



CITY OF DIXON WASTEWATER RATE STUDY

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Appendix A

1 BACKGROUND & OBJECTIVES

1.1 Background

The City of Dixon (City) provides wastewater service to over 5,200 residential and commercial accounts within the City. The City is located in northern Solano County, approximately 20 miles southwest of Sacramento and 66 miles northeast of San Francisco. The City was founded in 1852 and is governed by a five-member City Council. The City encompasses approximately 7 square miles and has a population of approximately 18,600.

The City's wastewater utility operates as self-supporting enterprise fund. Revenues are derived primarily from wastewater service charges with no financial support from the City's General Fund. As such, the City must establish rates and charges adequate to fund the cost of providing wastewater service, including costs for operations and capital improvements needed to keep the City's sewer infrastructure in safe and reliable operating condition and to comply with State regulations and mandates.

Wastewater rates have not been adjusted since 2011. The City has made a significant effort to reduce overall expenses by implementing numerous cost-saving measures including reducing energy costs, applying for grants, and maintaining a minimal level of staff. Despite the City's efforts to control costs, expenses continue to rise due to general cost inflation and complying with State regulations.

In 2008, the City received a Cease and Desist Order (CDO) from the Central Valley Regional Water Quality Control Board (Regional Board) which requires the City to complete wastewater treatment plant improvements by 2014. The primary focus of the CDO is to address the possible salt pollution of the groundwater under the wastewater treatment plant percolation disposal basins to meet State sewer discharge limits. The existing treatment plant is over 50 years old and needs major refurbishment to replace deteriorating equipment and structures. After years of extensive studies, the City is pursuing an activated sludge treatment project to upgrade the treatment plant and to comply with the requirements of the CDO.

In October 2011, the City retained Bartle Wells Associates (BWA) to develop long-term financial plans and rate studies for the City's wastewater enterprise fund. Prior to this study, the City's wastewater rate structure was last reviewed in 2008 which recommended rate increases through January 1, 2011. The primary emphasis of this study is to develop a long-term financial plan and determine annual revenue requirements to fund the system's operating and maintenance expenditures and necessary wastewater infrastructure projects. Basic objectives of the rate study include:

- Provide independent review of the City’s wastewater rates and finances.
- Develop financial projections to determine future annual wastewater enterprise revenue requirements.
- Review current rate structures to ensure that wastewater rates are designed to equitably recover the costs of providing service.
- Phasing in rate adjustments over time, to the extent possible, to minimize the annual impact on ratepayers.

This report provides a summary of key findings and recommendations and is based on the most current information available. Recommendations were developed with substantial input from City staff and the City Council.

1.2 Wastewater System Overview

The City owns and operates a wastewater treatment plant and collection system. The wastewater collection system consists of approximately 72 miles of sewer pipelines, ranging from small 6-inch sewer lines to large 42-inch sewer lines within the incorporated and unincorporated areas of Dixon. The collection system also includes two aging sewer lift stations.

The City’ wastewater treatment plant is located 2.5 miles south of the City on Pedrick Road. The main wastewater treatment process is a facultative pond system consisting of a headworks, pumps, grinders, screening, and facultative ponds ranging from 6 to 13 acres each. The treatment plant also includes a 160 acre percolation/evaporation pond system for final effluent discharge. In all, the treatment plant includes 21 ponds and covers an area of 430 acres which is operated and maintained by a wastewater treatment staff of four. The capacity of the treatment plant is limited by the State to an average daily dry weather flow (ADDWF) of 1.82 million gallons per day (MGD). The current ADDWF is around 1.2 MGD.

The City also owns 120 acres of irrigable land for wastewater discharge that is currently not being used. This land is farmed under a lease with a local farmer.

1.3 Customers

The City provides sewer collection and treatment services to approximately 5,200 accounts. Single family residential ratepayers are the largest customer class, representing 92 percent of all accounts. Commercial and industrial customers account for 4.5 percent of all customers, followed by multi-family accounts at 3.6 percent. A breakdown of customer accounts for 2013/14 is shown on Table 1.

Table 1. Wastewater Customer Accounts as of November 2013

Customer Class	# of Accounts	% of Accounts
Single Family Residential	4,781	91.6%
Multi-Family Residential	186	3.6%
Schools	9	0.2%
Commercial & Industrial	235	4.5%
Church & Convalescent	7	0.1%
<u>Motel</u>	<u>4</u>	<u>0.1%</u>
Total	5,222	100.0%

1.4 Current Monthly Sewer Rates

Table 2 shows the City's current monthly wastewater rates which were last increased in January 2011. The City bills for sewer service on a bi-monthly basis (every two months). Prior to the last rate study in 2008, all single family residential customers were charged the same fixed monthly amount for wastewater service. The current rate structure for single family residential customers is based on average winter water use during the months of December through March. Water usage is capped at 18 hundred cubic feet (ccf) per month. (One ccf equals 748 gallons.) Winter water use is often used as an estimate of flows that residential customers discharge to the City's sewer system since irrigation is minimal. Average winter water use for single family residential customers is 8 ccf/month.

Multi-family residential customers, including duplexes, triplexes, fourplexes, apartments, and mobile homes, are charged a fixed monthly rate equivalent to the single family residential rate for 6 ccf/month. Multi-family units are assumed to be smaller and therefore produce less wastewater than single family homes.

Non-residential customers, including commercial and industrial customers, pay a fixed monthly service charge based on the size of their water meter and a usage rate that varies based on the strength category (low, medium, or high) for each customer. Basing service charges on the size of the water meter is a common method to estimate the cost of providing wastewater service capacity to customers in relation to the demand that they can place on the system. The usage rate for non-residential customers is based on average monthly water usage from the preceding 12-month period or 6-month winter period, whatever is less.

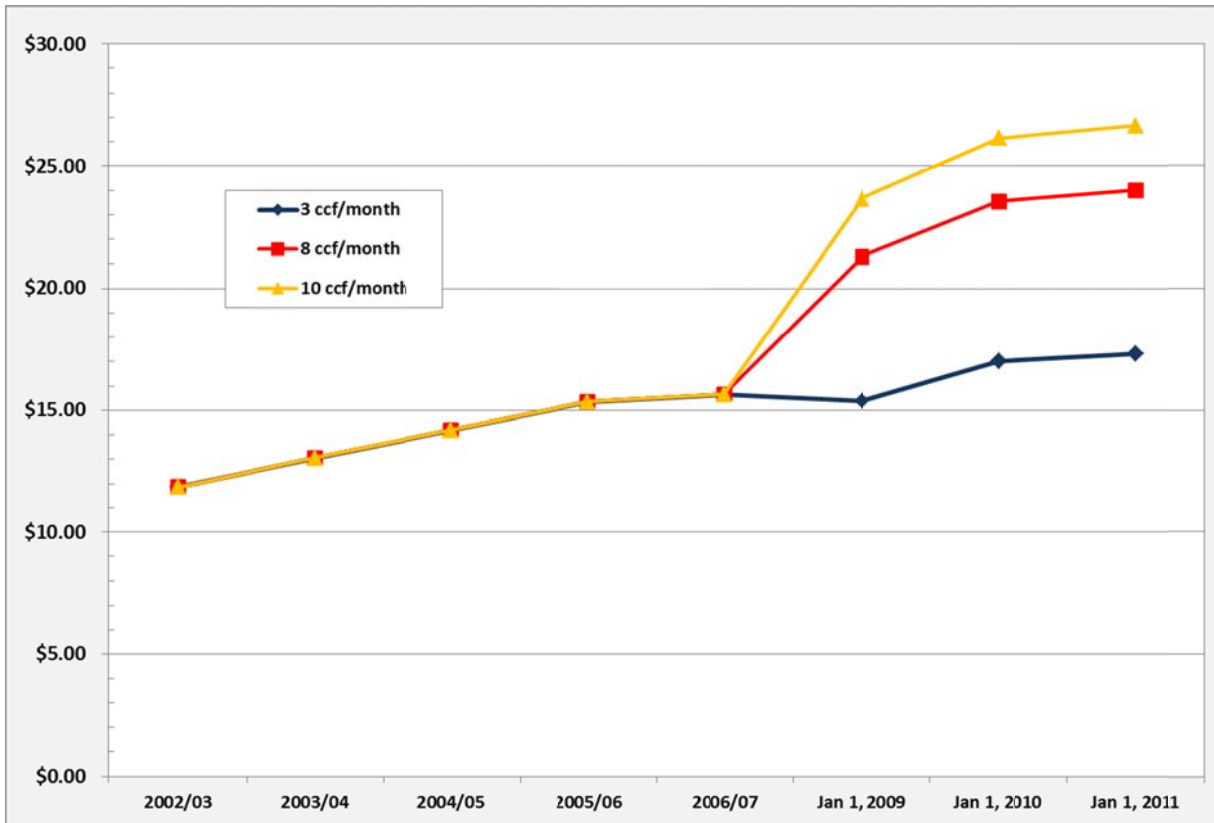
For schools, the sewer charge is a fixed charge per student based on average daily attendance (ADA) as of the prior October 1.

