FINAL REPORT

ADEQUACY OF CURRENT WATER UTILITY REVENUES REPORT

PREPARED FOR

City of St. Louis, Missouri, Water Division

6 MARCH 2013

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6 March 2013

Mr. Curtis B. Skouby, P.E.
Director of Public Utilities / Water Commissioner
City of St. Louis
1640 S. Kingshighway Blvd.
St. Louis, Missouri 63110-2285

Subject: Adequacy of Current Water Utility Revenues Letter Report

Dear Mr. Skouby:

Black & Veatch Corporation ("Black & Veatch") is pleased to present this letter report concerning the adequacy of current water utility revenues for the City of St. Louis Water Division. This report updates our April 2010 report.

In preparation of this report, we have reviewed the records and reports of the Water Division, reviewed the City's Indenture of Trust, and conducted financial analyses for the purpose of addressing the adequacy of current water utility revenues.

As will be discussed within this report, modest revenue increases are projected to be required in the last two years of the study period in order to provide sufficient funding for all operating and capital expenses and to maintain required fund balances. An important driver of the projected revenue increase requirement is the historical and anticipated continued decline in metered water usage. This is a trend that is being experienced by utilities across the country, and is being experienced in St. Louis as well. In addition, the number of flat rate accounts has declined over the past several years, and it is anticipated that such decline will continue during the study period.

While revenues under existing rates are projected to continue to decline, the Water Division's annual expenditures are projected to increase, primarily due to the need for certain important capital projects, required in order to allow the City to maintain a sound, viable utility. These capital projects are projected to be funded by a mix of existing fund balances, low interest loans, revenue bonds, and annual revenues ("pay-as-you-go" financing). Debt service on the anticipated low interest loan and revenue bond issuance are projected to begin as the existing debt is retired, which will help mitigate near term impacts of the capital program.

The Water Division has successfully managed operation and maintenance expenses ("O&M") over the past several years, which has helped defer the need for rate increases. O&M in fiscal year 2012 was nearly six percent lower than that incurred in fiscal year 2009, reflecting a substantial reduction of 6.8 percent in fiscal year 2010 and very modest increases in fiscal years 2011 and 2012. Future O&M is projected to increase at the general rate of inflation.

Based on our analyses, and under the assumptions described in this report, the following findings are presented:

1. Throughout the forecast period, the Water Division's net revenues are projected to be sufficient, including a calculated 3.0 percent revenue increases in fiscal years 2016 and 2017 as indicated in this report to continue to comply with the requirements outlined in the Master Indenture, taking into account the outstanding debt and planned additional revenue bonds and debt instruments to be issued during the forecast period. However, these calculated increases still result in a negative fund balance in each year of the study period. For this reason, the City should consider a rate increase sooner than fiscal year 2016 to reduce or eliminate the negative annual operating results and further stabilize the fund balance over the study period.
2. The Water Division's operating balance is maintained at or above 90 days of operating and maintenance expenses throughout the forecast period.
3. Annual debt service coverage requirements are exceeded and are maintained above 150 percent throughout the forecast period.
4. Based on the financing plan proposed in this report, the Water Division will need to issue approximately $30 million in revenue bonds in fiscal year 2015 to fund the proposed Capital Improvement Program.

We wish to acknowledge the cooperation and assistance provided by Water Division staff during this project. This opportunity to be of service to the Water Division is greatly appreciated. If you have any questions about this report, please call me at 636-288-2892.

Very truly yours,
BLACK & VEATCH CORPORATION

Pamela R Lemoine

Pam Lemoine
Principal Consultant

Enclosure

cc: Mr. Jim Kummer, City of St. Louis Water Division
Mr. John Kersten, Vice President, Black & Veatch Corporation

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1 Introduction

1.1 PURPOSE AND LIMITATIONS

The purpose of this report is to summarize findings and provide recommendations through financial analyses performed by Black & Veatch Corporation ("Black & Veatch") regarding the adequacy of the Water Division's water rate revenue.

In conducting its analyses and in forming an opinion of future operating expenses and revenues summarized in this letter report, Black & Veatch has made certain assumptions with respect to conditions, events, and circumstances that may occur in the future. The methodology utilized by Black & Veatch in performing the analysis follows generally accepted practices for such projections. Such assumptions and methodologies are summarized in this report and are reasonable and appropriate for the purpose for which they are used. While Black & Veatch believes the assumptions are reasonable and the projection methodology valid, actual results may differ materially from those projected, as influenced by the conditions, events, and circumstances that actually occur.

Use of this report or reliance on any information contained herein constitutes a waiver of release of Black & Veatch from and against all claims and liabilities, including, but not limited to, liability for special, incidental, indirect, or consequential damages in connection with such use. In addition, use of this report or any information contained herein constitutes agreement to defend and hold Black & Veatch harmless from and against any claims and liability in connection with such use to the extent permitted by law.

