



# Financial Forecast and Tap Fee Study

City of Peculiar, Missouri

Financial Forecast and Tap Fee Study  
Project No. 87391

Final Report  
05/09/2016



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prepared for

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prepared by

Burns & McDonnell Engineering Company, Inc.

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## **1.0 EXECUTIVE SUMMARY**

### **1.1 Project Background**

Burns & McDonnell was engaged by the City of Peculiar (the City) to perform a financial forecast and tap fee study (Study) that (i) evaluates the financial planning implications of completing a new connection to Kansas City, Missouri and increasing the City's capacity to serve growth, and (ii) proposes tap fee rates to adequately recover costs associated with capacity that accommodates growth in the system.

This report represents an update to previous versions provided to the City in March 2016. Through additional conversation with City representatives, the financial plans and tap fees have been updated. The primary differences between this report and prior versions relate to increased debt service and interfund obligations, and lower interest income forecasted in future periods. The remainder of this report describes the findings associated with the updated analysis.

### **1.2 Financial Planning**

Comprehensive financial planning conducted for the utility considered two growth scenarios. The conservative case assumes growth consistent with recent history, increasing residential accounts by approximately one percent per year and no growth within other customer classes. Financial planning for this scenario, as summarized in Table 2-7, indicates that revenues under existing and approved rates (through 2018) are adequate to meet the projected cash obligations in the near term. However, annual increases of 3.00 to 3.25 percent are anticipated to be necessary in 2019 through 2023. These revenue increases are proposed to sustain the financial performance of the water system under a low growth scenario.

A more aggressive growth scenario assumes growth in commercial accounts reflecting the "intermediate" demand assumptions from the Burns & McDonnell technical memorandum dated March 14, 2016. Under this scenario, no further revenue increases beyond those approved or planned through 2018 are anticipated through 2025. This scenario is summarized in Table 2-8.

The financial forecast is described in detail in Section 2.0 of this report. Burns & McDonnell recommends performing comprehensive financial planning with accompanying rate analysis at a minimum of every 5 years, or sooner if forecasted revenues and expenses deviate from projections anticipated herein.

### **1.3 Proposed Tap Fees**

The City currently charges new water connections a \$1,600 fee if classified as residential and a \$1,900 fee if classified as commercial. Tap fees were evaluated using the Buy-In Methodology. Based on the

findings of the tap fee analysis, tap fees for a 5/8" or 3/4" connection are proposed to be \$1,300. Fees for larger meter sizes are increased in accordance with meter capacity factors. Proposed tap fees are summarized in Table 1-1.

The development of proposed tap fees is described in detail in Section 3.0 of this report. Burns & McDonnell recommends the City review its tap fee calculation approximately every 5 years.

**Table 1-1: Proposed Tap Fees by Meter Size**

<u>Meter Size</u>	<u>Equivalency Ratio</u>	<u>Proposed Water Tap Fee</u>
5/8"	1.0	\$ 1,300
3/4	1.0	\$ 1,300
1	1.7	\$ 2,200
1.5	3.3	\$ 4,300
2	5.3	\$ 6,900
3	10.4	\$ 13,500
4	16.7	\$ 21,700

#### **1.4 Statement of Limitations**

In preparation of the City of Peculiar Financial Planning and Tap Fee Study (Study), Burns & McDonnell relied upon information provided by the City. The information included various analyses, computer-generated information and reports, audited financial reports, and other financial and statistical information, as well as other documents such as operating budgets and current retail water rate schedules. In addition, input to key assumptions regarding expected future levels of revenue, sales, and expenditures was provided by City staff to Burns & McDonnell. While Burns & McDonnell has no reason to believe that the information provided, and upon which Burns & McDonnell has relied, is inaccurate or incomplete in any material respect, Burns & McDonnell has not independently verified such information and cannot guarantee its accuracy or completeness.

Estimates and projections prepared by Burns & McDonnell relating to financial forecasting and costs are based on Burns & McDonnell's experience, qualifications, and judgment as a professional consultant. Since Burns & McDonnell has no control over weather, cost and availability of labor, material and equipment, labor productivity, contractors' procedures and methods, unavoidable delays, economic

conditions, government regulations and laws (including interpretation thereof), competitive bidding, and market conditions or other factors affecting such estimates or projections, Burns & McDonnell does not guarantee the accuracy of its estimates or predictions.

## **2.0 FINANCIAL PLANNING ANALYSIS**

### **2.1 Project Approach**

To meet the project objectives identified by the City, Burns & McDonnell conducted a financial forecast. Financial Planning provides an indication of the adequacy of the revenue generated by current rates. The results of the financial forecast analysis answer the questions "Are the existing rates adequate?" and "If not, what level of overall revenue increase is needed?" The Financial Planning Analysis is presented in the remainder of this section of this report.

### **2.2 Introduction**

To determine if the existing schedule of rates can be expected to generate revenues sufficient to meet the City's operating and capital costs, Burns & McDonnell prepared a ten-year financial projection of revenues and expenditures for the water utility. A comparison of projected revenues and expenditures provides insight into the adequacy of overall revenue levels.

Our approach to Financial Planning involves the following basic steps:

1. Project revenues under existing and approved rates.
2. Project water utility expenditures.
3. Determine a funding plan to meet the proposed capital improvement program, including the use of cash and debt.
4. Develop a ten-year financial plan, including the budget year and a nine-year forecast period.

The planning period includes fiscal year (FY) 2016 as a budget year and a nine-year forecast period, FY 2017 – FY 2025. The City utilizes a twelve-month fiscal year beginning October 1 and ending September 30. The Financial Plan Analysis recognizes and references the same fiscal year in the ten-year budget and planning period.

### **2.3 Water Utility Revenues Under Existing Rates**

The projection of revenues under the existing schedule of rates involved an analysis of customers, volumes, and revenues for the utility. The existing schedule of rates for FY 2016 and assumed rates for FY 2017 and FY 2018 is shown in Table 2-1.

**Table 2-1: Existing Rates and Assumed Rates**

	<u>FY 2016</u>	<u>FY 2017</u>	<u>FY 2018</u>
<b><u>Within City Limits:</u></b>			
<b>First 1,000 gallons</b>	\$20.96	\$22.46	\$23.71
<b>Over 1,000 gallons</b>	\$16.52	\$18.02	\$19.27
<b><u>Outside City Limits:</u></b>			
<b>First 1,000 gallons</b>	\$23.70	\$25.20	\$26.45
<b>Over 1,000 gallons</b>	\$17.52	\$19.02	\$20.27

### 2.3.1 Historical Projected Customers, Volume & Revenue

Table 2-2 presents the historical water customers, volumes and revenue from 2013 to 2015 and the projection of customers, volumes and revenues under existing and approved rates for the 2016 to 2025 planning period. In recent years, the City has experienced a slight increase in the number of residential accounts with other customer classes remaining relatively stable. In light of recent trends in account growth, the projection of accounts conservatively assumes a one percent growth in the residential class and no growth within the other customer classes of accounts for 2016 through 2025.

Annual water volumes were constant in FY 2013 and FY 2014, decreasing in FY 2015 due to a wet year. Water sales are projected to slightly increase over the study period based on the growth in residential accounts. Water volumes are projected to increase from 80.6 million gallons in FY 2016 to 86.4 million gallons over the study period.

Table 2-2 also presents historical user charge revenues for 2013 to 2015 and a projection of user revenues under existing and approved rates for the 2016 to 2025 planning period. The projection of user revenues was estimated based on the forecasted accounts and volumes factored by the existing and approved schedule of rates shown in Table 2-1.

Historical water user charge revenues ranged from \$899,063 in 2013 to \$1,295,757 in 2015. Forecasted user revenues reflect the anticipated growth of customers and volumes previously presented and the existing and approved rates. Overall, water user charge revenues under existing and approved rates are projected to increase from \$1,501,500 in 2016 to \$1,859,400 in 2025.