Table 2. Current Sewer Rates

RESIDENTIAL (\$/month per Dwelling Unit)	
Single Family Residential	
Up to 3 CCF	\$17.32
4 CCF	\$18.66
5 CCF	\$19.99
6 CCF	\$21.32
7 CCF	\$22.65
8 CCF	\$23.99
9 CCF	\$25.32
10 CCF	\$26.65
11 CCF	\$27.98
12 CCF	\$29.32
13 CCF	\$30.65
14 CCF	\$31.98
15 CCF	\$33.31
16 CCF	\$34.65
17 CCF	\$35.98
18 CCF and Over	\$37.31
Multi-Family Residential	
Apartments, Mobile Homes	\$21.32
Duplex, Triplex, and Fourplex	\$21.32
NON-RESIDENTIAL (excluding schools)	
Base Charge (\$/month)	
5/8" meter	\$10.22
3/4" meter	\$14.73
1" meter	\$23.84
1-1/2" meter	\$46.40
2" meter	\$73.39
3" meter	\$136.32
4" meter	\$226.57
Usage Charge	
Low Strength	\$1.74
Medium Strength	\$2.30
High Strength	\$3.87
Schools (\$/month per ADA)	\$0.54

Chart 1 shows a history of sewer charges for a sample of single family residential customers since 2002.

Chart 1. Historical Single Family Residential Sewer Charges



2 WASTEWATER FINANCIAL PLAN

This section summarizes key findings and recommendations regarding the City's wastewater enterprise finances and expenditures. The financial plan developed in this study determines annual revenue requirements to fund the City's operating, capital, debt service, and reserve fund expenses for the ten-year period through 2022/23.

2.1 Wastewater Financial Overview

Bartle Wells Associates conducted an independent evaluation of the City's wastewater enterprise finances. Key observations include:

- Since 2002, the City has historically adopted annual wastewater rate increases most years. The last rate study was in 2008 which recommended three years of rate increases through 2011. A history of wastewater rates since 2002/03 is shown in Appendix A, Table 1.
- The City's residential wastewater bills are amongst the lowest out of a survey of 21 neighboring and similar-sized regional agencies.
- The wastewater enterprise has approximately \$3.6 million in combined cash fund reserves and is meeting the operating fund reserve target. However, financial projections indicate the City will need to fund a substantial amount of capital projects in the next five years.
- The City faces the challenge of funding over \$37 million of sewer capital improvements in the next 10 years but first needs to complete a long-term financial plan and implement multi-year rate increases to demonstrate the wastewater enterprise's ability to pay for future debt service.

2.1.1 Fund Reserves

As of July 1, 2013, the wastewater enterprise held total cash reserves of nearly \$3.6 million in operations, capital, debt, and replacement reserve funds as shown on Table 3.

Table 3. Wastewater Fund Reserves – July 1, 2013

	Beginning Balance
Fund 305 - Wastewater Operations & Maintenance	\$1,111,909
Fund 307 - Sewer Equipment Replacement (2)	179,035
Fund 308 - Sewer Debt	8,520
Fund 310 - Wastewater Capital Improvements	1,917,435
Fund 315 - Wastewater Rehabilitation Projects	363,510
Fund 316 - Sewer Capital Mixed Projects	<u>(20,760)</u>
Total Reserves	\$3,559,649
1 - Source: Budget 2014, Enterprise Funds	
2 - Established in FY 2013 to replace Sewer Enterprise's participation in the general equipment replacement fund	

The wastewater enterprise has a total of 6 reserve funds.

- **Fund 305 - Wastewater Operations and Maintenance:** With a balance of \$1.1 million, Fund 305 (Wastewater Operations and Maintenance) is the primary account of the wastewater utility and is funded by ratepayers.
- **Fund 307 - Sewer Equipment Replacement:** The Sewer Equipment Replacement fund was established to accumulate equipment replacement funds for the sole purpose of sewer operations. Prior to 2012/13, Fund 305 made regular contributions to Fund 820 (Equipment Replacement). The balance of the transfers has been transferred from Fund 820 to Fund 307.
- **Fund 308 - Sewer Debt:** Fund 308 was established to fund debt service for the wastewater utility. An annual transfer is made from Fund 305 to pay for principal, interest, and ongoing administrative charges.
- **Fund 310 – Wastewater Capital Improvements:** Fund 310 was established for capital improvement projects that benefit only new development, such as wastewater treatment plant expansion projects and sewer pipelines to serve new development areas. These projects are funded by developer impact fees, which by law must be accounted for in a separate fund.
- **Fund 315 – Wastewater Rehabilitation Projects:** Fund 315 was established to fund rehabilitation projects that benefit only existing sewer system users. A transfer from Fund 305 is made annually to pay for ratepayer-funded rehabilitation projects.
- **Fund 316 – Sewer Capital Mixed Projects:** Fund 316 was established to fund capital improvement projects that benefit both existing customers and new development. These projects include the Sanitary Sewer Management Plan Studies, and program and projects

established to meet long-term regulatory requirements from the State. Fund 316 receives annual transfers from both Fund 305 and Fund 310 to pay for these mixed benefit infrastructure projects.

Operating Fund Balance Target

The City’s fund balance reserve target is to maintain a minimum operating fund reserve balance equivalent to 50 percent of annual operating and maintenance costs, excluding capital outlay items, transfers, and debt service. Maintaining a prudent minimal level of fund reserves provides a financial cushion for dealing with unanticipated expenses, revenue shortfalls, and non-catastrophic emergency capital repairs. The fund reserve target will escalate over time as the City’s revenues gradually increase. It is acceptable if reserves fall below the target on a temporary basis, provided action is taken to achieve the target over the longer run.

2.2 Revenues

As an enterprise fund, the wastewater utility is funded primarily by ratepayers. In 2013/14, sewer fees are estimated to account for approximately 87 percent of revenues. Other revenues include development fees, interest, penalties & interest, and miscellaneous income. The transfer from Fund 820 (Sewer Equipment Replacement) was included in the 2012/13 and 2013/14 budgets. No additional transfers from Fund 820 are anticipated in the future. Sewer development fee revenues for 2013/14 are based on conservative estimates from City staff. The sewer fee revenues budgeted for 2013/14 are shown in Table 4. Sewer fee revenues Table 4. Wastewater Revenues shown in Table 4 assume no rate increases.