1.2 ASSUMPTIONS

The following are primary assumptions used in the forecast of future expenses and revenues:

1. In preparation of this letter report, Black & Veatch has relied on certain historical, financial, and statistical data supplied by City staff and not within the control of Black & Veatch. While such data are considered reliable, Black & Veatch has not made an analysis or independently verified the validity of such data. While it is believed that the information, data, and opinions contained herein will be reliable under the conditions and subject to the limitations set forth herein, Black & Veatch does not guarantee the accuracy thereof to the extent that such information, data, or opinions were based on information provided by others.

2. The City's estimates of content, scheduling, and cost of the 5 year capital improvement program present a reasonable projection of the future construction program.

3. City staff will recommend the indicated revenue increases to the Board in time for their stated implementation.

4. The Board will approve the indicated revenue increases and the issuance of the proposed new debt in fiscal year 2015 required to finance the capital improvement program.

5. The City will receive approximately $9.4 million from the state of Missouri's Department of Natural Resources low interest loan program, and will begin making associated debt service payments in fiscal year 2014.

6. Debt service for the revenue bonds proposed to be issued will be approximately as estimated.
7. The City will provide a minimum operating reserve balance by the end of the study period that is at least equal to the next 90 days of operating expenditures.
8. There will be no significant changes in water sales from the projections shown herein.
9. There will be no material changes in federal and state laws or regulations that would adversely affect the City's ability to secure tax-exempt financing for its water system, place more stringent limitations on water quality, materially increase the cost of constructing or operating the water system, or otherwise adversely affect operating of the water system.
10. Local and regional economic conditions will remain relatively stable.

2 Revenue Adequacy under Existing Rates

A comparison summary of revenues under existing rates and revenue requirements is shown in Table 1. This summary table demonstrates the extent to which the City is expected to comply with the rate covenants for fiscal years 2013 through 2017 without rate increases. Rate increases of 11.0 and 12.0 percent in fiscal years 2010 and 2011 respectively, in addition to the restructuring of outstanding debt through the Series 2011 Water Revenue Refunding Bonds, has improved the ability of the Water Division to meet rate covenant requirements for debt service coverage during the study period. In addition, the Water Division has been successful in reducing operation and maintenance (O&M) expenses over the past several years. Fiscal year 2012 O&M was 5.97 percent lower than in fiscal year 2009, reflecting a substantial reduction of 6.8 percent in fiscal year 2010 and minimal escalation in fiscal years 2011 and 2012.

In addition, even without rate increases, the City is projected to have sufficient adjusted fiscal year 2014 net revenues to meet the more restrictive additional bonds coverage test for fiscal year 2015 and beyond. This test must be met to allow the planned issuance of revenue bonds in 2015 required to finance proposed capital improvement projects in fiscal years 2015, 2016, and 2017. The additional bonds test requires net revenues for the prior fiscal year, as adjusted for any rate increase adopted prior to the sale of additional bonds; provide at least 125 percent of the maximum annual debt service requirement, including debt service on any proposed bonds. As indicated by Table 1, debt service coverage is well above the 125 percent limit, falling to its lowest point of 224 percent in fiscal year 2015. To maintain its position to meet these coverage requirements over the long term, and to retain and/or improve the water utility's current bond rating, Black & Veatch recommends that the City establish a policy to maintain a ***minimum*** annual debt service coverage target of 150 percent.

While revenues are projected to meet rate covenant debt service requirements, without rate increases in or before fiscal year 2014, the Water Division's net annual operating fund balance will be negative beginning in fiscal year 2014, and the operating fund balance drops below the recommended minimum of 90 days of operation and maintenance expense by fiscal year 2017. While substantial operating fund balances are available to absorb short term annual revenue shortfalls, 3.0 percent rate increases are required in fiscal years 2016 and 2017 to help ensure that the operating fund balances remain at or above 90 days of operation and maintenance expenses while allowing sufficient funding for the capital projects included in the CIP. This is critical not only for the financial stability of the water utility, but also to demonstrate to the bond market and rating agencies that the City is committed to maintaining the financial health of the water utility. While these minimal rate increases should result in an operating fund balance of approximately 90 days of O&M at the end of fiscal year 2017, as will be discussed in this report, the fund balance is projected to erode each year of the study period. Such a precipitous decline in fund balance, even though it is due to the cash funding of capital projects, could be a concern to rating agencies. ***Therefore, the City should consider a rate increase sooner than fiscal year 2016 to reduce or eliminate the negative annual operating results and further stabilize the fund balance over the study period***. A detailed discussion of the methodology used both for Table 1 and a similar table (Table 3) showing the effect of proposed revenue increases is presented in the following pages of this letter report.