**Table 2-2: Historical and Projected Accounts, Volume and Revenues under Existing Rates**

Line No.	Accounts	Historical			Projected									
		2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025
1	Residential	1,488	1,508	1,538	1,553	1,569	1,584	1,600	1,616	1,632	1,649	1,665	1,682	1,699
2	Commercial (B12)	81	79	81	81	81	81	81	81	81	81	81	81	81
3	Government (non-taxable)	18	16	16	16	16	16	16	16	16	16	16	16	16
4	Other Outside	1	2	2	2	2	2	2	2	2	2	2	2	2
5	Rural	2	18	18	18	18	18	18	18	18	18	18	18	18
6	Total Accounts	1,589	1,624	1,655	1,671	1,686	1,702	1,718	1,734	1,750	1,766	1,783	1,799	1,816
<b>Billed Volume (1,000 Gallons)</b>														
7	Residential	75,211,554	72,307,370	61,640,084	62,256,500	62,879,000	63,507,800	64,142,900	64,784,300	65,432,200	66,086,500	66,747,400	67,414,900	68,089,000
8	Commercial (B12)	12,741,558	14,518,600	15,289,300	15,289,300	15,289,300	15,289,300	15,289,300	15,289,300	15,289,300	15,289,300	15,289,300	15,289,300	15,289,300
9	Government (non-taxable)	2,652,100	2,322,100	2,158,200	2,158,200	2,158,200	2,158,200	2,158,200	2,158,200	2,158,200	2,158,200	2,158,200	2,158,200	2,158,200
10	Other Outside	121,300	51,100	42,900	42,900	42,900	42,900	42,900	42,900	42,900	42,900	42,900	42,900	42,900
11	Rural	98,900	1,136,900	861,800	861,800	861,800	861,800	861,800	861,800	861,800	861,800	861,800	861,800	861,800
12	Total Billed Volume	90,825,412	90,336,070	79,992,284	80,608,700	81,231,200	81,860,000	82,495,100	83,136,500	83,784,400	84,438,700	85,099,600	85,767,100	86,441,200
<b>User Charge Revenues under Existing Rates</b>														
1	Residential	\$ 734,323	\$ 879,332	\$ 991,960	\$ 1,152,200	\$ 1,262,600	\$ 1,358,100	\$ 1,371,700	\$ 1,385,400	\$ 1,399,300	\$ 1,413,300	\$ 1,427,400	\$ 1,441,700	\$ 1,456,100
2	Commercial (B12)	\$ 134,710	\$ 206,239	\$ 254,998	\$ 293,200	\$ 318,200	\$ 338,900	\$ 338,900	\$ 338,900	\$ 338,900	\$ 338,900	\$ 338,900	\$ 338,900	\$ 338,900
3	Government (non-taxable)	\$ 27,360	\$ 30,524	\$ 33,761	\$ 38,800	\$ 42,100	\$ 44,900	\$ 44,900	\$ 44,900	\$ 44,900	\$ 44,900	\$ 44,900	\$ 44,900	\$ 44,900
4	Other Outside	\$ 1,339	\$ 858	\$ 848	\$ 1,000	\$ 1,000	\$ 1,100	\$ 1,100	\$ 1,100	\$ 1,100	\$ 1,100	\$ 1,100	\$ 1,100	\$ 1,100
5	Rural	\$ 1,331	\$ 15,302	\$ 14,190	\$ 16,300	\$ 17,500	\$ 18,400	\$ 18,400	\$ 18,400	\$ 18,400	\$ 18,400	\$ 18,400	\$ 18,400	\$ 18,400
6	Total UC Revenues	\$ 899,063	\$ 1,132,255	\$ 1,295,757	\$ 1,501,500	\$ 1,641,400	\$ 1,761,400	\$ 1,775,000	\$ 1,788,700	\$ 1,802,600	\$ 1,816,600	\$ 1,830,700	\$ 1,845,000	\$ 1,859,400

## 2.4 Utility Expenditures

The water utility's primary cash expenditures include the following direct operating and capital costs:

- Operation and Maintenance (O&M) Expenses
- Interfund Obligations
- Capital Improvement Program Expenditures
- Debt Service Principal and Interest Payments

### 2.4.1 O&M Expenses

Table 2-3 presents the recent water O&M expense history and the projection of water system O&M expenses through the 2025 planning period. Expenses summarized on Table 2-3 reflect operating costs associated with the utility. Costs related to capital projects are excluded from Table 2-3 and will be discussed later in this report.

Water O&M expenses ranged from \$844,457 in 2013 to \$1,044,552 in 2014. O&M costs for 2016 are based on the approved budget, with minor adjustments to audit, administrative building, and public works building expenses provided by the City. Projected O&M expenses in general are escalated from budgeted 2016 amounts based on inflationary assumptions of 3.0 percent annually for salaries, 4.0 percent annually for benefits, 5.0 percent annually for water purchases and 2.5 percent for all other expenses.

Total O&M is projected to increase from the 2016 amount of \$1,181,267 to \$1,392,300 in 2025.

**Table 2-3: Historical and Projected Operation and Maintenance Expenses**

Line No.		Historical			Budgeted	Projected								
		2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025
<b>Water Expenditures</b>														
1	50-50-5000 Water Purchases	419,630	409,318	407,699	513,661	447,900	344,200	364,200	385,400	407,800	431,500	456,700	483,300	511,400
2	50-50-5001 Water-Salaries & Wages	166,429	194,749	238,602	263,007	270,900	279,000	287,400	296,000	304,900	314,000	323,400	333,100	343,100
3	50-50-5200 Payroll Taxes	13,123	13,239	16,199	20,909	21,500	22,100	22,800	23,500	24,200	24,900	25,600	26,400	27,200
4	50-50-5210 Benefits	69,535	76,580	90,307	124,912	129,900	135,100	140,500	146,100	151,900	158,000	164,300	170,900	177,700
5	50-50-5220 Worker's Compensation	4,250	5,752	26,987	8,153	8,500	8,800	9,200	9,600	10,000	10,400	10,800	11,200	11,600
6	50-50-5240 Employee Awards	-	-	164	2,000	2,100	2,200	2,300	2,400	2,500	2,600	2,700	2,800	2,900
7	50-50-5300 Uniforms	1,238	1,239	27,069	2,275	2,300	2,400	2,500	2,600	2,700	2,800	2,900	3,000	3,100
8	50-50-5310 Travel & Training	934	1,410	2,640	2,240	2,300	2,400	2,500	2,600	2,700	2,800	2,900	3,000	3,100
9	50-50-5320 Employee Testing	353	292	312	420	400	400	400	400	400	400	400	400	400
10	50-50-5400 Office Supplies	4,200	1,869	2,530	4,100	4,200	4,300	4,400	4,500	4,600	4,700	4,800	4,900	5,000
11	50-50-5410 Dues & Subscriptions	2,136	1,649	2,095	1,970	2,000	2,100	2,200	2,300	2,400	2,500	2,600	2,700	2,800
12	50-50-5420 Postage	3,363	3,212	3,456	3,750	3,800	3,900	4,000	4,100	4,200	4,300	4,400	4,500	4,600
13	50-50-5430 Bank Fees	8,568	14,015	6,535	1,200	1,200	1,200	1,200	1,200	1,200	1,200	1,200	1,200	1,200
14	50-50-5440 Office Machines	4,150	4,972	4,627	5,500	5,600	5,700	5,800	5,900	6,000	6,200	6,400	6,600	6,800
15	50-50-5540 Public Hearing	344	-	-	500	500	500	500	500	500	500	500	500	500
16	50-50-5600 Audit	3,075	3,100	4,600	4,800	5,000	5,200	5,400	5,600	5,800	6,000	6,200	6,400	6,700
17	50-50-5610 Accounting	10,446	17,705	36,234	18,400	19,300	20,300	21,300	22,400	23,500	24,700	25,900	27,200	28,600
18	50-50-5620 Legal	24,684	2,050	15,916	5,500	5,600	5,700	5,800	5,900	6,000	6,200	6,400	6,600	6,800
19	50-50-5630 Litigation	4,505	319	20,403	2,200	2,300	2,400	2,500	2,600	2,700	2,800	2,900	3,000	3,100
20	50-50-5660 Engineering	6,086	43,000	415	10,000	10,300	10,600	10,900	11,200	11,500	11,800	12,100	12,400	12,700
21	50-50-5675 Liability Insurance	6,147	5,823	1,506	6,000	6,200	6,400	6,600	6,800	7,000	7,200	7,400	7,600	7,800
22	50-50-5700 Eco Dev Contractual	-	4,172	25,703	50,000	51,300	52,600	53,900	55,200	56,600	58,000	59,500	61,000	62,500
23	50-50-5715 Contractual-Payroll	1,147	437	519	2,000	2,100	2,200	2,300	2,400	2,500	2,600	2,700	2,800	2,900
24	50-50-5720 Water Contractual	12,530	20,651	26,675	24,500	25,100	25,700	26,300	27,000	27,700	28,400	29,100	29,800	30,500
25	50-50-5800 IT Maintenance	7,512	7,079	3,526	3,300	3,400	3,500	3,600	3,700	3,800	3,900	4,000	4,100	4,200
26	50-50-5810 Hardware Expense	1,915	1,500	7,449	12,500	12,800	13,100	13,400	13,700	14,000	14,400	14,800	15,200	15,600
27	50-50-5820 Software Expense	4,904	2,109	7,520	5,600	5,700	5,800	5,900	6,000	6,200	6,400	6,600	6,800	7,000
28	50-50-5850 Telephone	1,398	1,430	1,353	2,000	2,100	2,200	2,300	2,400	2,500	2,600	2,700	2,800	2,900
29	50-50-5870 Communications	-	-	120	180	200	200	200	200	200	200	200	200	200
30	50-50-6130 Supplies	-	3,847	2,410	2,000	2,100	2,200	2,300	2,400	2,500	2,600	2,700	2,800	2,900
31	50-50-6150 Administrative Building	13,238	-	15,260	13,600	13,900	14,200	14,600	15,000	15,400	15,800	16,200	16,600	17,000
32	50-50-6160 Public Works Building	4,240	-	7,578	4,200	4,300	4,400	4,500	4,600	4,700	4,800	4,900	5,000	5,100
33	50-50-6200 Vehicle Insurance	2,100	2,438	618	2,500	2,600	2,700	2,800	2,900	3,000	3,100	3,200	3,300	3,400
34	50-50-6210 Vehicle Maintenance	1,752	550	3,550	4,000	4,100	4,200	4,300	4,400	4,500	4,600	4,700	4,800	4,900
35	50-50-6220 Fuel & Oil	5,170	7,044	4,266	6,000	6,200	6,400	6,600	6,800	7,000	7,200	7,400	7,600	7,800
36	50-50-6260 Safety Equipment	-	887	187	8,300	8,500	8,700	8,900	9,100	9,300	9,500	9,700	9,900	10,100
37	50-50-7200 Pump-Line Maintenance	22,718	14,822	17,319	19,700	20,200	20,700	21,200	21,700	22,200	22,800	23,400	24,000	24,600
38	50-50-7210 Tower Maintenance	37	94	-	5,000	5,100	5,200	5,300	5,400	5,500	5,600	5,700	5,800	5,900
39	50-50-7220 Meter Maintenance	6,578	6,541	3,524	9,390	9,600	9,800	10,000	10,300	10,600	10,900	11,200	11,500	11,800
40	50-50-7250 Utilities	6,022	3,832	8,681	5,000	5,100	5,200	5,300	5,400	5,500	5,600	5,700	5,800	5,900
41	Total Water Expenses	844,457	877,726	1,044,552	1,181,267	1,136,200	1,053,900	1,096,100	1,140,200	1,186,200	1,234,500	1,284,900	1,337,500	1,392,300
			3.9%	19.0%	13.1%	-3.8%	-7.2%	4.0%	4.0%	4.0%	4.1%	4.1%	4.1%	4.1%

