721,312	7,722,733
CAPITAL OUTLAYS			
Water Capital Outlays	10,440,007	10,440,007	-
Wastewater Capital Outlays	11,100,000	-	11,100,000
Total Operating Exp & Cap Outlays	**$ 42,985,052**	**$ 24,161,319**	**$ 18,822,733**

The following is noteworthy about these tables:

- There are five divisions within EPWA, each with their own budget: Water Treatment Plant, Water Wells, Field Services – Water Utility Line Maintenance, Wastewater Treatment Plant, and Field Services – Wastewater Utility Line Maintenance.
- Each division's budget includes the following expense categories:
  - **Personal Services**, which includes all personnel costs, such as salary and benefit expenses, and payroll taxes.
  - **Materials and Supplies**, which captures the primary operating expenses associated with the day-to-day management and maintenance of the water and wastewater operations. These expenses include such items as chemicals, fuels, small tools, maintenance supplies and contractual services. Labor expenses, along with power and chemical costs, constitute the EPWA's three largest expense categories.
  - **Other Services & Charges**, which includes utility and power expenses such as natural gas, electricity, water, sewer and garbage fees, and fees for consulting services.
  - **Capital Improvements** funded through the water and wastewater utility budgets. These improvements are adjusted out of operating expenses and included in the Capital Improvement Plan later in this section.
  - **Transfers** to other City funds for support services, bond debt, and the General Fund as described below:
    - Budget transfers to Administrative Support are made to help fund the City's Utility Customer Services Department. This group includes a field services division which has responsibility for the completion of all field orders. Utility Customer Services also provides financial services such as utility statement production, and service order processing; contractual services including the establishment of new service, maintenance of customer contracts, and collections; customer service including inbound call center operations and posting of payments; and meter services which performs monthly water meter readings.
    - Transfers to EPWA Bond fund is adjusted out of the budget and represented in the Current Debt portion of this analysis

Tables III-1 and III-2 also allocate total budget expenses between the water and wastewater functions based on function and general ratemaking principles. Details behind these allocations are presented in the water and wastewater rate model contained in Appendix A. As the tables show, total operating expenses and capital outlays in the test year are **$42,984,052**, of which $24,161,319 is for the water utility and $18,822,733 is for the wastewater utility.

EDMOND PUBLIC WORKS AUTHORITY
WATER/WASTEWATER COST OF SERVICE MODEL

Input Area -- City Budget

INPUT VARIABLES

UTILITY:	**EDMOND PUBLIC WORKS AUTHORITY**
Test Year:	**2016**
Forecast Period:	**2017-2025**
Scenario:	**Base; Alt 1 Status Quo**

~~Model Requires Input in Blue Areas Only~~

ACCELLERATORS

	2017	2018	2019	2020	2021	2022	2023	2024	2025
Personnel	3.0%	3.0%	3.0%	3.0%	3.0%	3.0%	3.0%	3.0%	3.0%
Benefits	5.0%	5.0%	5.0%	5.0%	5.0%	5.0%	5.0%	5.0%	5.0%
Inflation -- General	3.0%	3.0%	3.0%	3.0%	3.0%	3.0%	3.0%	3.0%	3.0%
Expense Increase Premium	5.0%	5.0%	5.0%	5.0%	5.0%	5.0%	5.0%	5.0%	5.0%
Non-Dept. and Transfer Premium	5.0%	5.0%	5.0%	5.0%	5.0%	5.0%	5.0%	5.0%	5.0%
Water Consumption	2.6%	2.1%	1.8%	1.8%	1.8%	1.7%	1.7%	1.6%	1.5%
Water Accounts	2.0%	2.0%	1.9%	1.9%	1.8%	1.8%	1.7%	1.6%	1.5%
Wastewater Billing Units	2.0%	1.7%	1.6%	1.6%	1.6%	1.6%	1.6%	1.5%	1.3%
Wastewater Accounts	1.7%	1.7%	1.7%	1.6%	1.6%	1.6%	1.5%	1.4%	1.3%

Unrestricted Water Reserves $ 26,942,243
Unrestricted WW Reserves $ 15,062,359
(Pull forward to Summary)

NON-RATE REVENUES

		Test Year 2016 Total Budget	Total Adjustments	Rev Rqmt	Total Water	Total Wastewater	Allocation Percentages: Supply Treat	Dist/ Collect	Cust/ Admin	Billing	2017	2018	2019	2020	2021	2022	2023	2024	2025
Charges for Service (non-rate)																			
####	Charge for Services - Water	$ 23,783,313	$ (23,783,313)	$ -	$ -	$ -	na	na	na	na	0.0%	0.0%	0.0%	0.0%	3.0%	3.0%	3.0%	3.0%	3.0%
####	Charge for Services- Sewer	11,612,819	(11,612,819)	-	-	-	na	na	na	na	0.0%	0.0%	0.0%	0.0%	3.0%	3.0%	3.0%	3.0%	3.0%
####	Water Line Tap Fees	246,907	-	246,907	246,907	-	na	na	na	na	2.8%	2.8%	2.7%	2.6%	3.0%	3.0%	3.0%	3.0%	3.0%
#### CIP	Water Capacity Fees	878,918	-	878,918	878,918	-	na	na	na	na	2.9%	2.8%	2.7%	2.7%	3.0%	3.0%	3.0%	3.0%	3.0%
####	Water Late Charges Rev.	45,497	-	45,497	45,497	-	na	na	na	na	1.9%	1.9%	1.8%	1.8%	3.0%	3.0%	3.0%	3.0%	3.0%
####	Water Other Charges	152,144	-	152,144	152,144	-	na	na	na	na	5.3%	5.1%	4.8%	4.6%	3.0%	3.0%	3.0%	3.0%	3.0%
####	Water Interest Revenue (WTP)	180,000	-	180,000	180,000	-	na	na	na	na	0.0%	0.0%	0.0%	0.0%	3.0%	3.0%	3.0%	3.0%	3.0%
####	Water Interest Revenue (Wtr Line	5,000	-	5,000	5,000	-	na	na	na	na	0.0%	0.0%	0.0%	0.0%	3.0%	3.0%	3.0%	3.0%	3.0%
####	Water Cellular Site Rental	195,752	-	195,752	195,752	-	na	na	na	na	0.8%	0.8%	0.8%	0.8%	3.0%	3.0%	3.0%	3.0%	3.0%
####	Water Recycling Revenues	14,352	-	14,352	14,352	-	na	na	na	na	3.1%	3.1%	3.0%	8.6%	3.0%	3.0%	3.0%	3.0%	3.0%
2009	Uncollectibles Allowance - Water	(256,203)	-	(256,203)	(256,203)	-	na	na	na	na	0.0%	0.0%	0.0%	0.0%	3.0%	3.0%	3.0%	3.0%	3.0%
Water	Transfer to Field Svcs from T'mer	2,912,565	-	2,912,565	2,912,565	-	na	na	na	na	2.1%	1.7%	1.4%	-0.4%	3.0%	3.0%	3.0%	3.0%	3.0%
	Other - Water	-	-	-	-	-	na	na	na	na	0.0%	0.0%	0.0%	0.0%	3.0%	3.0%	3.0%	3.0%	3.0%
	Other - Water	-	-	-	-	-	na	na	na	na	0.0%	0.0%	0.0%	0.0%	3.0%	3.0%	3.0%	3.0%	3.0%
	Other - Water	-	-	-	-	-	na	na	na	na	0.0%	0.0%	0.0%	0.0%	3.0%	3.0%	3.0%	3.0%	3.0%
	Other - Water	-	-	-	-	-	na	na	na	na	0.0%	0.0%	0.0%	0.0%	3.0%	3.0%	3.0%	3.0%	3.0%
	Sewer Tap Fees	793	-	793	-	793	na	na	na	na	7.2%	6.7%	6.4%	5.9%	3.0%	3.0%	3.0%	3.0%	3.0%
CIP	Sewer Capacity Fees	680,008	-	680,008	-	680,008	na	na	na	na	4.3%	4.2%	4.0%	3.8%	3.0%	3.0%	3.0%	3.0%	3.0%
	Sewer Late Charges Revenue	19,211	-	19,211	-	19,211	na	na	na	na	2.4%	2.4%	2.3%	2.3%	3.0%	3.0%	3.0%	3.0%	3.0%
	Sewer Other Charges	56,472	-	56,472	-	56,472	na	na	na	na	3.0%	5.7%	5.4%	5.2%	3.0%	3.0%	3.0%	3.0%	3.0%
	Sewer Interest Revenue	100,000	-	100,000	-	100,000	na	na	na	na	-10.0%	-11.1%	-12.5%	0.0%	3.0%	3.0%	3.0%	3.0%	3.0%
2009	Uncollectibles Allowance - Sewer	(44,303)	-	(44,303)	-	(44,303)	na	na	na	na	0.0%	0.0%	0.0%	0.0%	3.0%	3.0%	3.0%	3.0%	3.0%
WW	Transfer to Field Svcs from T'mer	2,221,372	-	2,221,372	-	2,221,372	na	na	na	na	-1.7%	1.3%	1.5%	0.0%	3.0%	3.0%	3.0%	3.0%	3.0%
	Other - Sewer	-	-	-	-	-	na	na	na	na	0.0%	0.0%	0.0%	0.0%	3.0%	3.0%	3.0%	3.0%	3.0%
	Other - Sewer	-	-	-	-	-	na	na	na	na	0.0%	0.0%	0.0%	0.0%	3.0%	3.0%	3.0%	3.0%	3.0%

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EDMOND PUBLIC WORKS AUTHORITY
WATER/WASTEWATER COST OF SERVICE MODEL

Test Year 2016

	Total Budget	Total Adjustments	Rev Rqmt	Total Water	Total Wastewater	Allocation Percentages: Supply Treat	Dist/ Collect	Admin	Cust/ Billing	Forecast Increase in: 2017	2018	2019	2020	2021	2022	2023	2024	2025
Input Area -- City Budget																		
Other - Sewer	-	-	-	-	-	na	na	na	na	0.0%	0.0%	0.0%	0.0%	3.0%	3.0%	3.0%	3.0%	3.0%
Other - Sewer	-	-	-	-	-	na	na	na	na	0.0%	0.0%	0.0%	0.0%	3.0%	3.0%	3.0%	3.0%	3.0%
Total Non-Rate Revenues	**$ 42,804,617**	**$ (35,396,132)**	**$ 7,408,485**	**$ 4,374,932**	**$ 3,033,553**													
WATER																		
Water Treatment Plant (Div 332)																		
Operating Expenses:																		
Personal Services																		
8101 Regular Pay - Civilians	$ 845,900	$ -	$ 845,900	$ 845,900	$ -	100.0%	0.0%	0.0%	0.0%	1.8%	1.7%	1.7%	1.6%	3.0%	3.0%	3.0%	3.0%	3.0%
8104 Overtime Pay	65,567	-	65,567	65,567	-	100.0%	0.0%	0.0%	0.0%	1.7%	1.7%	1.6%	2.5%	3.0%	3.0%	3.0%	3.0%	3.0%
8105 Holiday Pay	7,000	-	7,000	7,000	-	100.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	3.0%	3.0%	3.0%	3.0%	3.0%
8106 Part-Time Pay	-	-	-	-	-	100.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	3.0%	3.0%	3.0%	3.0%	3.0%
8107 Longevity Pay	17,325	-	17,325	17,325	-	100.0%	0.0%	0.0%	0.0%	9.1%	8.9%	6.7%	6.7%	3.0%	3.0%	3.0%	3.0%	3.0%
8110 Car Allowance	1,944	-	1,944	1,944	-	100.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	3.0%	3.0%	3.0%	3.0%	3.0%
8114 Commuter Mileage	2,000	-	2,000	2,000	-	100.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	3.0%	3.0%	3.0%	3.0%	3.0%
8115 Retirement - Civilians	82,239	-	82,239	82,239	-	100.0%	0.0%	0.0%	0.0%	1.9%	1.8%	1.8%	1.8%	8.0%	8.0%	8.0%	8.0%	8.0%
8117 Group Insurance Premium	194,411	-	194,411	194,411	-	100.0%	0.0%	0.0%	0.0%	2.5%	2.5%	2.5%	2.5%	8.0%	8.0%	8.0%	8.0%	8.0%
8118 Social Security Tax	59,220	-	59,220	59,220	-	100.0%	0.0%	0.0%	0.0%	1.9%	1.8%	1.8%	1.8%	8.0%	8.0%	8.0%	8.0%	8.0%
8119 Medicare Tax	13,850	-	13,850	13,850	-	100.0%	0.0%	0.0%	0.0%	1.9%	1.8%	1.8%	1.8%	8.0%	8.0%	8.0%	8.0%	8.0%
8121 Standby Incentive Pay	5,200	-	5,200	5,200	-	100.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	8.0%	8.0%	8.0%	8.0%	8.0%
8122 Sick Leave Incentive Pay	867	-	867	867	-	100.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	8.0%	8.0%	8.0%	8.0%	8.0%
8123 Bonus Incentive Pay	9,353	-	9,353	9,353	-	100.0%	0.0%	0.0%	0.0%	1.6%	1.5%	1.5%	1.5%	8.0%	8.0%	8.0%	8.0%	8.0%
8124 Tuition Reimbursement	-	-	-	-	-	100.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	3.0%	3.0%	3.0%	3.0%	3.0%
Total Personal Svcs	**$ 1,304,876**	**$ -**	**$ 1,304,876**	**$ 1,304,876**	**$ -**													
Materials & Supplies																		
8200 Do Not Use	$ -	$ -	$ -	$ -	$ -	100.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	3.0%	3.0%	3.0%	3.0%	3.0%
8201 Office Supplies	6,457	-	6,457	6,457	-	0.0%	0.0%	0.0%	100.0%	3.0%	3.0%	3.0%	3.0%	3.0%	3.0%	3.0%	3.0%	3.0%
8203 Postage Costs	24,597	-	24,597	24,597	-	0.0%	0.0%	0.0%	100.0%	3.0%	3.0%	3.0%	3.0%	3.0%	3.0%	3.0%	3.0%	3.0%
8204 Minor Tools	3,090	-	3,090	3,090	-	100.0%	0.0%	0.0%	0.0%	3.0%	3.0%	3.0%	3.0%	3.0%	3.0%	3.0%	3.0%	3.0%
8205 Janitorial Supplies	1,106	-	1,106	1,106	-	100.0%	0.0%	0.0%	0.0%	3.0%	3.0%	3.1%	3.0%	3.0%	3.0%	3.0%	3.0%	3.0%
8206 Medical Supplies	184	-	184	184	-	100.0%	0.0%	0.0%	0.0%	3.3%	2.6%	3.1%	3.0%	3.0%	3.0%	3.0%	3.0%	3.0%
8207 Chemicals	347,329	-	347,329	347,329	-	100.0%	0.0%	0.0%	0.0%	3.0%	3.0%	3.0%	3.0%	4.8%	4.7%	4.7%	4.6%	4.5%
8208 Fuel and Lube	21,924	-	21,924	21,924	-	100.0%	0.0%	0.0%	0.0%	3.0%	3.0%	3.0%	3.0%	4.8%	4.7%	4.7%	4.6%	4.5%
8209 Food Supplies	1,599	-	1,599	1,599	-	100.0%	0.0%	0.0%	0.0%	3.0%	3.0%	3.0%	3.0%	3.0%	3.0%	3.0%	3.0%	3.0%
8212 Uniform/Safety Clothing	5,128	-	5,128	5,128	-	100.0%	0.0%	0.0%	0.0%	3.0%	3.0%	3.0%	3.0%	3.0%	3.0%	3.0%	3.0%	3.0%
8213 Safety Equipment	4,120	-	4,120	4,120	-	100.0%	0.0%	0.0%	0.0%	3.0%	3.0%	3.0%	3.0%	3.0%	3.0%	3.0%	3.0%	3.0%
8216 Bldg Material/Supplies	1,231	-	1,231	1,231	-	100.0%	0.0%	0.0%	0.0%	3.0%	3.0%	3.0%	3.0%	3.0%	3.0%	3.0%	3.0%	3.0%
8220 Electrical Materials	38,500	-	38,500	38,500	-	100.0%	0.0%	0.0%	0.0%	3.0%	3.0%	3.0%	3.0%	3.0%	3.0%	3.0%	3.0%	3.0%
8221 Machine/Equip Parts	66,950	-	66,950	66,950	-	100.0%	0.0%	0.0%	0.0%	3.0%	3.0%	3.0%	3.0%	4.8%	4.7%	4.7%	4.6%	4.5%
8222 Motor Vehicle Parts	1,061	-	1,061	1,061	-	100.0%	0.0%	0.0%	0.0%	3.0%	3.0%	2.9%	3.0%	4.8%	4.7%	4.7%	4.6%	4.5%
8226 Botanical Supplies	369	-	369	369	-	100.0%	0.0%	0.0%	0.0%	3.0%	2.9%	3.1%	3.0%	3.0%	3.0%	3.0%	3.0%	3.0%
8227 Educational Supplies	1,791	-	1,791	1,791	-	100.0%	0.0%	0.0%	0.0%	3.0%	3.0%	3.0%	3.0%	3.0%	3.0%	3.0%	3.0%	3.0%
8229 Photo Supplies	-	-	-	-	-	100.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	3.0%	3.0%	3.0%	3.0%	3.0%
8232 Bottled Gases	2,783	-	2,783	2,783	-	100.0%	0.0%	0.0%	0.0%	3.0%	3.0%	3.0%	3.0%	3.0%	3.0%	3.0%	3.0%	3.0%
8234 Laboratory Supplies	24,000	-	24,000	24,000	-	100.0%	0.0%	0.0%	0.0%	3.0%	3.0%	3.0%	3.0%	4.8%	4.7%	4.7%	4.6%	4.5%
8249 Computer Supplies	5,620	-	5,620	5,620	-	100.0%	0.0%	0.0%	0.0%	-19.5%	-100.0%	0.0%	300.0%	3.0%	3.0%	3.0%	3.0%	3.0%
8255 Security Enhancement Materials	11,941	-	11,941	11,941	-	100.0%	0.0%	0.0%	0.0%	3.0%	3.0%	3.0%	3.0%	4.8%	4.7%	4.7%	4.6%	4.5%
8263 Water Conservation Supplies	50,000	-	50,000	50,000	-	100.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	4.8%	4.7%	4.7%	4.6%	4.5%
8299 Misc Materials & Supplies	369	-	369	369	-	100.0%	0.0%	0.0%	0.0%	3.0%	2.9%	3.1%	3.0%	3.0%	3.0%	3.0%	3.0%	3.0%
Total Materials /Supplies	**$ 620,149**	**$ -**	**$ 620,149**	**$ 620,149**	**$ -**													

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EDMOND PUBLIC WORKS AUTHORITY
WATER/WASTEWATER COST OF SERVICE MODEL

Input Area -- City Budget

		Test Year 2016 Total Budget	Total Adjustments	Rev Rqmt	Total Water	Total Wastewater	Allocation Percentages: Supply Treat	Dist/ Collect	Cust/ Admin	Billing	Forecast Increase in: 2017	2018	2019	2020	2021	2022	2023	2024	2025
	Other Services & Charges																		
	8300 Do Not Use	$ -	$ -	$ -	$ -	$ -	100.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	3.0%	3.0%	3.0%	3.0%	3.0%
	8302 Equipment Rental	9,548	-	9,548	9,548	-	100.0%	0.0%	0.0%	0.0%	3.0%	3.0%	3.0%	3.0%	3.0%	3.0%	3.0%	3.0%	3.0%
	8305 Advertising Costs	22,813	-	22,813	22,813	-	0.0%	0.0%	0.0%	100.0%	3.0%	3.0%	3.0%	3.0%	3.0%	3.0%	3.0%	3.0%	3.0%
	8306 Training- Registration	7,165	-	7,165	7,165	-	100.0%	0.0%	0.0%	0.0%	3.0%	3.0%	3.0%	3.0%	3.0%	3.0%	3.0%	3.0%	3.0%
	8308 Water/Sewer/Garbage Fees	694,974	-	694,974	694,974	-	100.0%	0.0%	0.0%	0.0%	3.0%	3.0%	3.0%	3.0%	4.8%	4.8%	4.7%	4.6%	4.5%
	8309 Natural Gas & LPG Costs	615	-	615	615	-	100.0%	0.0%	0.0%	0.0%	2.9%	3.0%	3.1%	3.0%	3.0%	3.0%	3.0%	3.0%	3.0%
	8310 Electricity Costs	695,250	-	695,250	695,250	-	100.0%	0.0%	0.0%	0.0%	3.0%	3.0%	3.0%	3.0%	9.8%	9.7%	9.7%	9.6%	9.5%
	8312 Laundry Services	11,941	-	11,941	11,941	-	100.0%	0.0%	0.0%	0.0%	3.0%	3.0%	3.0%	3.0%	3.0%	3.0%	3.0%	3.0%	3.0%
	8313 Maint/Repairs Equipment	23,882	-	23,882	23,882	-	100.0%	0.0%	0.0%	0.0%	3.0%	3.0%	3.0%	3.0%	4.8%	4.8%	4.7%	4.6%	4.5%
	8314 Maint/Repairs Bldg & Land	-	-	-	-	-	100.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	3.0%	3.0%	3.0%	3.0%	3.0%
	8315 Special Fees	19,096	-	19,096	19,096	-	100.0%	0.0%	0.0%	0.0%	3.0%	3.0%	3.0%	3.0%	3.0%	3.0%	3.0%	3.0%	3.0%
	8316 Food Services	-	-	-	-	-	100.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	3.0%	3.0%	3.0%	3.0%	3.0%
	8317 Printing Services	8,917	-	8,917	8,917	-	100.0%	0.0%	0.0%	0.0%	3.0%	3.0%	3.0%	3.0%	3.0%	3.0%	3.0%	3.0%	3.0%
	8319 Consulting & Professional Fees	60,000	-	60,000	60,000	-	100.0%	0.0%	0.0%	0.0%	-66.7%	0.0%	3.0%	3.0%	3.0%	3.0%	3.0%	3.0%	3.0%
	8320 Mileage Reimbursement	7,500	-	7,500	7,500	-	100.0%	0.0%	0.0%	0.0%	3.0%	3.0%	3.0%	3.0%	3.0%	3.0%	3.0%	3.0%	3.0%
	8321 Towing Charges	-	-	-	-	-	100.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	3.0%	3.0%	3.0%	3.0%	3.0%
	8324 Dues & Subscriptions	4,179	-	4,179	4,179	-	100.0%	0.0%	0.0%	0.0%	3.0%	3.0%	3.0%	3.0%	3.0%	3.0%	3.0%	3.0%	3.0%
	8336 Corps Joint - Use O & M Cost	283,250	-	283,250	283,250	-	100.0%	0.0%	0.0%	0.0%	3.0%	3.0%	3.0%	3.0%	3.0%	3.0%	3.0%	3.0%	3.0%
	8345 Bank Charges	10,455	-	10,455	10,455	-	100.0%	0.0%	0.0%	0.0%	3.0%	3.0%	3.0%	3.0%	3.0%	3.0%	3.0%	3.0%	3.0%
	8346 Laboratory Testing	100,000	-	100,000	100,000	-	100.0%	0.0%	0.0%	0.0%	3.0%	3.0%	3.0%	3.0%	3.0%	3.0%	3.0%	3.0%	3.0%
	8352 Travel Costs	12,300	-	12,300	12,300	-	100.0%	0.0%	0.0%	0.0%	3.0%	3.0%	3.0%	3.0%	4.8%	4.7%	4.7%	4.6%	4.5%
	8355 Security Enhancement Charges	10,609	-	10,609	10,609	-	100.0%	0.0%	0.0%	0.0%	3.0%	3.0%	3.0%	3.0%	3.0%	3.0%	3.0%	3.0%	3.0%
	8361 Contract Services	97,500	-	97,500	97,500	-	100.0%	0.0%	0.0%	0.0%	3.0%	3.0%	3.0%	3.0%	3.0%	3.0%	3.0%	3.0%	3.0%
	8364 Right of Way Use Fee	1,199,048	-	1,199,048	1,199,048	-	100.0%	0.0%	0.0%	0.0%	5.5%	3.0%	3.0%	3.0%	3.0%	3.0%	3.0%	3.0%	3.0%
	8368 Ground Water Lease Fees	-	-	-	-	-	100.0%	0.0%	0.0%	0.0%	2.4%	2.6%	2.6%	2.5%	59.78%	3.0%	3.0%	3.0%	3.0%
	8376 Water Conservation Services	50,000	-	50,000	50,000	-	100.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	3.0%	3.0%	3.0%	3.0%	3.0%
	Total Other Svcs & Charges	**$ 3,329,042**	**$ -**	**$ 3,329,042**	**$ 3,329,042**	**$ -**	100.0%	0.0%	0.0%	0.0%	0.0%	0.0%	3.0%	3.0%	3.0%	3.0%	3.0%	3.0%	3.0%
	Transfers & Capital Outlays																		
CIP	8405 Building & Improvements	$ -	$ -	$ -	$ -	$ -	100.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	3.0%	3.0%	3.0%	3.0%	3.0%
CIP	8409 Waterworks Construction	9,925,000	(9,925,000)	-	-	-	100.0%	0.0%	0.0%	0.0%	-100.0%	0.0%	0.0%	0.0%	3.0%	3.0%	3.0%	3.0%	3.0%
CapO	8414 Motor Vehicles	250,000	(250,000)	-	-	-	100.0%	0.0%	0.0%	0.0%	-100.0%	0.0%	0.0%	0.0%	3.0%	3.0%	3.0%	3.0%	3.0%
CapO	8427 Lab Equipment	50,000	(50,000)	-	-	-	100.0%	0.0%	0.0%	0.0%	-100.0%	0.0%	0.0%	0.0%	3.0%	3.0%	3.0%	3.0%	3.0%
CIP	8524 Water Conservation Improvemen	-	-	-	-	-	100.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	3.0%	3.0%	3.0%	3.0%	3.0%
DS	8701 Principal Repayment	1,291,102	(1,291,102)	-	-	-	100.0%	0.0%	0.0%	0.0%	2.7%	2.6%	2.6%	2.5%	3.0%	3.0%	3.0%	3.0%	3.0%
DS	8702 Interest Expense	339,306	(339,306)	-	-	-	100.0%	0.0%	0.0%	0.0%	8.0%	-9.2%	-10.4%	-11.9%	3.0%	3.0%	3.0%	3.0%	3.0%
DS	8802 Transfers - PWA Bond Fund	2,317,672	(2,317,672)	-	-	-	100.0%	0.0%	0.0%	0.0%	100.5%	0.0%	-39.9%	2.4%	3.0%	3.0%	3.0%	3.0%	3.0%
	8803 Interfund Trsf-General Fund	63,992	-	63,992	63,992	-	100.0%	0.0%	0.0%	0.0%	22.4%	13.4%	14.8%	14.5%	663.24%	3.0%	3.0%	3.0%	3.0%
	8804 Transfers- Sales Tax	-	-	-	-	-	100.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	3.0%	3.0%	3.0%	3.0%	3.0%
	8807 Transfers - Fleet Mgmt	8,000	-	8,000	8,000	-	100.0%	0.0%	0.0%	0.0%	-52.5%	-100.0%	0.0%	0.0%	3.0%	3.0%	3.0%	3.0%	3.0%
	8811 Transfers-Admin Support	1,403,504	-	1,403,504	1,403,504	-	0.0%	0.0%	100.0%	0.0%	21.2%	2.4%	-0.2%	1.7%	3.0%	3.0%	3.0%	3.0%	3.0%
	8816 Transfers-Insurance Assessment	65,089	-	65,089	65,089	-	0.0%	0.0%	100.0%	0.0%	30.7%	2.1%	1.8%	1.7%	3.0%	3.0%	3.0%	3.0%	3.0%
	8817 Transfers-Field Services	2,544,338	-	2,544,338	2,544,338	-	0.0%	0.0%	100.0%	0.0%	15.5%	1.6%	1.3%	0.8%	3.0%	3.0%	3.0%	3.0%	3.0%
	8818 Transfers-Fleet Lease Assess	43,441	-	43,441	43,441	-	0.0%	0.0%	100.0%	0.0%	4.6%	4.6%	4.6%	4.6%	3.0%	3.0%	3.0%	3.0%	3.0%
	8819 Transfers-Vehicle Maint Charge	25,000	-	25,000	25,000	-	0.0%	0.0%	100.0%	0.0%	3.0%	3.0%	3.0%	3.0%	3.0%	3.0%	3.0%	3.0%	3.0%
	Other	-	-	-	-	-	100.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	3.0%	3.0%	3.0%	3.0%	3.0%
	Total Transfers	**$ 18,326,444**	**$ (14,173,080)**	**$ 4,153,364**	**$ 4,153,364**	**$ -**													
	SUB-TOTAL Water Treatment F	**$ 23,580,511**	**$ (14,173,080)**	**$ 9,407,431**	**$ 9,407,431**	**$ -**													