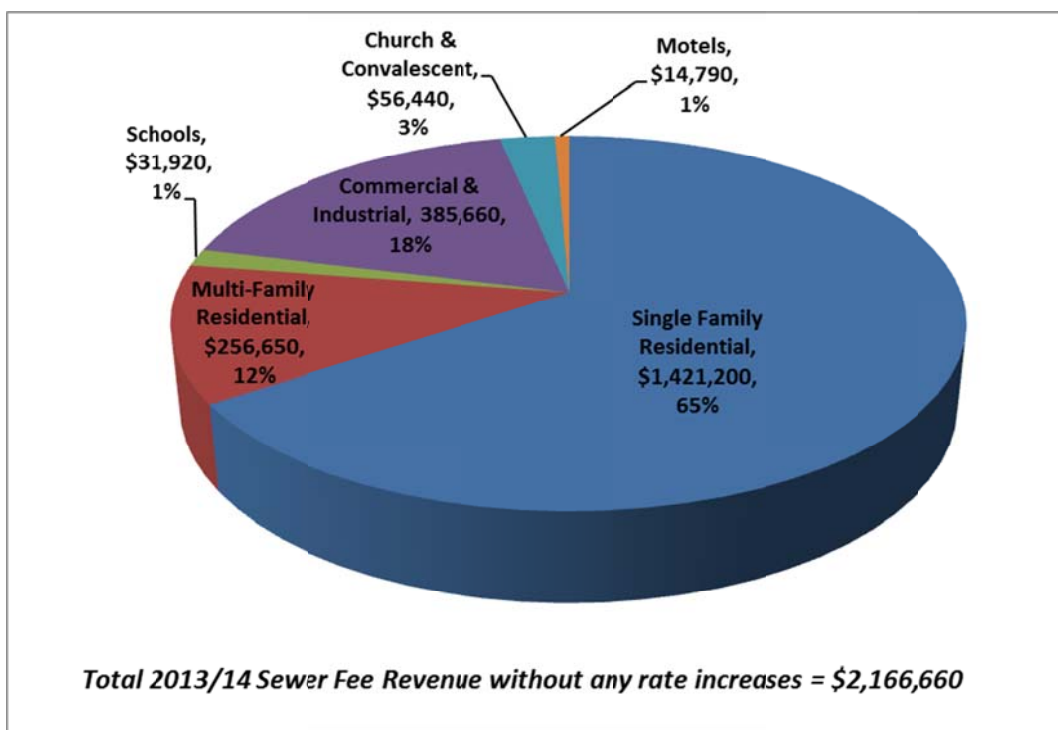
Table 4. Wastewater Revenues

Revenues	Estimated 2012/13		Budget 2013/14	
	\$	%	\$	%
Sewer Fees	\$2,201,745	80.9%	\$2,166,660	87.4%
Interest	727	0.0%	3,300	0.1%
Miscellaneous Income	300	0.0%	0	0.0%
Penalties & Interest	48,761	1.8%	47,375	1.9%
Transfer from Sewer Equipment Replacement	37,700	1.4%	62,500	2.5%
<u>Development Fees</u>	<u>432,010</u>	<u>15.9%</u>	<u>200,000</u>	<u>8.1%</u>
Total Sewer Fees and Other Revenues	2,721,243	100.0%	2,479,835	100.0%

Source: Budget 2014, Enterprise Funds

A breakout of sewer fee revenues by customer class based on the 2013/14 budget is shown on Chart 2. Single family residential customers represent 65 percent of all sewer fee revenue followed by schools and multi-family residential customers which represent approximately 18 and 12 percent, respectively, of all sewer fee revenues. The 2013/14 revenues assume no sewer rate increases.

Chart 2. 2013/14 Estimated Sewer Rate Revenues by Customer Class



2.3 Expenses / Key Drivers of Rate Increases

Going forward, the City’s wastewater enterprise is facing a number of financial challenges that will require the City to raise rates over the next decade. Key drivers of future wastewater rate increases are summarized below.

2.3.1 Capital Improvements / Aging Infrastructure

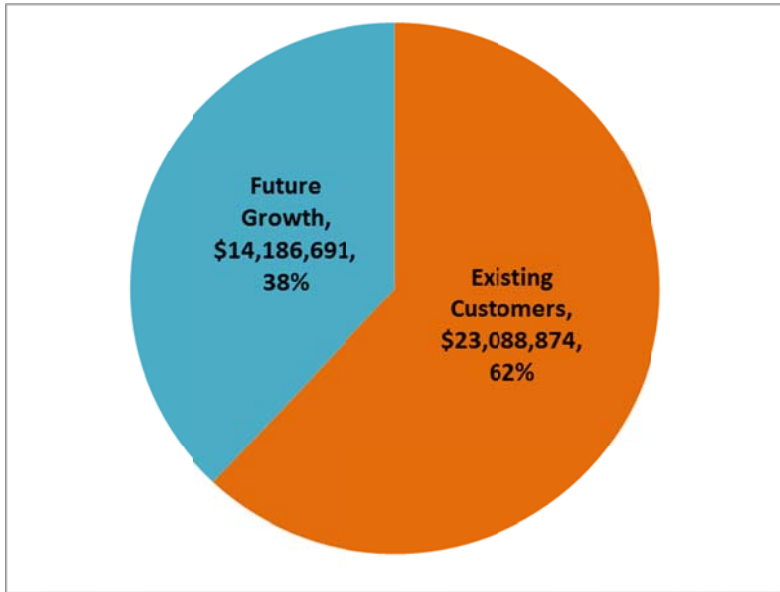
The City’s Ten-Year (FY 2014 through 2023) Capital Improvement Program (CIP) includes over \$36 million in infrastructure improvements as shown on Table 5. The majority of projects are planned for the next five years (FY 2014 through 2018). Cost estimates have been escalated by 3 percent each year for annual cost inflation.

Table 5. Sewer Capital Improvement Program (FY 2014 through 2023)

Project No.	Project	2013/14	2014/15	2015/16	2016/17	2017/18	Beyond 5 Years	Project Total
Fund 310 - Wastewater Capital Improvements								
107	East-West Sewer Trunk Connector	<u>0</u>	<u>790,000</u>	<u>791,000</u>	<u>0</u>	<u>0</u>	<u>0</u>	<u>1,581,000</u>
	Subtotal	0	790,000	791,000	0	0	0	1,581,000
Fund 315 - Wastewater Rehabilitation Projects								
102	Sewer Manhole Adjustments/Rehab	\$126,000	\$48,000	\$48,000	\$48,000	\$48,000	\$96,000	\$414,000
108	Wastewater Facilities Plan Update	0	0	0	0	0	0	0
109	27" Sewer Trunk Line Rehabilitation Project	0	585,000	0	0	0	0	585,000
110	Wastewater Facilities Design/Environmental	3,000	0	0	0	0	0	3,000
119	Rehabilitation of Sewer Mains	151,000	151,000	151,000	151,000	151,000	604,000	1,359,000
123	Salt Reduction Program	2,000	4,000	3,000	3,000	3,000	15,000	30,000
125	State Revolving Fund Studies/Application	0	0	0	0	0	0	0
127	North Lincoln Street Lift Station Replacement	<u>0</u>	<u>742,000</u>	<u>0</u>	<u>0</u>	<u>0</u>	<u>0</u>	<u>742,000</u>
	Subtotal	282,000	1,530,000	202,000	202,000	202,000	715,000	3,133,000
Fund 316 - Sewer Capital Mixed Projects								
115	Quarterly Groundwater Monitoring Program	1,000	16,000	18,000	18,000	18,000	100,000	171,000
120	WWTP Headworks Replacement Project*	71,500	227,500	1,001,000	0	0	0	1,300,000
121	Operations Building/Laboratory*	56,100	178,500	785,400	0	0	0	1,020,000
122	Treatment Plant Improvements (Existing Site)*	1,439,900	4,581,500	20,158,600	0	0	0	26,180,000
124	Sanitary Sewer Management Plan Studies	120,000	120,000	120,000	120,000	120,000	240,000	840,000
126	Cease & Desist Order Requirements	<u>150,000</u>	<u>30,000</u>	<u>0</u>	<u>0</u>	<u>0</u>	<u>0</u>	<u>180,000</u>
	Subtotal	1,838,500	5,153,500	22,083,000	138,000	138,000	340,000	29,691,000
TOTAL WASTEWATER CIP PROJECTS		2,120,500	7,473,500	23,076,000	340,000	340,000	1,055,000	34,405,000
ESCALATED PROJECT COSTS								
<i>Escalation - 3%</i>		<i>1.03</i>	<i>1.06</i>	<i>1.09</i>	<i>1.12</i>	<i>1.15</i>	<i>1.18</i>	
Total Escalated Project Costs		2,184,115	7,921,910	25,152,840	380,800	391,000	1,244,900	37,275,565
* Activated Sludge project Source: Five Year Capital Improvement Program, June 18, 2013								