**2.4.2 Interfund Obligations**

In recent years the water utility has borrowed funds from both the Capital Improvement Fund in the amount of \$141,200 and the Sewer Fund in the amount of \$244,900 to meet ongoing obligations. Based on discussions with the City a payment plan has been drafted and is included in the water utility financial plan to repay these amounts. Terms of the repayment assume no interest costs and term of seven years, starting in 2016. The payment amounts grow over time to allow for the majority of the repayment to occur after a portion of existing water utility debt retires in 2019 and 2020. Table 2-4 summarizes the repayment plan.

**Table 2-4: Water Utility Interfund Obligations**

Line No.	Projected										Total	
	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025		
<b>Interfund Obligations</b>												
1	Capital Improvement Fund	5,000	5,000	5,000	5,000	40,400	40,400	40,400	-	-	-	141,200
2	Sewer Fund	10,000	10,000	10,000	10,000	68,300	68,300	68,300	-	-	-	244,900
3	Total	15,000	15,000	15,000	15,000	108,700	108,700	108,700	-	-	-	386,100

### 2.4.3 Projected Capital Improvement Expenditures

Table 2-5 shows the projected capital improvement expenditures for the 2016 to 2025 planning period. As shown in Table 2-5, the inflated CIP ranges by year from a low of \$45,700 in 2025 to a high of \$5,194,200 in 2017. A primary contributor to the CIP forecast is the Kansas City Water Supply Transmission Main and the Connection Fee. Improvements recommended in the Larkin report are also included on rows 13 through 21, with timing for these projects estimated by the City.

**Table 2-5: Capital Improvement Program**

Line No.		Projected										Total	
		2016	2017	2018	2019	2020	2021	2022	2023	2024	2025		
<b>Budgeted Projects</b>													
1	WA15-002	Kansas City Water Supply 12" Trans. Main										3,510,000	
2		Kansas City Connection Fee										817,000	
3	WA15-003	Peculiar Drive North to Hurly										562,513	
4	WA15-004	Spencer Addition										327,940	
5	WA15-005	Harr Grove										259,059	
6	WA15-006	Water Supply Valve Engineering										74,000	
7	WA16-001	Windmill Meter Relocation										50,000	
8	WA16-002	F350 Replacement (2004)										35,500	
9	WA16-003	Water Storage Tank Maintenance										240,000	
10	WA20-001	VFD Pump										30,000	
11	WA20-002	Water Storage Inspection										15,000	
12	PA18-001	F350 Replacement (2008)										35,500	
13	Larkin Report	Improvement 2										327,940	
14	Larkin Report	Improvement 3										259,059	
15	Larkin Report	Improvement 4										261,482	
16	Larkin Report	Improvement 5										184,248	
17	Larkin Report	Improvement 6										452,156	
18	Larkin Report	Improvement 7										184,046	
19	Larkin Report	Improvement 8										278,154	
20	Larkin Report	Tank Mixing Systems (2)										100,000	
21	Larkin Report	Emergency Generator										35,000	
22	Total Capital Improvement Projects		686,513	5,042,880	649,118	321,482	289,248	452,156	184,046	278,154	100,000	35,000	8,038,597
23	Total Capital Improvement Projects with Inflation		686,500	5,194,200	688,600	351,300	325,600	524,200	219,800	342,100	126,700	45,700	8,504,700

### 2.4.4 Existing and Proposed Debt Service Requirements

Table 2-6 presents the existing and proposed debt service requirements for the water utility. As shown on Table 2-6, the water utility currently has existing debt obligations that peak in 2018 at approximately \$550,000 and then decline in subsequent years to approximately \$319,000 to \$350,000.

A single debt issuance for the major capital projects associated with connecting to the City of Kansas City is proposed in 2017 for \$5.75 million. The proposed debt issue includes project funds of approximately \$5.3 million and capitalized interest for two years of approximately \$450,000. The proposed debt service assumes a 20 year term and an interest rate of 4.25 percent. With two years of capitalized interest to be funded by the proposed debt issuance, full annual principal and interest payments are assumed to be deferred until 2019 and amount to \$432,600 per year. This strategy allows the utility to effectively wrap the proposed debt service around the peak existing debt obligations that occur in 2018 and thereby minimize the impact to ratepayers. Including both existing and proposed debt, total debt service in 2019 is approximately \$823,000, falling to a range of approximately \$752,000 to \$786,000 per year thereafter.