Table 1 Operating Flow of Funds

Line No.				Fiscal Years Ending June 30 2012	2013	2014	2015	2016	2017
				$	$	$	$	$	$
	Water Sales Revenue at Existing Rates								
1	Retail (a)			49,450,000	50,235,640	49,611,000	48,994,000	48,385,000	47,783,000
2	Wholesale (b)			4,251,000	3,045,000	3,075,000	3,106,000	3,137,000	3,168,000
	Additional Water Sales Revenue:								
	Year	Proposed Retail Rate Increase	Months Effective						
3	2013	0.0%	12		0	0	0	0	0
4	2014	0.0%	12			0	0	0	0
5	2015	0.0%	12				0	0	0
6	2016	0.0%	12					0	0
7	2017	0.0%	12						0
8	Total Additional Water Sales Revenue			0	0	0	0	0	0
9	Total Water Sales Revenue			53,701,000	53,280,640	52,686,000	52,100,000	51,522,000	50,951,000
	Other Revenue								
10	Other Operating Revenue			4,169,000	4,190,000	4,211,000	4,232,000	4,253,000	4,274,000
11	Interest Income (c)			11,000	243,500	284,100	240,100	168,300	135,500
12	Net Other Nonoperating Revenues (d)			615,000	761,000	761,000	761,000	761,000	761,000
13	Total Revenue			58,496,000	58,475,140	57,942,100	57,333,100	56,704,300	56,121,500
14	Operation and Maintenance Expense (e)			37,878,000	39,273,000	40,529,000	41,824,000	43,160,000	44,536,000
15	Gross Receipts Tax (f)			3,297,000	3,508,000	3,475,000	3,439,000	3,401,000	3,366,000
16	Net Revenue			17,321,000	15,694,140	13,938,100	12,070,100	10,143,300	8,219,500
	Debt Service Deposits (g)								
17	Existing			5,119,200	4,038,000	3,850,500	3,848,700	0	0
18	Proposed			0	0	43,400	1,546,000	2,977,900	2,976,800
19	Total Debt Service Deposits			5,119,200	4,038,000	3,893,900	5,394,700	2,977,900	2,976,800
20	Routine Annual Improvements (h)			946,800	3,236,600	3,236,600	3,236,600	3,236,600	3,236,600
21	Transfer from Ordinance Funds			0	0	0	0	0	0
22	Transfer to Construction Funds			8,796,000	0	7,000,000	13,250,000	6,500,000	6,000,000
23	Net Annual Balance			2,459,000	8,419,540	(192,400)	(9,811,200)	(2,571,200)	(3,993,900)
24	Balance Available at Beginning of Year			15,962,000	18,421,000	26,840,540	26,648,140	16,836,940	14,265,740
25	Balance Available at End of Year			18,421,000	26,840,540	26,648,140	16,836,940	14,265,740	10,271,840
26	Debt Service Payments (i)			5,119,200	4,038,000	3,893,900	5,394,700	2,977,900	2,976,800
27	Debt Service Coverage (j)			338%	389%	358%	224%	341%	276%

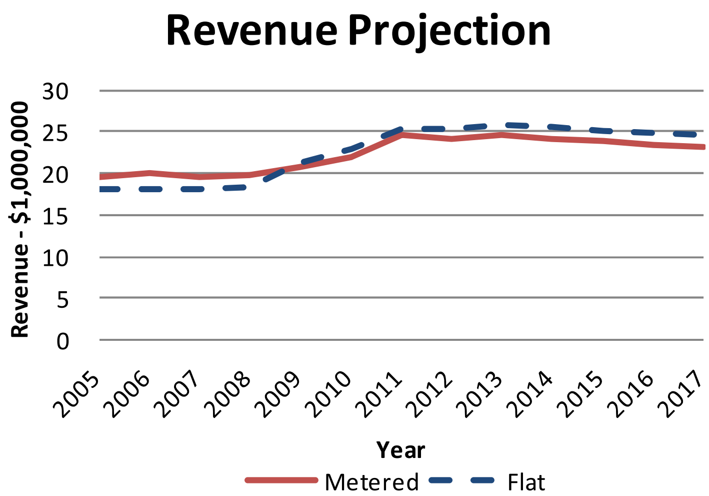
Notes:

(a) Includes net revenue from metered and flat rate customers. Revenue is projected to decrease at an average annual rate of -1.5 percent per year for metered customers and -1.0 percent for flat rate customers.
(b) Revenue increases for the wholesale customers is proportional to expected growth and increases in O&M expense.
(c) Interest income is based on the average balance of funds available for investment and an average annual interest rate of 1.0 percent. Also includes interest earned on the Bond and Interest Account.
(d) Includes miscellaneous nonoperating revenue in excess of nonoperating expenditures.
(e) Excludes depreciation expense.
(f) Equal to six percent of gross operating revenue.
(g) Deposits to the Bond and Interest Account.
(h) Includes net proceeds from Series 2011 Water Revenue Refunding Bonds.
(i) Actual payments to the bondholders.
(j) Net revenue (Line 16) divided by debt service payments made to bondholders (Line 26).

3 Revenue and Revenue Requirements

3.1 REVENUE

Revenue for the water utility is derived principally from charges for treated water service, which includes flat rate water sales, metered water sales, and wholesale water service. Metered water sales historically were the largest source of water revenue for the City, but beginning in 2009, flat rate water sales have exceeded metered water sales. This is likely due in part to declining water usage for metered water customers, which is a trend that is being experienced by utilities across the Country.