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EDMOND PUBLIC WORKS AUTHORITY
WATER/WASTEWATER COST OF SERVICE MODEL

Test Year 2016

Input Area -- City Budget

	Total Budget	Total Adjustments	Rev Rqmt	Total Water	Total Wastewater	Allocation Percentages: Supply Treat	Dist/ Collect	Cust/ Admin	Billing	Forecast Increase in: 2017	2018	2019	2020	2021	2022	2023	2024	2025
Water Wells (Div 333)																		
Operating Expenses:																		
Personal Services																		
8101 Regular Pay - Civilians	$ 319,677	$ -	$ 319,677	$ 319,677	$ -	100.0%	0.0%	0.0%	0.0%	2.2%	2.1%	1.7%	1.5%	3.0%	3.0%	3.0%	3.0%	3.0%
8104 Overtime Pay	12,815	-	12,815	12,815	-	100.0%	0.0%	0.0%	0.0%	1.7%	1.5%	1.2%	2.5%	3.0%	3.0%	3.0%	3.0%	3.0%
8107 Longevity pay	5,725	-	5,725	5,725	-	100.0%	0.0%	0.0%	0.0%	2.6%	17.9%	5.4%	10.6%	3.0%	3.0%	3.0%	3.0%	3.0%
8114 Communter Mileage	1,000	-	1,000	1,000	-	100.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	3.0%	3.0%	3.0%	3.0%	3.0%
8115 Retirement-Civilians	29,771	-	29,771	29,771	-	100.0%	0.0%	0.0%	0.0%	2.1%	2.3%	1.7%	1.7%	8.0%	8.0%	8.0%	8.0%	8.0%
8117 Group Insurance Premium	66,232	-	66,232	66,232	-	100.0%	0.0%	0.0%	0.0%	2.5%	2.5%	2.5%	2.5%	8.0%	8.0%	8.0%	8.0%	8.0%
8118 Social Security Tax	21,438	-	21,438	21,438	-	100.0%	0.0%	0.0%	0.0%	2.1%	2.3%	1.7%	1.7%	8.0%	8.0%	8.0%	8.0%	8.0%
8119 Medicare Tax	5,014	-	5,014	5,014	-	100.0%	0.0%	0.0%	0.0%	2.1%	2.3%	1.7%	1.7%	8.0%	8.0%	8.0%	8.0%	8.0%
8121 Standby Incentive Pay	2,600	-	2,600	2,600	-	100.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	8.0%	8.0%	8.0%	8.0%	8.0%
8122 Sick Leave Incentive Pay	379	-	379	379	-	100.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	8.0%	8.0%	8.0%	8.0%	8.0%
8123 Bonus Incentive Pay	3,576	-	3,576	3,576	-	100.0%	0.0%	0.0%	0.0%	1.9%	1.8%	1.5%	1.4%	8.0%	8.0%	8.0%	8.0%	8.0%
8126 Cell Phone Allowance	300	-	300	300	-	100.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	8.0%	8.0%	8.0%	8.0%	8.0%
Other	-	-	-	-	-	100.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	8.0%	8.0%	8.0%	8.0%	8.0%
Other	-	-	-	-	-	100.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	8.0%	8.0%	8.0%	8.0%	8.0%
Other	-	-	-	-	-	100.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	8.0%	8.0%	8.0%	8.0%	8.0%
Total Personal Services	**$ 468,527**	**$ -**	**$ 468,527**	**$ 468,527**	**$ -**													
Materials & Supplies																		
8200 Do Not Use	$ -	$ -	$ -	$ -	$ -	100.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	3.0%	3.0%	3.0%	3.0%	3.0%
8201 Office Supplies	515	-	515	515	-	0.0%	0.0%	0.0%	100.0%	2.9%	3.0%	2.9%	3.0%	3.0%	3.0%	3.0%	3.0%	3.0%
8203 Postage Costs	1,195	-	1,195	1,195	-	0.0%	0.0%	0.0%	100.0%	3.0%	3.0%	3.0%	3.0%	3.0%	3.0%	3.0%	3.0%	3.0%
8204 Minor Tools	1,030	-	1,030	1,030	-	100.0%	0.0%	0.0%	0.0%	3.0%	3.0%	3.0%	3.0%	3.0%	3.0%	3.0%	3.0%	3.0%
8207 Chemicals	36,050	-	36,050	36,050	-	100.0%	0.0%	0.0%	0.0%	3.0%	3.0%	3.0%	3.0%	3.0%	3.0%	3.0%	3.0%	3.0%
8208 Fuel & Lube	18,540	-	18,540	18,540	-	100.0%	0.0%	0.0%	0.0%	3.0%	3.0%	3.0%	3.0%	3.0%	3.0%	3.0%	3.0%	3.0%
8209 Food Supplies	600	-	600	600	-	100.0%	0.0%	0.0%	0.0%	3.0%	3.0%	3.0%	3.0%	4.8%	4.8%	4.7%	4.6%	4.5%
8212 Uniform/Safety Clothing	2,389	-	2,389	2,389	-	100.0%	0.0%	0.0%	0.0%	3.0%	3.1%	3.0%	2.9%	3.0%	3.0%	3.0%	3.0%	3.0%
8213 Safety Equipment	2,060	-	2,060	2,060	-	100.0%	0.0%	0.0%	0.0%	3.0%	3.0%	3.0%	3.0%	3.0%	3.0%	3.0%	3.0%	3.0%
8219 Water System Materials	30,900	-	30,900	30,900	-	100.0%	0.0%	0.0%	0.0%	3.0%	3.0%	3.0%	3.0%	3.0%	3.0%	3.0%	3.0%	3.0%
8220 Electrical Materials	25,750	-	25,750	25,750	-	100.0%	0.0%	0.0%	0.0%	3.0%	3.0%	3.0%	3.0%	3.0%	3.0%	3.0%	3.0%	3.0%
8221 Machine/Equip Parts	30,900	-	30,900	30,900	-	100.0%	0.0%	0.0%	0.0%	3.0%	3.0%	3.0%	3.0%	3.0%	3.0%	3.0%	3.0%	3.0%
8222 Motor Vehicle Parts	-	-	-	-	-	100.0%	0.0%	0.0%	0.0%	3.0%	3.0%	3.0%	3.0%	3.0%	3.0%	3.0%	3.0%	3.0%
8225 Code Book Purchases	-	-	-	-	-	100.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	3.0%	3.0%	3.0%	3.0%	3.0%
8227 Educational Supplies	824	-	824	824	-	100.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	3.0%	3.0%	3.0%	3.0%	3.0%
8234 Laboratory Supplies	4,000	-	4,000	4,000	-	100.0%	0.0%	0.0%	0.0%	3.0%	2.9%	3.0%	3.0%	3.0%	3.0%	3.0%	3.0%	3.0%
8249 Computer Suppies	-	-	-	-	-	100.0%	0.0%	0.0%	0.0%	3.0%	3.0%	3.0%	3.0%	3.0%	3.0%	3.0%	3.0%	3.0%
8255 Security Enhancement Materials	-	-	-	-	-	100.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	3.0%	3.0%	3.0%	3.0%	3.0%
8299 Misc Materials & Supplies	537	-	537	537	-	100.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	3.0%	3.0%	3.0%	3.0%	3.0%
Other	-	-	-	-	-	100.0%	0.0%	0.0%	0.0%	3.0%	2.9%	3.0%	3.1%	3.0%	3.0%	3.0%	3.0%	3.0%
Other	-	-	-	-	-	100.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	3.0%	3.0%	3.0%	3.0%	3.0%
Other	-	-	-	-	-	100.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	3.0%	3.0%	3.0%	3.0%	3.0%
Total Materials / Supplies	**$ 155,290**	**$ -**	**$ 155,290**	**$ 155,290**	**$ -**													

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EDMOND PUBLIC WORKS AUTHORITY
WATER/WASTEWATER COST OF SERVICE MODEL

Test Year 2016

Input Area -- City Budget

		Total Budget	Total Adjustments	Rev Rqmt	Total Water	Total Wastewater	Allocation Percentages: Supply Treat	Dist/ Collect	Cust/ Admin	Cust/ Billing	Forecast Increase in: 2017	2018	2019	2020	2021	2022	2023	2024	2025
	Other Services & Charges																		
	8300 Do Not Use	$ -	$ -	$ -	$ -	$ -	100.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	3.0%	3.0%	3.0%	3.0%	3.0%
	8302 Equipment Rental	1,591	-	1,591	1,591	-	100.0%	0.0%	0.0%	0.0%	3.0%	3.0%	3.0%	3.0%	3.0%	3.0%	3.0%	3.0%	3.0%
	8305 Advertising Costs	-	-	-	-	-	0.0%	0.0%	0.0%	100.0%	0.0%	0.0%	0.0%	0.0%	3.0%	3.0%	3.0%	3.0%	3.0%
	8306 Training-Registration	3,090	-	3,090	3,090	-	100.0%	0.0%	0.0%	0.0%	3.0%	3.0%	3.0%	3.0%	3.0%	3.0%	3.0%	3.0%	3.0%
	8310 Electricity Costs	515,000	-	515,000	515,000	-	100.0%	0.0%	0.0%	0.0%	3.0%	3.0%	3.0%	3.0%	9.8%	9.8%	9.7%	9.6%	9.5%
	8312 Laundry Services	3,582	-	3,582	3,582	-	100.0%	0.0%	0.0%	0.0%	3.0%	3.0%	3.0%	3.0%	3.0%	3.0%	3.0%	3.0%	3.0%
	8313 Maint/Repairs Equipment	10,300	-	10,300	10,300	-	100.0%	0.0%	0.0%	0.0%	3.0%	3.0%	3.0%	3.0%	4.8%	4.8%	4.7%	4.6%	4.5%
	8314 Maint/Repairs Bldg & Land	55,300	-	55,300	55,300	-	100.0%	0.0%	0.0%	0.0%	0.6%	0.6%	3.0%	3.0%	3.0%	3.0%	3.0%	3.0%	3.0%
	8315 Special Fees	3,000	-	3,000	3,000	-	100.0%	0.0%	0.0%	0.0%	3.0%	3.0%	3.0%	3.0%	3.0%	3.0%	3.0%	3.0%	3.0%
	8317 Printing Services	615	-	615	615	-	100.0%	0.0%	0.0%	0.0%	2.9%	3.0%	3.1%	3.0%	3.0%	3.0%	3.0%	3.0%	3.0%
	8319 Consulting & Professional Svcs	-	-	-	-	-	100.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	3.0%	3.0%	3.0%	3.0%	3.0%
	8324 Dues & Subscriptions	824	-	824	824	-	100.0%	0.0%	0.0%	0.0%	3.0%	2.9%	3.0%	3.0%	4.8%	4.7%	4.7%	4.6%	4.5%
	8346 Laboratory Testing	30,900	-	30,900	30,900	-	100.0%	0.0%	0.0%	0.0%	3.0%	3.0%	3.0%	3.0%	3.0%	3.0%	3.0%	3.0%	3.0%
	8352 Travel Costs	6,956	-	6,956	6,956	-	100.0%	0.0%	0.0%	0.0%	3.0%	3.0%	3.0%	3.0%	3.0%	3.0%	3.0%	3.0%	3.0%
	8355 Security Enhancement Charges	5,150	-	5,150	5,150	-	100.0%	0.0%	0.0%	0.0%	3.0%	3.0%	3.0%	3.0%	3.0%	3.0%	3.0%	3.0%	3.0%
	8361 Contract Services	61,800	-	61,800	61,800	-	100.0%	0.0%	0.0%	0.0%	3.0%	3.0%	3.0%	3.0%	3.0%	3.0%	3.0%	3.0%	3.0%
	8368 Ground Water Lease Fees	62,830	-	62,830	62,830	-	100.0%	0.0%	0.0%	0.0%	3.0%	3.0%	3.0%	3.0%	3.0%	3.0%	3.0%	3.0%	3.0%
	Other	-	-	-	-	-	100.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	3.0%	3.0%	3.0%	3.0%	3.0%
	Other	-	-	-	-	-	100.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	3.0%	3.0%	3.0%	3.0%	3.0%
	Other	-	-	-	-	-	100.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	3.0%	3.0%	3.0%	3.0%	3.0%
	Other	-	-	-	-	-	100.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	3.0%	3.0%	3.0%	3.0%	3.0%
	Total Svcs / Charges	**$ 760,938**	**$ -**	**$ 760,938**	**$ 760,938**	**$ -**													
	Transfers																		
CIP	8409 Waterworks Construction	$ 515,007	$ (515,007)	$ -	$ -	$ -	100.0%	0.0%	0.0%	0.0%	-100.0%	0.0%	0.0%	0.0%	3.0%	3.0%	3.0%	3.0%	3.0%
DS	8802 Transfers-PWA Bond Fund	42,867	(42,867)	-	-	-	100.0%	0.0%	0.0%	0.0%	-100.0%	0.0%	0.0%	0.0%	3.0%	3.0%	3.0%	3.0%	3.0%
	8811 Transfers-Admin Support	14,704	-	14,704	14,704	-	0.0%	0.0%	100.0%	0.0%	288.0%	3.8%	-3.0%	-0.2%	3.0%	3.0%	3.0%	3.0%	3.0%
	8816 Transfers-Insurance Assessment	9,068	-	9,068	9,068	-	0.0%	0.0%	100.0%	0.0%	112.9%	2.5%	2.1%	2.0%	3.0%	3.0%	3.0%	3.0%	3.0%
	8818 Transfers- Fleet Lease Assess	15,000	-	15,000	15,000	-	0.0%	0.0%	100.0%	0.0%	-36.9%	4.3%	4.4%	4.4%	3.0%	3.0%	3.0%	3.0%	3.0%
	8819 Transfers-Vehicle Maint Charge	2,050	-	2,050	2,050	-	100.0%	0.0%	0.0%	0.0%	653.7%	3.0%	3.0%	3.0%	3.0%	3.0%	3.0%	3.0%	3.0%
	8807 Transfers-Fleet Mgment	-	-	-	-	-	100.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	3.0%	3.0%	3.0%	3.0%	3.0%
	Other	-	-	-	-	-	100.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	3.0%	3.0%	3.0%	3.0%	3.0%
	Other	-	-	-	-	-	100.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	3.0%	3.0%	3.0%	3.0%	3.0%
	Other	-	-	-	-	-	100.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	3.0%	3.0%	3.0%	3.0%	3.0%
	Other	-	-	-	-	-	100.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	3.0%	3.0%	3.0%	3.0%	3.0%
	Total Transfers	**$ 598,696**	**$ (557,874)**	**$ 40,822**	**$ 40,822**	**$ -**													
	SUB-TOTAL Water Wells	**$ 1,983,451**	**$ (557,874)**	**$ 1,425,577**	**$ 1,425,577**	**$ -**													
	SUBTOTAL WATER UTILITY FU	**$ 25,563,962**	**$ (14,730,954)**	**$ 10,833,008**	**$ 10,833,008**	**$ -**													

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EDMOND PUBLIC WORKS AUTHORITY
WATER/WASTEWATER COST OF SERVICE MODEL

Test Year 2016

		Total Budget	Total Adjustments	Rev Rqmt	Total Water	Total Wastewater	Allocation Percentages: Supply Treat	Dist/ Collect	Cust/ Admin	Billing	Forecast Increase In: 2017	2018	2019	2020	2021	2022	2023	2024	2025
Input Area -- City Budget																			
FS - Water Utility Line Maint (Div 431)																			
Operating Expenses:																			
	Personal Services																		
8101	Regular Pay - Civilians	$ 943,185	$ -	$ 943,185	$ 943,185	$ -	0.0%	100.0%	0.0%	0.0%	1.7%	1.4%	1.1%	1.1%	3.0%	3.0%	3.0%	3.0%	3.0%
8104	Overtime Pay	76,000	-	76,000	76,000	-	0.0%	100.0%	0.0%	0.0%	2.6%	1.3%	1.3%	0.0%	3.0%	3.0%	3.0%	3.0%	3.0%
8105	Holiday Pay	-	-	-	-	-	0.0%	100.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	3.0%	3.0%	3.0%	3.0%	3.0%
8107	Longevity Pay	21,356	-	21,356	21,356	-	0.0%	100.0%	0.0%	0.0%	10.5%	8.6%	6.8%	7.4%	3.0%	3.0%	3.0%	3.0%	3.0%
8110	Car Allowance	1,245	-	1,245	1,245	-	0.0%	100.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	3.0%	3.0%	3.0%	3.0%	3.0%
8114	Commuter Mileage	4,000	-	4,000	4,000	-	0.0%	100.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	3.0%	3.0%	3.0%	3.0%	3.0%
8115	Retirement - Civilians	95,520	-	95,520	95,520	-	0.0%	100.0%	0.0%	0.0%	2.0%	1.5%	1.3%	1.2%	8.0%	8.0%	8.0%	8.0%	8.0%
8117	Group Insurance Premium	226,834	-	226,834	226,834	-	0.0%	100.0%	0.0%	0.0%	2.5%	2.5%	2.5%	2.5%	8.0%	8.0%	8.0%	8.0%	8.0%
8118	Social Security Tax	68,784	-	68,784	68,784	-	0.0%	100.0%	0.0%	0.0%	2.0%	1.5%	1.3%	1.2%	8.0%	8.0%	8.0%	8.0%	8.0%
8119	Medicare Tax	16,087	-	16,087	16,087	-	0.0%	100.0%	0.0%	0.0%	2.0%	1.5%	1.3%	1.2%	8.0%	8.0%	8.0%	8.0%	8.0%
8121	Standby Incentive Pay	2,600	-	2,600	2,600	-	0.0%	100.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	8.0%	8.0%	8.0%	8.0%	8.0%
8122	Sick Leave Incentive Pay	434	-	434	434	-	0.0%	100.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	8.0%	8.0%	8.0%	8.0%	8.0%
8123	Bonus Incentive Pay	10,587	-	10,587	10,587	-	0.0%	100.0%	0.0%	0.0%	1.5%	1.2%	1.0%	1.0%	8.0%	8.0%	8.0%	8.0%	8.0%
8124	Tuition Reimbursement	1,500	-	1,500	1,500	-	0.0%	100.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	8.0%	8.0%	8.0%	8.0%	8.0%
8126	Cell Phone Allowance	1,584	-	1,584	1,584	-	0.0%	100.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	8.0%	8.0%	8.0%	8.0%	8.0%
8136	Skill Base Pay	50,000	-	50,000	50,000	-	0.0%	100.0%	0.0%	0.0%	2.0%	2.0%	1.9%	1.9%	3.0%	3.0%	3.0%	3.0%	3.0%
	Total Personal Services	**$ 1,519,716**	**$ -**	**$ 1,519,716**	**$ 1,519,716**	**$ -**													
	Materials & Supplies																		
8200	Do Not Use	$ -	$ -	$ -	$ -	$ -	0.0%	100.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	3.0%	3.0%	3.0%	3.0%	3.0%
8201	Office Supplies	1,000	-	1,000	1,000	-	0.0%	100.0%	0.0%	0.0%	0.0%	0.0%	10.0%	0.0%	3.0%	3.0%	3.0%	3.0%	3.0%
8203	Postage Costs	50	-	50	50	-	0.0%	100.0%	0.0%	0.0%	0.0%	0.0%	50.0%	0.0%	3.0%	3.0%	3.0%	3.0%	3.0%
8204	Minor Tools	8,000	-	8,000	8,000	-	0.0%	100.0%	0.0%	0.0%	0.0%	6.3%	0.0%	0.0%	3.0%	3.0%	3.0%	3.0%	3.0%
8205	Janitorial Supplies	-	-	-	-	-	0.0%	100.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	3.0%	3.0%	3.0%	3.0%	3.0%
8206	Medical Supplies	200	-	200	200	-	0.0%	100.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	3.0%	3.0%	3.0%	3.0%	3.0%
8208	Fuel and Lube	60,000	-	60,000	60,000	-	0.0%	100.0%	0.0%	0.0%	0.0%	0.0%	1.7%	0.0%	4.8%	4.7%	4.7%	4.6%	4.5%
8209	Food Supplies	500	-	500	500	-	0.0%	100.0%	0.0%	0.0%	10.0%	9.1%	8.3%	7.7%	3.0%	3.0%	3.0%	3.0%	3.0%
8212	Uniform/Safety Clothing	6,800	-	6,800	6,800	-	0.0%	100.0%	0.0%	0.0%	0.0%	0.0%	2.9%	0.0%	3.0%	3.0%	3.0%	3.0%	3.0%
8213	Safety Equipment	200	-	200	200	-	0.0%	100.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	3.0%	3.0%	3.0%	3.0%	3.0%
8214	Traffic Supplies	100	-	100	100	-	0.0%	100.0%	0.0%	0.0%	50.0%	33.3%	25.0%	0.0%	3.0%	3.0%	3.0%	3.0%	3.0%
8216	Bldg Material/Supplies	100	-	100	100	-	0.0%	100.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	3.0%	3.0%	3.0%	3.0%	3.0%
8217	Street Maint Materials	60,000	-	60,000	60,000	-	0.0%	100.0%	0.0%	0.0%	8.3%	0.0%	0.0%	0.0%	3.0%	3.0%	3.0%	3.0%	3.0%
8219	Water System Materials	250,000	-	250,000	250,000	-	0.0%	100.0%	0.0%	0.0%	2.0%	0.0%	2.0%	0.0%	4.8%	4.7%	4.7%	4.6%	4.5%
8221	Machine Equip Parts	900	-	900	900	-	0.0%	100.0%	0.0%	0.0%	11.1%	0.0%	0.0%	0.0%	3.0%	3.0%	3.0%	3.0%	3.0%
8222	Motor Vehicle Parts	100	-	100	100	-	0.0%	100.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	3.0%	3.0%	3.0%	3.0%	3.0%
8223	Radio /Comm Parts	250	-	250	250	-	0.0%	100.0%	0.0%	0.0%	0.0%	20.0%	0.0%	0.0%	3.0%	3.0%	3.0%	3.0%	3.0%
8226	Botanical Supplies	12,000	-	12,000	12,000	-	0.0%	100.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	3.0%	3.0%	3.0%	3.0%	3.0%
8227	Educational Supplies	-	-	-	-	-	0.0%	100.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	3.0%	3.0%	3.0%	3.0%	3.0%
8229	Photo Supplies	-	-	-	-	-	0.0%	100.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	3.0%	3.0%	3.0%	3.0%	3.0%
8232	Bottled Gases	-	-	-	-	-	0.0%	100.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	3.0%	3.0%	3.0%	3.0%	3.0%
8249	Computer Supplies	-	-	-	-	-	0.0%	100.0%	0.0%	0.0%	0.0%	200.0%	-100.0%	0.0%	3.0%	3.0%	3.0%	3.0%	3.0%
8299	Misc Materials & Supplies	200	-	200	200	-	0.0%	100.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	3.0%	3.0%	3.0%	3.0%	3.0%
	Other	-	-	-	-	-	0.0%	100.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	3.0%	3.0%	3.0%	3.0%	3.0%
	Total Materials & Supplies	**$ 400,400**	**$ -**	**$ 400,400**	**$ 400,400**	**$ -**													