**Table 2-6: Existing and Proposed Debt Service**

Line No.	Projected										
	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	
<b>Existing Debt Issues</b>											
<b>Water</b>											
1	1999A	52,491	50,313	50,625	48,375	46,125	-	-	-	-	-
2	2007 Rev	196,555	199,129	250,145	-	-	-	-	-	-	-
3	2013 Rev	43,993	43,743	43,443	43,093	42,655	44,604	43,958	43,243	44,920	43,990
4	2014 Rev	37,301	37,423	37,523	37,599	36,888	37,944	37,439	37,636	37,783	38,643
5	1999 GO	68,510	68,000	67,438	69,188	-	-	-	-	-	-
<b>Direct</b>											
6	2012 COP (City Hall)	11,296	11,187	12,212	12,043	11,855	11,649	12,574	12,289	11,983	12,801
7	2013 COP	72,672	76,068	75,569	176,733	181,862	250,516	253,269	255,467	253,386	258,237
<b>Transfer</b>											
8	Vehicle Lease	13,260	13,291	13,322	3,341	-	-	-	-	-	-
9	Total Existing Debt Service	496,076	499,153	550,276	390,370	319,385	344,713	347,240	348,635	348,072	353,671
<b>Proposed Debt</b>											
10	2017 Issuance	-	-	-	432,600	432,600	432,600	432,600	432,600	432,600	432,600
11	Total Proposed Debt Service	-	-	-	432,600	432,600	432,600	432,600	432,600	432,600	432,600
12	Total Debt Service	496,076	499,153	550,276	822,970	751,985	777,313	779,840	781,235	780,672	786,271
13	Total Revenue Bond Debt Service	330,339	330,607	381,736	561,667	558,268	515,148	513,997	513,479	515,303	515,233
14	Total All Other Debt Service	165,737	168,546	168,540	261,303	193,717	262,165	265,843	267,756	265,369	271,038
15	Total Debt Service	496,076	499,153	550,276	822,970	751,985	777,313	779,840	781,235	780,672	786,271

## 2.5 Water Utility Financial Plan

Based on the information developed for this report, a financial plan has been assembled. This financial plan aggregates the revenues and expenses forecasted and described previously to assess the adequacy of revenues to meet all operating and capital requirements. The cash flow analysis identifies the overall increase in revenues needed to meet the City's overall financial objectives.

### 2.5.1 Operating Flow of Funds

A detailed cash flow is presented in Table 2-7. Line 1 of Table 2-7 shows user revenues under existing and approved rates, shown previously in Table 2-2. Lines 2 through 10 present the proposed revenue increases. As can be seen, additional revenue increases are proposed starting in FY 2019. All increases shown are assumed to be effective in October of the calendar year indicated. Total user revenues are summarized on Line 12. Lines 13 through 19 present other water fund revenues, which are projected to remain at 2016 budget levels, with the exception of interest income. Interest income on Line 14 is anticipated to decline as existing debt service is retired and related bond reserves are released. Line 20 shows the total operating revenue forecasted over the study period. Including the proposed revenue adjustments, total revenue is projected to range from \$1,678,700 in 2016 to \$2,313,500 in 2025.

Operating revenue requirements are shown on Lines 21 through 27 of Table 2-7. The operations and maintenance expenses are as shown previously in Table 2-3. Interfund obligations are as shown previously in Table 2-4. The debt service amounts on Lines 24 through 26 correspond to the debt shown

in Table 2-6. As described in Section 2.4.3 of this report, proposed debt payments reflect a two-year deferred payment structure to mitigate the impact of increased debt service on rate payers.

Total revenue requirements are summarized on Line 27 of Table 2-7. This amount is deducted from Line 20 total revenue to determine the annual operating balance. With the proposed revenue adjustments, the operating balance is positive after 2016.

## **2.5.2 Capital Flow of Funds**

The capital flow of funds is shown in Table 2-7 on Lines 35 through 41.

Sources of funds include a transfer of funds from the operating balance and the issuance of debt. In FY 2016, the transfer from operating funds is approximately \$107,300. Capital improvement projects shown on Line 40 are consistent with that shown in Table 2-5.

Line 41 of Table 2-7 shows the annual capital balance. As can be seen, the balance all years of the forecast show enough funding sources for the capital in each year, leaving a positive capital balance on Line 41.

Utility debt service coverage is calculated on Lines 42 through 47. The utility is required to meet an annual coverage requirement on revenue bonds of 1.10x and prefers a planning target of 1.25x. As shown on Line 44, revenue bond debt service coverage is anticipated to exceed the planning target of 1.25x for the study period.

An all-in or total debt service coverage has also been calculated. This coverage calculation includes the general obligation, COP, and lease obligations that are understood not to be subject to debt service coverage requirements. Including an all-in or total debt service coverage ratio is for information purposes only.

**Table 2-7: Water Utility Financial Plan**

Line No.	Projected										
	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	
<b>Water Utility Operating Flow of Funds</b>											
1	Revenue Under Existing Rates	1,501,500	1,641,400	1,761,400	1,775,000	1,788,700	1,802,600	1,816,600	1,830,700	1,845,000	1,859,400
<u>Proposed Revenue Adjustments</u>											
	<u>Year</u>	<u>Month</u>	<u>Increase</u>								
2	2017	1	0.0%								
3	2018	1	0.0%								
4	2019	1	3.0%		53,300	53,700	54,100	54,500	54,900	55,400	55,800
5	2020	1	3.0%			55,300	55,700	56,100	56,600	57,000	57,500
6	2021	1	3.25%				62,200	62,600	63,100	63,600	64,100
7	2022	1	3.25%					64,700	65,200	65,700	66,200
8	2023	1	3.25%						67,300	67,800	68,300
9	2024	1	0.0%								
10	2025	1	0.0%								
11	Total Proposed Additional Revenue	-	-	-	53,300	109,000	172,000	237,900	307,100	309,500	311,900
12	Total Water User Charge Revenue	1,501,500	1,641,400	1,761,400	1,828,300	1,897,700	1,974,600	2,054,500	2,137,800	2,154,500	2,171,300
<u>Other Water Fund Revenues</u>											
13	Water Connection Fees	10,000	10,000	10,000	10,000	10,000	10,000	10,000	10,000	10,000	10,000
14	Interest Income	50,000	50,000	50,000	50,000	15,000	15,000	15,000	15,000	15,000	15,000
15	Penalties	24,000	24,000	24,000	24,000	24,000	24,000	24,000	24,000	24,000	24,000
16	Tower Rental	21,700	21,700	21,700	21,700	21,700	21,700	21,700	21,700	21,700	21,700
17	Reimbursed Expense	3,000	3,000	3,000	3,000	3,000	3,000	3,000	3,000	3,000	3,000
18	G.O. Principal (transfer from DSF 40)	68,500	68,500	68,500	68,500	68,500	68,500	68,500	68,500	68,500	68,500
19	Total Other Water Fund Revenues	177,200	177,200	177,200	177,200	142,200	142,200	142,200	142,200	142,200	142,200
20	<b>Grand Total Water Revenue</b>	<b>1,678,700</b>	<b>1,818,600</b>	<b>1,938,600</b>	<b>2,005,500</b>	<b>2,039,900</b>	<b>2,116,800</b>	<b>2,196,700</b>	<b>2,280,000</b>	<b>2,296,700</b>	<b>2,313,500</b>
<u>Revenue Requirements</u>											
21	Operation and Maintenance Expense	1,181,300	1,136,200	1,053,900	1,096,100	1,140,200	1,186,200	1,234,500	1,284,900	1,337,500	1,392,300
<u>Interfund Obligations</u>											
22	Capital Improvement Fund	5,000	5,000	5,000	5,000	40,400	40,400	40,400	-	-	-
23	Sewer Fund	10,000	10,000	10,000	10,000	68,300	68,300	68,300	-	-	-
<u>Debt Service</u>											
24	Existing Debt	496,100	499,200	550,300	390,400	319,400	344,700	347,200	348,600	348,100	353,700
25	Proposed Debt	-	-	-	432,600	432,600	432,600	432,600	432,600	432,600	432,600
26	Total Debt Service	496,100	499,200	550,300	823,000	752,000	777,300	779,800	781,200	780,700	786,300
27	<b>Total Revenue Requirements</b>	<b>1,692,400</b>	<b>1,650,400</b>	<b>1,619,200</b>	<b>1,934,100</b>	<b>2,000,900</b>	<b>2,072,200</b>	<b>2,123,000</b>	<b>2,066,100</b>	<b>2,118,200</b>	<b>2,178,600</b>
28	<b>Annual Operating Balance</b>	<b>(13,700)</b>	<b>168,200</b>	<b>319,400</b>	<b>71,400</b>	<b>39,000</b>	<b>44,600</b>	<b>73,700</b>	<b>213,900</b>	<b>178,500</b>	<b>134,900</b>
29	Beginning Balance - Operating Fund	397,000	276,000	298,900	318,700	329,700	335,300	348,000	361,100	374,800	377,500
30	Funds from Operating Balance	(13,700)	168,200	319,400	71,400	39,000	44,600	73,700	213,900	178,500	134,900
31	Bond Reserve Release [1]	-	-	-	-	815,600	-	-	-	-	-
32	Transfer to Capital	(107,300)	(145,300)	(299,600)	(60,400)	(849,000)	(31,900)	(60,600)	(200,200)	(175,800)	(132,100)
33	<b>Ending Balance - Operating Funds</b>	<b>276,000</b>	<b>298,900</b>	<b>318,700</b>	<b>329,700</b>	<b>335,300</b>	<b>348,000</b>	<b>361,100</b>	<b>374,800</b>	<b>377,500</b>	<b>380,300</b>
34	Minimum Annual Operating Balance [2]	276,000	298,900	318,700	329,700	335,300	348,000	361,100	374,800	377,500	380,300
<b>Water Utility Capital Flow of Funds</b>											
35	Beginning Balance - Capital Funds	1,300,000	720,800	971,900	582,900	292,000	815,400	323,100	163,900	22,000	71,100
36	Water Connection Fees	-	-	-	-	-	-	-	-	-	-
37	Transfer from Operations	107,300	145,300	299,600	60,400	849,000	31,900	60,600	200,200	175,800	132,100
38	Debt Issuance (Net of Capitalized Interest) [3]	-	5,300,000	-	-	-	-	-	-	-	-
39	<b>Total Available Capital Funds</b>	<b>1,407,300</b>	<b>6,166,100</b>	<b>1,271,500</b>	<b>643,300</b>	<b>1,141,000</b>	<b>847,300</b>	<b>383,700</b>	<b>364,100</b>	<b>197,800</b>	<b>203,200</b>
40	Major Capital Improvements	686,500	5,194,200	688,600	351,300	325,600	524,200	219,800	342,100	126,700	45,700
41	<b>Ending Balance - Capital Funds</b>	<b>720,800</b>	<b>971,900</b>	<b>582,900</b>	<b>292,000</b>	<b>815,400</b>	<b>323,100</b>	<b>163,900</b>	<b>22,000</b>	<b>71,100</b>	<b>157,500</b>
<b>Debt Service Coverage</b>											
Revenue Bond Debt Service Coverage											
42	Net Operating Revenues Available for Debt Service	497,400	682,400	884,700	909,400	899,700	930,600	962,200	995,100	959,200	921,200
43	Annual Revenue Bond Debt Service [4]	330,339	330,607	381,736	561,667	558,268	515,148	513,997	513,479	515,303	515,233
44	Debt Service Coverage	1.51	2.06	2.32	1.62	1.61	1.81	1.87	1.94	1.86	1.79
Total Debt Service Coverage											
45	Net Operating Revenues Available for Debt Service	497,400	682,400	884,700	909,400	899,700	930,600	962,200	995,100	959,200	921,200
46	Annual Total Debt Service	496,100	499,200	550,300	823,000	752,000	777,300	779,800	781,200	780,700	786,300
47	Debt Service Coverage	1.00	1.37	1.61	1.10	1.20	1.20	1.23	1.27	1.23	1.17