Metered and flat rate retail water sales revenues are projected based on revenues actually received under existing rates during fiscal year 2012 and the first 7 months of fiscal year 2013 along with recognition of observed trends in billed water sales volumes and customer accounts from the most recent 7 years of customer billing information. Based upon these analyses, water revenue from metered customers is projected to decrease approximately 1.5 percent per year and water revenue from flat rate customers is projected to decrease approximately 1.0 percent annually. The prior study expected metered water sales revenue to decrease approximately 3.5 percent per year and flat rate revenue to decrease approximately 0.5 percent annually. The revenue projection graph shows the change in revenue due to usage changes and various rate increases in fiscal years 2008 and 2010, and the projection under the current rates as of July 2012 for the 5 year period of fiscal years 2013 through 2017.

Historic Water Rate Increases

Fiscal Year	Increase	Compounded
1994	0.0%	0.0%
1995	22.0%	22.0%
1996	13.0%	37.9%
1997	7.0%	47.5%
1998	0.0%	47.5%
1999	0.0%	47.5%
2000	0.0%	47.5%
2001	0.0%	47.5%
2002	0.0%	47.5%
2003	0.0%	47.5%
2004	9.0%	60.8%
2005	4.5%	68.0%
2006	0.0%	68.0%
2007	0.0%	68.0%
2008	19.0%	99.9%
2009	0.0%	99.9%
2010	11.0%	121.9%
2011	12.0%	148.6%
2012	0.0%	148.6%
2013	0.0%	148.6%
Annual Avg.	4.88%	

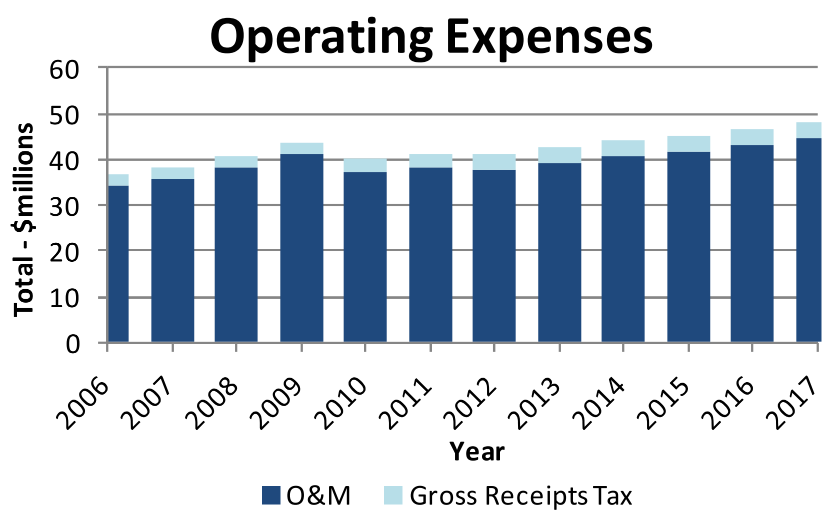
Revenue from wholesale customers is projected to increase approximately 1.0 percent per year over 2011 revenue. Wholesale customer usage increased sharply in fiscal year 2012 largely because of a significant drought in the region which caused wholesale customers to turn to the City for a larger portion of their source of supply than they traditionally had obtained. The result was a 41.0 percent increase in wholesale revenue for 2012. The prior study expected wholesale water sales revenue to decrease approximately 1.0 percent per year.

The last water rate increase of 12.0 percent was enacted in fiscal year 2011. A history of the retail water rate increases enacted by the City over the past 20 years is shown in the adjacent figure. As indicated in this figure, the City has not adjusted water rates on a routine annual basis. If the City had adjusted rates on an annual basis, an annual increase of about 4.9 percent during this period would have produced the same cumulative revenue increase over the 20 year period.

3.2 REVENUE REQUIREMENTS

The revenue required to adequately provide for the continued operation of the water utility must be sufficient to meet the cash requirements for system operation. Revenue requirements include: (1) operating and maintenance expense; (2) gross receipts taxes paid to the City of St. Louis; (3) debt service (consisting of principal and interest payments) on existing and proposed bonds and the projected state of Missouri Department of Natural Resources low interest loan program; and (4) expenditures for routine and major capital improvements met from annual revenues. Projections of the cash requirements to meet these system expenditures for the 5 year period of fiscal years 2013 through 2017 are developed in this section.

3.2.1 Operating and Maintenance Expense



The elements of operating and maintenance expense for the Water Division include the annual expense associated with supply and purification, transmission and distribution, power and pumping, administrative and general, and customer accounting. Each of these cost categories includes salaries and wages, materials and supplies, support services, and other services. Some of the categories include additional costs for chemicals, purchased power, and the cost of service line maintenance. Actual audited costs recorded for fiscal year 2012 were used in this analysis. Projections for fiscal years 2013 through 2017 are based on actual 2012 costs with an inflation allowance of 3.0 percent per year for most expenditures, except as noted below.