As detailed on Chart 3, project costs have been allocated between existing customers and new development. Approximately \$23.1 million, or 62 percent, of the total CIP is allocated to existing ratepayers, and \$14.2 million, or 38 percent is apportioned to future customers.

Chart 3. CIP Allocated to Existing and Future Customers



Activated Sludge Project

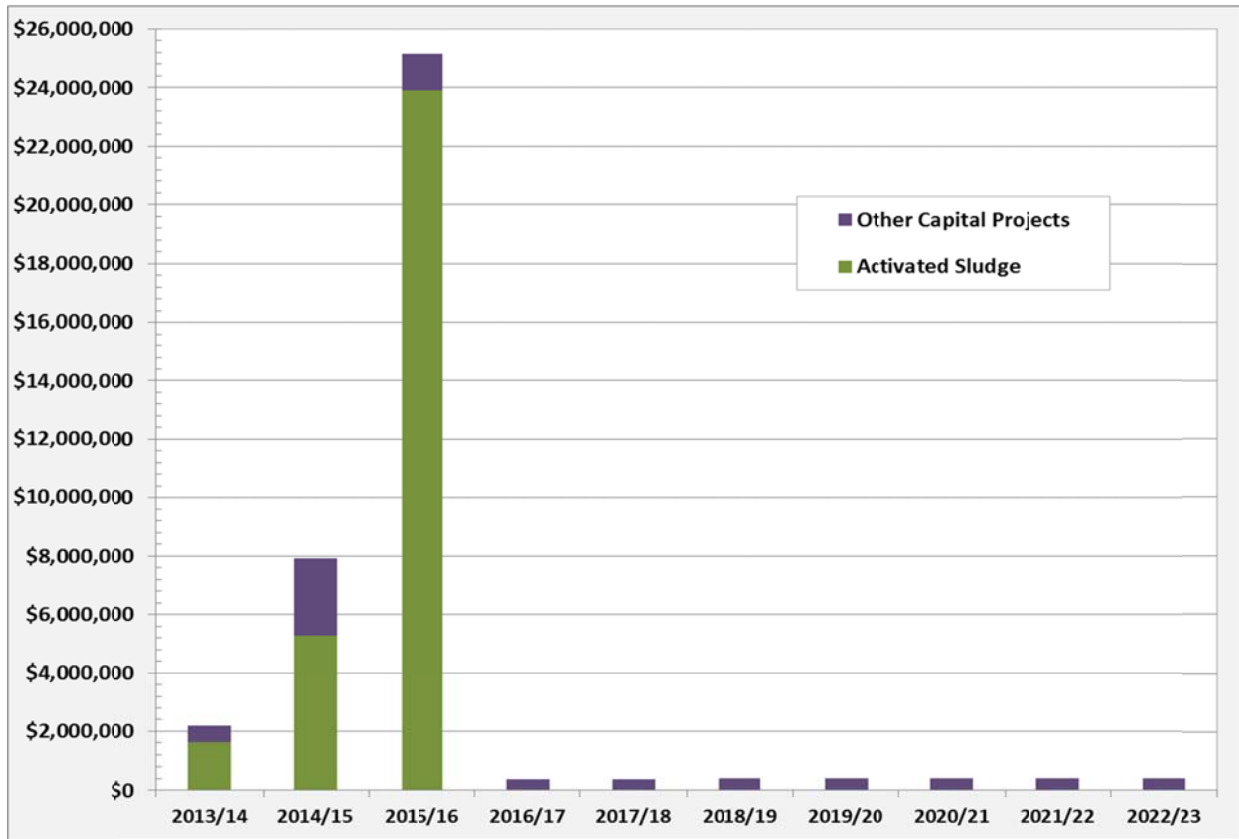
The estimated total cost for the activated sludge project is \$28.5 million, including the wastewater treatment plant headworks project and the operations building and laboratory. Construction is slated to begin in 2014/15 with an estimated completion date of Spring 2016. Additional operating expenses for the activated sludge project are projected at \$240,000 beginning in 2016/17. These operating expenses are escalated by 5 percent each year.

Other Capital Projects

Other capital projects total roughly \$8.8 million. Projects include the East-West sewer trunk connector, sewer manhole adjustments, sewer trunk line and sewer main replacements, the North Lincoln Street lift station, the quarterly groundwater monitoring program, and additional projects to meet CDO requirements.

Chart 4 shows a breakout of projects for the wastewater CIP costs through 2022/23. The City will review the capital improvement plan annually and will update cost estimates as the most recent information becomes available.

Chart 4. Sewer Capital Improvement Program: Activated Sludge vs Other Projects



2.3.2 Operating Expenses

The City faces ongoing operating cost inflation due to annual cost increases in utilities, chemicals, insurance, supplies, salaries, benefits, etc. Operating cost inflation for water and wastewater agencies has historically been significantly higher than the Consumer Price Index (CPI) for consumer goods and services.

For 2013/14, operating expenses total \$1.2 million as shown on Table 6. Operating expenses include salaries and wages, insurance, utilities, equipment repairs and maintenance, consultants, contract services, sewer line maintenance, office expenses, supplies, and capital outlay. The wastewater utility also makes an annual transfer to the General Fund to pay for overhead and other administrative costs. Projected operating expenses through 2022/23 are included in Appendix A, Table 2.

Table 6. Operating Expenses

	Budget 2013/14	Projected			
		2014/15	2015/16	2016/17	2017/18
Salaries and Wages	\$595,122	\$625,000	\$639,400	\$654,400	\$687,000
Insurance	133,182	140,000	143,600	147,600	155,000
Consultants - Professional	25,000	26,000	27,000	28,000	29,000
Contract Serv/Non Professional	55,000	57,000	59,000	61,000	63,000
Equip Repairs/Maint	30,000	31,000	32,000	33,000	34,000
Maintenance - Sewer Line	90,000	93,000	96,000	99,000	102,000
Office Expense	25,500	26,000	27,000	28,000	29,000
Special Supplies	37,600	39,000	40,000	41,000	42,000
Utilities (1)	50,000	53,000	56,000	59,000	63,000
Capital Outlay	62,500	64,000	66,000	68,000	70,000
Other Operating Expenses (2)	141,700	146,000	113,000	79,000	81,000
<u>Activated Sludge Project O&M (3)</u>	<u>0</u>	<u>0</u>	<u>0</u>	<u>240,000</u>	<u>252,000</u>
Total Operating Expenses	1,245,604	1,300,000	1,299,000	1,538,000	1,607,000
<p>1 - Based on historical average</p> <p>2 - Other Operating Expenses include Administrative Costs, Advertising/Publications, Bad Debt/Write Off, Site Maintenance, Chemicals, Communications, DMV Physicals & Exams, Dues/Subscriptions, Equip Rental, Legal Expense, Mileage, Reimbursement, Office Equip Maint, Office Software Maintenance, Permits/Licenses/Fees, Small Tools, Special Supplies, Training, Uniforms, Vehicle Fuel, Vehicle Maintenance, and Depreciation</p> <p>3 - Assumes that Activated Sludge project will be operational in September 2016. Additional operating costs estimated at \$240,000 for 1.3 MGD and \$360,000 for 1.9 MGD which is anticipated in 2025/26.</p>					

2.3.3 Outstanding Debt

The wastewater enterprise has two outstanding debt issues – a 2012 Sewer Refunding Lease Revenue Bond for \$1.36 million and an interfund loan for \$3.5 million. Annual debt service payments for 2013/14 are \$396,304 as shown in Table 7.