[1] Debt Reserve from the 1999A Revenue Bond.

[2] Minimum Annual Operating Balance equal to 60 days of operating revenues.

[3] Total Debt Issue of \$5,750,500, 20 year term, 4.25 percent interest rate.

[4] Includes Revenue Bonds Series 1999A, 2007, 2013, 2014 through proposed Series 2017. See Debt Service Table for additional detail.

## 2.6 Alternative Water Utility Financial Plan

An alternative financial plan has been assembled based on an intermediate demand forecast for the City. This financial plan scenario shows the outcome of increased demand for the City. Due to the increased water system demand, the revenues under existing and proposed rates are higher and the operating costs are higher because of an increased water supply fee. With the higher revenues associated under this scenario, no additional revenue increases are needed.

### 2.6.1 Operating Flow of Funds

A detailed cash flow is presented in Table 2-8. Line 1 of Table 2-8 shows user revenues under existing rates. As mentioned above, this revenue stream is higher than what is shown in Table 2-7 due to the increased water system demand. Lines 2 through 10 present the proposed revenue increases. As can be seen, no additional revenue increases are anticipated to be needed throughout the forecast period beyond adjustments approved or planned through 2018. Total user revenues are summarized on Line 12. Lines 13 through 19 present other water fund revenues, which are projected consistent with assumptions described for Table 2-7. Line 20 shows the total operating revenue forecasted over the study period. Total revenue is projected to range from \$1,678,700 in 2016 to \$3,192,600 in 2025.

Operating revenue requirements are shown on Lines 21 through 27 of Table 2-8. The operations and maintenance expenses are higher than those shown previously in Table 2-3, due to increased water purchases. Interfund obligations and existing and proposed debt service are consistent with assumptions used in Table 2-7.

Total revenue requirements are summarized on Line 27 of Table 2-8. This amount is deducted from Line 20 total revenue to determine the annual operating balance. In this scenario, the operating balance is positive after 2017.

### 2.6.2 Capital Flow of Funds

The capital flow of funds is shown in Table 2-8 on Lines 35 through 41.

Sources of funds include a transfer of funds from the operating balance and the issuance of debt. In FY 2016, the transfer from operating funds is approximately \$107,300. Capital improvement projects shown on Line 40 are consistent with that shown in Table 2-5.

Line 41 of Table 2-8 shows the annual capital balance. As can be seen, the balance in all years of the forecast show enough funding sources for the capital in each year, leaving a positive capital balance on Line 41. Additional cash flow made available by the higher commercial account growth and related

revenues accumulates in the capital fund ending balance in this scenario. By 2025, an estimated balance of \$3.15 million is projected to be available.

Utility debt service coverage is calculated on Lines 42 through 47. Both revenue bond debt service coverage and all-in debt service coverage show substantial improvement over coverage projections shown in Table 2-7.