Operating and maintenance expense also includes costs for other City department services, the additional year end adjustment for expenses incurred due to the Collector of Revenue and the cost of community services. City department services are projected to increase at 5.0 percent per year. Future cost estimates for the Collector of Revenue year end adjustment are projected to increase by 3.0 percent per year. Total operating and maintenance expense is projected to increase from $39.3 million in fiscal year 2013 to approximately $44.5 million in fiscal year 2017.

3.2.2 Gross Receipts Tax

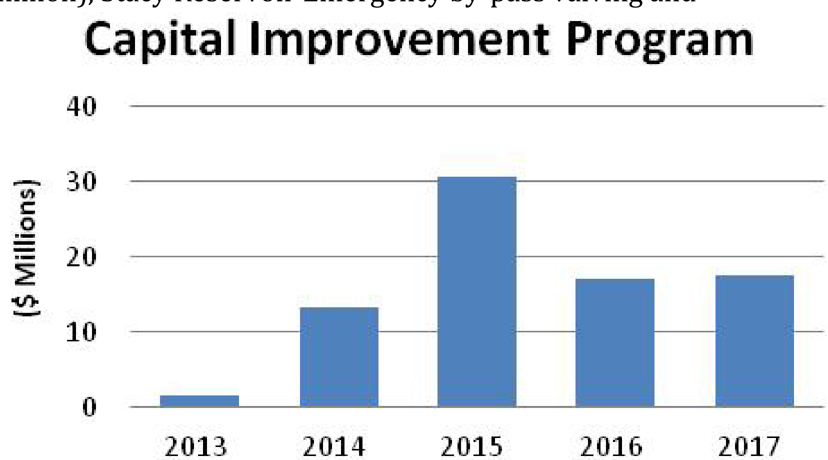
Gross receipts tax payable by the Water Division is equal to 6 percent of gross water revenue. An additional 4 percent gross receipts tax, which is shown as a separate line item on each water bill, is paid directly to the City's General Fund and does not affect the rate design process of the Water Division. Gross water revenue is equal to total retail water sales revenue, wholesale water sales revenue, interest income, and all other operating and nonoperating revenue. Gross receipts tax payments are projected to slightly decrease from $3.5 million in fiscal year 2013 to $3.4 million in fiscal year 2017 as shown in Table 1 if rate increases are not implemented during the study period. The Operating Expenses figure shows the projection of total operating expenses, which consist of total operating and maintenance expense and gross receipts tax payments based on projected revenues with proposed rate increases as depicted in Table 3.

3.2.3 Routine Annual Improvements

Expenditures for routine annual capital improvements include those costs that tend to be routinely incurred each year for on-going improvements or repairs as well as normal replacements such as vehicles and office equipment. Since the costs of these improvements are a continuing expense to be met each year, the Water Division appropriately finances these expenditures from current water revenues. These expenditures are originally recorded as operating and maintenance expenses but are capitalized during each year and deducted from the Water Division's annual operating and maintenance expense. Routine annual improvements are projected to remain at $3.2 million throughout the forecast period.

3.2.4 Major Capital Improvements

The figure to the right summarizes the proposed major capital improvements from fiscal years 2013 through 2017, as prepared by Water Division staff. The total cost of improvements included in the proposed financing plan is currently estimated to be $81 million. Major projects include: Distribution and Transmission main replacement and improvements ($17 million), Booster pump station from Chain of Rocks to Stacy Park Reservoir ($15 million), Miscellaneous Plant Improvements ($4 million), Electrical Improvements and pump stations ($4 million), Chain of Rocks Filter Plant Improvements ($4 million), Stacy Reservoir Emergency by-pass valving and improvements ($3 million), and Valve Replacements at the plants ($2 million). These capital projects are needed to improve operations, provide system redundancy and replace aging infrastructure.



Without proposed rate increases in fiscal years 2016 and 2017 and new bond proceeds or other revenue sources, the indicated major capital improvement program will need to be reduced. To avoid this situation, the proposed rate increases should be implemented.

3.2.5 Major Capital Improvement Financing

Table 2 presents the proposed capital improvement financing plan and summarizes the projected source and application of funds over the six year study period. This plan anticipates that proposed capital improvements will be financed from a combination of available funds on hand, annual operating revenues resulting from additional rate increases, revenue bonds, the anticipated $9.4 million loan from the state of Missouri Department of Natural Resources, and interest income.