Table 7. Annual Debt Service Payments

	S. Dixon Trunk Line Interfund Loan	2012 Refunding Revenue Bonds
<i>Loan Amount</i>	<i>\$3,547,953</i>	<i>\$1,360,700</i>
2013/14	125,000	171,304
2014/15	41,603	169,430
2015/16	0	172,149
2016/17	0	169,294
2017/18	0	171,055
2018/19	0	172,126
2019/20	0	172,722
2020/21	0	167,888
2021/22	<u>0</u>	<u>0</u>
Total	166,603	1,365,968

In January 2012, the City issued Sewer Refunding Lease Revenue Bonds in the amount of \$1,360,700 to advance refund the 1996 Certificates of Participation (COPs). The advance refunding was undertaken to reduce total debt service payments over the next nine years by approximately \$203,000. The original 1996 COPs for \$2,635,000 were issued to fund improvements to the sewer treatment and disposal system. The bonds are secured by a pledge of the net revenues of the wastewater enterprise. The interest rate is 3.07 percent. Annual debt service payments for 2013/14 are \$171,304 with the bond maturing in 2021.

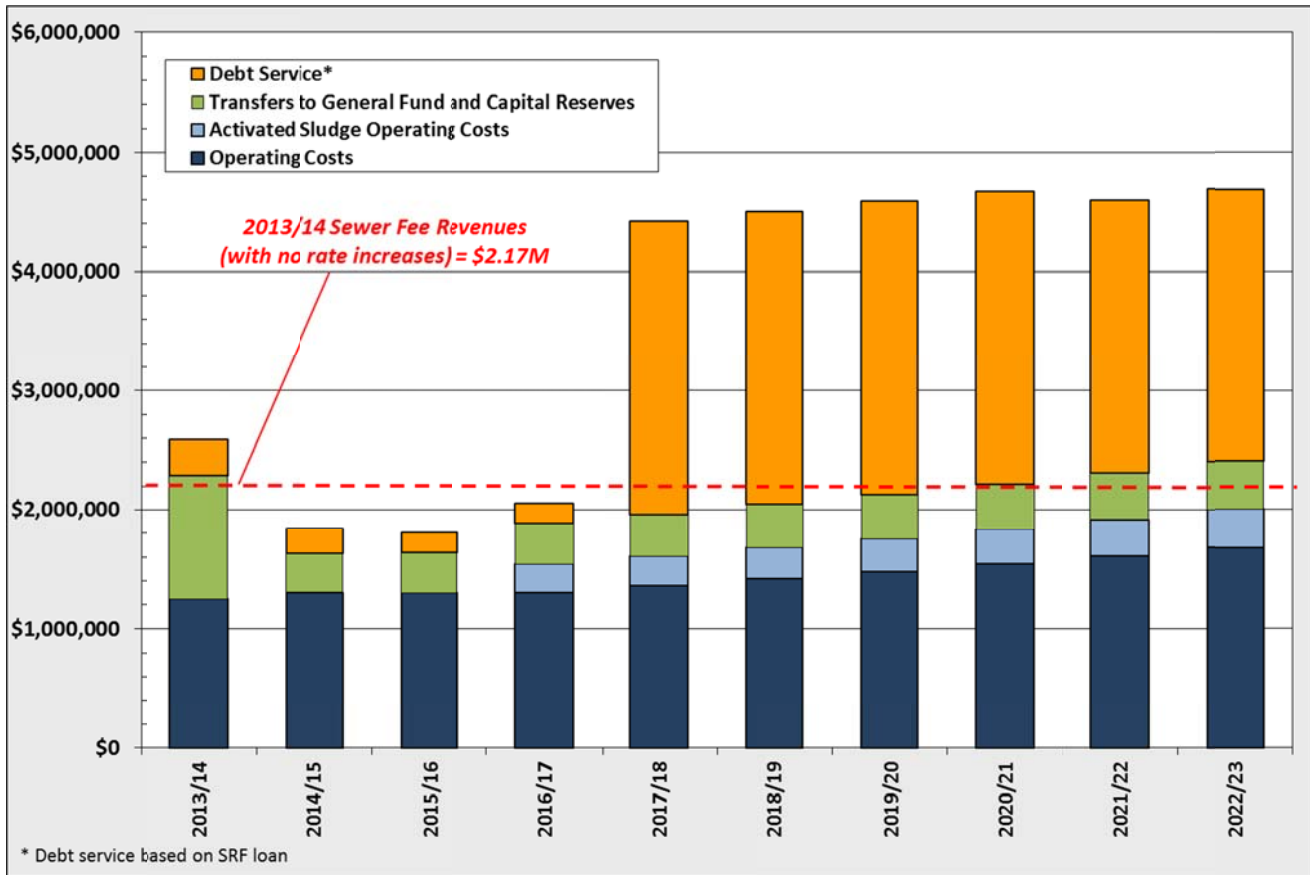
Debt Service Coverage

Pursuant to the legal agreements securing the outstanding debt issues, the City has legally agreed to abide by a number of debt covenants designed to ensure adequate repayment security. Key among these is a debt service coverage covenant that requires the City to raise sewer rates as needed to achieve 115% coverage on annual debt service. This means that annual net revenues (total revenues less operations and maintenance expenses) must be at least 115% of combined annual debt service payments. This is a standard legal covenant for securing wastewater revenue bonds or COPs.

In 2002, the City entered into an interfund loan to pay for the South Dixon sewer trunk line in the amount of \$3,547,953. The interest rate is tied to the Local Agency Investment Fund (LAIF) average rate plus 0.5 percent. Annual debt service payments for 2013/14 are \$125,000 with the last payment due in 2014/15. The debt service for the interfund loan is paid from Fund 310 (Wastewater Capital Improvements).

Chart 5 shows a 10-year breakdown of projected wastewater enterprise expenses. As shown on the chart, rate increases are needed to fund expenditures. Gradual annual increases are generally more-widely accepted by ratepayers as opposed to periods of no rate adjustments followed by less frequent, but larger, rate spikes.

Chart 5. Ten-Year Wastewater Expense Projection



2.4 Cost Reduction Efforts

The City continues to strive to reduce operating and capital expenditures while maintaining high standards of service. Wastewater staff is kept to a minimal level while continuing to perform all building and equipment repair and maintenance in house. The City has seen significant savings in energy costs with the installation new motion sensors and photo cells. The treatment plant operates more efficiently by the continual monitoring of pumping rates, pumping levels, and weather conditions. Staff continues to utilize innovative approaches to reduce costs, including utilizing CDF crews for large property maintenance projects and applying for grants for new equipment.