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EDMOND PUBLIC WORKS AUTHORITY
WATER/WASTEWATER COST OF SERVICE MODEL

Test Year 2016

		Total Budget	Total Adjustments	Rev Rqmt	Total Water	Total Wastewater	Allocation Percentages: Supply Treat	Dist/ Collect	Cust/ Admin	Cust/ Billing	Forecast Increase in: 2017	2018	2019	2020	2021	2022	2023	2024	2025
Input Area -- City Budget																			
	Other Services & Charges																		
8300	Do Not Use	$ -	$ -	$ -	$ -	$ -	0.0%	100.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	3.0%	3.0%	3.0%	3.0%	3.0%
8301	Telephone costs	-	-	-	-	-	0.0%	100.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	3.0%	3.0%	3.0%	3.0%	3.0%
8302	Equipment Rental	8,000	-	8,000	8,000	-	0.0%	100.0%	0.0%	0.0%	6.3%	0.0%	0.0%	0.0%	3.0%	3.0%	3.0%	3.0%	3.0%
8305	Advertising Costs	-	-	-	-	-	0.0%	0.0%	0.0%	100.0%	0.0%	0.0%	0.0%	0.0%	3.0%	3.0%	3.0%	3.0%	3.0%
8306	Training- Registration	1,500	-	1,500	1,500	-	0.0%	100.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	3.0%	3.0%	3.0%	3.0%	3.0%
8308	Water/Sewer/Garbage Fees	5,000	-	5,000	5,000	-	0.0%	100.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	3.0%	3.0%	3.0%	3.0%	3.0%
8310	Electricity Costs	14,500	-	14,500	14,500	-	0.0%	100.0%	0.0%	0.0%	3.4%	1.7%	1.6%	0.0%	9.8%	9.7%	9.7%	9.6%	9.5%
8312	Laundry Services	13,500	-	13,500	13,500	-	0.0%	100.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	3.0%	3.0%	3.0%	3.0%	3.0%
8313	Maint/Repairs Equipment	600	-	600	600	-	0.0%	100.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	4.8%	4.8%	4.7%	4.6%	4.5%
8314	Maint/Repairs Bldg & Land	-	-	-	-	-	0.0%	100.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	3.0%	3.0%	3.0%	3.0%	3.0%
8315	Special Fees	3,100	-	3,100	3,100	-	0.0%	100.0%	0.0%	0.0%	3.2%	3.1%	0.0%	0.0%	3.0%	3.0%	3.0%	3.0%	3.0%
8316	Food Services	500	-	500	500	-	0.0%	100.0%	0.0%	0.0%	0.0%	0.0%	20.0%	0.0%	3.0%	3.0%	3.0%	3.0%	3.0%
8317	Printing Services	100	-	100	100	-	0.0%	100.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	3.0%	3.0%	3.0%	3.0%	3.0%
8318	Medical Services	-	-	-	-	-	0.0%	100.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	3.0%	3.0%	3.0%	3.0%	3.0%
8319	Consulting & Professional Fees	-	-	-	-	-	0.0%	100.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	3.0%	3.0%	3.0%	3.0%	3.0%
8320	Mileage Reimbursement	-	-	-	-	-	0.0%	100.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	3.0%	3.0%	3.0%	3.0%	3.0%
8324	Dues & Subscriptions	200	-	200	200	-	0.0%	100.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	3.0%	3.0%	3.0%	3.0%	3.0%
8329	Service Guarantee Costs	150	-	150	150	-	0.0%	100.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	3.0%	3.0%	3.0%	3.0%	3.0%
8339	Street/Sidewalk Repairs	20,000	-	20,000	20,000	-	0.0%	100.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	3.0%	3.0%	3.0%	3.0%	3.0%
8345	Bank Charges	300	-	300	300	-	0.0%	100.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	3.0%	3.0%	3.0%	3.0%	3.0%
8352	Travel Costs	2,000	-	2,000	2,000	-	0.0%	100.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	3.0%	3.0%	3.0%	3.0%	3.0%
8361	Contract Services	70,000	-	70,000	70,000	-	0.0%	100.0%	0.0%	0.0%	7.1%	0.0%	6.7%	0.0%	3.0%	3.0%	3.0%	3.0%	3.0%
	Other	-	-	-	-	-	0.0%	100.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	3.0%	3.0%	3.0%	3.0%	3.0%
	Other	-	-	-	-	-	0.0%	100.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	3.0%	3.0%	3.0%	3.0%	3.0%
	Other	-	-	-	-	-	0.0%	100.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	3.0%	3.0%	3.0%	3.0%	3.0%
	Other	-	-	-	-	-	0.0%	100.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	3.0%	3.0%	3.0%	3.0%	3.0%
	Other	-	-	-	-	-	0.0%	100.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	3.0%	3.0%	3.0%	3.0%	3.0%
	Total Svcs & Charges	**$ 139,450**	**$ -**	**$ 139,450**	**$ 139,450**	**$ -**													
	Transfers																		
8807	Transfers-Fleet Mgment	$ 10,000	$ -	$ 10,000	$ 10,000	$ -	0.0%	0.0%	100.0%	0.0%	-100.0%	0.0%	0.0%	0.0%	3.0%	3.0%	3.0%	3.0%	3.0%
8811	Transfers-Admin Support	599,256	-	599,256	599,256	-	0.0%	0.0%	100.0%	0.0%	0.7%	1.8%	0.7%	0.0%	3.0%	3.0%	3.0%	3.0%	3.0%
8816	Transfers-Insurance Assessment	50,542	-	50,542	50,542	-	0.0%	0.0%	100.0%	0.0%	4.8%	4.2%	3.4%	0.0%	3.0%	3.0%	3.0%	3.0%	3.0%
8818	Transfers-Fleet Lease Assess	88,940	-	88,940	88,940	-	0.0%	0.0%	100.0%	0.0%	4.6%	4.7%	4.7%	4.7%	3.0%	3.0%	3.0%	3.0%	3.0%
8819	Transfers-Vehicle Maint Charge	80,000	-	80,000	80,000	-	0.0%	0.0%	100.0%	0.0%	0.0%	2.5%	1.2%	0.0%	3.0%	3.0%	3.0%	3.0%	3.0%
	Other	-	-	-	-	-	0.0%	0.0%	100.0%	0.0%	0.0%	0.0%	0.0%	0.0%	3.0%	3.0%	3.0%	3.0%	3.0%
	Other	-	-	-	-	-	0.0%	0.0%	100.0%	0.0%	0.0%	0.0%	0.0%	0.0%	3.0%	3.0%	3.0%	3.0%	3.0%
	Other	-	-	-	-	-	0.0%	0.0%	100.0%	0.0%	0.0%	0.0%	0.0%	0.0%	3.0%	3.0%	3.0%	3.0%	3.0%
	Total Transfers	**$ 828,738**	**$ -**	**$ 828,738**	**$ 828,738**	**$ -**													
	SUB-TOTAL FS - Water ULM	**$ 2,888,304**	**$ -**	**$ 2,888,304**	**$ 2,888,304**	**$ -**													
	TOTAL WATER OP Expenses	**$ 28,452,266**	**$ (14,730,954)**	**$ 13,721,312**	**$ 13,721,312**	**$ -**													

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EDMOND PUBLIC WORKS AUTHORITY
WATER/WASTEWATER COST OF SERVICE MODEL

Test Year 2016

Input Area -- City Budget

WASTEWATER
Wastewater Treatment Plant (Div. 352)

		Total Budget	Total Adjustments	Rev Rqmt	Total Water	Total Wastewater	Allocation Percentages: Supply Treat	Dist/ Collect	Cust/ Admin	Billing	Forecast Increase in: 2017	2018	2019	2020	2021	2022	2023	2024	2025
Operating Expenses:																			
	Personal Services																		
8101	Regular Pay-Civilians	$ 435,653	$ -	$ 435,653	$ -	$ 435,653	100.0%	0.0%	0.0%	0.0%	2.5%	2.3%	2.2%	2.1%	3.0%	3.0%	3.0%	3.0%	3.0%
8104	Overtime Pay	33,446	-	33,446	-	33,446	100.0%	0.0%	0.0%	0.0%	2.3%	2.2%	2.1%	2.5%	3.0%	3.0%	3.0%	3.0%	3.0%
8107	Longevity Pay	6,150	-	6,150	-	6,150	100.0%	0.0%	0.0%	0.0%	7.7%	11.7%	18.2%	10.9%	3.0%	3.0%	3.0%	3.0%	3.0%
8110	Car Allowance	1,944	-	1,944	-	1,944	100.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	3.0%	3.0%	3.0%	3.0%	3.0%
8114	Commuter Mileage	850	-	850	-	850	100.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	3.0%	3.0%	3.0%	3.0%	3.0%
8115	Retirement - Civilians	41,836	-	41,836	-	41,836	100.0%	0.0%	0.0%	0.0%	2.5%	2.4%	2.4%	2.2%	8.0%	8.0%	8.0%	8.0%	8.0%
8117	Group Insurance Premium	88,370	-	88,370	-	88,370	100.0%	0.0%	0.0%	0.0%	2.5%	2.5%	2.5%	2.5%	8.0%	8.0%	8.0%	8.0%	8.0%
8118	Social Security Tax	30,126	-	30,126	-	30,126	100.0%	0.0%	0.0%	0.0%	2.5%	2.4%	2.4%	2.2%	8.0%	8.0%	8.0%	8.0%	8.0%
8119	Medicare Tax	7,046	-	7,046	-	7,046	100.0%	0.0%	0.0%	0.0%	2.5%	2.4%	2.4%	2.2%	8.0%	8.0%	8.0%	8.0%	8.0%
8121	Standby Incentive Pay	2,600	-	2,600	-	2,600	100.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	8.0%	8.0%	8.0%	8.0%	8.0%
8122	Sick Leave Incentive Pay	434	-	434	-	434	100.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	8.0%	8.0%	8.0%	8.0%	8.0%
8123	Bonus Incentive Pay	4,817	-	4,817	-	4,817	100.0%	0.0%	0.0%	0.0%	2.3%	2.1%	2.0%	1.9%	8.0%	8.0%	8.0%	8.0%	8.0%
	Other	-	-	-	-	-	100.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	3.0%	3.0%	3.0%	3.0%	3.0%
	Other	-	-	-	-	-	100.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	3.0%	3.0%	3.0%	3.0%	3.0%
	Other	-	-	-	-	-	100.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	3.0%	3.0%	3.0%	3.0%	3.0%
	Total Personal Services	**$ 653,272**	**$ -**	**$ 653,272**	**$ -**	**$ 653,272**													
	Materials & Supplies																		
8200	Do Not Use	$ -	$ -	$ -	$ -	$ -	100.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	3.0%	3.0%	3.0%	3.0%	3.0%
8201	Office Supplies	1,672	-	1,672	-	1,672	0.0%	0.0%	100.0%	0.0%	3.0%	3.0%	3.0%	3.0%	3.0%	3.0%	3.0%	3.0%	3.0%
8203	Postage Costs	567	-	567	-	567	0.0%	0.0%	100.0%	0.0%	2.8%	3.1%	3.0%	3.1%	3.0%	3.0%	3.0%	3.0%	3.0%
8204	Minor Tools	8,240	-	8,240	-	8,240	100.0%	0.0%	0.0%	0.0%	3.0%	3.0%	3.0%	3.0%	3.0%	3.0%	3.0%	3.0%	3.0%
8205	Janitorial Supplies	896	-	896	-	896	100.0%	0.0%	0.0%	0.0%	3.0%	3.0%	2.9%	3.1%	3.0%	3.0%	3.0%	3.0%	3.0%
8207	Chemicals	360,500	-	360,500	-	360,500	100.0%	0.0%	0.0%	0.0%	3.0%	3.0%	3.0%	3.0%	9.6%	9.6%	9.6%	9.5%	9.3%
8208	Fuel & Lube	24,452	-	24,452	-	24,452	100.0%	0.0%	0.0%	0.0%	3.0%	3.0%	3.0%	3.0%	9.6%	9.6%	9.6%	9.5%	9.3%
8209	Food Supplies	615	-	615	-	615	100.0%	0.0%	0.0%	0.0%	2.9%	3.0%	3.1%	3.0%	3.0%	3.0%	3.0%	3.0%	3.0%
8212	Uniform/Safety Clothing	4,673	-	4,673	-	4,673	100.0%	0.0%	0.0%	0.0%	3.0%	3.0%	3.0%	3.0%	3.0%	3.0%	3.0%	3.0%	3.0%
8213	Safety Equipment	5,712	-	5,712	-	5,712	100.0%	0.0%	0.0%	0.0%	3.0%	3.0%	3.0%	3.0%	3.0%	3.0%	3.0%	3.0%	3.0%
8216	Bldg Material/Supplies	3,075	-	3,075	-	3,075	100.0%	0.0%	0.0%	0.0%	3.0%	3.0%	3.0%	3.0%	3.0%	3.0%	3.0%	3.0%	3.0%
8217	Street Maint Materials	-	-	-	-	-	100.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	3.0%	3.0%	3.0%	3.0%	3.0%
8218	Sewer Maint Materials	23,186	-	23,186	-	23,186	100.0%	0.0%	0.0%	0.0%	3.0%	3.0%	3.0%	3.0%	4.6%	4.6%	4.6%	4.5%	4.3%
8220	Electrical Materials	21,885	-	21,885	-	21,885	100.0%	0.0%	0.0%	0.0%	5.9%	3.0%	3.0%	3.0%	4.6%	4.6%	4.6%	4.5%	4.3%
8221	Machine/Equip Parts	45,747	-	45,747	-	45,747	100.0%	0.0%	0.0%	0.0%	6.1%	3.0%	3.0%	3.0%	3.0%	3.0%	3.0%	3.0%	3.0%
8222	Motor Vehicle Parts	1,231	-	1,231	-	1,231	100.0%	0.0%	0.0%	0.0%	3.0%	3.0%	3.0%	3.0%	3.0%	3.0%	3.0%	3.0%	3.0%
8223	Radio / Comm Parts	2,000	-	2,000	-	2,000	100.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	3.0%	3.0%	3.0%	3.0%	3.0%
8226	Botanical Supplies	391	-	391	-	391	100.0%	0.0%	0.0%	0.0%	3.1%	3.0%	3.1%	3.0%	3.0%	3.0%	3.0%	3.0%	3.0%
8227	Educational Supplies	717	-	717	-	717	100.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	3.0%	3.0%	3.0%	3.0%	3.0%
8234	Laboratory Supplies	28,589	-	28,589	-	28,589	100.0%	0.0%	0.0%	0.0%	3.0%	3.0%	3.0%	3.0%	4.6%	4.6%	4.6%	4.5%	4.3%
8249	Computer Supplies	2,715	-	2,715	-	2,715	100.0%	0.0%	0.0%	0.0%	-100.0%	0.0%	0.0%	0.0%	3.0%	3.0%	3.0%	3.0%	3.0%
8264	Effluent Reuse Supplies	-	-	-	-	-	100.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	3.0%	3.0%	3.0%	3.0%	3.0%
8299	Misc Materials & Supplies	615	-	615	-	615	100.0%	0.0%	0.0%	0.0%	2.9%	3.0%	3.1%	3.0%	3.0%	3.0%	3.0%	3.0%	3.0%
	Other	-	-	-	-	-	100.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	3.0%	3.0%	3.0%	3.0%	3.0%
	Other	-	-	-	-	-	100.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	3.0%	3.0%	3.0%	3.0%	3.0%
	Other	-	-	-	-	-	100.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	3.0%	3.0%	3.0%	3.0%	3.0%
	Total Materials & Supplies	**$ 537,478**	**$ -**	**$ 537,478**	**$ -**	**$ 537,478**													

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EDMOND PUBLIC WORKS AUTHORITY
WATER/WASTEWATER COST OF SERVICE MODEL

Test Year 2016

		Total Budget	Total Adjustments	Rev Rqmt	Total Water	Total Wastewater	Allocation Percentages: Supply Treat	Dist/ Collect	Cust/ Admin	Billing	Forecast Increase in: 2017	2018	2019	2020	2021	2022	2023	2024	2025
Input Area -- City Budget																			
	Other Services & Charges																		
	8300 Do Not Use	$ -	$ -	$ -	$ -	$ -	100.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	3.0%	3.0%	3.0%	3.0%	3.0%
	8302 Equipment Rental	6,365	-	6,365	-	6,365	100.0%	0.0%	0.0%	0.0%	3.0%	7.6%	3.0%	3.0%	3.0%	3.0%	3.0%	3.0%	3.0%
	8305 Advertising Costs	-	-	-	-	-	0.0%	0.0%	0.0%	100.0%	0.0%	0.0%	0.0%	0.0%	3.0%	3.0%	3.0%	3.0%	3.0%
	8306 Training - Registration	6,281	-	6,281	-	6,281	100.0%	0.0%	0.0%	0.0%	-41.3%	3.0%	3.0%	3.0%	3.0%	3.0%	3.0%	3.0%	3.0%
	8308 Water/Sewer/Garbage Fees	2,390	-	2,390	-	2,390	100.0%	0.0%	0.0%	0.0%	3.0%	3.0%	3.0%	3.0%	3.0%	3.0%	3.0%	3.0%	3.0%
	8310 Electricity Costs	477,925	-	477,925	-	477,925	100.0%	0.0%	0.0%	0.0%	3.0%	3.0%	3.0%	3.0%	9.6%	9.6%	9.6%	9.5%	9.3%
	8312 Laundry Services	4,919	-	4,919	-	4,919	100.0%	0.0%	0.0%	0.0%	3.0%	3.0%	3.0%	3.0%	3.0%	3.0%	3.0%	3.0%	3.0%
	8313 Maint/Repairs Equipment	34,778	-	34,778	-	34,778	100.0%	0.0%	0.0%	0.0%	3.0%	3.0%	3.0%	3.0%	3.0%	3.0%	3.0%	3.0%	3.0%
	8314 Maint/Repairs Bldg & Land	2,000	-	2,000	-	2,000	100.0%	0.0%	0.0%	0.0%	3.0%	3.0%	3.0%	3.0%	3.0%	3.0%	3.0%	3.0%	3.0%
	8315 Special Fees	26,937	-	26,937	-	26,937	100.0%	0.0%	0.0%	0.0%	3.0%	3.0%	3.0%	3.0%	3.0%	3.0%	3.0%	3.0%	3.0%
	8316 Food Services	500	-	500	-	500	100.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	3.0%	3.0%	3.0%	3.0%	3.0%
	8317 Printing Services	586	-	586	-	586	100.0%	0.0%	0.0%	0.0%	86.0%	3.0%	3.0%	2.9%	3.0%	3.0%	3.0%	3.0%	3.0%
	8319 Consulting & Professional Svcs	60,000	-	60,000	-	60,000	100.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	3.0%	3.0%	3.0%	3.0%	3.0%
	8320 Mileage Reimbursement	358	-	358	-	358	100.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	3.0%	3.0%	3.0%	3.0%	3.0%
	8324 Dues & Subscriptions	1,231	-	1,231	-	1,231	100.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	3.0%	3.0%	3.0%	3.0%	3.0%
	8345 Bank Charges	5,903	-	5,903	-	5,903	100.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	3.0%	3.0%	3.0%	3.0%	3.0%
	8346 Laboratory Testing	24,605	-	24,605	-	24,605	100.0%	0.0%	0.0%	0.0%	3.0%	3.0%	3.0%	3.0%	4.6%	4.6%	4.6%	4.5%	4.3%
	8352 Travel Costs	5,971	-	5,971	-	5,971	100.0%	0.0%	0.0%	0.0%	3.0%	3.0%	3.0%	3.0%	3.0%	3.0%	3.0%	3.0%	3.0%
	8361 Contract Services	391,400	-	391,400	-	391,400	100.0%	0.0%	0.0%	0.0%	3.0%	24.1%	-14.5%	3.0%	3.0%	3.0%	3.0%	3.0%	3.0%
	8364 Right of Way Use Fee	584,425	-	584,425	-	584,425	100.0%	0.0%	0.0%	0.0%	2.3%	2.3%	2.3%	2.3%	3.0%	3.0%	3.0%	3.0%	3.0%
	8377 Effluent Reuse Services	-	-	-	-	-	100.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	3.0%	3.0%	3.0%	3.0%	3.0%
	Other	-	-	-	-	-	100.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	3.0%	3.0%	3.0%	3.0%	3.0%
	Other	-	-	-	-	-	100.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	3.0%	3.0%	3.0%	3.0%	3.0%
	Other	-	-	-	-	-	100.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	3.0%	3.0%	3.0%	3.0%	3.0%
	Total Other Services & Charges	**$ 1,636,574**	**$ -**	**$ 1,636,574**	**$ -**	**$ 1,636,574**													
	Transfers																		
CIP	8404 Land Betterments	$ -	$ -	$ -	$ -	$ -	0.0%	100.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	3.0%	3.0%	3.0%	3.0%	3.0%
CIP	8405 Building & Improvements	-	-	-	-	-	0.0%	100.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	3.0%	3.0%	3.0%	3.0%	3.0%
CIP	8408 Sanitary Sewer Const	11,100,000	(11,100,000)	-	-	-	0.0%	100.0%	0.0%	0.0%	-100.0%	0.0%	0.0%	0.0%	3.0%	3.0%	3.0%	3.0%	3.0%
	8413 Machinery & Tools	-	-	-	-	-	0.0%	100.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	3.0%	3.0%	3.0%	3.0%	3.0%
	8427 Laboratory Equipment	-	-	-	-	-	0.0%	100.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	3.0%	3.0%	3.0%	3.0%	3.0%
DS	8802 Transfers - PWA Bond Fund	123,257	(123,257)	-	-	-	0.0%	100.0%	0.0%	0.0%	-100.0%	0.0%	0.0%	0.0%	3.0%	3.0%	3.0%	3.0%	3.0%
	8803 Interfund Trsf- General Fund	-	-	-	-	-	0.0%	100.0%	0.0%	0.0%	0.0%	163.8%	65.8%	42.0%	3.0%	3.0%	3.0%	3.0%	3.0%
	8807 Transfers-Fleet Mgmet	-	-	-	-	-	0.0%	0.0%	100.0%	0.0%	0.0%	0.0%	0.0%	0.0%	3.0%	3.0%	3.0%	3.0%	3.0%
	8811 Transfers - Admin Support	596,925	-	596,925	-	596,925	0.0%	100.0%	0.0%	0.0%	20.0%	2.0%	-0.5%	1.7%	3.0%	3.0%	3.0%	3.0%	3.0%
	8816 Transfers- Insurance Assessmen	15,995	-	15,995	-	15,995	0.0%	100.0%	0.0%	0.0%	31.6%	2.8%	2.3%	2.2%	3.0%	3.0%	3.0%	3.0%	3.0%
	8817 Transfers - Field Services	2,006,632	-	2,006,632	-	2,006,632	0.0%	100.0%	0.0%	0.0%	0.9%	8.5%	1.3%	0.7%	3.0%	3.0%	3.0%	3.0%	3.0%
	8818 Transfers Fleet Lease Assess	23,315	-	23,315	-	23,315	0.0%	0.0%	100.0%	0.0%	4.7%	4.7%	4.8%	4.8%	3.0%	3.0%	3.0%	3.0%	3.0%
	8819 Transfers-Vehicle Maint Charge	18,170	-	18,170	-	18,170	0.0%	0.0%	100.0%	0.0%	3.0%	3.0%	3.0%	3.0%	3.0%	3.0%	3.0%	3.0%	3.0%
	Other	-	-	-	-	-	0.0%	0.0%	100.0%	0.0%	0.0%	0.0%	0.0%	0.0%	3.0%	3.0%	3.0%	3.0%	3.0%
	Other	-	-	-	-	-	0.0%	0.0%	100.0%	0.0%	0.0%	0.0%	0.0%	0.0%	3.0%	3.0%	3.0%	3.0%	3.0%
	Other	-	-	-	-	-	0.0%	0.0%	100.0%	0.0%	0.0%	0.0%	0.0%	0.0%	3.0%	3.0%	3.0%	3.0%	3.0%
	Other	-	-	-	-	-	0.0%	0.0%	100.0%	0.0%	0.0%	0.0%	0.0%	0.0%	3.0%	3.0%	3.0%	3.0%	3.0%
	Other	-	-	-	-	-	0.0%	0.0%	100.0%	0.0%	0.0%	0.0%	0.0%	0.0%	3.0%	3.0%	3.0%	3.0%	3.0%
	Total	**$ 13,884,294**	**$ (11,223,257)**	**$ 2,661,037**	**$ -**	**$ 2,661,037**													
	Sub-Total Wastewater Treatme	**$ 16,711,618**	**$ (11,223,257)**	**$ 5,488,361**	**$ -**	**$ 5,488,361**													