The beginning of year balances for fiscal years 2012 and 2013, as shown in Table 2, are based on audited financial statements. The unencumbered balance available at the beginning of fiscal year 2013 was $9.5 million. This includes monies held in the Water Ordinances, Water Bond Ordinance, and Unappropriated Construction Funds accounts. Total cash financing of major capital improvements from annual revenues is anticipated to total $32.8 million for fiscal years 2013 through 2017. Interest income is projected to provide about $595,000 during this period and is determined based on average beginning and ending fund balances shown on Lines 1 and 12 of Table 2 and an average annual interest rate of 1.0 percent per year. A revenue bond issue in the amount of $30 million in fiscal year 2015 is shown on Line 5 of Table 2. These bonds are expected to finance approximately 37.0 percent of the total five year major capital improvement program costs. The amount of the proposed issue was developed considering capital program needs, current policies, other sources of capital improvement program financing, and debt service coverage requirements related to the issuance of revenue bonds.

Table 2 Capital Flow of Funds

Line No.		Fiscal Years Ending June 30					
		2012	2013	2014	2015	2016	2017
		$	$	$	$	$	$
	Source of Funds						
1	Beginning of Year Balance	3,541,000	9,537,000	7,926,900	10,656,300	23,054,500	12,535,000
2	Cash Financing of Improvements	8,796,000	0	7,000,000	13,250,000	6,500,000	6,000,000
3	Projected DNR Loan	0	0	9,400,000	0	0	0
4	Interest Income	0	87,300	94,800	167,800	177,900	67,200
5	Proposed Revenue Bonds	0	0	0	30,000,000	0	0
6	Total	12,337,000	9,624,300	24,421,700	54,074,100	29,732,400	18,602,200
	Application of Funds						
7	Major Capital Improvements	2,800,000	1,697,400	13,397,400	30,647,400	17,197,400	17,697,400
8	Revenue Bond Issuance Cost	0	0	0	300,000	0	0
9	DNR Loan Issuance Cost	0	0	368,000	0	0	0
10	Purchase of Surety Bond	0	0	0	72,200	0	0
11	Transfers Out	0	0	0	0	0	0
12	Total	2,800,000	1,697,400	13,765,400	31,019,600	17,197,400	17,697,400
13	End of Year Balance	9,537,000	7,926,900	10,656,300	23,054,500	12,535,000	904,800

The application of funds shows that $80.6 million total major capital improvement expenditures are expected for fiscal years 2013 through 2017. Lines 8, 9, and 10 of Table 2 allows for costs that are typically associated with the issuance of revenue bonds. The costs associated with the Department of Natural Resources loan estimated to be $274,000 plus 1.0 percent of the total loan amount resulting in total issuance costs of $368,000. The costs to issue the proposed revenue bonds in fiscal year 2015 are estimated to total $300,000 during the study period. This estimate assumes issuance costs are equal to 1.0 percent of the principal amounts borrowed. In addition, it is assumed that the City would purchase a surety bond, which is estimated to cost 3.0 percent of the expected maximum debt service payment for the fiscal year 2015 revenue bond issue. Although surety bonds are assumed for this analysis, it is not intended to preclude the option of satisfying a debt reserve requirement by establishing a debt service reserve fund should the City find this to be a more preferable option.

3.2.6 Debt Service Requirements

The Water Division has one revenue bond issue currently outstanding, the Series 2011 Refunding Revenue Bonds. The 2011 bonds are scheduled to be retired in July 2014. One new revenue bond is projected to be issued within the study period. The Series 2015 bonds are assumed to be issued on January 1, 2015. Annual debt service requirements on the proposed revenue bonds assume equal annual principal and interest payments with 20 year maturities and an average annual interest rate of 5.0 percent. In addition, it is anticipated that the City will receive $9.4 million from the state of Missouri Department of Natural Resources in fiscal year 2014 and begin making principal and interest payments later that year. Annual debt service on the new bonds and the Department of Natural Resources is expected to increase from $0 in fiscal year 2013 to $1.8 million in fiscal year 2017.

3.2.7 Operating Reserve

The operating reserve is a recommended balance to be maintained in the Operating Fund to accommodate fluctuations in annual revenues and expenditures. Black & Veatch recommends that the utility establish a policy to require a minimum operating reserve is set equal to 90 days or approximately 25.0 percent of annual operating and maintenance expense.

3.3 SUMMARY OF REVENUE AND REVENUE REQUIREMENTS

A pro forma cash flow statement showing projected revenues and revenue requirements for the Water Division during fiscal years 2012 through 2017 is presented in Table 3. Water revenues must be at least sufficient to finance the costs of operating and maintenance, gross receipts taxes, routine annual capital improvements, and debt service costs on existing and future revenue bonds, while maintaining adequate operating reserves and complying with all applicable revenue bond coverage requirements. Annual revenue can also be used to provide partial cash financing of major capital improvements.

Lines 1 and 2 of Table 3 show actual and projected revenue under existing rates attributable to the respective retail and wholesale customers. Lines 3 through 8 show projected increases in retail water sales revenues assumed to be in effect for the number of months indicated for each fiscal year. Indicated rate increases are required for fiscal years 2016 and 2017 to meet projected revenue requirements, maintain the operating reserve, and provide the required annual debt service coverage of 125 percent to enable the utility to issue additional revenue bonds for needed capital improvement projects. These annual revenue increases are necessary to continue to comply with the requirements set forth in Sections 210(b) and 810C(b) of the City's Water Revenue Bond Indenture of Trust and are also designed to maintain a minimum balance in the Operating Fund at least equal to the recommended 90 day operating reserve requirement plus allow for additional contingencies. The indicated revenue increases are considered to be the ***<u>minimum</u>*** increases required by the water utility to maintain the 90 day operating reserve requirement.