2.5 Wastewater Enterprise Financial Projections

Bartle Wells Associates developed long-term wastewater enterprise cash flow projections to evaluate financial alternatives and estimate future wastewater rate increases. The projections

incorporate the latest information available as well as a number of reasonable and slightly conservative assumptions. Key cash flow assumptions include:

Growth & Revenue Assumptions

- Assumes sewer rate increases will be effective April 1 of each year, beginning on April 1, 2014.
- Growth projections are based on City staff's estimates from Association of Bay Area Governments (ABAG) which assumes minimal growth. Growth is estimated at 1.6 percent for 2013/14 and decreases to 1.2 percent in 2015/16.
- Wastewater service charges are based on the 2013/14 Budget and increase based on projected rate increases and growth in the City's customer base.
- Interest earnings are based on the earnings on the full wastewater enterprise fund portfolio.
- Development fee revenues are based on estimated growth and assume no increase in the sewer development fee.
- Beginning in 2014/15, Other Revenues are projected at \$49,000 per year and does not include Transfers from Fund 820. Other Revenues are escalated 3 percent annually.

Expense Assumptions

- Salaries, Wages, and Insurance are escalated by 5 percent annually. This includes contributions to CalPERS and health benefits. Staff salaries are not projected to increase 5 percent each year. However, retirement and insurance contributions are likely to increase.
- Utilities are escalated by 6 percent each year.
- All other operating and maintenance expenses are escalated at the annual rate of 3 percent to account for future operating cost inflation.
- City will finance approximately \$35.3 million in capital improvement projects.
- Construction of the activated sludge project will begin in 2014/15 and will be completed in Spring 2016.
- Additional operating costs for the activated sludge project are estimated at \$240,000 beginning in 2016/17 and are increased by 5 percent each year.
- The projections include a reimbursement of \$260,285 in 2013/14 for the Valley Glen Subdivision per a developer reimbursement agreement. The reimbursement will be paid from Fund 310 (Wastewater Capital Improvements).

2.6 Financial Plan Scenarios

BWA developed two rate scenarios to determine the wastewater enterprise's annual revenue requirement. The scenarios are based on two borrowing options – State Revolving Fund (SRF) loan and bond financing. The revenue requirement is the amount of money required from wastewater rates to cover the City's operating, capital improvements, debt service, and reserve expenses each year.

The cash flow projections evaluate the impacts of the rate increases on the wastewater enterprise's finances and on ratepayers. The scenarios were developed to phase in rate increases and to meet the following objectives:

- Revenues cover all expenses, including operating, capital and debt service;
- Net revenues (all revenues available after O&M expenses are covered) are at least 115% of annual debt service;
- The wastewater enterprise meets the operating fund balance reserve policy of 50 percent of annual operating and maintenance costs, excluding capital outlay items, transfers, and debt service.

2.7 Debt Financing

The sewer CIP includes approximately \$37.3 million in projects over the next 10 years. While the City does have some reserves to pay for a portion of the improvements on a pay-as-you-go basis, the City will have to finance the majority of the CIP with debt. The scenarios are based on two borrowing options – State Revolving Fund (SRF) loan and bond financing. The following section gives a brief description of each financing method.

- **State Revolving Fund (SRF) Loan Program** – The Clean Water State Revolving Fund Financial Assistance program administered by the State Water Resources Control Board offers 20-year fixed-rate loans for eligible wastewater projects (up to 30 years for small disadvantaged communities or regionalization projects) with no maximum funding limit. Annually, the program disburses between \$200 and \$300 million to eligible projects. The interest rate is set at roughly one half of the state's general obligation bond rate; current interest rates are below 2.0 percent. Debt service repayment starts one year after the project is completed. The program does not fund the replacement of facilities that were previously grant-funded.

Debt repayment is typically secured by an agency's legal pledge to raise rates and fees as needed to repay debt service. The program typically requires a reserve equal to one year's debt service payment; agencies must set aside funds to meet the SRF Reserve Requirement at least 90 days prior to project completion date. The SRF program does not have any specific issuance

costs, but agencies may have to pay for supplementary engineering and other expenses related to completing the SRF financing application.

- **Revenue Bonds & COPs** – Revenue bonds and Certificates of Participation (COPs) are the most common types of debt financing used by utility enterprises, such as water and wastewater agencies. Although there are some technical differences between bonds and COPs, both function almost exactly the same from the issuer’s standpoint. Debt repayment is secured by an agency’s binding legal pledge to raise rates and charges necessary to repay debt and achieve a specified debt service coverage ratio. Revenue bonds are typically issued with terms of up to 30 years and offer relatively low tax-exempt municipal interest rates.

Many agencies are required to obtain voter-approval for the direct issuance of revenue bonds. However, no voter approval is required for COPs or for revenue bonds issued through a third party Joint Powers Authority, such as the Dixon Public Financing Authority. Bonds and COPs typically require a reserve equal to one year’s debt service payment which may also be financed. Issuance costs vary based on the amount of debt issued.

The City is currently in the process of applying for a SRF loan. The City will pursue bond financing only if the City does not receive a SRF loan. Regardless of the method of financing, the City needs to adopt sewer rate increases to demonstrate the City’s long-term ability to repay future debt. Table 8 shows a comparison of the borrowing terms used to develop the financial projections. The rates shown are based on conservative estimates for planning purposes. Current interest rates are lower than those shown in Table 8.

Table 8. SRF Loan vs Bonds/COPs

	SRF Loan	Bonds/COPs
Amount	\$35,300,000	\$35,300,000
Loan Terms		
Term (years)	20	25
Interest Rate	2.25%	4.00%
Estimated Debt Service		
Estimated Annual Loan Payment (rounded)	2,286,000	2,417,000
1st Debt Service Payment Due	1 year after completion	varies; typically 6 months after borrowing
Issuance Costs & Reserve Requirement		
Estimated Issuance Costs	0	200,000
Reserve Fund	2,286,000	2,417,000

2.7.1 Scenario 1: SRF Loan Financing

Scenario 1 assumes that \$35.3 million of projects are financed with SRF funding. Table 9 shows a summary of 10-year wastewater enterprise cash flow projections for Scenario 1. A more detailed version of the cash flow is included in Appendix A.

Table 9. Scenario 1: SRF Financing – Cash Flow Projection (\$ Millions)

CASH FLOW PROJECTION (\$1,000'S) - SRF LOAN											
Fiscal Year	12/13	13/14	14/15	15/16	16/17	17/18	18/19	19/20	20/21	21/22	22/23
Rate Increases	0.0%	8.0%	8.0%	29.0%	29.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Monthly SFR Bill (8 ccf)*	\$23.99	\$26.00	\$28.00	\$36.00	\$46.50	\$46.50	\$46.50	\$46.50	\$46.50	\$46.50	\$46.50
Monthly \$ Rate Increase	\$0.00	\$2.01	\$2.00	\$8.00	\$10.50	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
REVENUES											
Sewer Fees	2,202	2,223	2,440	2,732	3,567	4,523	4,578	4,633	4,689	4,745	4,801
Interest	1	3	17	21	54	69	69	104	105	105	142
Other Revenues	87	110	49	50	52	54	56	58	60	62	64
<u>Development Fees</u>	<u>432</u>	<u>200</u>	<u>200</u>	<u>203</u>	<u>205</u>	<u>208</u>	<u>210</u>	<u>213</u>	<u>215</u>	<u>218</u>	<u>220</u>
Subtotal	2,721	2,536	2,706	3,006	3,878	4,854	4,913	5,008	5,069	5,130	5,227
SRF Debt Proceeds	0	2,184	7,922	25,153	0	0	0	0	0	0	0
Total Revenues	2,721	4,720	10,628	28,158	3,878	4,854	4,913	5,008	5,069	5,130	5,227
EXPENSES											
Operating Expenses	1,136	1,246	1,300	1,299	1,298	1,355	1,414	1,475	1,540	1,608	1,678
Activated Sludge O&M	0	0	0	0	240	252	265	278	292	307	322
Debt Service	298	296	211	172	169	2,457	2,458	2,459	2,454	2,286	2,286
Non-Operating Expenses	1,234	1,043	329	337	346	355	364	373	383	393	403
<u>CIP</u>	<u>0</u>	<u>2,184</u>	<u>7,922</u>	<u>25,153</u>	<u>381</u>	<u>391</u>	<u>400</u>	<u>400</u>	<u>400</u>	<u>400</u>	<u>400</u>
Total Expenses	2,668	4,769	9,762	26,961	2,434	4,810	4,901	4,985	5,069	4,994	5,089
Revs Less Exps	53	(49)	866	1,198	1,444	44	12	23	0	136	138
Ending Fund Balance	3,432	3,383	4,250	5,447	6,891	6,935	6,947	6,969	6,969	7,105	7,243
Debt Service Coverage	7.58	5.96	6.67	8.25	12.09	1.20	1.19	1.19	1.18	1.26	1.26