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EDMOND PUBLIC WORKS AUTHORITY
WATER/WASTEWATER COST OF SERVICE MODEL

Test Year 2016

Input Area -- City Budget

FS-Wastewater Utility Line Maint (Div 451)

		Total Budget	Total Adjustments	Rev Rqmt	Total Water	Total Wastewater	Allocation Percentages: Supply Treat	Dist/ Collect	Cust/ Admin	Billing	Forecast Increase in: 2017	2018	2019	2020	2021	2022	2023	2024	2025
Operating Expenses:																			
	Personal Services																		
8101	Regular Pay - Civilians	$ 614,793	$ -	$ 614,793	$ -	$ 614,793	0.0%	100.0%	0.0%	0.0%	1.5%	1.3%	1.2%	1.1%	3.0%	3.0%	3.0%	3.0%	3.0%
8104	Overtime Pay	35,000	-	35,000	-	35,000	0.0%	100.0%	0.0%	0.0%	0.7%	0.7%	15.5%	-12.2%	3.0%	3.0%	3.0%	3.0%	3.0%
8105	Holiday Pay	11,776	-	11,776	-	11,776	0.0%	100.0%	0.0%	0.0%	13.8%	10.6%	7.6%	9.5%	3.0%	3.0%	3.0%	3.0%	3.0%
8107	Longevity Pay	856	-	856	-	856	0.0%	100.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	3.0%	3.0%	3.0%	3.0%	3.0%
8110	Car Allowance	3,600	-	3,600	-	3,600	0.0%	100.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	3.0%	3.0%	3.0%	3.0%	3.0%
8114	Commuter Mileage	59,824	-	59,824	-	59,824	0.0%	100.0%	0.0%	0.0%	2.1%	2.0%	2.1%	0.6%	3.0%	3.0%	3.0%	3.0%	3.0%
8115	Retirement - Civilians	128,561	-	128,561	-	128,561	0.0%	100.0%	0.0%	0.0%	2.5%	2.5%	2.5%	2.5%	8.0%	8.0%	8.0%	8.0%	8.0%
8117	Group Insurance Premium	43,079	-	43,079	-	43,079	0.0%	100.0%	0.0%	0.0%	2.1%	2.0%	2.1%	0.6%	8.0%	8.0%	8.0%	8.0%	8.0%
8118	Social Security Tax	10,075	-	10,075	-	10,075	0.0%	100.0%	0.0%	0.0%	2.1%	2.0%	2.1%	0.7%	8.0%	8.0%	8.0%	8.0%	8.0%
8119	Medicare Tax	2,600	-	2,600	-	2,600	0.0%	100.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	8.0%	8.0%	8.0%	8.0%	8.0%
8121	Standby Incentive Pay	271	-	271	-	271	0.0%	100.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	8.0%	8.0%	8.0%	8.0%	8.0%
8122	Sick Leave Incentive Pay	6,918	-	6,918	-	6,918	0.0%	100.0%	0.0%	0.0%	1.3%	1.2%	1.0%	1.0%	8.0%	8.0%	8.0%	8.0%	8.0%
8123	Bonus Incentive Pay	264	-	264	-	264	0.0%	100.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	8.0%	8.0%	8.0%	8.0%	8.0%
8136	Skill Base Pay	19,000	-	19,000	-	19,000	0.0%	100.0%	0.0%	0.0%	21.1%	17.4%	3.7%	3.6%	8.0%	8.0%	8.0%	8.0%	8.0%
	Other	-	-	-	-	-	0.0%	100.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	3.0%	3.0%	3.0%	3.0%	3.0%
	Other	-	-	-	-	-	0.0%	100.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	3.0%	3.0%	3.0%	3.0%	3.0%
	Other	-	-	-	-	-	0.0%	100.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	3.0%	3.0%	3.0%	3.0%	3.0%
	Total Personal Services	**$ 936,617**	**$ -**	**$ 936,617**	**$ -**	**$ 936,617**													
	Materials & Supplies																		
8200	Do Not Use	$ -	$ -	$ -	$ -	$ -	0.0%	100.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	3.0%	3.0%	3.0%	3.0%	3.0%
8201	Office Supplies	600	-	600	-	600	0.0%	0.0%	100.0%	0.0%	0.0%	0.0%	0.0%	0.0%	3.0%	3.0%	3.0%	3.0%	3.0%
8203	Postage Costs	500	-	500	-	500	0.0%	100.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	3.0%	3.0%	3.0%	3.0%	3.0%
8204	Minor Tools	7,000	-	7,000	-	7,000	0.0%	100.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	3.0%	3.0%	3.0%	3.0%	3.0%
8205	Janitorial Supplies	-	-	-	-	-	0.0%	100.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	3.0%	3.0%	3.0%	3.0%	3.0%
8206	Medical Supplies	200	-	200	-	200	0.0%	100.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	3.0%	3.0%	3.0%	3.0%	3.0%
8207	Chemicals	2,500	-	2,500	-	2,500	0.0%	100.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	4.6%	4.6%	4.6%	4.5%	4.3%
8208	Fuel and Lube	46,000	-	46,000	-	46,000	0.0%	100.0%	0.0%	0.0%	1.1%	1.1%	1.1%	1.1%	9.6%	9.6%	9.6%	9.5%	9.3%
8209	Food Supplies	500	-	500	-	500	0.0%	100.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	3.0%	3.0%	3.0%	3.0%	3.0%
8212	Uniform/Safety Clothing	4,600	-	4,600	-	4,600	0.0%	100.0%	0.0%	0.0%	2.2%	0.0%	2.1%	0.0%	3.0%	3.0%	3.0%	3.0%	3.0%
8213	Safety Equipment	300	-	300	-	300	0.0%	100.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	3.0%	3.0%	3.0%	3.0%	3.0%
8214	Traffic Supplies	500	-	500	-	500	0.0%	100.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	3.0%	3.0%	3.0%	3.0%	3.0%
8216	Bldg Material/Supplies	-	-	-	-	-	0.0%	100.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	3.0%	3.0%	3.0%	3.0%	3.0%
8217	Street Maint Materials	-	-	-	-	-	0.0%	100.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	3.0%	3.0%	3.0%	3.0%	3.0%
8218	Sewer Maint Materials	60,000	-	60,000	-	60,000	0.0%	100.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	4.6%	4.6%	4.6%	4.5%	4.3%
8221	Machine Equip Parts	25,000	-	25,000	-	25,000	0.0%	100.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	3.0%	3.0%	3.0%	3.0%	3.0%
8222	Motor Vehicle Parts	100	-	100	-	100	0.0%	100.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	3.0%	3.0%	3.0%	3.0%	3.0%
8223	Radio /Comm Parts	100	-	100	-	100	0.0%	100.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	3.0%	3.0%	3.0%	3.0%	3.0%
8226	Botanical Supplies	1,000	-	1,000	-	1,000	0.0%	100.0%	0.0%	0.0%	0.0%	0.0%	10.0%	0.0%	3.0%	3.0%	3.0%	3.0%	3.0%
8227	Educational Supplies	-	-	-	-	-	0.0%	100.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	3.0%	3.0%	3.0%	3.0%	3.0%
8229	Photo Supplies	-	-	-	-	-	0.0%	100.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	3.0%	3.0%	3.0%	3.0%	3.0%
8232	Bottled Gases	200	-	200	-	200	0.0%	100.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	3.0%	3.0%	3.0%	3.0%	3.0%
8249	Computer Supplies	1,009	-	1,009	-	1,009	0.0%	100.0%	0.0%	0.0%	-100.0%	0.0%	0.0%	0.0%	3.0%	3.0%	3.0%	3.0%	3.0%
8299	Misc Materials & Supplies	500	-	500	-	500	0.0%	100.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	3.0%	3.0%	3.0%	3.0%	3.0%
	Other	-	-	-	-	-	0.0%	100.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	3.0%	3.0%	3.0%	3.0%	3.0%
	Other	-	-	-	-	-	0.0%	100.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	3.0%	3.0%	3.0%	3.0%	3.0%
	Other	-	-	-	-	-	0.0%	100.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	3.0%	3.0%	3.0%	3.0%	3.0%
	Total	**$ 150,609**	**$ -**	**$ 150,609**	**$ -**	**$ 150,609**													

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EDMOND PUBLIC WORKS AUTHORITY
WATER/WASTEWATER COST OF SERVICE MODEL

Test Year 2016

Input Area -- City Budget

		Total Budget	Total Adjustments	Rev Rqmt	Total Water	Total Wastewater	Allocation Percentages: Supply Treat	Dist/ Collect	Cust/ Admin	Billing	Forecast Increase in: 2017	2018	2019	2020	2021	2022	2023	2024	2025
	Other Services & Charges																		
8300	Do Not Use	$ -	$ -	$ -	$ -	$ -	0.0%	100.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	3.0%	3.0%	3.0%	3.0%	3.0%
8302	Equipment Rental	5,000	-	5,000	-	5,000	0.0%	100.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	3.0%	3.0%	3.0%	3.0%	3.0%
8305	Advertising Costs	-	-	-	-	-	0.0%	100.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	3.0%	3.0%	3.0%	3.0%	3.0%
8306	Training- Registration	2,500	-	2,500	-	2,500	0.0%	100.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	3.0%	3.0%	3.0%	3.0%	3.0%
8308	Water/Sewer/Garbage Fees	5,000	-	5,000		5,000	0.0%	100.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	3.0%	3.0%	3.0%	3.0%	3.0%
8309	Natural Gas and LPG Costs NE	1,000	-	1,000	-	1,000	0.0%	100.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	3.0%	3.0%	3.0%	3.0%	3.0%
8310	Electricity Costs	16,000	-	16,000	-	16,000	0.0%	100.0%	0.0%	0.0%	0.0%	3.1%	0.0%	0.0%	9.6%	9.6%	9.6%	9.5%	9.3%
8312	Laundry Services	11,000	-	11,000	-	11,000	0.0%	100.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	3.0%	3.0%	3.0%	3.0%	3.0%
8313	Maint/Repairs Equipment	15,000	-	15,000	-	15,000	0.0%	100.0%	0.0%	0.0%	1.7%	1.6%	1.6%	1.6%	3.0%	3.0%	3.0%	3.0%	3.0%
8314	Maint/Repairs Bldg & Land	-	-	-	-	-	0.0%	100.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	3.0%	3.0%	3.0%	3.0%	3.0%
8315	Special Fees	3,000	-	3,000	-	3,000	0.0%	100.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	3.0%	3.0%	3.0%	3.0%	3.0%
8316	Food Services	500	-	500	-	500	0.0%	100.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	3.0%	3.0%	3.0%	3.0%	3.0%
8317	Printing Services	500	-	500	-	500	0.0%	100.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	3.0%	3.0%	3.0%	3.0%	3.0%
8318	Medical Services	-	-	-	-	-	0.0%	100.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	3.0%	3.0%	3.0%	3.0%	3.0%
8319	Consulting & Professional Fees	-	-	-	-	-	0.0%	100.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	3.0%	3.0%	3.0%	3.0%	3.0%
8320	Mileage Reimbursement	-	-	-	-	-	0.0%	100.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	3.0%	3.0%	3.0%	3.0%	3.0%
8324	Dues & Subscriptions	500	-	500	-	500	0.0%	100.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	3.0%	3.0%	3.0%	3.0%	3.0%
8345	Bank Charges	-	-	-	-	-	0.0%	100.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	3.0%	3.0%	3.0%	3.0%	3.0%
8352	Travel Costs	2,000	-	2,000	-	2,000	0.0%	100.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	3.0%	3.0%	3.0%	3.0%	3.0%
8361	Contract Services	300,000	-	300,000	-	300,000	0.0%	100.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	3.0%	3.0%	3.0%	3.0%	3.0%
	Other	-	-	-	-	-	0.0%	100.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	3.0%	3.0%	3.0%	3.0%	3.0%
	Other	-	-	-	-	-	0.0%	100.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	3.0%	3.0%	3.0%	3.0%	3.0%
	Other	-	-	-	-	-	0.0%	100.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	3.0%	3.0%	3.0%	3.0%	3.0%
		$ 362,000	$ -	$ 362,000	$ -	$ 362,000													
	Transfers																		
8807	Transfers-Fleet Mgment	$ 80,000	$ -	$ 80,000	$ -	$ 80,000	0.0%	0.0%	100.0%	0.0%	-100.0%	0.0%	0.0%	0.0%	3.0%	3.0%	3.0%	3.0%	3.0%
8811	Transfers-Admin Support	442,863	-	442,863	-	442,863	0.0%	0.0%	100.0%	0.0%	0.7%	2.0%	0.8%	0.0%	3.0%	3.0%	3.0%	3.0%	3.0%
8816	Transfers-Insurance Assessment	82,600	-	82,600	-	82,600	0.0%	0.0%	100.0%	0.0%	3.7%	3.3%	2.6%	0.0%	3.0%	3.0%	3.0%	3.0%	3.0%
8818	Transfers-Fleet Lease Assess	100,683	-	100,683	-	100,683	0.0%	0.0%	100.0%	0.0%	8.7%	4.8%	4.8%	4.8%	3.0%	3.0%	3.0%	3.0%	3.0%
8819	Transfers-Vehicle Maint Charge	80,000	-	80,000	-	80,000	0.0%	0.0%	100.0%	0.0%	1.3%	1.2%	1.2%	1.2%	3.0%	3.0%	3.0%	3.0%	3.0%
	Other	-	-	-	-	-	0.0%	0.0%	100.0%	0.0%	0.0%	0.0%	0.0%	0.0%	3.0%	3.0%	3.0%	3.0%	3.0%
	Other	-	-	-	-	-	0.0%	0.0%	100.0%	0.0%	0.0%	0.0%	0.0%	0.0%	3.0%	3.0%	3.0%	3.0%	3.0%
	Total	$ 786,146	$ -	$ 786,146	$ -	$ 786,146													
	SUB-TOTAL WASTEWATER UL	$ 2,235,372	$ -	$ 2,235,372	$ -	$ 2,235,372													
	TOTAL WASTEWATER	$ 18,946,990	$ (11,223,257)	$ 7,723,733	$ -	$ 7,723,733													

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Operating Expenses and Capital Outlays – Ten Year Forecast

Table III-3 presents the water and wastewater utility operating expense and capital outlay forecast for the ten year period FY 2016 – FY 2025. Details behind these calculations can be found in the rate model contained in Appendix A. This forecast is based on the following set of assumptions:

- EPWA has a five year budget cycle and provided five year forecasts for particular line items. In these instances, the budget forecast provided by EPWA takes precedence over the inflation related forecast figures generated by the project team. Some of the EPWA's line items have seen deflation in recent years.
- Most operating costs are expected to increase at an annual rate of 3.0%, which is approximately equivalent to the rate of inflation.
- Certain expenses will increase at above-inflation rates, to reflect the rapid rate of increase of these costs. These expenses include workers compensation, Medicare and insurance.
- Certain expenses will increase at higher rates to reflect the forecast growth in accounts and volumes. These expenses include maintenance and system repairs.
- The water fund made an intra-city loan in the amount of $7,500,000 to the EPWA electric fund with repayment over five years at an interest rate of 1.50% beginning January 2016. The water fund will receive repayment in the form of reduced transfers to the General Fund and reductions for Other Services & Charges causing the proposed budget transfers for these to be artificially low in fiscal years 2016 through 2020. The repayment schedule and the impact on affected line items in the budget are shown in **Table III-4**, along with the calculated transfers at normal levels beginning in FY 2021. Credits for Other Service & Charges were applied to the Right of Use Fees line item for this calculation.

Table III-3 reveals that water-related operating costs and capital outlays are expected to increase from the test year total of **$24,161,319** to **$27,426,951** by FY 2025. This represents an average annual rate of increase of **1.42%.** Wastewater-related operating costs and capital outlays are expected to increase from the test year total of **$18,822,733** to **$16,741,690** by FY 2025. This represents an average annual rate of decrease of **-1.29%.** This is due to a forecast reduction in wastewater related capital outlays.

TABLE III-3

CITY OF EDMOND / EPWA

FORECAST OPERATING EXPENSES AND CAPITAL OUTLAYS

	FY 2016	FY 2017	FY 2018	FY 2019	FY 2020	FY 2021	FY 2022	FY 2023	FY 2024	FY 2025
Budget Operating Expenses/Capital Outlays										
WATER										
Operating and Capital Outlays										
Water Treatment Plant	$ 9,407,431	$ 10,225,775	$ 10,459,063	$ 10,654,992	$ 10,874,188	$ 12,823,630	$ 13,315,135	$ 13,829,257	$ 14,365,487	$ 14,796,452
Water Wells	1,425,577	1,522,323	1,563,805	1,601,285	1,641,722	1,738,035	1,841,478	1,952,645	2,071,581	2,143,685
Water Utility Line Mtnce Fld Svc	2,888,304	2,936,186	2,982,870	3,029,558	3,056,307	3,177,641	3,304,714	3,437,859	3,577,189	3,722,808
Other Expenses	-	-	-	-	-	-	-	-	-	-
Capital Outlays	10,440,007	14,462,007	7,864,007	9,664,007	10,264,007	6,764,007	6,764,007	7,064,007	6,764,007	6,764,007
Total Operating/Cap Outlays	$ 24,161,319	$ 29,146,291	$ 22,869,745	$ 24,949,842	$ 25,836,224	$ 24,503,313	$ 25,225,334	$ 26,283,768	$ 26,778,264	$ 27,426,951
WASTEWATER										
Operating and Capital Outlays										
Wastewater Treatment Plant	5,488,361	5,704,164	6,054,322	6,076,176	6,185,769	6,446,865	6,722,503	7,013,714	7,320,821	7,593,107
WW Utility Line Mtnce Fld Svcs	2,234,372	2,190,409	2,228,907	2,262,884	2,279,426	2,364,975	2,454,464	2,548,122	2,646,110	2,748,583
Other Expenses	-	-	-	-	-	-	-	-	-	-
Capital Outlays	11,100,000	9,000,000	2,900,000	4,700,000	5,300,000	5,600,000	5,800,000	6,000,000	6,200,000	6,400,000
Total Operating/Cap Outlays	$ 18,822,733	$ 16,894,573	$ 11,183,229	$ 13,039,060	$ 13,765,195	$ 14,411,840	$ 14,976,967	$ 15,561,837	$ 16,166,931	$ 16,741,690
TOTAL Operating Expenses and Capital Outlays										
Total	$ 42,984,052	$ 46,040,864	$ 34,052,974	$ 37,988,902	$ 39,601,419	$ 38,915,152	$ 40,202,300	$ 41,845,605	$ 42,945,195	$ 44,168,641

TABLE III-4

CITY OF EDMOND / EPWA

Forecast Impact of Electric Fund Loan Payback to Water Fund And Calculations For Post Payment Adjustments

	FY 2016	FY 2017	FY 2018	FY 2019	FY 2020	FY 2021	FY 2022	FY 2023	FY 2024	FY 2025
EPWA Electric Utility										
$7,500,000 Loan from Water										
Annual Interest Rate of 1.5%										
5 Year Term										
Payment Credits to be applied evenly to Water Transfers to General Fund and Transfer for Other Services and Charges										
Repayment to WATER										
Principal	$ 1,500,000	$ 1,500,000	$ 1,500,000	$ 1,500,000	$ 1,500,000	$ -	$ -	$ -	$ -	$ -
Interest	112,500	90,000	67,500	45,000	22,500	-	-	-	-	-
Total Payment Credited to Water Fund	$ 1,612,500	$ 1,590,000	$ 1,567,500	$ 1,545,000	$ 1,522,500	$ -	$ -	$ -	$ -	$ -
Credit Applied To:										
A *Transfer to General Fund*	806,250	795,000	783,750	772,500	761,250	-	-	-	-	-
B. *Other Svcs & Charges*	806,250	795,000	783,750	772,500	761,250	-	-	-	-	-
(Applied to Right of Way Use Fee Line Item)										
Total Credit	$ 1,612,500	$ 1,590,000	$ 1,567,500	$ 1,545,000	$ 1,522,500	$ -	$ -	$ -	$ -	$ -
A.										
Calculation of Transfer to General Fund Following Repayment										
Budgeted Transfer to General Fund	$ 63,992	$ 78,350	$ 88,813	$ 101,954	$ 116,763	$ 891,183	$ 917,919	$ 945,456	$ 973,820	$ 1,003,035
Plus Credit to Transfer to General Fund	806,250	795,000	783,750	772,500	761,250	-	-	-	-	-
Total Effective Transfer to General Fund	$ 870,242	$ 873,350	$ 872,563	$ 874,454	$ 878,013	$ 891,183	$ 917,919	$ 945,456	$ 973,820	$ 1,003,035
B.										
Calculation of Right of Way Use Fee Following Repayment										
Budgeted Transfer for Right of Way Use Fee	$ 1,199,048	$ 1,228,266	$ 1,260,799	$ 1,293,332	$ 1,325,865	$ 2,118,422	$ 2,181,974	$ 2,247,434	$ 2,314,857	$ 2,384,302
Plus Credit to Transfer for Other Svcs & Charges	806,250	795,000	783,750	772,500	761,250	-	-	-	-	-
Total Effective Right of Way Use Fee	$ 2,005,298	$ 2,023,266	$ 2,044,549	$ 2,065,832	$ 2,087,115	$ 2,118,422	$ 2,181,974	$ 2,247,434	$ 2,314,857	$ 2,384,302

Capital Improvement Plan

Like most utilities, EPWA maintains an extensive and detailed capital improvement program to repair, maintain and expand its water and wastewater system. EPWA staff and their engineers completed a Water and Wastewater System Master Plan in December 2013, and through this and continued study and refinement have developed a comprehensive ten-year CIP that includes the following major projects:

Water

- An expansion of the Arcadia Water Treatment Plant from 10.5 Million Gallons Per Day ("MGD") to 30.0 MGD
- A new raw water intake structure for Arcadia Lake to increase the supply capacity from the lake
- Construct a new 36" transmission line to Interstate 35
- Build 2 new water towers
- Expand and fund needed repairs and replacements to the water distribution system

Wastewater

- Expansion of the Chisholm Creek Lift Station
- Replacement of the Spring Creek Lift Station
- Expansion of the Coffee Creek Wastewater Treatment Plant from 9.0 MGD to 12.0 MGD
- Expand the wastewater collection system, particularly interceptor lines
- Fund needed repairs and replacements to the wastewater collection system
- Fund the expansion of the EPWA's wastewater systems into unsewered areas

Capital Improvements for the water and wastewater CIP projected by City staff to be funded through debt for the forecast period under the Base Scenario are summarized in **Table III-5.**

Table III-5

CITY OF EDMOND - EPWA

Capital Improvements Funded Through New Debt

SCENARIO: Base; Alt 1 Status Quo

	Total	Years 1-5	Years 6-10
WATER Capital Improvement Plan			
Treatment	$ 103,900,000	$ 100,000,000	$ 3,900,000
Distribution	-	-	-
Administration	-	-	-
Customer	-	-	-
Total	103,900,000	100,000,000	3,900,000
WASTEWATER Capital Improvement Plan			
Treatment	$ 88,000,000	$ 88,000,000	$ -
Collection	59,400,000	42,600,000	16,800,000
Administration	-	-	-
Customer	-	-	-
Total	147,400,000	130,600,000	16,800,000
TOTAL Capital Improvement Plan			
Treatment	$ 191,900,000	$ 188,000,000	$ 3,900,000
Distribution/Collection	59,400,000	42,600,000	16,800,000
Administration	-	-	-
Customer	-	-	-
Total	251,300,000	230,600,000	20,700,000

Table III-6 includes the line item detail by year. These totals do not include projects forecast to be funded through impact fees or fund balance.