**Table 2-8: Alternative Water Utility Financial Plan**

Line No.	Projected										
	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	
<b>Water Utility Operating Flow of Funds</b>											
1	Revenue Under Existing Rates	1,501,500	1,765,600	2,026,000	2,172,000	2,318,000	2,464,200	2,610,600	2,757,000	2,903,600	3,050,400
<b>Proposed Revenue Adjustments</b>											
	<u>Year</u>	<u>Month</u>	<u>Increase</u>								
2	2017	1	0.0%	-	-	-	-	-	-	-	-
3	2018	1	0.0%	-	-	-	-	-	-	-	-
4	2019	1	0.0%	-	-	-	-	-	-	-	-
5	2020	1	0.0%	-	-	-	-	-	-	-	-
6	2021	1	0.0%	-	-	-	-	-	-	-	-
7	2022	1	0.0%	-	-	-	-	-	-	-	-
8	2023	1	0.0%	-	-	-	-	-	-	-	-
9	2024	1	0.0%	-	-	-	-	-	-	-	-
10	2025	1	0.0%	-	-	-	-	-	-	-	-
11	Total Proposed Additional Revenue	-	-	-	-	-	-	-	-	-	-
12	Total Water User Charge Revenue	1,501,500	1,765,600	2,026,000	2,172,000	2,318,000	2,464,200	2,610,600	2,757,000	2,903,600	3,050,400
<b>Other Water Fund Revenues</b>											
13	Water Connection Fees	10,000	10,000	10,000	10,000	10,000	10,000	10,000	10,000	10,000	10,000
14	Interest Income	50,000	50,000	50,000	50,000	15,000	15,000	15,000	15,000	15,000	15,000
15	Penalties	24,000	24,000	24,000	24,000	24,000	24,000	24,000	24,000	24,000	24,000
16	Tower Rental	21,700	21,700	21,700	21,700	21,700	21,700	21,700	21,700	21,700	21,700
17	Reimbursed Expense	3,000	3,000	3,000	3,000	3,000	3,000	3,000	3,000	3,000	3,000
18	G.O. Principal (transfer from DSF 40)	68,500	68,500	68,500	68,500	68,500	68,500	68,500	68,500	68,500	68,500
19	Total Other Water Fund Revenues	177,200	177,200	177,200	177,200	142,200	142,200	142,200	142,200	142,200	142,200
20	<b>Grand Total Water Revenue</b>	<b>1,678,700</b>	<b>1,942,800</b>	<b>2,203,200</b>	<b>2,349,200</b>	<b>2,460,200</b>	<b>2,606,400</b>	<b>2,752,800</b>	<b>2,899,200</b>	<b>3,045,800</b>	<b>3,192,600</b>
<b>Revenue Requirements</b>											
21	Operation and Maintenance Expense	1,181,300	1,169,100	1,104,100	1,175,200	1,250,900	1,331,500	1,417,600	1,509,200	1,606,600	1,710,300
<b>Interfund Obligations</b>											
22	Capital Improvement Fund	5,000	5,000	5,000	5,000	40,400	40,400	-	-	-	-
23	Sewer Fund	10,000	10,000	10,000	10,000	68,300	68,300	-	-	-	-
<b>Debt Service</b>											
24	Existing Debt	496,100	499,200	550,300	390,400	319,400	344,700	347,200	348,600	348,100	353,700
25	Proposed Debt	-	-	-	432,600	432,600	432,600	432,600	432,600	432,600	432,600
26	Total Debt Service	496,100	499,200	550,300	823,000	752,000	777,300	779,800	781,200	780,700	786,300
27	<b>Total Revenue Requirements</b>	<b>1,692,400</b>	<b>1,683,300</b>	<b>1,669,400</b>	<b>2,013,200</b>	<b>2,111,600</b>	<b>2,217,500</b>	<b>2,197,400</b>	<b>2,290,400</b>	<b>2,387,300</b>	<b>2,496,600</b>
28	<b>Annual Operating Balance</b>	<b>(13,700)</b>	<b>259,500</b>	<b>533,800</b>	<b>336,000</b>	<b>348,600</b>	<b>388,900</b>	<b>555,400</b>	<b>608,800</b>	<b>658,500</b>	<b>696,000</b>
29	Beginning Balance - Operating Fund	397,000	276,000	319,400	362,200	386,200	404,400	428,400	452,500	476,600	500,700
30	Funds from Operating Balance	(13,700)	259,500	533,800	336,000	348,600	388,900	555,400	608,800	658,500	696,000
31	Bond Reserve Release [1]	-	-	-	-	815,600	-	-	-	-	-
32	Transfer to Capital	(107,300)	(216,100)	(491,000)	(312,000)	(1,146,000)	(364,900)	(531,300)	(584,700)	(634,400)	(671,900)
33	<b>Ending Balance - Operating Funds</b>	<b>276,000</b>	<b>319,400</b>	<b>362,200</b>	<b>386,200</b>	<b>404,400</b>	<b>428,400</b>	<b>452,500</b>	<b>476,600</b>	<b>500,700</b>	<b>524,800</b>
34	Minimum Annual Operating Balance [2]	276,000	319,400	362,200	386,200	404,400	428,400	452,500	476,600	500,700	524,800
<b>Water Utility Capital Flow of Funds</b>											
35	Beginning Balance - Capital Funds	1,300,000	720,800	1,042,700	845,100	805,800	1,626,200	1,466,900	1,778,400	2,021,000	2,528,700
36	Water Connection Fees	-	-	-	-	-	-	-	-	-	-
37	Transfer from Operations	107,300	216,100	491,000	312,000	1,146,000	364,900	531,300	584,700	634,400	671,900
38	Debt Issuance (Net of Capitalized Interest) [3]	-	5,300,000	-	-	-	-	-	-	-	-
39	<b>Total Available Capital Funds</b>	<b>1,407,300</b>	<b>6,236,900</b>	<b>1,533,700</b>	<b>1,157,100</b>	<b>1,951,800</b>	<b>1,991,100</b>	<b>1,998,200</b>	<b>2,363,100</b>	<b>2,655,400</b>	<b>3,200,600</b>
40	Major Capital Improvements	686,500	5,194,200	688,600	351,300	325,600	524,200	219,800	342,100	126,700	45,700
41	<b>Ending Balance - Capital Funds</b>	<b>720,800</b>	<b>1,042,700</b>	<b>845,100</b>	<b>805,800</b>	<b>1,626,200</b>	<b>1,466,900</b>	<b>1,778,400</b>	<b>2,021,000</b>	<b>2,528,700</b>	<b>3,154,900</b>
<b>Debt Service Coverage</b>											
Revenue Bond Debt Service Coverage											
42	Net Operating Revenues Available for Debt Service	497,400	773,700	1,099,100	1,174,000	1,209,300	1,274,900	1,335,200	1,390,000	1,439,200	1,482,300
43	Annual Revenue Bond Debt Service [4]	330,339	330,607	381,736	561,667	558,268	515,148	513,997	513,479	515,303	515,233
44	Debt Service Coverage	1.51	2.34	2.88	2.09	2.17	2.47	2.60	2.71	2.79	2.88
Total Debt Service Coverage											
45	Net Operating Revenues Available for Debt Service	497,400	773,700	1,099,100	1,174,000	1,209,300	1,274,900	1,335,200	1,390,000	1,439,200	1,482,300
46	Annual Total Debt Service	496,100	499,200	550,300	823,000	752,000	777,300	779,800	781,200	780,700	786,300
47	Debt Service Coverage	1.00	1.55	2.00	1.43	1.61	1.64	1.71	1.78	1.84	1.89

[1] Debt Reserve from the 1999A Revenue Bond.

[2] Minimum Annual Operating Balance equal to 60 days of operating revenues.

[3] Total Debt Issue of \$5,750,500, 20 year term, 4.25 percent interest rate.

[4] Includes Revenue Bonds Series 1999A, 2007, 2013, 2014 through proposed Series 2017. See Debt Service Table for additional detail.

## 3.0 PROPOSED TAP FEES

### 3.1 Introduction

The City refers to the one-time fee charged to its new customer connections as a tap fee. This fee is intended to reasonably recover the cost associated with capacity in the system to accommodate new connections. Within the water industry, these types of fees are frequently referred to as system development charges, connection fees, or impact fees. Currently, the City's residential water tap fee is \$1,600 and the commercial water tap fee is \$1,900 for connections up to 1 inch. Commercial connections greater than 1 inch include additional fees for parts and materials. As a part of this Study, the City's current tap fees were reviewed.

Properly applied, the use of tap fees should result in new connections paying their proportionate share of water system development costs, thereby lowering the burden of development costs that existing ratepayers would otherwise fund through user charges. Tap fees may also reduce the overall level of debt financing that may be necessary to build new facilities. Additionally, by utilizing tap fees future customers will pay for historical investment in facilities made by existing customers. Ultimately, the use of tap fees enables new customers who directly benefit from the service to pay for the service, rather than receive a subsidy from all other customers through user charges.

Tap fees should be implemented with appropriate consideration of legal authority and statutory requirements, which vary by state. Some important elements in the development of tap fees are summarized or referenced in this section of the report. However, this report should not be considered legal advice pertaining to the implementation or use of tap fees.

Generally speaking, a reasonable relationship must exist between the fees charged and the cost of providing capacity to the customer. This relationship is typically referred to as a rational nexus, which is a foundational concept in the development of tap fees. Having a rational nexus means that the tap fee has a reasonable relationship to the benefits received, and that new customers pay their proportionate share of the cost of capacity.

The City does not receive the current tap fee until the application for the building permit is filed. Additionally, the City is planning to add further capacity improvement projects to accommodate future growth. The remainder of this section of the report describes the analysis used to assign new customers their proportionate share of system capacity costs. As such, the City is establishing a rational nexus between capacity provided in the system, the proportionate share to be recovered from new customers, and the proposed tap fees.

## 3.2 Methodology

Different approaches may be used in the determination of tap fees. The American Water Works Association (AWWA) M1 Manual of Practice indicates the three most common methods for determining tap fees are:

- Buy-In Method, which is based on the value of the existing capacity;
- Incremental Cost Method, which is based on the value or cost to expand the system's capacity, and,
- Combined Approach, which is based on the blended value of the existing and expanded system's capacity.

The Buy-In Method was selected for use in the update of the City's tap fees. Under the Buy-In Method, tap fees for new customers reflect the current value of providing capacity to serve additional users. Under this method, the new customer is effectively on par with the value of capacity contributed by existing customers and shares equally in the responsibility for system capacity. There are two advantages associated with the use of the Buy-In Method for this analysis.

- The Buy-In Method is commonly accepted and relatively easy to explain;
- Because the approach uses the current cost of existing capacity, it is not dependent future capital projects and capital spending to justify the level of fee. In other words, the resulting fee is justifiable regardless of the path the City moves forward with pertaining to expanded water supply capacity and storage.

The steps involved in the Buy-In Method include system valuation, determination of applicable credits, equivalent unit development, and the design of tap fees. Each of these steps is described herein.