As indicated on Line 6 of Table 3, a 3.0 percent increase effective July 1, 2015 is proposed to produce the additional revenue required to pay additional debt service on the new bonds, provide adequate debt service coverage, cash finance a portion of the capital improvement program for fiscal year 2016 while maintaining the available fund balances to their desired levels, and lessen the effect on future revenue increases. An additional full-year revenue increase of 3.0 percent in fiscal year 2017 is also indicated on Line 7 of Table 3. These increases should put the City in position to meet minimum required debt service coverage if operating and maintenance expense unexpectedly increases, water sales revenue decreases below the projected levels, or by the occurrence of any other changes that affect net revenues than currently projected in this report. However, it should be noted that these minimal rate increases will not fully eliminate the negative annual operating fund balances in fiscal years 2014 through 2017. Therefore, the City should consider implementing a rate increase earlier, or implement a larger rate increase(s) to further stablize the operating fund. In addition, because this analysis results in a fiscal year 2017 year end balance of approximately 90 days O&M, it is likely that further rate increases will be required in future years to continue to meet the minimum fund balance.

Other operating revenue available for the water system is expected to increase slightly from $4.2 million in fiscal year 2013 to $4.3 million in fiscal year 2017. Interest income earned on available funds is shown on Line 11 of Table 3. The interest income shown in Table 2 is not included in Line 11 of Table 3 because such construction related interest earnings are not available for debt service coverage. Projected interest income amounts are based on a 1.0 percent annual interest rate applied to average beginning and end of year fund balances. Funds available for this interest calculation include the Waterworks Revenue Fund, Waterworks Operation and Maintenance Account, Water Replacement and Improvement Account, and the Water Contingent Account, which comprise the amounts shown in Lines 24 and 25 of Table 3. Interest income also includes amounts earned on monies deposited and retained by the Bond and Interest Account during each year and any residual interest earned on the Water Bond Reserve Fund. Other nonoperating revenue is shown on Line 12 and consists of miscellaneous nonoperating revenue and the interest expense on customer deposits in excess of nonoperating expenditures. Total water system revenue is shown on Line 13 of Table 3.

Operating and maintenance expense and gross receipts tax payments are shown on Lines 14 and 15 of Table 3. The projected gross receipts tax payments are greater than those shown in Table 1 because of the proposed retail revenue increases. Line 16 shows the net revenue remaining after deducting operating and maintenance expense and gross receipts tax from total revenue. This net revenue is available for debt service coverage and other purposes.

Debt service requirements on existing revenue bonds reflect the monthly deposits made to the Bond and Interest Account and are shown on Line 17 of Table 3. Existing debt service is projected to remain relatively constant between $4.0 million and $3.8 million during fiscal years 2013 through 2015 and drop off in fiscal year 2016 when the Series 2011 Refunding Bonds will expire. Additional bonds are expected to be issued in fiscal year 2015 to help finance the capital improvement program. In addition to the additional bonds in fiscal year 2015, additional debt service payments associated with the Department of Natural Resources loan in fiscal year 2014 are projected. As indicated on Line 18 of Table 3, the debt service requirement on these future debt issuances is projected to increase from approximately $43,400 in fiscal year 2014 to approximately $3.0 million in fiscal year 2017.

The costs for routine annual improvements, transfer from Ordinance Funds, and the funds available to cash finance part of the major capital improvement program are shown on Lines 20, 21 and 22, respectively, of Table 3. The net annual balance shown on Line 23 of Table 3 is equal to net revenue (Line 16) less total debt service (Line 19), less routine annual improvements (Line 20), plus transfers from Ordinance Funds (Line 21), and less cash financing of major capital improvements (Line 22). Balances indicated for the combined fund balances included in Table 3 are shown on Lines 24 and 25. The end of year balance for fiscal year 2012 matches the balance reported by the Water Division for the combined funds.

Debt service coverage is reported on Line 27 of Table 3. Debt service coverage is equal to net revenue (Line 16) divided by total revenue bond principal and interest payments made to the bondholders (Line 26). The Indenture of Trust requires that the City maintain an annual debt service coverage ratio of at least 110 percent. To allow for possible fluctuations in revenue and operating expenses, such as may occur periodically due to unexpected decreased water sales and possible unexpected increases in costs of system operating, and to maintain the ability to meet the more restrictive 125 percent additional bonds coverage test, it is suggested that a future coverage level of at least 150 percent should be recognized for rate design purposes. This will provide a greater margin above the minimum coverage requirements and may enhance the marketability of future bond issues. Under the proposed revenue adjustments, this targeted level is exceeded in each year of the study period, as shown on Line 27.