EDMOND PUBLIC WORKS AUTHORITY
WATER/WASTEWATER COST OF SERVICE MODEL

10 Year Forecast
2017-2025

Input Area -- Capital Outlays
Scenario: ***Base; Alt 1 Status Quo***

Input Area - Annual Capital Expenditures

~~Model Requires Input in Blue Areas Only~~

Budge	Proj#			Project Year	Depreciable Lifespan (Years)	Total Cost	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025
			WATER -- CAPITAL IMPROVEMENT PLAN													
			From Water & WW Master Plan Dec 2013													
			Amounts to be Financed													
	W1	T	**INT-1**		50	$ 12,000,000	$ -	$ 12,000,000	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
WTP	*INT-1*	T	Intake structure improvements/expansion		50	-	-	-	-	-	-	-	-	-	-	-
WTP					50	-	-	-	-	-	-	-	-	-	-	-
WTP	W2		**WTP-1, RES-01, REHAB-01, TANK-2, MAIN-3**		50	88,000,000	-	88,000,000	-	-	-	-	-	-	-	-
WTP	*WTP-*	T	WTP Expansion from 10.5 to 30 mgd		50	-	-	-	-	-	-	-	-	-	-	-
WTP	*RES-*	T	Expansion of Residuals Handling System		50	-	-	-	-	-	-	-	-	-	-	-
WTP	*REHA*	T	Rehabilitation Items at Existing WTP		50	-	-	-	-	-	-	-	-	-	-	-
WTP	*TANK*	T	Install new ground storage tank /assoc Pump station		50	-	-	-	-	-	-	-	-	-	-	-
WTP	*MAIN*	T	New Distribution Main to meet projected MDD		50	-	-	-	-	-	-	-	-	-	-	-
WTP		T	Future Projects		50	3,900,000	-	-	-	-	-	-	-	-	700,000	3,200,000
WTP		T	Future Projects		50	-	-	-	-	-	-	-	-	-	-	-
WTP		T	Future Projects		50	-	-	-	-	-	-	-	-	-	-	-
WTP		T	Future Projects		50	-	-	-	-	-	-	-	-	-	-	-
WTP		T	Future Projects		50	-	-	-	-	-	-	-	-	-	-	-
						103,900,000	-	100,000,000	-	-	-	-	-	-	700,000	3,200,000
			Distribution			-										
		D	Future Projects		15	-	-	-	-	-	-	-	-	-	-	-
		D	Future Projects		15	-	-	-	-	-	-	-	-	-	-	-
		D	Future Projects		15	-	-	-	-	-	-	-	-	-	-	-
		D	Future Projects		15	-	-	-	-	-	-	-	-	-	-	-
		D	Future Projects		15	-	-	-	-	-	-	-	-	-	-	-
		D	Future Projects		15	-	-	-	-	-	-	-	-	-	-	-
						-	-	-	-	-	-	-	-	-	-	-
			Administration													
		A	Project	W	15	-	-	-	-	-	-	-	-	-	-	-
		A	Project	W	15	-	-	-	-	-	-	-	-	-	-	-
		A	Project	W	15	-	-	-	-	-	-	-	-	-	-	-
						-	-	-	-	-	-	-	-	-	-	-
			Customer													
		C	Future Projects	Vtr Wks Cons	15	-	-	-	-	-	-	-	-	-	-	-
		C	Future Projects	t'ware/S'ware	15	-	-	-	-	-	-	-	-	-	-	-
		C	Future Projects	W	15	-	-	-	-	-	-	-	-	-	-	-
						-	-	-	-	-	-	-	-	-	-	-
			TOTAL UNFUNDED WATER CAPITAL IMPROVEMENT PLAN; DEBT TO Be Issued			**103,900,000**	**-**	**100,000,000**	**-**	**-**	**-**	**-**	**-**	**-**	**700,000**	**3,200,000**
			Treatment	**100.0%**		$ 103,900,000	-	100,000,000	-	-	-	-	-	-	700,000	3,200,000
			Distribution	**0.0%**		-	-	-	-	-	-	-	-	-	-	-
			Administration	**0.0%**		-	-	-	-	-	-	-	-	-	-	-
			Customer	**0.0%**		-	-	-	-	-	-	-	-	-	-	-
			Total	**100.0%**		**103,900,000**	**-**	**100,000,000**	**-**	**-**	**-**	**-**	**-**	**-**	**700,000**	**3,200,000**

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EDMOND PUBLIC WORKS AUTHORITY
WATER/WASTEWATER COST OF SERVICE MODEL

10 Year Forecast
2017-2025

Input Area -- Capital Outlays
Scenario: *Base; Alt 1 Status Quo*

Input Area - Annual Capital Expenditures

~~Model Requires Input in Blue Areas Only~~

WASTEWATER -- CAPITAL IMPROVEMENT PLAN
From Water & WW Master Plan Dec 2013
Amounts to be Financed

Input Area - Annual Capital Expenditures

		Treatment	Account	Project Year	Depreciable Lifespan (Years)	Total Cost	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025
	T	**Phase I and BNR-1**	WW		50	88,000,000	$ -	$ 88,000,000	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
WWTI Phase	T	Exp of WWTP to 12.0 mgd; conv of treatment process to Conventional Acitvated Sludge and New facilities for biological Nutrient	WW		50	-	-	-	-	-	-	-	-	-	-	-
WWTP	T	Future Projects	WW				-	-	-	-	-	-	-	-	-	-
WWTI	T	Future Projects	WW		15	-	-	-	-	-	-	-	-	-	-	-
WWTP	T	Future Projects	WW		15	-	-	-	-	-	-	-	-	-	-	-
WWTP	T	Future Projects	WW		15	-	-	-	-	-	-	-	-	-	-	-
						88,000,000	-	88,000,000	-	-	-	-	-	-	-	-
		Collection														
1	C	**LS-1 and LS-3**			50	17,000,000	17,000,000	-	-	-	-	-	-	-	-	-
LS-1 a	C	Replacement of Spring Creek Lift Station with Parallel Force Main & Modifications to Chisholm Creek Lift Station and new Holding			50	-	-	-	-	-	-	-	-	-	-	-
2	C	**LS-2**			50	4,800,000	-	4,800,000	-	-	-	-	-	-	-	-
LS-2	C	Repl of 33rd & 40th St. Lift Stations w/ a single new lift station			50	-	-	-	-	-	-	-	-	-	-	-
3	C	**E5-1**			50	1,100,000	-	-	-	-	-	-	1,100,000	-	-	-
E5-1	C	Upsize existing sewer from 10" to 18"			50	-	-	-	-	-	-	-	-	-	-	-
4	C	**E5-2**			50	1,500,000	-	-	-	-	-	-	1,500,000	-	-	-
E5-2	C	Upsize existing sewer from 15" to 24"			50	-	-	-	-	-	-	-	-	-	-	-
5	C	**E5-3**			50	3,700,000	-	-	-	-	-	-	3,700,000	-	-	-
E5-3	C	Upsize existing sewer from 18"/24" to 36"			50	-	-	-	-	-	-	-	-	-	-	-
6	C	**E6-1, E6-2, E6-3 and E6-4**			50	1,800,000	-	-	-	-	-	-	-	-	-	1,800,000
E6-1,	C	Upsize Existing Sewer lines and install Parallel 15" Sewer			50	-	-	-	-	-	-	-	-	-	-	-
7	C	**E1-2 and E1-1A**			50	9,800,000	9,800,000	-	-	-	-	-	-	-	-	-
E1-2 a	C	Upsize existing sewer from 18" to 30"			50	-	-	-	-	-	-	-	-	-	-	-
8	C	**E3-1 and E3-2**			50	1,400,000	-	1,400,000	-	-	-	-	-	-	-	-
E3-2 a	C	Upsize existing sewer from 18" to 30"			50	-	-	-	-	-	-	-	-	-	-	-
9	C	**E4-1**			50	1,300,000	-	-	-	-	-	1,300,000	-	-	-	-
E4-1	C	Upsize existing sewer from 24" to 36"			50	-	-	-	-	-	-	-	-	-	-	-
10	C	**E4-2**			50	600,000	-	-	-	-	-	600,000	-	-	-	-
E4-2	C	Upsize existing sewer from 24" to 36"			50	-	-	-	-	-	-	-	-	-	-	-
11	C	**E4-3**			50	900,000	-	-	-	-	-	900,000	-	-	-	-
E4-3	C	Upsize existing sewer from 24" to 36"			50	-	-	-	-	-	-	-	-	-	-	-
12	C	**E4-4 and E4-5**			50	2,400,000	-	-	-	-	-	2,400,000	-	-	-	-
E4-4 a	C	Upsize existing sewer from 24" to 36" & Install Parallel 24" sewer Line			50	-	-	-	-	-	-	-	-	-	-	-
13	C	**W2-1 and W2-2**			50	2,700,000	-	-	-	-	-	-	-	2,700,000	-	-
W2-1	C	Upsize Existing Sewer from 8"/10" to 18" & from 12" to 18"			50	-	-	-	-	-	-	-	-	-	-	-
14	C	**W2-3**			50	1,900,000	1,900,000	-	-	-	-	-	-	-	-	-
W2-3	C	Upsize existing sewer from 21"/24" to 30"			50	-	-	-	-	-	-	-	-	-	-	-
15	C	**E3-3, E3-4, E1-1B**			50	7,700,000	-	-	7,700,000	-	-	-	-	-	-	-
E3-3,	C	Install Parallel Piping to alleviate surcharging			50	-	-	-	-	-	-	-	-	-	-	-

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EDMOND PUBLIC WORKS AUTHORITY
WATER/WASTEWATER COST OF SERVICE MODEL

		10 Year Forecast 2017-2025		Project Year	Depreciable Lifespan (Years)	Total Cost	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025
Input Area -- Capital Outlays																
Scenario:		***Base; Alt 1 Status Quo***					**Input Area - Annual Capital Expenditures**									
												Model Requires Input in Blue Areas Only				
16	C	**W1-1 and W1-2**			50	800,000	-	-	-	-	-	-	-	800,000		
W1-1	C	Upsize to alleviate surcharging and several observed overflows			50	-	-	-	-	-	-	-	-	-	-	-
	C	Future Projects			50	-	-	-	-	-	-	-	-	-	-	-
						59,400,000	28,700,000	6,200,000	7,700,000	-	-	5,200,000	6,300,000	3,500,000	-	1,800,000
		Administration														
	A	Project		WW	15	-	-	-	-	-	-	-	-	-	-	-
	A	Project		WW	15	-	-	-	-	-	-	-	-	-	-	-
						-	-	-	-	-	-	-	-	-	-	-
		Customer														
	CS	Project		WW	15	-	-	-	-	-	-	-	-	-	-	-
	CS	Project		WW	15	-	-	-	-	-	-	-	-	-	-	-
						-	-	-	-	-	-	-	-	-	-	-
		TOTAL UNFUNDED WASTEWATER CAPITAL IMPROVEMENT PLAN; DEBT TO BE ISSI				**147,400,000**	**28,700,000**	**94,200,000**	**7,700,000**	**-**	**-**	**5,200,000**	**6,300,000**	**3,500,000**	**-**	**1,800,000**
						147,400,000										
		Wastewater Classification														
		Treatment	**59.7%**			$ 88,000,000	$ -	$ 88,000,000	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
		Collection	**40.3%**			59,400,000	28,700,000	6,200,000	7,700,000	-	-	5,200,000	6,300,000	3,500,000	-	1,800,000
		Administration	**0.0%**			-	-	-	-	-	-	-	-	-	-	-
		Customer	**0.0%**			-	-	-	-	-	-	-	-	-	-	-
		Total	**100.0%**			**147,400,000**	**28,700,000**	**94,200,000**	**7,700,000**	**-**	**-**	**5,200,000**	**6,300,000**	**3,500,000**	**-**	**1,800,000**

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Existing and Forecast Debt Service

Although EPWA maintains an extensive and detailed capital improvement program to repair, maintain and expand its water and wastewater system, it is able to fund all but the most sizeable projects through impact fees, rate revenues and fund balances. Of the outstanding utility revenue bonds from 2005, 2010, 2012, 2013 and 2014 currently held by EPWA, the majority of the existing water debt pertains to the water treatment plant while the majority of the existing wastewater debt pertains to improvements to the wastewater treatment plant. The existing debt also includes two notes from the Oklahoma Water Resource Board.

The City takes advantage of debt refunding opportunities to consolidate and minimize total debt payments, and reduce the amount of outstanding utility debt when possible. In the FY 2016 budget the total existing annual water and wastewater debt service obligation is approximately $4.1 million and the current payment schedules reflects a reduction of this total to approximately $1.6 million by 2025.

As noted previously, EPWA's CIP includes significant expenditures in the next five years which are forecast to be funded through new long-term debt. The total new debt obligation projected by utility staff for the forecast period totals **$103,900,000** for water improvements and **$147,400,000** for wastewater improvements. Future bond issues are assumed to have a term of 30 years at an interest rate of 4.0%, with a 2.0% issuing cost and reserve requirements incorporated into the bond issues with a coverage requirement of 1.30.

The schedule of forecast debt to be issued is presented in **Table III-7.** Current and forecast debt service payments for the forecast period is presented in **Table III-8.** It should be noted that if EPWA materially revises its CIP, or if EPWA chooses to issue water and wastewater revenue bond debt totals or in a different timeframe from that contained in this study, the rate plan alternatives may be subject to potentially significant revision.

Table III-7

CITY OF EDMOND / EPWA

FORECAST BOND ISSUES FOR CAPITAL IMPROVEMENTS

SCENARIO: Base; Alt 1 Status Quo

Year	Total	Water	Wastewater
FY 2016	$ 28,700,000	$ -	$ 28,700,000
FY 2017	194,200,000	100,000,000	94,200,000
FY 2018	7,700,000	-	7,700,000
FY 2019	-	-	-
FY 2020	-	-	-
FY 2021	5,200,000	-	5,200,000
FY 2022	6,300,000	-	6,300,000
FY 2023	3,500,000	-	3,500,000
FY 2024	700,000	700,000	-
FY 2025	5,000,000	3,200,000	1,800,000

Table III-8

CITY OF EDMOND / EPWA

CURRENT AND FORECAST DEBT SERVICE

		FY 2016	FY 2017	FY 2018	FY 2019	FY 2020	FY 2021	FY 2022	FY 2023	FY 2024	FY 2025
Budget Debt Service	Scenario: Base; Alt 1 Status Quo										
WATER											
Existing Debt		$4,008,079	$ 6,338,892	$ 6,339,053	$ 4,483,895	$ 4,549,256	$ 4,545,741	$ 4,543,246	$ 4,550,903	$ 6,399,336	$ 1,603,077
Series 2016	$ -	-	-	-	-	-	-	-	-	-	-
Series 2017	100,000,000	-	-	4,080,000	5,898,670	5,898,670	5,898,670	5,898,670	5,898,670	5,898,670	5,898,670
Series 2018	-	-	-	-	-	-	-	-	-	-	-
Series 2019	-	-	-	-	-	-	-	-	-	-	-
Series 2020	-	-	-	-	-	-	-	-	-	-	-
Series 2021	-	-	-	-	-	-	-	-	-	-	-
Series 2022	-	-	-	-	-	-	-	-	-	-	-
Series 2023	-	-	-	-	-	-	-	-	-	-	-
Series 2024	700,000	-	-	-	-	-	-	-	-	-	41,291
Series 2025	3,200,000	-	-	-	-	-	-	-	-	-	-
Total Debt Service		**$4,008,079**	**$ 6,338,892**	**$ 10,419,053**	**$ 10,382,566**	**$ 10,447,926**	**$ 10,444,412**	**$ 10,441,916**	**$ 10,449,573**	**$ 12,298,006**	**$ 7,543,037**
WASTEWATER											
Existing Debt		$ 123,257	$ 123,195	$ 123,221	$ 123,299	$ 123,809	$ 123,831	$ 123,778	$ 123,999	$ 124,035	$ -
Series 2016	$ 28,700,000	-	1,170,960	1,692,918	1,692,918	1,692,918	1,692,918	1,692,918	1,692,918	1,692,918	1,692,918
Series 2017	94,200,000	-	-	3,843,360	5,556,547	5,556,547	5,556,547	5,556,547	5,556,547	5,556,547	5,556,547
Series 2018	7,700,000	-	-	-	454,198	454,198	454,198	454,198	454,198	454,198	454,198
Series 2019	-	-	-	-	-	-	-	-	-	-	-
Series 2020	-	-	-	-	-	-	-	-	-	-	-
Series 2021	5,200,000	-	-	-	-	-	-	306,731	306,731	306,731	306,731
Series 2022	6,300,000	-	-	-	-	-	-	-	371,616	371,616	371,616
Series 2023	3,500,000	-	-	-	-	-	-	-	-	206,453	206,453
Series 2024	-	-	-	-	-	-	-	-	-	-	-
Series 2025	1,800,000	-	-	-	-	-	-	-	-	-	-
Total Debt Service		**$ 123,257**	**$ 1,294,155**	**$ 5,659,500**	**$ 7,826,962**	**$ 7,827,472**	**$ 7,827,494**	**$ 8,134,172**	**$ 8,506,010**	**$ 8,712,499**	**$ 8,588,464**
WATER & WW TOTAL		**$4,131,336**	**$ 7,633,047**	**$ 16,078,553**	**$ 18,209,528**	**$ 18,275,398**	**$ 18,271,906**	**$ 18,576,088**	**$ 18,955,583**	**$ 21,010,505**	**$ 16,131,501**

Non-Rate Revenues

Although sales revenues constitute the majority of the revenue received by EPWA for water and wastewater service, a certain amount of revenue is accrued from non-rate sources. These revenues include other general revenues, surcharges, development charges, and internal transfers to Field Services. These non-rate revenues are subtracted from the overall budget to determine the revenue requirement to be raised from rates. Most non-rate revenues are conservatively forecast to increase only nominally during the next ten years. Annual non-rate revenue totals are presented in **Table III-9.**

Table III-9

CITY OF EDMOND / EPWA

FORECAST NON-RATE REVENUES

SCENARIO: Base; Alt 1 Status Quo

Year	Total	Water	Wastewater
FY 2016	$ 7,408,485	$ 4,374,932	$ 3,033,553
FY 2017	7,585,424	4,532,758	3,052,666
FY 2018	7,671,809	4,598,640	3,073,169
FY 2019	7,757,313	4,657,441	3,099,872
FY 2020	7,767,494	4,663,755	3,103,739
FY 2021	7,895,201	4,740,810	3,154,391
FY 2022	8,082,746	4,855,390	3,227,356
FY 2023	8,275,918	4,973,408	3,302,509
FY 2024	8,415,241	5,060,891	3,354,351
FY 2025	8,484,661	5,113,232	3,371,430

Net Revenue Requirement

Table III-10 presents the test year and ten year forecast for EPWA's net revenue requirement to be raised from rates for the Base Scenario. As shown in the tables, debt service becomes an increasing portion of the total revenue requirement as additional debt is issued to pay for CIP projects. Detailed calculations are presented in the rate model contained in Appendix A of this report. These net revenue requirements must be raised from rates in the test year FY 2016 and the forecast period.