Note: Totals may not add up due to rounding.

*Rounded

Table 10 shows the proposed sewer rates for Scenario 1 through April 1, 2017. Rate increases will become effective April 1 of each year, beginning April 1, 2014. It is important to note that the percentage increases shown do not translate to a corresponding increase in overall sewer fee revenues because actual rate adjustments will occur late in the fiscal year.

Table 10. Scenario 1: SRF Financing – Proposed Sewer Rates

	Current	1-Apr-14	1-Apr-15	1-Apr-16	1-Apr-17
<i>Rate Increase %</i>		8.0%	8.0%	29.0%	29.0%
RESIDENTIAL (\$/month per Dwelling Unit)					
Single Family Residential					
Up to 3 CCF	\$17.32	\$18.71	\$20.21	\$26.07	\$33.63
4 CCF	\$18.66	\$20.15	\$21.76	\$28.07	\$36.21
5 CCF	\$19.99	\$21.59	\$23.32	\$30.08	\$38.80
6 CCF	\$21.32	\$23.03	\$24.87	\$32.08	\$41.38
7 CCF	\$22.65	\$24.46	\$26.42	\$34.08	\$43.96
8 CCF	\$23.99	\$25.91	\$27.98	\$36.09	\$46.56
9 CCF	\$25.32	\$27.35	\$29.54	\$38.11	\$49.16
10 CCF	\$26.65	\$28.78	\$31.08	\$40.09	\$51.72
11 CCF	\$27.98	\$30.22	\$32.64	\$42.11	\$54.32
12 CCF	\$29.32	\$31.67	\$34.20	\$44.12	\$56.91
13 CCF	\$30.65	\$33.10	\$35.75	\$46.12	\$59.49
14 CCF	\$31.98	\$34.54	\$37.30	\$48.12	\$62.07
15 CCF	\$33.31	\$35.97	\$38.85	\$50.12	\$64.65
16 CCF	\$34.65	\$37.42	\$40.41	\$52.13	\$67.25
17 CCF	\$35.98	\$38.86	\$41.97	\$54.14	\$69.84
18 CCF and Over	\$37.31	\$40.29	\$43.51	\$56.13	\$72.41
Multi-Family Residential					
Apartments, Mobile Homes	\$21.32	\$23.03	\$24.87	\$32.08	\$41.38
Duplex, Triplex, and Fourplex	\$21.32	\$23.03	\$24.87	\$32.08	\$41.38
NON-RESIDENTIAL (excluding schools)					
Base Charge (\$/month)					
5/8" meter	\$10.22	\$11.04	\$11.92	\$15.38	\$19.84
3/4" meter	\$14.73	\$15.91	\$17.18	\$22.16	\$28.59
1" meter	\$23.84	\$25.75	\$27.81	\$35.87	\$46.27
1-1/2" meter	\$46.40	\$50.11	\$54.12	\$69.81	\$90.05
2" meter	\$73.39	\$79.26	\$85.60	\$110.42	\$142.44
3" meter	\$136.32	\$147.23	\$159.01	\$205.12	\$264.60
4" meter	\$226.57	\$244.70	\$264.28	\$340.92	\$439.79
Usage Charge					
Low Strength	\$1.74	\$1.88	\$2.03	\$2.62	\$3.38
Medium Strength	\$2.30	\$2.48	\$2.68	\$3.46	\$4.46
High Strength	\$3.87	\$4.18	\$4.51	\$5.82	\$7.51
Schools (\$/month per ADA)	\$0.54	\$0.58	\$0.63	\$0.81	\$1.04

2.7.2 Scenario 2: Bond Financing

Scenario 2 assumes that \$35.3 million of projects are financed with bonds or COPs. Table 11 shows a summary of 10-year wastewater enterprise cash flow projections for Scenario 2. A more detailed version of the cash flow is included on in Appendix A.

Table 11. Scenario 2: Bond Financing – Cash Flow Projection (\$ Millions)

CASH FLOW PROJECTION (\$1,000'S) - BOND FINANCING											
Fiscal Year	12/13	13/14	14/15	15/16	16/17	17/18	18/19	19/20	20/21	21/22	22/23
Rate Increases	0.0%	13.0%	13.0%	26.0%	26.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Monthly SFR Bill (8 ccf)*	\$23.99	\$27.00	\$30.50	\$38.50	\$48.50	\$48.50	\$48.50	\$48.50	\$48.50	\$48.50	\$48.50
Monthly \$ Rate Increase	\$0.00	\$3.01	\$3.50	\$8.00	\$10.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
REVENUES											
Sewer Fees	2,202	2,234	2,565	2,982	3,802	4,724	4,781	4,838	4,896	4,955	5,014
Interest	1	3	17	22	46	39	40	60	61	62	86
Other Revenues	87	110	49	50	52	54	56	58	60	62	64
<u>Development Fees</u>	<u>432</u>	<u>200</u>	<u>200</u>	<u>203</u>	<u>205</u>	<u>208</u>	<u>210</u>	<u>213</u>	<u>215</u>	<u>218</u>	<u>220</u>
Subtotal	2,721	2,547	2,831	3,257	4,105	5,025	5,087	5,169	5,232	5,297	5,384
Debt Proceeds	0	2,184	7,922	25,153	0	0	0	0	0	0	0
Total Revenues	2,721	4,731	10,753	28,409	4,105	5,025	5,087	5,169	5,232	5,297	5,384
EXPENSES											
Operating Expenses	1,136	1,246	1,300	1,299	1,298	1,355	1,414	1,475	1,540	1,608	1,678
Activated Sludge O&M	0	0	0	0	240	252	265	278	292	307	322
Debt Service	298	296	211	1,380	2,584	2,586	2,587	2,588	2,583	2,415	2,415
Non-Operating Expenses	1,234	1,043	329	337	346	355	364	373	383	393	403
<u>CIP</u>	<u>0</u>	<u>2,184</u>	<u>7,922</u>	<u>25,153</u>	<u>381</u>	<u>391</u>	<u>400</u>	<u>400</u>	<u>400</u>	<u>400</u>	<u>400</u>
Total Expenses	2,668	4,769	9,762	28,169	4,849	4,939	5,030	5,114	5,198	5,123	5,218
Revs Less Exps	53	-38	991	241	-744	86	57	55	34	174	166
Ending Fund Balance	3,432	3,394	4,386	4,626	3,882	3,968	4,025	4,079	4,113	4,287	4,453
Debt Service Coverage	7.58	6.03	7.41	1.21	1.65	1.20	1.20	1.19	1.19	1.26	1.26

Note: Totals may not add up due to rounding.