Table 3 Operating Flow of Funds

Line No.		Year	Proposed Retail Rate Increase	Months Effective	Fiscal Years Ending June 30 2012	2013	2014	2015	2016	2017
					$	$	$	$	$	$
	Water Sales Revenue at Existing Rates									
1	Retail (a)				49,450,000	50,235,640	49,611,000	48,994,000	48,385,000	47,783,000
2	Wholesale (b)				4,251,000	3,045,000	3,075,000	3,106,000	3,137,000	3,168,000
	Additional Retail Water Sales Revenue:									
3		2012	0.0%	12	0	0	0	0	0	0
3		2013	0.0%	12		0	0	0	0	0
4		2014	0.0%	12			0	0	0	0
5		2015	0.0%	12				0	0	0
6		2016	3.0%	12					1,332,200	1,433,500
7		2017	3.0%	12						1,355,100
8	Total Additional Water Sales Revenue				0	0	0	0	1,332,200	2,788,600
9	Total Water Sales Revenue				53,701,000	53,280,640	52,686,000	52,100,000	52,854,200	53,739,600
	Other Revenue									
10	Other Operating Revenue				4,169,000	4,190,000	4,211,000	4,232,000	4,253,000	4,274,000
11	Interest Income (c)				11,000	243,500	284,000	240,100	174,600	161,300
12	Net Other Nonoperating Revenues (d)				615,000	761,000	761,000	761,000	761,000	761,000
13	Total Revenue				58,496,000	58,475,140	57,942,000	57,333,100	58,042,800	58,935,900
14	Operation and Maintenance Expense (e)				37,878,000	39,273,000	40,529,000	41,824,000	43,160,000	44,536,000
15	Gross Receipts Tax (f)				3,297,000	3,509,000	3,477,000	3,440,000	3,483,000	3,536,000
16	Net Revenue				17,321,000	15,693,140	13,936,000	12,069,100	11,399,800	10,863,900
	Debt Service Deposits (g)									
17	Existing				5,119,200	4,038,000	3,850,500	3,848,700	0	0
18	Proposed				0	0	43,400	1,546,000	2,977,900	2,976,800
19	Total Debt Service Deposits				5,119,200	4,038,000	3,893,900	5,394,700	2,977,900	2,976,800
20	Routine Annual Improvements (h)				946,800	3,236,600	3,236,600	3,236,600	3,236,600	3,236,600
21	Transfer from Ordinance Funds				0	0	0	0	0	0
22	Transfer to Construction Funds				8,796,000	0	7,000,000	13,250,000	6,500,000	6,000,000
23	Net Annual Balance				2,459,000	8,418,540	(194,500)	(9,812,200)	(1,314,700)	(1,349,500)
24	Balance Available at Beginning of Year				15,962,000	18,421,000	26,839,540	26,645,040	16,832,840	15,518,140
25	Balance Available at End of Year				18,421,000	26,839,540	26,645,040	16,832,840	15,518,140	14,168,640
26	Debt Service Payments (i)				5,119,200	4,038,000	3,893,900	5,394,700	2,977,900	2,976,800
27	Debt Service Coverage (j)				338%	389%	358%	224%	383%	365%

Notes:

(a) Includes net revenue from metered and flat rate customers. Revenue is projected to decrease at an average annual rate of -1.5 percent per year for metered customers and -1.0 percent for flat rate customers.
(b) Revenue increases for the wholesale customers is proportional to expected growth and increases in O&M expense.
(c) Interest income is based on the average balance of funds available for investment and an average annual interest rate of 1.0 percent. Also includes interest earned on the Bond and Interest Account.
(d) Includes net miscellaneous nonoperating revenue and interest expense on consumer deposits.
(e) Excludes depreciation expense.
(f) Equal to 6.0 percent of gross operating revenue.
(g) Deposits to the Bond and Interest Account.
(h) Includes net proceeds from Series 2011 Water Revenue Refunding Bonds.
(i) Actual payments to the bondholders.
(j) Net revenue (Line 16) divided by debt service payments made to bondholders (Line 26).

3.4 REVENUE ADEQUACY

As previously stated, the increases indicated in this report are considered to be the minimum required by the water utility. Table 2 shows a significant depletion of fund balances available for future capital improvement projects and Line 23 of Table 3 shows negative annual balances for fiscal years 2014 through 2017, even with 3.0 percent rate increases in fiscal years 2016 and 2017, respectively. These increases would need to be higher if the operating fund balances were not as high as they currently are, which is offsetting the negative annual balances during fiscal years 2014 through 2017. The negative annual balances draw the projected fund balances down to the recommended 90 day allowance for the operating reserve. Based on the projected revenue shortfall in fiscal years 2014 through 2017, it is recommended that the City consider implementing a rate increase sooner than fiscal year 2016 and/or implementing a rate increase higher than the minimum level indicated in this analysis. In addition, as previously stated, it is recommended that the water utility maintain a minimum operating reserve level of at least 90 days of operation & maintenance expenses.