Table III-10

CITY OF EDMOND / EPWA

CURRENT AND FORECAST NET REVENUE REQUIREMENT

SCENARIO: Base; Alt 1 Status Quo

	Operating Expenses	Capital Outlays	Debt Coverage	Total Debt Service	Total Cost of Service	Less Non-Rate Revenues	Net Revenue Requirement
WATER Revenue Requirement							
FY 2016	$ 13,721,312	$ 10,440,007	$ 1,002,020	$ 4,008,079	$ 29,171,418	$ 4,374,932	$ 24,796,486
FY 2017	14,684,284	14,462,007	1,584,723	6,338,892	37,069,906	4,532,758	32,537,148
FY 2018	15,005,738	7,864,007	2,604,763	10,419,053	35,893,561	4,598,640	31,294,921
FY 2019	15,285,835	9,664,007	2,595,641	10,382,566	37,928,049	4,657,441	33,270,608
FY 2020	15,572,217	10,264,007	2,611,981	10,447,926	38,896,131	4,663,755	34,232,376
FY 2021	17,739,306	6,764,007	2,611,103	10,444,412	37,558,827	4,740,810	32,818,017
FY 2022	18,461,327	6,764,007	2,610,479	10,441,916	38,277,729	4,855,390	33,422,338
FY 2023	19,219,761	7,064,007	2,612,393	10,449,573	39,345,735	4,973,408	34,372,327
FY 2024	20,014,257	6,764,007	3,074,501	12,298,006	42,150,772	5,060,891	37,089,881
FY 2025	20,662,944	6,764,007	1,885,759	7,543,037	36,855,748	5,113,232	31,742,516
WASTEWATER Revenue Requirement							
FY 2016	7,722,733	11,100,000	30,814	123,257	18,976,804	3,033,553	15,943,251
FY 2017	7,894,573	9,000,000	323,539	1,294,155	18,512,266	3,052,666	15,459,600
FY 2018	8,283,229	2,900,000	1,414,875	5,659,500	18,257,604	3,073,169	15,184,435
FY 2019	8,339,060	4,700,000	1,956,741	7,826,962	22,822,763	3,099,872	19,722,891
FY 2020	8,465,195	5,300,000	1,956,868	7,827,472	23,549,535	3,103,739	20,445,796
FY 2021	8,811,840	5,600,000	1,956,874	7,827,494	24,196,207	3,154,391	21,041,817
FY 2022	9,176,967	5,800,000	2,033,543	8,134,172	25,144,681	3,227,356	21,917,326
FY 2023	9,561,837	6,000,000	2,126,502	8,506,010	26,194,349	3,302,509	22,891,839
FY 2024	9,966,931	6,200,000	2,178,125	8,712,499	27,057,554	3,354,351	23,703,204
FY 2025	10,341,690	6,400,000	2,147,116	8,588,464	27,477,269	3,371,430	24,105,840
TOTAL Revenue Requirement							
FY 2016	21,444,045	21,540,007	1,032,834	4,131,336	48,148,222	7,408,485	40,739,737
FY 2017	22,578,857	23,462,007	1,908,262	7,633,047	55,582,173	7,585,424	47,996,749
FY 2018	23,288,967	10,764,007	4,019,638	16,078,553	54,151,165	7,671,809	46,479,356
FY 2019	23,624,895	14,364,007	4,552,382	18,209,528	60,750,812	7,757,313	52,993,499
FY 2020	24,037,412	15,564,007	4,568,849	18,275,398	62,445,666	7,767,494	54,678,172
FY 2021	26,551,145	12,364,007	4,567,976	18,271,906	61,755,035	7,895,201	53,859,834
FY 2022	27,638,293	12,564,007	4,644,022	18,576,088	63,422,410	8,082,746	55,339,664
FY 2023	28,781,598	13,064,007	4,738,896	18,955,583	65,540,084	8,275,918	57,264,166
FY 2024	29,981,188	12,964,007	5,252,626	21,010,505	69,208,326	8,415,241	60,793,084
FY 2025	31,004,634	13,164,007	4,032,875	16,131,501	64,333,017	8,484,661	55,848,356

Water Utility Cost Functionalization

Once the total water and wastewater system costs have been identified, the next step in the rate development process is to isolate the costs associated with each system function. Some of these expenditures are a function of base water demand; others are based on the peak demands placed on the system. Certain costs are associated with serving customers regardless of the volume of water use or wastewater discharge. The basic steps used to allocate EPWA's water revenue requirements include the following:

1. Each system's costs (revenue requirements) are categorized by utility function (i.e. treatment, distribution, administrative, customer). This process is known as *functionalization*.
2. Functionalized costs are classified based on the service characteristics or the types of demand served by the utility (base and maximum day). This process is known as *classification*.
3. Costs by service characteristic are allocated to customer classes in proportion to the service demands demonstrated by each class.

This three-step process allows for the allocation of system costs in the same terms as customer classes. The approaches described in this section follow standard industry practices. Water system costs are allocated to the following functions:

Treatment – the process by which raw water is converted to potable water

Distribution – the lines that carry water to individual customers' properties

Administration – miscellaneous overhead and other non-operating costs

Customer Billing – the processes involved in billing and providing other services to customers

The project team allocated operating budget line item expenses individually to system functions based on general guidelines, specific research and input from City staff. The results of the allocation process for the test year are presented in **Table III-11.** The rate model presented in Appendix A includes a detailed listing of the allocations by line item.

TABLE III-11

CITY OF EDMOND / EPWA

Test Year Water Cost Functionalization

Scenario:
Base; Alt 1 Status Quo

Function	FY 2016 Revenue Requirement	Percent
	WATER System	
Supply/Treatment	$ 17,660,061	71.2%
Distribution	2,712,495	10.9%
Administration	4,206,682	17.0%
Customer	217,247	0.9%
Total	$ **24,796,486**	**100.0%**

Water Utility Cost Classification

The allocation of functionalized water system costs to service characteristics follows the base-extra capacity cost allocation method recommended by AWWA. Using this method, costs are segregated into the following categories:

Base costs – capital costs and O&M expenses associated with service to customers under average demand conditions. This category does not include any costs attributable to variations in water use resulting from peaks in demand. Base costs tend to vary directly with the total quantity of water used.

Maximum Day/Extra Capacity costs – costs attributable to facilities that are designed to meet peaking requirements. These costs include capital and operating charges for additional plant and system capacity beyond that required for average usage.

Customer Billing costs – costs associated with any aspect of customer service, including billing, accounting, and meter services. These costs are independent of the amount of water used and the size of the customer's meter, and are not subject to peaking factors.

According to AWWA Manual M-1 (p.12), in the base-extra capacity method, care must be taken in separating costs between those devoted to base capacity and those devoted to extra capacity. As shown in Table II-8, over the past twelve months EPWA's peak to average capacity factor was calculated to be 1.54 using the past twelve months consumption and peak month data. However the City's engineers have calculated the peak to average ratio using daily data to be 2.2 and therefore the project team was able to utilize this ratio in the rate model. The peak to average factor is calculated by dividing the volume on the peak day of the year by the average daily volume. This means that facilities designed to meet maximum-day requirements, such as the treatment and distribution functions, are allocated 45.4% (1/2.2) to base, and 54.6% to extra capacity (accounting for rounding). This means that facilities designed to meet maximum-day requirements, such as the treatment and distribution functions, are allocated 45.40% to base, and 54.60% to extra capacity.

All customer service-related costs are allocated 100% to customer billing. Administration costs are generally not directly-assignable to individual classifications. Therefore, it is standard rate-making practice to allocate these costs on an indirect basis to service characteristics.

The rate model in Appendix A provides the detailed allocations of costs to service characteristics. The system-wide costs by service characteristic are shown in **Table III-12**. As with cost functionalization, these percentages are not expected to change significantly in the forecast period.

TABLE III-12

CITY OF EDMOND / EPWA

Test Year Water Cost Classification

Scenario:
Base; Alt 1 Status Quo

	FY 2016 Revenue Requirement	Percent
	WATER System	
Base	$ 11,152,206	45.0%
Max Day	13,382,647	54.0%
Customer	261,633	1.1%
Total	**$ 24,796,486**	**100.0%**

Water Utility Cost Allocation

Allocation of costs by service characteristic to customer classes is based on the proportionate use levels of each characteristic by each class. The total water utility costs by customer class for the test year are summarized in **Table III-13** and for the ten year forecast period in **Table III-14.** Overall cost calculations are presented in detail in the rate model contained in Appendix A.

TABLE III-13

CITY OF EDMOND / EPWA

Test Year Water Cost Allocation

Class	FY 2016 Revenue Requirement	Percent
Residential	$ 18,094,165	73.0%
COE Internal	423,260	1.7%
Commercial	5,427,199	21.9%
Industrial	36,160	0.1%
Public	815,702	3.3%
Total	**24,796,486**	**100.0%**

TABLE III-14

CITY OF EDMOND / EPWA

Scenario:
Base; Alt 1 Status Quo

FORECAST WATER COST ALLOCATION

	FY 2016	FY 2017	FY 2018	FY 2019	FY 2020	FY 2021	FY 2022	FY 2023	FY 2024	FY 2025
	WATER System									
Residential	$ 18,094,165	$ 23,610,706	$22,687,025	$24,158,484	$24,895,787	$23,877,036	$24,326,410	$25,027,497	$27,010,486	$23,110,042
COE Internal	423,260	541,208	509,931	532,642	538,618	507,473	508,069	513,812	545,668	460,245
Commercial	5,427,199	7,063,042	6,770,503	7,192,976	7,395,982	7,112,600	7,265,411	7,493,631	8,113,422	6,974,250
Industrial	36,160	46,245	43,561	45,495	45,999	43,338	43,388	43,877	46,598	39,304
Public	815,702	1,043,065	982,696	1,026,410	1,037,877	977,854	978,995	990,055	1,051,438	886,851
Wholesale (All Yr.)	0	93,023	87,631	91,525	92,544	87,191	87,292	88,278	93,751	79,077
Wholesale (w/Peaking)	0	86,830	163,601	170,875	172,779	162,786	162,976	164,816	175,035	147,637
Wholesale (Peaking Only)	0	53,030	49,971	52,201	52,791	49,739	49,798	50,361	53,484	45,110
	$ 24,796,486	$ 32,537,148	$31,294,921	$33,270,608	$34,232,376	$32,818,017	$33,422,338	$34,372,327	$37,089,881	$31,742,516

Wastewater Utility Cost Functionalization and Classification

Wastewater system costs are allocated to the following functions:

Treatment -- Volume – the costs associated with treating wastewater volume discharges

Collection – the lines that transport wastewater from customers' properties to the wastewater treatment plant

Administration – miscellaneous overhead and other non-operating costs

Customer Billing – the processes involved in billing and other services to customers

As was the case for the water system, wastewater utility operating budget line item expenses are allocated individually to functions. The results of the allocation process are presented in **Table III-15**. The rate model in Appendix A presents a detailed listing of the cost allocations by line item. As with the water utility, these percentages are not forecast to change significantly during the next ten years.

TABLE III-15

CITY OF EDMOND / EPWA

Test Year Wastewater Cost Functionalization

Scenario: **Base; Alt 1 Status Quo**

Function	FY 2016 Revenue Requirement	Percent
Treatment	$ 8,383,930	52.6%
Collection	6,861,607	43.0%
Admin	697,715	4.4%
Customer Billing	-	0.0%
Total	$ 15,943,251	100.0%

Wastewater Utility Cost Allocation

Allocation of wastewater utility costs by service characteristic to customer classes is performed in the same manner as described for the water utility. The total water utility costs by customer class for the test year are summarized in **Table III-16** and for the ten year forecast period in **Table III-17.** The rate model in Appendix A presents a detailed listing of the cost calculations by line item.

TABLE III-16

CITY OF EDMOND / EPWA

Test Year Wastewater Cost Allocation

Scenario:
Base; Alt 1 Status Quo

Class	FY 2016 Revenue Requirement	Percent
Residential	$ 12,704,861	79.7%
COE Internal	54,920	0.3%
Commercial	2,922,622	18.3%
Industrial	60,448	0.4%
Public	200,400	1.3%
Total	**$ 15,943,251**	**100.0%**

TABLE III-17

CITY OF EDMOND / EPWA

Forecast Wastewater Cost of Service by Customer Class

Scenario:
Base; Alt 1 Status Quo

	FY 2016	FY 2017	FY 2018	FY 2019	FY 2020	FY 2021	FY 2022	FY 2023	FY 2024	FY 2025
Residential	$ 12,704,861	$ 12,289,988	$ 12,075,354	$ 15,691,490	$ 16,273,650	$ 16,741,244	$ 17,430,422	$ 18,197,958	$ 18,832,728	$ 19,137,022
COE Internal	54,920	52,215	50,438	64,455	65,756	66,608	68,303	70,249	71,684	71,937
Commercial	2,922,622	2,825,712	2,774,965	3,604,210	3,736,165	3,859,565	4,034,655	4,228,732	4,395,794	4,492,337
Industrial	60,448	57,471	55,515	70,944	72,375	73,313	75,178	77,321	78,899	79,179
Public	200,400	190,530	184,045	235,193	239,939	243,048	249,231	256,334	261,569	262,494
Wholesale	-	43,684	44,118	56,599	57,911	58,039	59,537	61,245	62,529	62,871
	$ 15,943,251	$ 15,459,600	$ 15,184,435	$ 19,722,891	$ 20,445,796	$ 21,041,817	$ 21,917,326	$ 22,891,839	$ 23,703,204	$ 24,105,840

Section IV

SECTION IV

Water and Wastewater Rate Design

Rate design involves determining charges for each class of customers that will generate a desired level of revenue in accordance with AWWA and other industry cost of service rate-making principles. The water and wastewater rates developed in this section are designed to recover the test year and forecast revenue requirements while providing funding for the identified capital improvements. The most significant impact on rates will be the amount of debt that will be required to fund the capital improvement plan.

The water and wastewater rate plans recommended to EPWA were also developed in accordance with the staff's input, financial policies and goals. Among these financial policies and goals was the following as stated in the City's budget document:

"In an effort to ensure the continuance of sound financial management of public resources, the City of Edmond's *Unassigned Fund Balance* within the General Fund will be maintained to provide the City with sufficient working capital and a comfortable margin of safety to address emergencies, sudden loss of revenue or operating needs, and unexpected downturns."

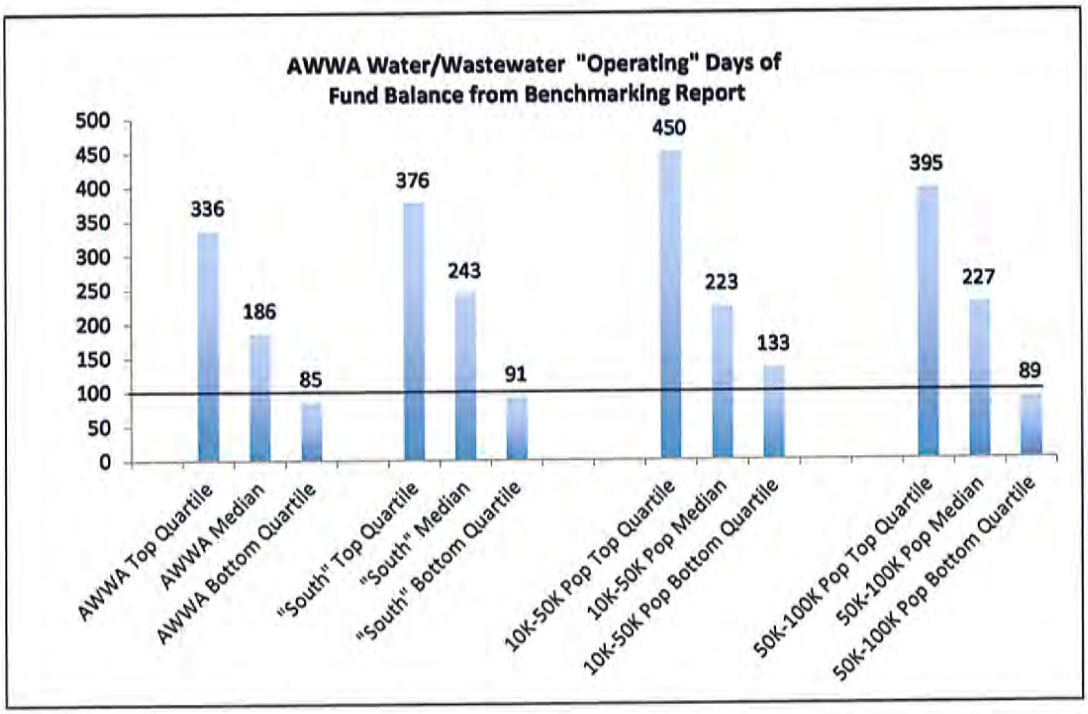
Additionally, the EPWA has certain financial covenants which must be met relative to their bond indentures, including a minimum debt coverage requirement of 1.30. This means that the net revenues after operating expenses available for debt payments must be at least 130% of the maximum annual debt service requirements.

Over the course of the engagement, the project team has participated in numerous conversations and meetings with EPWA staff. In these discussions and at the request of staff, the project team presented industry data regarding fund balance recommendations for water and wastewater utilities. Water utility funds have greater volatility than most general types of funds, due to the high percentage of fixed operating, maintenance and capital costs, and revenue fluctuations due to weather and other factors beyond the utilities' control. Yet they are expected to provide uninterrupted quality service. Therefore, while a fund balance equivalent to 60 or 90 days of operating expenses is often acceptable for other types of funds, in practice, financially and operationally strong water utilities typically maintain a fund balance in excess of 90 days. Standard and Poor's "Key Water and Sewer Utility Credit Ratio Ranges" report provides the following parameters:

Less than 30 days: Low	30 to 60 days: Adequate
60 to 120 days: Good	Greater than 120 days: Strong

Chart IV-1 presents the days of operating expenses cash reserves on hand results from the 2011 AWWA publication "Benchmarking Performance Indicators for Water and Wastewater Utilities: Survey Data and Analyses Report" which shows that utilities serving a population of 50,000 to 100,000 maintained a median reserve of 227 days of operating expenses, and the AWWA median for all utilities surveyed averaged 186 days of operating expenses on hand.

CHART IV-1



As a result of these conversations and work sessions, the project team incorporated thresholds of minimum fund balance targets for the water utility of 120 days operating expenses, for the wastewater utility of 90 days and for the combined utility of 100 days, along with a minimum debt coverage ratio of 1.30 into each of the alternative rate plans presented.

Numerous alternative rate designs were reviewed with staff, and the final rate plans presented to Council are provided in this report. **These rate plans do not recover sufficient equivalent revenues to meet all operating and capital obligations; rather they are designed to maintain the fund balance objectives identified in the report, utilizing fund balance drawdown as needed to mitigate rate adjustments and provide rate stabilization. Revenue requirements and volume projections are the same for each of the alternatives**

Preliminary rates have been included in the rate model for the potential wholesale water and wastewater accounts for forecasting purposes. These will be subject to further development and determination by EPWA staff and the City Manager. The rates utilized for wholesale customers for purposes of the study include base charges by meter size and uniform volumetric charges per thousand gallons. Wholesale water customers would be assessed a volumetric rate per thousand gallons developed on the basis of their projected volumes and peaking ratios. The wastewater volumetric rate assessed would be 40% greater than the volumetric rate assessed to accounts within city limits.

Numerous alternative rate designs were reviewed with staff, and the final rate plans presented to Council are provided in this report.

Water Alternative 1 – Status Quo

Under Alternative 1, the projected rate revenues in conjunction with forecast utility fund balance contributions would collect sufficient revenues to fund all operating and capital obligations in each of the forecast years, including the issuance of $103,900,000 of new water debt over the ten year forecast period. In this rate alternative, uniform adjustments are applied to the existing base and volumetric rates for each rate class. There is no change to the basic rate structure other than the uniform annual adjustments. **Table IV-2** presents a summary of the water rate plan proposed for EPWA under this alternative.

TABLE IV-2

City of Edmond/ EPWA

Water Alternative 1 -Status Quo Rate Plan

Scenario: Base; Alt 1 Status Quo	Current	Effective Nov-15	Effective Nov-16	Effective Nov-17	Effective Nov-18	Effective Nov-19
WATER -- Retail						
Monthly Charge -- 1st 1,000 Gal						
5/8" or 3/4"	$ 6.70	$ **7.04**	$ 7.39	$ 7.83	$ 8.38	$ 8.96
1"	11.03	**11.58**	12.16	12.89	13.79	14.76
1 1/2"	21.63	**22.71**	23.85	25.28	27.05	28.94
Volume Charge						
2,000 3,000	5.49	**5.76**	6.05	6.42	6.87	7.35
4,000 10,000	5.89	**6.16**	6.45	6.82	7.27	7.75
11,000 Above	6.49	**6.76**	7.05	7.42	7.87	8.35
WATER -- Wholesale (All Yr.)						
6" Monthly Meter Charge	185.97	**195.27**	205.03	217.33	232.55	248.83
Volume Charge						
Per Thousand Gallons	5.63	**5.91**	6.20	6.58	7.04	7.53

Wastewater Alternative 1 – Status Quo

Under Alternative 1, the projected rate revenues in conjunction with forecast utility fund balance contributions would collect sufficient revenues to fund all operating and capital obligations in each of the forecast years, including the issuance of $147,400,000 of new wastewater debt over the ten year forecast period. In this rate alternative, uniform adjustments are applied to the existing base and volumetric rates for each rate class. There is no change to the basic rate structure other than the uniform annual adjustments. **Table IV-3** presents a summary of the wastewater rate plan proposed for EPWA under this alternative.

TABLE IV-3

City of Edmond/ EPWA

Wastewater Alternative 1 -Status Quo Rate Plan

Scenario: Base; Alt 1 Status Quo	Current	Effective Nov-15	Effective Nov-16	Effective Nov-17	Effective Nov-18	Effective Nov-19
WASTEWATER -- Retail						
Base Charge	$ 11.50	$ 12.77	$ 14.17	$ 15.73	$ 17.30	$ 19.03
Volume Charge Per 1,000 Gal	2.76	3.06	3.40	3.77	4.15	4.57
WASTEWATER -- Wholesale						
6" Meter Base Charge	185.97	195.27	205.03	217.33	232.55	248.83
Volume Charge Per Thousand Gallons	3.86	4.29	4.76	5.28	5.81	6.39

Exhibit IV-4 presents pages from the rate model that summarize both the water and wastewater rate recommendations and forecast revenues under this alternative by year over the next decade. This summary includes the full ten year forecast of rates, projected revenues and expenses as well as the projected reserve balances and debt coverage ratios.

EDMOND PUBLIC WORKS AUTHORITY
WATER/WASTEWATER COST OF SERVICE MODEL

Input Area -- Rate Calculator
Scenario: Base; Alt 1 Status Quo

Note: 8" Meters not incl in rev calc or vol % as there are no 8" customers at this time.
The rate table uses displacement meter base charges for all 5/8" to 2" meters and turbine meter charges for 3",4" and 6" meters

			Prior	Current	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025
Water and Wastewater Rates														
Date Rate In effect (July = 1)					5	5	5	5	5	5	5	5	5	5
Water Rates														
Volume Elasticity Adjustment					0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Base Charge Annual Adjustment:					5.0%	5.0%	6.0%	7.0%	7.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Volumetric Charge Annual Adjustment:					5.0%	5.0%	6.0%	7.0%	7.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Residential			Assume all Displacement Meters											
Min Chg	5/8" or 3/4"		$ 6.38	$ 6.70	$ 7.04	$ 7.39	$ 7.83	$ 8.38	$ 8.96	$ 8.96	$ 8.96	$ 8.96	$ 8.96	$ 8.96
	1"		10.51	11.03	11.58	12.16	12.89	13.79	14.76	14.76	14.76	14.76	14.76	14.76
	1 1/2"		20.60	21.63	22.71	23.85	25.28	27.05	28.94	28.94	28.94	28.94	28.94	28.94
	2"		29.15	30.61	32.14	33.75	35.77	38.28	40.96	40.96	40.96	40.96	40.96	40.96
	3"		58.47	61.39	64.46	67.68	71.74	76.77	82.14	82.14	82.14	82.14	82.14	82.14
	4"		88.47	92.89	97.53	102.41	108.56	116.15	124.29	124.29	124.29	124.29	124.29	124.29
Usage Charge	2,000	3,000	5.23	5.49	5.76	6.05	6.42	6.87	7.35	7.35	7.35	7.35	7.35	7.35
	4,000	10,000	5.63	5.89	6.16	6.45	6.82	7.27	7.75	7.75	7.75	7.75	7.75	7.75
	11,000	Above	6.23	6.49	6.76	7.05	7.42	7.87	8.35	8.35	8.35	8.35	8.35	8.35
COE Internal														
Minimum Charge	5/8" or 3/4"		$ 6.38	$ 6.70	7.04	7.39	7.83	8.38	8.96	8.96	8.96	8.96	8.96	8.96
	1"		10.51	11.03	11.58	12.16	12.89	13.79	14.76	14.76	14.76	14.76	14.76	14.76
	1 1/2"		20.60	21.63	22.71	23.85	25.28	27.05	28.94	28.94	28.94	28.94	28.94	28.94
	2"		29.15	30.61	32.14	33.75	35.77	38.28	40.96	40.96	40.96	40.96	40.96	40.96
	3"		58.47	61.39	64.46	67.68	71.74	76.77	82.14	82.14	82.14	82.14	82.14	82.14
	4"		88.47	92.89	97.53	102.41	108.56	116.15	124.29	124.29	124.29	124.29	124.29	124.29
	6"		177.11	185.97	195.27	205.03	217.33	232.55	248.83	248.83	248.83	248.83	248.83	248.83
Usage Charge	2,000	3,000	5.23	5.49	5.76	6.05	6.42	6.87	7.35	7.35	7.35	7.35	7.35	7.35
	4,000	10,000	5.63	5.89	6.16	6.45	6.82	7.27	7.75	7.75	7.75	7.75	7.75	7.75
	11,000	Above	6.23	6.49	6.76	7.05	7.42	7.87	8.35	8.35	8.35	8.35	8.35	8.35
Commercial														
Min Chg	5/8" or 3/4"		$ 6.38	$ 6.70	$ 7.04	$ 7.39	$ 7.83	$ 8.38	$ 8.96	$ 8.96	$ 8.96	$ 8.96	$ 8.96	$ 8.96
	1"		10.51	11.03	11.58	12.16	12.89	13.79	14.76	14.76	14.76	14.76	14.76	14.76
	1 1/2"		20.60	21.63	22.71	23.85	25.28	27.05	28.94	28.94	28.94	28.94	28.94	28.94
	2"		29.15	30.61	32.14	33.75	35.77	38.28	40.96	40.96	40.96	40.96	40.96	40.96
	3"		58.47	61.39	64.46	67.68	71.74	76.77	82.14	82.14	82.14	82.14	82.14	82.14
	4"		88.47	92.89	97.53	102.41	108.56	116.15	124.29	124.29	124.29	124.29	124.29	124.29
	6"		177.11	185.97	195.27	205.03	217.33	232.55	248.83	248.83	248.83	248.83	248.83	248.83
Usage Charge	2,000	3,000	5.23	5.49	5.76	6.05	6.42	6.87	7.35	7.35	7.35	7.35	7.35	7.35
	4,000	10,000	5.63	5.89	6.16	6.45	6.82	7.27	7.75	7.75	7.75	7.75	7.75	7.75
	11,000	Above	6.23	6.49	6.76	7.05	7.42	7.87	8.35	8.35	8.35	8.35	8.35	8.35