## 3.3 System Valuation

The first step in the Buy-In Method is valuing the system infrastructure. Burns & McDonnell examined the fixed asset records maintained for the water utility as of September 30, 2015, which is the end of the most recently completed fiscal year. Fixed assets are characterized as Buildings and Improvements, Construction in Progress, Infrastructure, Land and Improvements, Machinery and Equipment, and Office Equipment and Furniture. Assets included in the tap fee development should directly relate to capacity-producing assets that serve as the backbone of the water utility system. As such, Construction in Progress and Infrastructure asset categories were included in the evaluation. A review of assets included in the other categories indicated they were more of a general nature, such as a portion of City Hall costs, field machinery such as backhoes and electronic equipment, and office computers. Table 3-1 summarizes the original cost, accumulated depreciation, and remaining value of the existing infrastructure assets. As

shown on Table 3-1, original cost less depreciation (OCLD) values of the selected assets on the City's books totaled nearly \$3.8 million.

**Table 3-1: Original Cost Less Depreciation of Backbone Assets as of 9/30/2015**

System No.	Description	Date In Service	Years Life	Original Cost	Accumulated Depreciation	Original Cost less Depreciation
Construction in Process						
373	Professional services - ground storage tank	9/30/2014	0	\$ 1,931	\$ -	\$ 1,931
396	CIP Water Lines	8/1/2015	0	\$ 137,679	\$ -	\$ 137,679
Total Construction In Process				\$ 139,610	\$ -	\$ 139,610
Infrastructure						
60	Water System-1993/1994B Including refunding previous series	9/30/1990	40	\$ 360,000	\$ 225,750	\$ 134,250
61	Water/Sewer System-1994A Series - Water Portion	9/30/1994	40	\$ 2,738,300	\$ 1,443,319	\$ 1,294,981
66	Bar Screen SW Plant - Water portion	9/1/2004	10	\$ 12,631	\$ 12,631	\$ -
70	12' WT line Centennial Farms - Water portion	6/15/2005	40	\$ 15,061	\$ 3,892	\$ 11,169
72	Sioux Chief Water/Sewer Project Missouri Grant - Water portion	7/1/2005	40	\$ 403,022	\$ 103,275	\$ 299,746
71	Water line-Harper Harper farm	7/15/2005	40	\$ 26,767	\$ 6,858	\$ 19,909
75	Water / Tower / Line Project EPA/COPS2004/UF	9/15/2006	40	\$ 1,516,449	\$ 344,360	\$ 1,172,089
76	Water / Tower / Line Project Final	10/1/2006	40	\$ 228,639	\$ 51,444	\$ 177,195
135	New Meter Sets	10/24/2007	10	\$ 3,667	\$ 2,903	\$ 764
102	Sewer- Trenchless Liner at Peculiar Golf & Learning Center	8/1/2008	40	\$ 17,280	\$ 3,096	\$ 14,184
134	Meter Change Out Program	8/20/2008	10	\$ 17,116	\$ 12,124	\$ 4,992
137	New Meter Sets	2/4/2009	10	\$ 2,000	\$ 1,333	\$ 667
138	Meter Changeouts	2/19/2009	10	\$ 1,721	\$ 1,133	\$ 588
169	MEADOW VIEW ESTATES METERS	10/10/2010	10	\$ 9,798	\$ 4,899	\$ 4,899
184	Broadway Main Replacement	2/1/2012	40	\$ 112,050	\$ 10,271	\$ 101,779
241	negative asset	9/30/2012	0	\$ 245	\$ (108,329)	\$ 108,574
370	Ground Water Storage Tank Renovation	8/25/2014	30	\$ 239,068	\$ 8,633	\$ 230,435
400	Ground Water Storage Tank Renovation	5/11/2015	25	\$ 54,879	\$ 882	\$ 53,997
Total Infrastructure				\$ 5,758,693	\$ 2,128,476	\$ 3,630,217
Total Construction in Process and Infrastructure				\$ 5,898,303	\$ 2,128,476	\$ 3,769,827

As shown on Table 3-1, the selected assets have been placed in service beginning in 1990 up through 2015. These costs were recorded into the fixed asset system based on the cost incurred at the time of construction, and do not reflect current value in 2016 dollars. To reflect the current value of these assets, a replacement cost has been developed and is shown in Table 3-2.

Replacement costs represent the current day cost of replicating the existing assets. Development of replacement cost is achieved by applying construction cost inflation indices. Inflation factors were sourced from the Handy-Whitman Index of Public Utility Construction Costs, Cost Trends of Water Utility Construction for the North Central Region. After bringing the cost of the infrastructure up to today's value, the replacement cost assets are then depreciated to reflect the wear and tear that has been incurred since they were placed in service. This replacement cost less depreciation (RCLD) value represents a value in today's dollars while also recognizing the assets being valued are not new.

**Table 3-2: Replacement Cost Less Depreciation of Backbone Assets as of 9/30/2015**

System No.	Description	Original Cost less Depreciation	Eligible Backbone Infrastructure	Eligible Original Cost less Depreciation	Handy-Whitman Inflation Factor	Replacement Cost less Depreciation
<b>Construction in Process</b>						
373	Professional services - ground storage tank	\$ 1,931	100%	\$ 1,931	1.0	\$ 1,931
396	CIP Water Lines	\$ 137,679	100%	\$ 137,679	1.0	\$ 137,679
Total Construction In Process		\$ 139,610		\$ 139,610		\$ 139,610
<b>Infrastructure</b>						
60	Water System-1993/1994B Including refunding previous series	\$ 134,250	100%	\$ 134,250	2.3	\$ 314,776
61	Water/Sewer System-1994A Series - Water Portion	\$ 1,294,981	100%	\$ 1,294,981	2.1	\$ 2,717,265
66	Bar Screen SW Plant - Water portion	\$ -	0%	\$ -		\$ -
70	12' WT line Centennial Farms - Water portion	\$ 11,169	100%	\$ 11,169	1.6	\$ 18,415
72	Sioux Chief Water/Sewer Project Missouri Grant - Water portion	\$ 299,746	0%	\$ -		\$ -
71	Water line-Harper Harper farm	\$ 19,909	100%	\$ 19,909	1.6	\$ 32,826
75	Water / Tower / Line Project EPA/COPS2004/UF	\$ 1,172,089	100%	\$ 1,172,089	1.9	\$ 2,224,216
76	Water / Tower / Line Project Final	\$ 177,195	100%	\$ 177,195	1.9	\$ 336,255
135	New Meter Sets	\$ 764	0%	\$ -		\$ -
102	Sewer- Trenchless Liner at Peculiar Golf & Learning Center	\$ 14,184	0%	\$ -		\$ -
134	Meter Change Out Program	\$ 4,992	0%	\$ -		\$ -
137	New Meter Sets	\$ 667	0%	\$ -		\$ -
138	Meter Changeouts	\$ 588	0%	\$ -		\$ -
169	MEADOW VIEW ESTATES METERS	\$ 4,899	0%	\$ -		\$ -
184	Broadway Main Replacement	\$ 101,779	100%	\$ 101,779	1.1	\$ 110,338
241	negative asset	\$ 108,574	0%	\$ -		\$ -
370	Ground Water Storage Tank Renovation	\$ 230,435	100%	\$ 230,435	1.0	\$ 230,435
400	Ground Water Storage Tank Renovation	\$ 53,997	100%	\$ 53,997	1.0	\$ 53,997
Total Infrastructure		\$ 3,630,217		\$ 3,195,803		\$ 6,038,523
Total Construction in Process and Infrastructure		\$ 3,769,827		\$ 3,335,412	\$ -	\$ 6,178,132

One additional step has been added in the determination of RCLD. For each asset in the Construction in Process or Infrastructure categories, an evaluation of whether or not the underlying assets were eligible backbone facilities was performed. For instance, meter sets are not generally included in tap fee assessments, and have been excluded from the analysis. Also, the Sioux Chief project, which is indicated to have been funded by Missouri Grants, was also excluded, since that asset was contributed and not paid for by existing customers of the system. In total, the OCLD value was reduced from nearly \$3.8 million to approximately \$3.3 million. Adjusting for inflation, the RCLD of the remaining assets is valued at approximately \$6.2 million.