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EDMOND PUBLIC WORKS AUTHORITY
WATER/WASTEWATER COST OF SERVICE MODEL

Input Area -- Rate Calculator
Scenario: Base; Alt 1 Status Quo

Note: 8" Meters not incl in rev calc or vol % as there are no 8" customers at this time.
The rate table uses displacement meter base charges for all 5/8" to 2" meters and turbine meter charges for 3",4" and 6" meters

			Prior	Current	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025
Industrial														
Minimum Charge	5/8" or 3/4"		$ 6.38	$ 6.70	7.04	7.39	7.83	8.38	8.96	8.96	8.96	8.96	8.96	8.96
	1"		10.51	11.03	11.58	12.16	12.89	13.79	14.76	14.76	14.76	14.76	14.76	14.76
	1 1/2"		20.60	21.63	22.71	23.85	25.28	27.05	28.94	28.94	28.94	28.94	28.94	28.94
	2"		29.15	30.61	32.14	33.75	35.77	38.28	40.96	40.96	40.96	40.96	40.96	40.96
	3"		58.47	61.39	64.46	67.68	71.74	76.77	82.14	82.14	82.14	82.14	82.14	82.14
	4"		88.47	92.89	97.53	102.41	108.56	116.15	124.29	124.29	124.29	124.29	124.29	124.29
	6"		177.11	185.97	195.27	205.03	217.33	232.55	248.83	248.83	248.83	248.83	248.83	
Usage Charge	2,000	3,000	5.23	5.49	5.76	6.05	6.42	6.87	7.35	7.35	7.35	7.35	7.35	7.35
	4,000	10,000	5.63	5.89	6.16	6.45	6.82	7.27	7.75	7.75	7.75	7.75	7.75	7.75
	11,000	Above	6.23	6.49	6.76	7.05	7.42	7.87	8.35	8.35	8.35	8.35	8.35	8.35
Public														
Minimum Charge	5/8" or 3/4"		$ 6.38	$ 6.70	7.04	7.39	7.83	8.38	8.96	8.96	8.96	8.96	8.96	8.96
	1"		10.51	11.03	11.58	12.16	12.89	13.79	14.76	14.76	14.76	14.76	14.76	14.76
	1 1/2"		20.60	21.63	22.71	23.85	25.28	27.05	28.94	28.94	28.94	28.94	28.94	28.94
	2"		29.15	30.61	32.14	33.75	35.77	38.28	40.96	40.96	40.96	40.96	40.96	40.96
	3"		58.47	61.39	64.46	67.68	71.74	76.77	82.14	82.14	82.14	82.14	82.14	82.14
	4"		88.47	92.89	97.53	102.41	108.56	116.15	124.29	124.29	124.29	124.29	124.29	124.29
	6"		177.11	185.97	195.27	205.03	217.33	232.55	248.83	248.83	248.83	248.83	248.83	248.83
Usage Charge	2,000	3,000	5.23	5.49	5.76	6.05	6.42	6.87	7.35	7.35	7.35	7.35	7.35	7.35
	4,000	10,000	5.63	5.89	6.16	6.45	6.82	7.27	7.75	7.75	7.75	7.75	7.75	7.75
	11,000	Above	6.23	6.49	6.76	7.05	7.42	7.87	8.35	8.35	8.35	8.35	8.35	8.35
Arcadia														
Wholesale (All Yr.)														
Master Meter Charg	6"		177.11	185.97	195.27	205.03	217.33	232.55	248.83	248.83	248.83	248.83	248.83	248.83
				Vol. COS	*5.64*	*7.21*	*6.79*	*7.09*	*7.17*	*6.76*	*6.77*	*6.84*	*7.27*	*6.13*
Usage Charge Per	-	Above	8.73	5.63	**5.91**	6.20	6.58	7.04	7.53	7.53	7.53	7.53	7.53	7.53
Per Thousand Gallons														
Excessive Peaking Surcharge					**10.56**	**11.09**	**11.76**	**12.58**	**13.46**	**13.46**	**13.46**	**13.46**	**13.46**	**13.46**
OKC sub				OKC charges $13.75 x meter multiplier			Either assume 6" meter at MM of 50 or charge them the development fees (which is what Edmond plans to do)							
Wholesale (w/Peaking)														
Master Meter Charg	6"			185.97	195.27	205.03	217.33	232.55	248.83	248.83	248.83	248.83	248.83	248.83
				Vol. COS	*6.20*	*7.93*	*7.47*	*7.80*	*7.89*	*7.43*	*7.44*	*7.52*	*7.99*	*6.74*
Usage Charge	-	Above	8.73	6.19	**6.50**	6.82	7.23	7.74	8.28	8.28	8.28	8.28	8.28	8.28
Per Thousand Gallons														
Excessive Peaking Surcharge					**10.56**	**11.09**	**11.76**	**12.58**	**13.46**	**13.46**	**13.46**	**13.46**	**13.46**	**13.46**
Wholesale (Peaking Only)														
Master Meter Charg	6"		177.11	185.97	195.27	205.03	217.33	232.55	248.83	248.83	248.83	248.83	248.83	248.83
Usage Charge Per	-	Above	8.73	20.12	**21.12**	22.18	23.51	25.16	26.92	26.92	26.92	26.92	26.92	26.92
Per Thousand Gallons				*Vol. COS*	*23.04*	*29.46*	*27.76*	*29.00*	*29.33*	*27.63*	*27.67*	*27.98*	*29.71*	*25.06*

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EDMOND PUBLIC WORKS AUTHORITY
WATER/WASTEWATER COST OF SERVICE MODEL

Input Area -- Rate Calculator

Scenario: Base; Alt 1 Status Quo

Note: 8" Meters not incl in rev calc or vol % as there are no 8" customers at this time.

The rate table uses displacement meter base charges for all 5/8" to 2" meters and turbine meter charges for 3",4" and 6" meters

		Prior	Current	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025
Wastewater Rates													
Base Charge Annual Adjustment:				11.0%	11.0%	11.0%	10.0%	10.0%	7.5%	4.0%	0.0%	0.0%	0.0%
Volumetric Charge Annual Adjustment:				11.0%	11.0%	11.0%	10.0%	10.0%	7.5%	4.0%	0.0%	0.0%	0.0%
Residential													
Minimum Charge		$ 6.25	$ 11.50	$ 12.77	$ 14.17	$ 15.73	$ 17.30	$ 19.03	$ 20.46	$ 21.28	$ 21.28	$ 21.28	$ 21.28
Usage Charge		1.50	2.76	3.06	3.40	3.77	4.15	4.57	4.91	5.11	5.11	5.11	5.11
COE Internal													
Minimum Charge		$ 6.25	$ 11.50	12.77	14.17	15.73	17.30	19.03	20.46	21.28	21.28	21.28	21.28
Usage Charge		1.50	2.76	3.06	3.40	3.77	4.15	4.57	4.91	5.11	5.11	5.11	5.11
Commercial													
Minimum Charge		$ 6.25	$ 11.50	12.77	14.17	15.73	17.30	19.03	20.46	21.28	21.28	21.28	21.28
Usage Charge		1.50	2.76	3.06	3.40	3.77	4.15	4.57	4.91	5.11	5.11	5.11	5.11
Industrial													
Minimum Charge		$ 6.25	$ 11.50	12.77	14.17	15.73	17.30	19.03	20.46	21.28	21.28	21.28	21.28
Usage Charge		1.50	2.76	3.06	3.40	3.77	4.15	4.57	4.91	5.11	5.11	5.11	5.11
Public													
Minimum Charge		$ 6.25	$ 11.50	12.77	14.17	15.73	17.30	19.03	20.46	21.28	21.28	21.28	21.28
Usage Charge		1.50	2.76	3.06	3.40	3.77	4.15	4.57	4.91	5.11	5.11	5.11	5.11
Wholesale													
6" Meter Charge	6"	$ 126.93	$ 185.97	$ 195.27	$ 205.03	$ 217.33	$ 232.55	$ 248.83	$ 248.83	$ 248.83	$ 248.83	$ 248.83	$ 248.83
Usage Charge Per Thousand Gallons		1.50	3.86	4.29	4.76	5.28	5.81	6.39	6.87	7.15	7.15	7.15	7.15

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EDMOND PUBLIC WORKS AUTHORITY
WATER/WASTEWATER COST OF SERVICE MODEL

Input Area -- Rate Calculator

Scenario: Base; Alt 1 Status Quo

Note: 8" Meters not incl in rev calc or vol % as there are no 8" customers at this time.

The rate table uses displacement meter base charges for all 5/8" to 2" meters and turbine meter charges for 3",4" and 6" meters

Summary of Results -- Rate Calculator	Prior	Current	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025
WATER												
Net Revenues			$ (725,376)	$ (6,692,726)	$ (3,540,766)	$ (3,294,283)	$ (1,743,328)	$ 1,103,157	$ 1,083,165	$ 717,506	$ (1,437,289)	$ 4,429,693
Drawdown of Water Fund Balance			725,376	6,692,726	3,540,766	3,294,283	1,743,328	-	-	-	1,437,289	-
Revised Net Revenues for Contingency and Coverage			$ -	$ -	$ -	$ -	$ -	$ 1,103,157	$ 1,083,165	$ 717,506	$ -	$ 4,429,693
Debt/Loan Proceeds			-	100,000,000	-	-	-	-	-	-	700,000	3,200,000
End of Year Unrestricted Reserve		No Less Than	26,493,511	14,692,782	10,216,013	6,223,089	5,348,414	10,165,831	14,942,640	18,990,047	19,189,970	29,935,115
Water Fund Balance Days of Operating Expense		120	705	365	248	149	125	209	295	361	350	529
Percent of Revenues			-3.0%	-25.9%	-12.8%	-11.0%	-5.4%	3.3%	3.1%	2.0%	-4.0%	12.2%
Debt Coverage			3.67	2.48	1.66	1.86	2.07	2.00	2.00	1.99	1.68	2.73
Days of Revenue			340	177	115	66	53	96	139	173	172	265
WASTEWATER												
Net Revenues			**(3,919,756)**	**(1,843,015)**	**183,657**	**(2,477,727)**	**(1,167,991)**	**204,289**	**826,169**	**578,591**	**109,780**	**21,664**
Drawdown of Wastewater Fund Balance			3,919,756	1,843,015	-	2,477,727	1,167,991	-	-	-	-	-
Revised Net Revenues for Contingency and Coverage			$ -	$ -	$ 183,657	$ -	$ -	$ 204,289	$ 826,169	$ 578,591	$ 109,780	$ 21,664
Debt/Loan Proceeds			28,700,000	94,200,000	7,700,000	-	-	5,200,000	6,300,000	3,500,000	-	1,800,000
End of Year Unrestricted Reserve			7,253,661	3,891,170	5,673,359	2,674,646	2,295,532	4,660,983	8,346,864	11,630,550	14,028,235	16,218,679
WW Fund Balance Days of Operating Expense		90	**343**	**180**	**250**	**117**	**99**	**193**	**332**	**444**	**514**	**572**
Percent of Revenues			-32.6%	-13.5%	1.2%	-14.4%	-6.1%	1.0%	3.6%	2.5%	0.5%	0.1%
Debt Coverage			59.50	6.78	1.79	1.53	1.78	1.99	2.06	2.02	1.97	2.00
Days of Revenue			176	85	112	48	37	70	117	159	188	215
TOTAL for Water and Wastewater												
Net Revenues			**(4,645,132)**	**(8,535,741)**	**(3,357,109)**	**(5,772,010)**	**(2,911,319)**	**1,307,446**	**1,909,335**	**1,296,098**	**(1,327,509)**	**4,451,357**
Drawdown of Water & Wastewater Fund Balance			**4,645,132**	**8,535,741**	**3,540,766**	**5,772,010**	**2,911,319**	-	-	-	**1,437,289**	-
Net Revenues (after Fund Balance Drawdown) for Contingency & Coverage			-	-	**183,657**	-	-	**1,307,446**	**1,909,335**	**1,296,098**	**109,780**	**4,451,357**
Unrestricted Reserve			33,747,172	18,583,952	15,889,372	8,897,735	7,643,946	14,826,814	23,289,505	30,620,596	33,218,204	46,153,794
Combined Fund Balance Days of Operating Expense		100	574	300	249	137	116	204	308	388	404	543
Percent of Revenues			-12.9%	-21.6%	-7.8%	-12.2%	-5.6%	2.4%	3.3%	2.2%	-2.2%	7.4%
Combined Debt Coverage			5.34	3.21	1.71	1.72	1.94	2.00	2.03	2.01	1.80	2.34

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Water Alternative 2 – Revised Residential Rate Tiers and Phased In AWWA Meter Equivalencies

As with Alternative 1, the projected rate revenues in conjunction with forecast utility fund balance contributions would collect sufficient revenues to fund all operating and capital obligations in each of the forecast years, including the issuance of $103,900,000 of new water debt over the ten year forecast period. Water Alternative 2 has the same funding requirements as Alternative 1, but the rate design incorporates two types of changes for the water rates in addition to the annual adjustments. The first change is a revision of the volumetric water consumption tiers for the Residential rate class only as shown in **Chart IV-5**. The second change is a gradual phase in over three years of AWWA meter equivalency charges to the existing minimum charges for water and for wastewater. EPWA already assesses water minimum charges according to meter size, and this change just takes the next step to align them with the AWWA meter flow rate equivalencies. **Table IV-6** presents the meter equivalency ratios on which this rate plan is based, and the progression towards equivalency in the first year. **Table IV-7** presents a summary of the water rate plan proposed for EPWA under this alternative. **Tables IV-8 and IV-9** present the comparative impact of Alternative 1 and Alternative 2 on representative Residential and Commercial water bills, respectively.

CHART IV-5

City of Edmond/EPWA

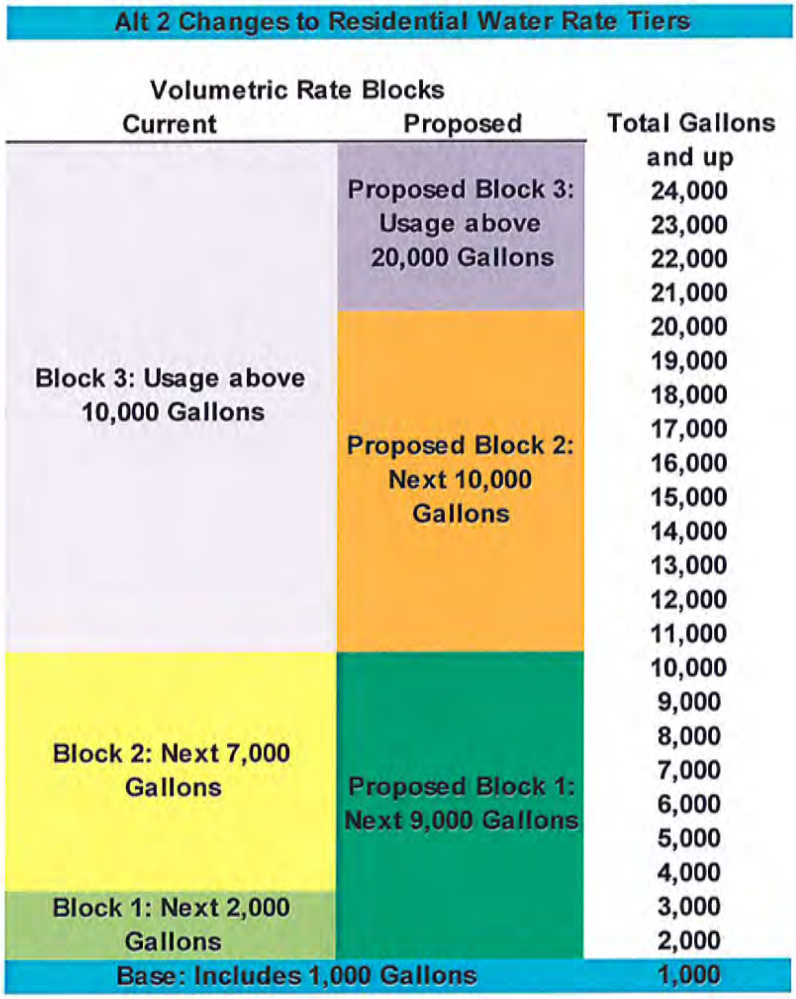

TABLE IV-6

EPWA CURRENT BASE METER CHARGES AND NEPTUNE METER EQUIVALENCIES

Neptune T-10 Displacement Meters

Meter Size (Inches)	Max Rated Safe Operating Flow Rate Gal/Minute	Equivalents Relative to 5/8" Meter		Current Minimum Charge	Minimum Charge at Equivalency	Proposed Minimum Charge FY 2016	Equivalent Minimum Charge FY 2016	Difference
5/8	20	1.00		$ 6.70	$ 6.70	$ 7.10	$ 7.10	$ -
1	50	2.50		11.03	16.75	12.43	17.76	(5.33)
1 1/2	100	5.00		21.63	33.50	24.86	35.51	(10.65)

Neptune TruFlow Compound Meters

2	200	10.00		30.61	67.00	42.61	71.02	(28.41)
3	450	22.50		61.39	150.75	87.89	159.80	(71.91)
4	1000	50.00		92.89	335.00	195.31	355.10	(159.80)
6	2000	100.00		185.97	670.00	426.12	710.20	(284.08)
8	4000	200.00	Neptune HP Turbine		1,340.00	Equal to 2 Times 6" Compound charge		

SOURCE: Neptune Technology Group Product Sheets

TABLE IV-7

City of Edmond/ EPWA

Water Alternative 2 - Water Meter Equivalencies & Revised Residential Tiers

Scenario: Alt 2 Revised Residential Rate Tiers (WITH Mtr Equiv)	Current	Effective Nov-15	Effective Nov-16	Effective Nov-17	Effective Nov-18	Effective Nov-19
WATER - Retail; Residential						
Monthly Charge -- 1st 1,000 Gal						
5/8" or 3/4"	$ 6.70	$ 7.10	$ 7.46	$ 7.83	$ 8.14	$ 8.39
1"	11.03	12.43	14.91	19.57	20.36	20.97
1 1/2"	21.63	24.86	29.83	39.15	40.72	41.94
Volume Charge						
2,000 10,000	5.49	5.82	6.11	6.42	6.67	6.87
11,000 20,000	5.89	6.82	7.11	7.42	7.67	7.87
21,000 Above	6.49	8.52	8.89	9.27	9.59	9.84
WATER - Retail; Non-Residential						
Monthly Charge -- 1st 1,000 Gal						
5/8" or 3/4"	$ 6.70	$ 7.10	$ 7.46	$ 7.83	$ 8.14	$ 8.39
1"	11.03	12.43	14.91	19.57	20.36	20.97
1 1/2"	21.63	24.86	29.83	39.15	40.72	41.94
Volume Charge						
2,000 3,000	5.49	5.82	6.11	6.42	6.67	6.87
4,000 10,000	5.89	6.22	6.51	6.82	7.07	7.27
11,000 Above	6.49	6.82	7.11	7.42	7.67	7.87
WATER -- Wholesale (All Yr.)						
6" Monthly Meter Charge	185.97	426.12	596.57	783.00	814.32	838.74
Volume Charge						
Per Thousand Gallons	5.63	5.96	6.26	6.58	6.84	7.04

TABLE IV-8

City of Edmond/ EPWA

Comparison of Water Alternatives 1 and 2 Impact on Residential Ratepayers

5,000 Gallons Residential		Current	Effective Nov-15	Effective Nov-16	Effective Nov-17	Effective Nov-18	Effective Nov-19
WATER -- Monthly Retail Charge							
Status Quo	Alt 1	$ 29.46	$ 30.89	$ 32.40	$ 34.29	$ 36.64	$ 39.15
Increase			1.43	1.50	1.90	2.34	2.51
Revised Resid Rate Tiers w /Mtr Equiv.	Alt 2	29.46	30.38	31.90	33.49	34.83	35.88
Increase			0.92	1.52	1.59	1.34	1.04

10,000 Gallons Residential		Current	Effective Nov-15	Effective Nov-16	Effective Nov-17	Effective Nov-18	Effective Nov-19
WATER -- Monthly Retail Charge							
Status Quo	Alt 1	$ 58.91	$ 61.72	$ 64.66	$ 68.37	$ 72.96	$ 77.87
Increase			2.81	2.95	3.71	4.59	4.91
Revised Resid Rate Tiers w /Mtr Equiv.	Alt 2	58.91	59.48	62.45	65.57	68.20	70.24
Increase			0.57	2.97	3.12	2.62	2.05

20,000 Gallons Residential		Current	Effective Nov-15	Effective Nov-16	Effective Nov-17	Effective Nov-18	Effective Nov-19
WATER -- Monthly Retail Charge							
Status Quo	Alt 1	$ 123.81	$ 129.36	$ 135.19	$ 142.53	$ 151.61	$ 161.33
Increase			5.55	5.83	7.34	9.08	9.72
Revised Resid Rate Tiers w /Mtr Equiv.	Alt 2	123.81	127.67	133.55	139.73	144.92	148.97
Increase			3.86	5.88	6.18	5.19	4.05

TABLE IV-9

City of Edmond/ EPWA

Comparison of Water Alternatives 1 and 2 Impact on Commercial Ratepayers

Commercial 3/4" meter 25,000 Gallons		Current	Effective Nov-15	Effective Nov-16	Effective Nov-17	Effective Nov-18	Effective Nov-19
WATER -- Monthly Retail Charge							
Status Quo	Alt 1	$ 156.26	$ 163.18	$ 170.45	$ 179.61	$ 190.94	$ 203.06
Increase			6.92	7.27	9.16	11.33	12.12
Revised Resid Rate Tiers w /Mtr Equiv.	Alt 2	156.26	164.57	171.91	179.61	186.08	191.13
Increase			8.31	7.34	7.71	6.47	5.05

Commercial 2" Meter 50,000 Gallons		Current	Effective Nov-15	Effective Nov-16	Effective Nov-17	Effective Nov-18	Effective Nov-19
WATER -- Monthly Retail Charge							
Status Quo	Alt 1	$ 342.42	$ 357.40	$ 373.13	$ 392.95	$ 417.46	$ 443.69
Increase			14.98	15.73	19.82	24.51	26.23
Revised Resid Rate Tiers w /Mtr Equiv.	Alt 2	342.42	370.56	401.86	435.48	451.19	463.44
Increase			28.14	31.30	33.61	15.71	12.25

Wastewater Alternative 2 – Revised Residential Rate Tiers and Phased In AWWA Meter Equivalencies

As with Alternative 1, the projected rate revenues in conjunction with forecast utility fund balance contributions would collect sufficient revenues to fund all operating and capital obligations in each of the forecast years, including the issuance of $147,400,000 of new wastewater debt over the ten year forecast period. Wastewater Alternative 2 has the same funding requirements as Alternative 1, but the rate design incorporates one type of change to the wastewater rates in additional to the annual adjustments. As with water minimum charges, this change is a gradual phase in over three years of AWWA meter equivalency charges to the existing minimum charges. EPWA currently assesses one uniform minimum charge for all wastewater accounts, and this would phase in meter equivalency charges according to meter size on the wastewater rates identical to the phase in for water minimum charges. **Table IV-10** presents a summary of the wastewater rate plan proposed for EPWA under this alternative. **Table IV-11** presents the comparative impact of Alternative 1 and Alternative 2 on representative Residential and Commercial wastewater bills.

TABLE IV-10

City of Edmond/ EPWA

Wastewater Alternative 2: Phase In of AWWA Meter Equivalencies

Scenario: Alt 2 Revised Residential Rate Tiers		Current	Effective Nov-15	Effective Nov-16	Effective Nov-17	Effective Nov-18	Effective Nov-19
WASTEWATER -- Retail							
Base Charge	5/8" or 3/4"	$ 11.50	$ 12.77	$ 14.17	$ 15.73	$ 17.30	$ 19.03
	1"	11.50	12.77	14.91	19.57	20.36	20.97
	1 1/2"	11.50	24.86	29.83	39.15	40.72	41.94
	2"	11.50	42.61	59.66	78.30	81.43	83.87
Volume Charge Per 1,000 Gal		2.76	3.06	3.40	3.77	4.15	4.57
WASTEWATER -- Wholesale							
6" Meter Base Charge		185.97	426.12	596.57	783.00	814.32	838.74
Volume Charge Per Thousand Gallons		3.86	4.29	4.76	5.28	5.81	6.39

TABLE IV-11

City of Edmond/ EPWA

Comparison of Wastewater Alternatives 1 and 2 on Retail Ratepayers

		Current	Effective Nov-15	Effective Nov-16	Effective Nov-17	Effective Nov-18	Effective Nov-19
WASTEWATER -- Monthly Retail Charge							
5,000 Gallons; 5/8" or 3/4" Meter							
Alt 1	Status Quo	$ 25.30	$ 28.08	$ 31.17	$ 34.60	$ 38.06	$ 41.87
	Increase		2.78	3.09	3.43	3.46	3.81
Alt 2	Meter Equivalency	25.30	28.08	31.17	34.60	38.06	41.87
	Increase		2.78	3.09	3.43	3.46	3.81
10,000 Gallons; 5/8" or 3/4" Meter							
Alt 1	Status Quo	$ 39.10	$ 43.40	$ 48.18	$ 53.47	$ 58.82	$ 64.70
	Increase		4.30	4.77	5.30	5.35	5.88
Alt 2	Meter Equivalency	39.10	43.40	48.18	53.47	58.82	64.70
	Increase		4.30	4.77	5.30	5.35	5.88
20,000 Gallons; 2" Meter							
Alt 1	Status Quo	$ 66.70	$ 74.04	$ 82.18	$ 91.22	$ 100.34	$ 110.38
	Increase		7.34	8.14	9.04	9.12	10.03
Alt 2	Meter Equivalency	66.70	86.13	97.84	114.64	123.76	133.28
	Increase		19.43	11.71	16.80	9.12	9.53

Exhibit IV-12 presents pages from the rate model that summarize both the rate recommendations and forecast revenues under this alternative for both the **Water Alternative 2 and the Wastewater Alternative 2** by year over the next decade.

EDMOND PUBLIC WORKS AUTHORITY
WATER/WASTEWATER COST OF SERVICE MODEL

Input Area – Rate Calculator

Scenario: Alt 2 Revised Residential Rate Tiers (WITH Mtr Equiv)

Note: 8" Meters not incl in rev calc or vol % as there are no 8" customers at this time.

The rate table uses displacement meter base charges for all 5/8" to 2" meters and turbine meter charges for 3",4" and 6" meters

			Prior	Current	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025
Water and Wastewater Rates														
Date Rate In effect (July = 1)					5	5	5	5	5	5	5	5	5	5
Water Rates														
Volume Elasticity Adjustment					0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Base Charge Annual Adjustment:					6.0%	5.0%	5.0%	4.0%	3.0%	3.0%	0.0%	3.0%	0.0%	0.0%
Volumetric Charge Annual Adjustment:					6.0%	5.0%	5.0%	4.0%	3.0%	3.0%	0.0%	3.0%	0.0%	0.0%
Residential			Assume all Displacement Meters											
Min Chg	5/8" or 3/4"		$ 6.38	$ 6.70	$ 7.10	$ 7.46	$ 7.83	$ 8.14	$ 8.39	$ 8.64	$ 8.64	$ 8.90	$ 8.90	$ 8.90
	1"		10.51	11.03	12.43	14.91	19.57	20.36	20.97	21.60	21.60	22.25	22.25	22.25
	1 1/2"		20.60	21.63	24.86	29.83	39.15	40.72	41.94	43.20	43.20	44.49	44.49	44.49
	2"		29.15	30.61	42.61	59.66	78.30	81.43	83.87	86.39	86.39	88.98	88.98	88.98
	3"		58.47	61.39	87.89	134.23	176.17	183.22	188.72	194.38	194.38	200.21	200.21	200.21
	4"		88.47	92.89	195.31	298.28	391.50	407.16	419.37	431.95	431.95	444.91	444.91	444.91
Usage Charge	2,000	10,000	5.23	5.49	5.82	6.11	6.42	6.67	6.87	7.08	7.08	7.29	7.29	7.29
	11,000	20,000	5.63	5.89	6.82	7.11	7.42	7.67	7.87	8.08	8.08	8.29	8.29	8.29
	21,000	Above	6.23	6.49	8.52	8.89	9.27	9.59	9.84	10.10	10.10	10.36	10.36	10.36
COE Internal														
Minimum Charge	5/8" or 3/4"		$ 6.38	$ 6.70	7.10	7.46	7.83	8.14	8.39	8.64	8.64	8.90	8.90	8.90
	1"	2.50	10.51	11.03	12.43	14.91	19.57	20.36	20.97	21.60	21.60	22.25	22.25	22.25
	1 1/2"	5.00	20.60	21.63	24.86	29.83	39.15	40.72	41.94	43.20	43.20	44.49	44.49	44.49
	2"	10	29.15	30.61	42.61	59.66	78.30	81.43	83.87	86.39	86.39	88.98	88.98	88.98
	3"	22.5	58.47	61.39	87.89	134.23	176.17	183.22	188.72	194.38	194.38	200.21	200.21	200.21
	4"	50	88.47	92.89	195.31	298.28	391.50	407.16	419.37	431.95	431.95	444.91	444.91	444.91
	6"	100	177.11	185.97	426.12	596.57	783.00	814.32	838.74	863.91	863.91	889.82	889.82	889.82
Usage Charge	2,000	3,000	5.23	5.49	5.82	6.11	6.42	6.67	6.87	7.08	7.08	7.29	7.29	7.29
	4,000	10,000	5.63	5.89	6.22	6.51	6.82	7.07	7.27	7.48	7.48	7.69	7.69	7.69
	11,000	Above	6.23	6.49	6.82	7.11	7.42	7.67	7.87	8.08	8.08	8.29	8.29	8.29
Commercial														
Min Chg	5/8" or 3/4"		$ 6.38	$ 6.70	$ 7.10	$ 7.46	$ 7.83	$ 8.14	$ 8.39	$ 8.64	$ 8.64	$ 8.90	$ 8.90	$ 8.90
	1"		10.51	11.03	12.43	14.91	19.57	20.36	20.97	21.60	21.60	22.25	22.25	22.25
	1 1/2"		20.60	21.63	24.86	29.83	39.15	40.72	41.94	43.20	43.20	44.49	44.49	44.49
	2"		29.15	30.61	42.61	59.66	78.30	81.43	83.87	86.39	86.39	88.98	88.98	88.98
	3"		58.47	61.39	87.89	134.23	176.17	183.22	188.72	194.38	194.38	200.21	200.21	200.21
	4"		88.47	92.89	195.31	298.28	391.50	407.16	419.37	431.95	431.95	444.91	444.91	444.91
	6"		177.11	185.97	426.12	596.57	783.00	814.32	838.74	863.91	863.91	889.82	889.82	889.82
Usage Charge	2,000	3,000	5.23	5.49	5.82	6.11	6.42	6.67	6.87	7.08	7.08	7.29	7.29	7.29
	4,000	10,000	5.63	5.89	6.22	6.51	6.82	7.07	7.27	7.48	7.48	7.69	7.69	7.69
	11,000	Above	6.23	6.49	6.82	7.11	7.42	7.67	7.87	8.08	8.08	8.29	8.29	8.29

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EDMOND PUBLIC WORKS AUTHORITY
WATER/WASTEWATER COST OF SERVICE MODEL

Input Area -- Rate Calculator

Scenario: Alt 2 Revised Residential Rate Tiers (WITH Mtr Equiv)

Note: 8" Meters not incl in rev calc or vol % as there are no 8" customers at this time.

The rate table uses displacement meter base charges for all 5/8" to 2" meters and turbine meter charges for 3",4" and 6" meters

			Prior	Current	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025
Industrial														
Minimum Charge	5/8" or 3/4"		$ 6.38	$ 6.70	7.10	7.46	7.83	8.14	8.39	8.64	8.64	8.90	8.90	8.90
	1"		10.51	11.03	12.43	14.91	19.57	20.36	20.97	21.60	21.60	22.25	22.25	22.25
	1 1/2"		20.60	21.63	24.86	29.83	39.15	40.72	41.94	43.20	43.20	44.49	44.49	44.49
	2"		29.15	30.61	42.61	59.66	78.30	81.43	83.87	86.39	86.39	88.98	88.98	88.98
	3"		58.47	61.39	87.89	134.23	176.17	183.22	188.72	194.38	194.38	200.21	200.21	200.21
	4"		88.47	92.89	195.31	298.28	391.50	407.16	419.37	431.95	431.95	444.91	444.91	444.91
	6"		177.11	185.97	426.12	596.57	783.00	814.32	838.74	863.91	863.91	889.82	889.82	
Usage Charge	2,000	3,000	5.23	5.49	5.82	6.11	6.42	6.67	6.87	7.08	7.08	7.29	7.29	7.29
	4,000	10,000	5.63	5.89	6.22	6.51	6.82	7.07	7.27	7.48	7.48	7.69	7.69	7.69
	11,000	Above	6.23	6.49	6.82	7.11	7.42	7.67	7.87	8.08	8.08	8.29	8.29	8.29
Public														
Minimum Charge	5/8" or 3/4"		$ 6.38	$ 6.70	7.10	7.46	7.83	8.14	8.39	8.64	8.64	8.90	8.90	8.90
	1"		10.51	11.03	12.43	14.91	19.57	20.36	20.97	21.60	21.60	22.25	22.25	22.25
	1 1/2"		20.60	21.63	24.86	29.83	39.15	40.72	41.94	43.20	43.20	44.49	44.49	44.49
	2"		29.15	30.61	42.61	59.66	78.30	81.43	83.87	86.39	86.39	88.98	88.98	88.98
	3"		58.47	61.39	87.89	134.23	176.17	183.22	188.72	194.38	194.38	200.21	200.21	200.21
	4"		88.47	92.89	195.31	298.28	391.50	407.16	419.37	431.95	431.95	444.91	444.91	444.91
	6"		177.11	185.97	426.12	596.57	783.00	814.32	838.74	863.91	863.91	889.82	889.82	889.82
Usage Charge	2,000	3,000	5.23	5.49	5.82	6.11	6.42	6.67	6.87	7.08	7.08	7.29	7.29	7.29
	4,000	10,000	5.63	5.89	6.22	6.51	6.82	7.07	7.27	7.48	7.48	7.69	7.69	7.69
	11,000	Above	6.23	6.49	6.82	7.11	7.42	7.67	7.87	8.08	8.08	8.29	8.29	8.29
Arcadia														
Wholesale (All Yr.)														
Master Meter Charg 6"			177.11	185.97	426.12	596.57	783.00	814.32	838.74	863.91	863.91	889.82	889.82	889.82
				Vol. COS	*5.64*	*7.21*	*6.79*	*7.09*	*7.17*	*6.76*	*6.77*	*6.84*	*7.27*	*6.13*
Usage Charge Per	-	Above	8.73	5.63	5.96	6.26	6.58	6.84	7.04	7.26	7.26	7.47	7.47	7.47
Per Thousand Gallons														
Excessive Peaking Surcharge					10.66	11.20	11.76	12.23	12.59	12.97	12.97	13.36	13.36	13.36
OKC sub				OKC charges $13.75 x meter multiplier			Either assume 6" meter at MM of 50 or charge them the development fees (which is what Edmond plans to do)							
Wholesale (w/Peaking)														
Master Meter Charg 6"				185.97	426.12	596.57	783.00	814.32	838.74	863.91	863.91	889.82	889.82	889.82
				Vol. COS	*6.20*	*7.93*	*7.47*	*7.80*	*7.89*	*7.43*	*7.44*	*7.52*	*7.99*	*6.74*
Usage Charge	-	Above	8.73	6.19	6.56	6.89	7.23	7.52	7.75	7.98	7.98	8.22	8.22	8.22
Per Thousand Gallons														
Excessive Peaking Surcharge					10.66	11.20	11.76	12.23	12.59	12.97	12.97	13.36	13.36	13.36
Wholesale (Peaking Only)														
Master Meter Charg 6"			177.11	185.97	426.12	596.57	783.00	814.32	838.74	863.91	863.91	889.82	889.82	889.82
Usage Charge Per	-	Above	8.73	20.12	21.32	22.39	23.51	24.45	25.18	25.94	25.94	26.72	26.72	26.72
Per Thousand Gallons				*Vol. COS*	*23.04*	*29.46*	*27.76*	*29.00*	*29.33*	*27.63*	*27.67*	*27.98*	*29.71*	*25.06*

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EDMOND PUBLIC WORKS AUTHORITY
WATER/WASTEWATER COST OF SERVICE MODEL

Input Area -- Rate Calculator
Scenario: Alt 2 Revised Residential Rate Tiers (WITH Mtr Equiv)

Note: 8" Meters not incl in rev calc or vol % as there are no 8" customers at this time.
The rate table uses displacement meter base charges for all 5/8" to 2" meters and turbine meter charges for 3",4" and 6" meters

		Prior	Current	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025
Wastewater Rates													
Base Charge Annual Adjustment:				11.0%	11.0%	11.0%	10.0%	10.0%	7.5%	4.0%	3.0%	3.0%	0.0%
Volumetric Charge Annual Adjustment:				11.0%	11.0%	11.0%	10.0%	10.0%	7.5%	4.0%	3.0%	3.0%	0.0%
Residential													
Minimum Charge		$ 6.25	$ 11.50	$ 12.77	$ 14.17	$ 15.73	$ 17.30	$ 19.03	$ 20.46	$ 21.28	$ 21.91	$ 22.57	$ 22.57
Usage Charge		1.50	2.76	3.06	3.40	3.77	4.15	4.57	4.91	5.11	5.26	5.42	5.42
COE Internal													
Minimum Charge	5/8" or 3/4"	$ 6.25	$ 11.50	12.77	14.17	15.73	17.30	19.03	20.46	21.28	21.91	22.57	22.57
	1"		11.50	12.77	14.91	19.57	20.36	20.97	21.60	21.60	22.25	22.25	22.25
	1 1/2"		11.50	24.86	29.83	39.15	40.72	41.94	43.20	43.20	44.49	44.49	44.49
	2"		11.50	42.61	59.66	78.30	81.43	83.87	86.39	86.39	88.98	88.98	88.98
	3"		11.50	87.89	134.23	176.17	183.22	188.72	194.38	194.38	200.21	200.21	200.21
	4"		11.50	195.31	298.28	391.50	407.16	419.37	431.95	431.95	444.91	444.91	444.91
	6"		11.50	426.12	596.57	783.00	814.32	838.74	863.91	863.91	889.82	889.82	889.82
Usage Charge		1.50	2.76	3.06	3.40	3.77	4.15	4.57	4.91	5.11	5.26	5.42	5.42
Commercial													
Minimum Charge	5/8" or 3/4"	$ 6.25	$ 11.50	12.77	14.17	15.73	17.30	19.03	20.46	21.28	21.91	22.57	22.57
	1"		11.50	12.77	14.91	19.57	20.36	20.97	21.60	21.60	22.25	22.25	22.25
	1 1/2"		11.50	24.86	29.83	39.15	40.72	41.94	43.20	43.20	44.49	44.49	44.49
	2"		11.50	42.61	59.66	78.30	81.43	83.87	86.39	86.39	88.98	88.98	88.98
	3"		11.50	87.89	134.23	176.17	183.22	188.72	194.38	194.38	200.21	200.21	200.21
	4"		11.50	195.31	298.28	391.50	407.16	419.37	431.95	431.95	444.91	444.91	444.91
	6"		11.50	426.12	596.57	783.00	814.32	838.74	863.91	863.91	889.82	889.82	889.82
Usage Charge		1.50	2.76	3.06	3.40	3.77	4.15	4.57	4.91	5.11	5.26	5.42	5.42
Industrial													
Minimum Charge	5/8" or 3/4"	$ 6.25	$ 11.50	12.77	14.17	15.73	17.30	19.03	20.46	21.28	21.91	22.57	22.57
	1"		11.50	12.77	14.91	19.57	20.36	20.97	21.60	21.60	22.25	22.25	22.25
	1 1/2"		11.50	24.86	29.83	39.15	40.72	41.94	43.20	43.20	44.49	44.49	44.49
	2"		11.50	42.61	59.66	78.30	81.43	83.87	86.39	86.39	88.98	88.98	88.98
	3"		11.50	87.89	134.23	176.17	183.22	188.72	194.38	194.38	200.21	200.21	200.21
	4"		11.50	195.31	298.28	391.50	407.16	419.37	431.95	431.95	444.91	444.91	444.91
	6"		11.50	426.12	596.57	783.00	814.32	838.74	863.91	863.91	889.82	889.82	889.82
Usage Charge		1.50	2.76	3.06	3.40	3.77	4.15	4.57	4.91	5.11	5.26	5.42	5.42
Public													
Minimum Charge		$ 6.25	$ 11.50	12.77	14.17	15.73	17.30	19.03	20.46	21.28	21.91	22.57	22.57
			11.50	12.77	14.91	19.57	20.36	20.97	21.60	21.60	22.25	22.25	22.25
			11.50	24.86	29.83	39.15	40.72	41.94	43.20	43.20	44.49	44.49	44.49
			11.50	42.61	59.66	78.30	81.43	83.87	86.39	86.39	88.98	88.98	88.98
			11.50	87.89	134.23	176.17	183.22	188.72	194.38	194.38	200.21	200.21	200.21
			11.50	195.31	298.28	391.50	407.16	419.37	431.95	431.95	444.91	444.91	444.91
			11.50	426.12	596.57	783.00	814.32	838.74	863.91	863.91	889.82	889.82	889.82
Usage Charge		1.50	2.76	3.06	3.40	3.77	4.15	4.57	4.91	5.11	5.26	5.42	5.42
Wholesale													
6" Meter Charge	6"	$ 126.93	$ 185.97	$ 426.12	$ 596.57	$ 783.00	$ 814.32	$ 838.74	$ 863.91	$ 863.91	$ 889.82	$ 889.82	$ 889.82
Usage Charge Per Thousand Gallons		1.50	3.86	4.29	4.76	5.28	5.81	6.39	6.87	7.15	7.36	7.58	7.58

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EDMOND PUBLIC WORKS AUTHORITY
WATER/WASTEWATER COST OF SERVICE MODEL

Input Area -- Rate Calculator

Scenario: Alt 2 Revised Residential Rate Tiers (WITH Mtr Equiv)

Note: 8" Meters not incl in rev calc or vol % as there are no 8" customers at this time.

The rate table uses displacement meter base charges for all 5/8" to 2" meters and turbine meter charges for 3",4" and 6" meters

Summary of Results -- Rate Calculator

	Prior	Current	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025
WATER												
Net Revenues			$ (1,048,945)	$ (6,438,481)	$ (3,003,353)	$ (3,083,176)	$ (2,526,601)	$ 356,134	$ 713,218	$ 915,346	$ (820,957)	$ 5,053,937
Drawdown of Water Fund Balance			1,048,945	6,438,481	3,003,353	3,083,176	2,526,601	-	-	-	820,957	-
Revised Net Revenues for Contingency and Coverage			$ -	$ -	$ -	$ -	$ -	$ 356,134	$ 713,218	$ 915,346	$ -	$ 5,053,937
Debt/Loan Proceeds			-	100,000,000	-	-	-	-	-	-	700,000	3,200,000
		No Less Than										
End of Year Unrestricted Reserve			25,846,373	14,554,135	11,152,193	7,581,482	5,140,261	8,463,632	12,500,546	16,943,632	18,376,220	30,369,854
Water Fund Balance Days of Operating Expense		120	688	362	271	181	120	174	247	322	335	536
Percent of Revenues			-4.4%	-24.7%	-10.6%	-10.2%	-8.0%	1.1%	2.1%	2.6%	-2.3%	13.7%
Debt Coverage			3.59	2.52	1.72	1.88	1.99	1.93	1.97	2.01	1.73	2.82
Days of Revenue			335	173	124	79	52	81	117	154	162	264
WASTEWATER												
Net Revenues			(3,919,756)	(1,839,120)	189,574	(2,470,826)	(1,160,953)	211,544	833,550	996,834	1,260,947	1,498,539
Drawdown of Wastewater Fund Balance			3,919,756	1,839,120	-	2,470,826	1,160,953	-	-	-	-	-
Revised Net Revenues for Contingency and Coverage			$ -	$ -	$ 189,574	$ -	$ -	$ 211,544	$ 833,550	$ 996,834	$ 1,260,947	$ 1,498,539
Debt/Loan Proceeds			28,700,000	94,200,000	7,700,000	-	-	5,200,000	6,300,000	3,500,000	-	1,800,000
End of Year Unrestricted Reserve			7,253,661	3,898,960	5,692,984	2,708,072	2,343,034	4,722,995	8,423,639	12,543,810	17,243,829	22,388,024
WW Fund Balance Days of Operating Expense		90	343	180	251	119	101	196	335	479	631	790
Percent of Revenues			-32.6%	-13.5%	1.2%	-14.3%	-6.0%	1.0%	3.7%	4.2%	5.1%	5.9%
Debt Coverage			59.50	6.78	1.80	1.53	1.78	1.99	2.07	2.07	2.11	2.17
Days of Revenue			176	85	113	49	38	71	118	168	222	282
TOTAL for Water and Wastewater												
Net Revenues			(4,968,701)	(8,277,600)	(2,813,778)	(5,554,002)	(3,687,555)	567,678	1,546,768	1,912,180	439,991	6,552,477
Drawdown of Water & Wastewater Fund Balance			4,968,701	8,277,600	3,003,353	5,554,002	3,687,555	-	-	-	820,957	-
Net Revenues (after Fund Balance Drawdown) for Contingency & Coverage			-	-	189,574	-	-	567,678	1,546,768	1,912,180	1,260,947	6,552,477
Unrestricted Reserve			33,100,034	18,453,095	16,845,177	10,289,555	7,483,295	13,186,627	20,924,185	29,487,441	35,620,049	52,757,878
Combined Fund Balance Days of Operating Expense		100	563	298	264	159	114	161	276	374	434	621
Percent of Revenues			-13.9%	-20.8%	-6.4%	-11.7%	-7.2%	1.0%	2.7%	3.2%	0.7%	10.5%
Combined Debt Coverage			5.26	3.24	1.74	1.73	1.90	1.96	2.01	2.04	1.89	2.47

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Notes on Rate Recommendations

The forecast and recommendations presented in this study represent a combination of the best information available from EPWA and the project team's expertise. However, this forecast relies in part on assumptions about future events and events beyond the control of the project team (such as account growth rates within EPWA). The forecast and recommendations contained in this study may be subject to revision if any of the following events occurs:

- Actual growth in accounts and consumed volumes is less than (or significantly greater than) forecast
- Capital improvement plan funding costs increase significantly due to the rising cost of materials or other factors
- An unforeseen event impacts EPWA, such as an extended recession, natural catastrophe or terrorist attack
- Increases or decreases in interest rates, coverage requirements or reserve requirements for municipal long-term debt.
- City budget levels or priorities change significantly from those forecast in this study

It should be noted that none of these events are foreseen by the project team or EPWA at this time.

If any of these events occur EPWA may be compelled to consider further adjustments to its water and wastewater rates.