### 3.4 Outstanding Debt

The City's water utility does have outstanding debt. Because this debt will likely be paid from user charges received from both existing and future users, the value of the outstanding principal should be excluded from the valuation. Doing so prevents the potential to double count the cost of the asset

recovered through the tap fee and debt service as paid through user charges. Table 3-3 summarizes the water utility outstanding principal as of September 30, 2015, and adjusts the principal to derive the water-only portion. Outstanding water utility principal is approximately \$3.9 million.

**Table 3-3: Outstanding Water Utility Principal as of 9/30/2015**

	Series					
	<u>2014</u>	<u>2013</u>	<u>2007</u>	<u>1999A</u>	<u>2013 COP</u>	<u>Total</u>
2016	\$ 21,419	\$ 25,000	\$ 175,000	\$ 42,500	\$ 22,800	\$ 286,719
2017	\$ 22,184	\$ 25,000	\$ 185,000	\$ 42,500	\$ 26,600	\$ 301,284
2018	\$ 22,949	\$ 25,000	\$ 245,000	\$ 45,000	\$ 26,600	\$ 364,549
2019	\$ 23,714	\$ 25,000	\$ -	\$ 45,000	\$ 129,200	\$ 222,914
2020	\$ 23,714	\$ 25,000	\$ -	\$ 45,000	\$ 136,800	\$ 230,514
2021	\$ 25,244	\$ 27,500	\$ -	\$ -	\$ 209,000	\$ 261,744
2022	\$ 25,244	\$ 27,500	\$ -	\$ -	\$ 216,600	\$ 269,344
2023	\$ 26,009	\$ 27,500	\$ -	\$ -	\$ 224,200	\$ 277,709
2024	\$ 26,774	\$ 30,000	\$ -	\$ -	\$ 228,000	\$ 284,774
2025	\$ 28,304	\$ 30,000	\$ -	\$ -	\$ 239,400	\$ 297,704
2026	\$ 29,069	\$ 30,000	\$ -	\$ -	\$ 247,000	\$ 306,069
2027	\$ 29,834	\$ 32,500	\$ -	\$ -	\$ 253,200	\$ 315,534
2028	\$ 30,599	\$ 35,000	\$ -	\$ -	\$ -	\$ 65,599
2029	\$ 32,129	\$ 35,000	\$ -	\$ -	\$ -	\$ 67,129
2030	\$ 33,659	\$ 37,500	\$ -	\$ -	\$ -	\$ 71,159
2031	\$ 34,424	\$ 40,000	\$ -	\$ -	\$ -	\$ 74,424
2032	\$ 34,424	\$ 40,000	\$ -	\$ -	\$ -	\$ 74,424
2033	\$ 34,424	\$ 42,500	\$ -	\$ -	\$ -	\$ 76,924
2034	\$ 35,189	\$ 45,000	\$ -	\$ -	\$ -	\$ 80,189
	\$ 539,306	\$ 605,000	\$ 605,000	\$ 220,000	\$ 1,959,400	\$ 3,928,706
Water-Only Portion						
Ratio	100%	100%	100%	100%	100%	
Value	\$ 539,306	\$ 605,000	\$ 605,000	\$ 220,000	\$ 1,959,400	\$ 3,928,706

### 3.5 Equivalent Unit Development

Table 3-4 details the development of current utilization of the City's water system. Based on existing City records and engineering assessments, the current average day demand including water losses is approximately 260,000 gallons, with a maximum day demand of 390,000 gallons. The City's population, based on information from the U.S. Census Bureau, is 4,797. Dividing daily demand by the City's population yields an average use per person of approximately 54 gallons per day and 81 gallons per day for maximum day. The number of residents per household is estimated to be 2.67, based on U.S. Census Bureau information. Multiplying the average use per day per person by the number of persons per

household provides an equivalent residential unit demand of 145 gallons per day on average and 217 gallons per day on maximum day.

**Table 3-4: Equivalent Unit Development**

<u>Description</u>	<u>Average</u> <u>Day</u>	<u>Maximum</u> <u>Day</u>
Current system demand in gallons	260,000	390,000
Population	4,797	4,797
Gallons per day per person	54	81
Persons per residential account	2.67	2.67
Gallons per day per equivalent residential unit	145	217

### 3.6 Tap Fee Development

Using the information illustrated in Tables 3-2 through 3-4, a tap fee may be calculated for a residential equivalent unit. Table 3-5 shows this calculation, and indicates the proposed tap fee to be \$1,252 per equivalent connection. The value is based on the net system value of approximately \$2.2 million, which is determined by subtracting the outstanding water principal previously identified in Table 3-3 from the RCLD previously shown in Table 3-2. This system value is divided by the maximum day demand from Table 3-4 to establish the price per gallon of \$5.77. This unit price is applied to the equivalent residential demand of 217 gallons per maximum day to derive the proposed tap fee for a residential connection.

**Table 3-5: Tap Fee for an Equivalent Residential Unit**

Replacement Cost less Depreciation	\$ 6,178,132
Less: Outstanding Debt	<u>\$ 3,928,706</u>
Net System Value	\$ 2,249,426
System Demand in Gallons	390,000
Price per Gallon	\$ 5.77
Equivalent Residential Unit in Gallons	217
Calculated Impact Fee	\$ 1,252

Using the tap fee for an equivalent residential unit and an equivalency factor based on meter capacity, tap fees may be calculated for larger meter sizes. The equivalency factors reflect capacity factors documented in AWWA's M-1 rates manual Table VI.2-5. As shown in Table 3-6, tap fees for up to 4 inch connections

have been calculated. It is recommended that connections above 4 inches be evaluated on a case by case basis, taking into consideration the anticipated demand associated with the proposed development.

**Table 3-6: Proposed Tap Fees by Meter Size**

<u>Meter Size</u>	<u>Equivalency Ratio</u>	<u>Proposed Water Tap Fee</u>
5/8"	1.0	\$ 1,300
3/4	1.0	\$ 1,300
1	1.7	\$ 2,200
1.5	3.3	\$ 4,300
2	5.3	\$ 6,900
3	10.4	\$ 13,500
4	16.7	\$ 21,700

### 3.7 Comparison of Regional Tap Fees

A final consideration for tap fees is a comparison of the proposed tap fees to neighboring utilities. Table 3-7 shows the comparison of existing and proposed tap fees for the City to other regional water purveyors. The proposed tap fees developed in this report appear to be competitive with other regional water utility tap fees.

**Table 3-7: Comparison of Regional Tap Fees**

	Existing Peculiar Residential	Existing Peculiar Commercial	Proposed Peculiar	Cass PWSD#2	Cass PWSD#7	Cass PWSD#10	Harrisonville (a)	Belton (b)		Raymore (c)			Pleasant Hill (d)
								Min	Max	Displacement / Compound	Class 1 Turbine	Class 2 Turbine	
5/8"	\$ 1,600		\$ 1,300		\$ 4,000		\$ 774						\$ 1,770
3/4"	\$ 1,600	\$ 1,900	\$ 1,300	\$ 4,500	\$ 4,000			\$ 3,090	\$ 3,090	\$ 2,318			
1"		\$ 1,900	\$ 2,200	\$ 6,563	\$ 4,000	\$ 3,400		\$ 4,944	\$ 4,944	\$ 3,621			
1 1/2"		\$ 1,900	\$ 4,300	\$ 13,125	\$ 4,000			\$ 6,180	\$ 9,888	\$ 4,525	\$ 7,240		
2"		\$ 1,900	\$ 6,900	\$ 21,000	\$ 4,000			\$ 12,360	\$ 14,832	\$ 9,049	\$ 10,862	\$ 10,862	
3"		\$ 1,900	\$ 13,500	\$ 4,000	\$ 4,000			\$ 18,540	\$ 33,867	\$ 13,575	\$ 22,626	\$ 24,890	
4"		\$ 1,900	\$ 21,700	\$ 4,000	\$ 4,000			\$ 24,670	\$ 61,800	\$ 18,133	\$ 36,245	\$ 45,254	

(a) Harrison fees above 5/8" are based on EDU. EDU's are determined based on average use per day, or case-by-case for larger connectoins. Currently, 55% of fee is waived. Water fee of \$1,720 per EDU without waiver.  
 (b) Belton fees include a range for meters size at or above 1.5" based on meter type.  
 (c) Raymore fees exclude meter supply fee. Impact fees vary by type of meter.  
 (d) Tap fees over 3/4" are based on actual cost.

Burns & McDonnell recommends the City review its tap fee calculation approximately every 5 years.



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