*Rounded

Table 12 shows the proposed sewer rates for Scenario 2 through April 1, 2017. Rate increases will become effective April 1 of each year, beginning April 1, 2014. It is important to note that the percentage increases shown do not translate to a corresponding increase in overall sewer fee revenues because actual rate adjustments will occur late in the fiscal year.

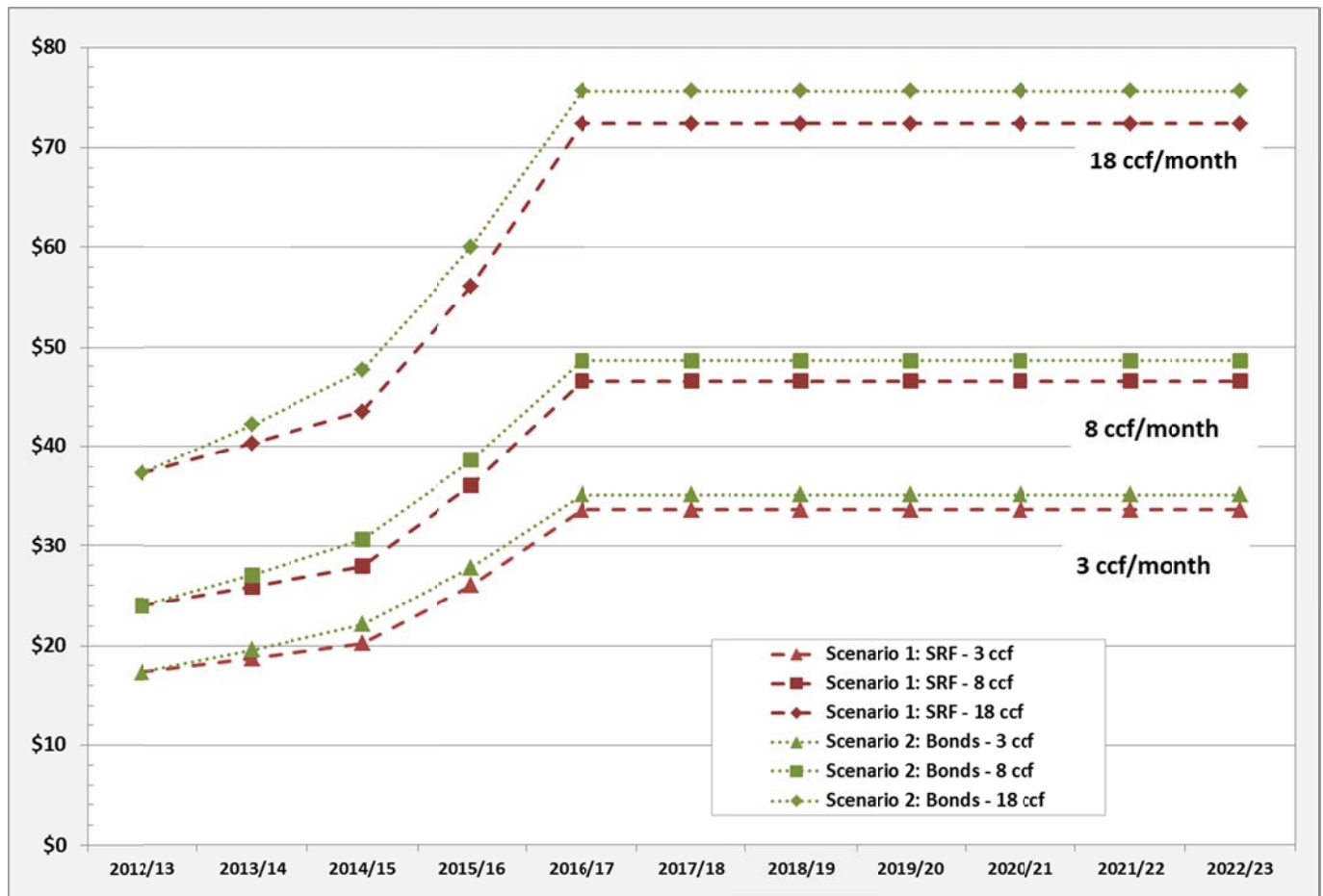
Table 12. Scenario 2: Bond Financing – Proposed Sewer Rates

	Current	1-Apr-14	1-Apr-15	1-Apr-16	1-Apr-17
<i>Rate Increase %</i>		13.0%	13.0%	26.0%	26.0%
RESIDENTIAL (\$/month per Dwelling Unit)					
Single Family Residential					
Up to 3 CCF	\$17.32	\$19.57	\$22.11	\$27.86	\$35.10
4 CCF	\$18.66	\$21.09	\$23.83	\$30.03	\$37.84
5 CCF	\$19.99	\$22.59	\$25.53	\$32.17	\$40.53
6 CCF	\$21.32	\$24.09	\$27.22	\$34.30	\$43.22
7 CCF	\$22.65	\$25.59	\$28.92	\$36.44	\$45.91
8 CCF	\$23.99	\$27.11	\$30.63	\$38.59	\$48.62
9 CCF	\$25.32	\$28.61	\$32.33	\$40.74	\$51.33
10 CCF	\$26.65	\$30.11	\$34.02	\$42.87	\$54.02
11 CCF	\$27.98	\$31.62	\$35.73	\$45.02	\$56.73
12 CCF	\$29.32	\$33.13	\$37.44	\$47.17	\$59.43
13 CCF	\$30.65	\$34.63	\$39.13	\$49.30	\$62.12
14 CCF	\$31.98	\$36.14	\$40.84	\$51.46	\$64.84
15 CCF	\$33.31	\$37.64	\$42.53	\$53.59	\$67.52
16 CCF	\$34.65	\$39.15	\$44.24	\$55.74	\$70.23
17 CCF	\$35.98	\$40.66	\$45.95	\$57.90	\$72.95
18 CCF and Over	\$37.31	\$42.16	\$47.64	\$60.03	\$75.64
Multi-Family Residential					
Apartments, Mobile Homes	\$21.32	\$24.09	\$27.22	\$34.30	\$43.22
Duplex, Triplex, and Fourplex	\$21.32	\$24.09	\$27.22	\$34.30	\$43.22
NON-RESIDENTIAL (excluding schools)					
Base Charge (\$/month)					
5/8" meter	\$10.22	\$11.55	\$13.05	\$16.44	\$20.71
3/4" meter	\$14.73	\$16.64	\$18.80	\$23.69	\$29.85
1" meter	\$23.84	\$26.94	\$30.44	\$38.35	\$48.32
1-1/2" meter	\$46.40	\$52.43	\$59.25	\$74.66	\$94.07
2" meter	\$73.39	\$82.93	\$93.71	\$118.07	\$148.77
3" meter	\$136.32	\$154.04	\$174.07	\$219.33	\$276.36
4" meter	\$226.57	\$256.02	\$289.30	\$364.52	\$459.30
Usage Charge					
Low Strength	\$1.74	\$1.97	\$2.23	\$2.81	\$3.54
Medium Strength	\$2.30	\$2.60	\$2.94	\$3.70	\$4.66
High Strength	\$3.87	\$4.37	\$4.94	\$6.22	\$7.84
Schools (\$/month per ADA)	\$0.54	\$0.61	\$0.69	\$0.87	\$1.10

2.7.3 Scenario Comparison

Chart 6 shows a comparison of average monthly bills for three sample single family residential customers with a winter water use average of 3 ccf, 8 ccf , and 18 ccf or over per month. Scenario 1: SRF Financing is represented in red, and Scenario 2: Bond Financing is shown in green.

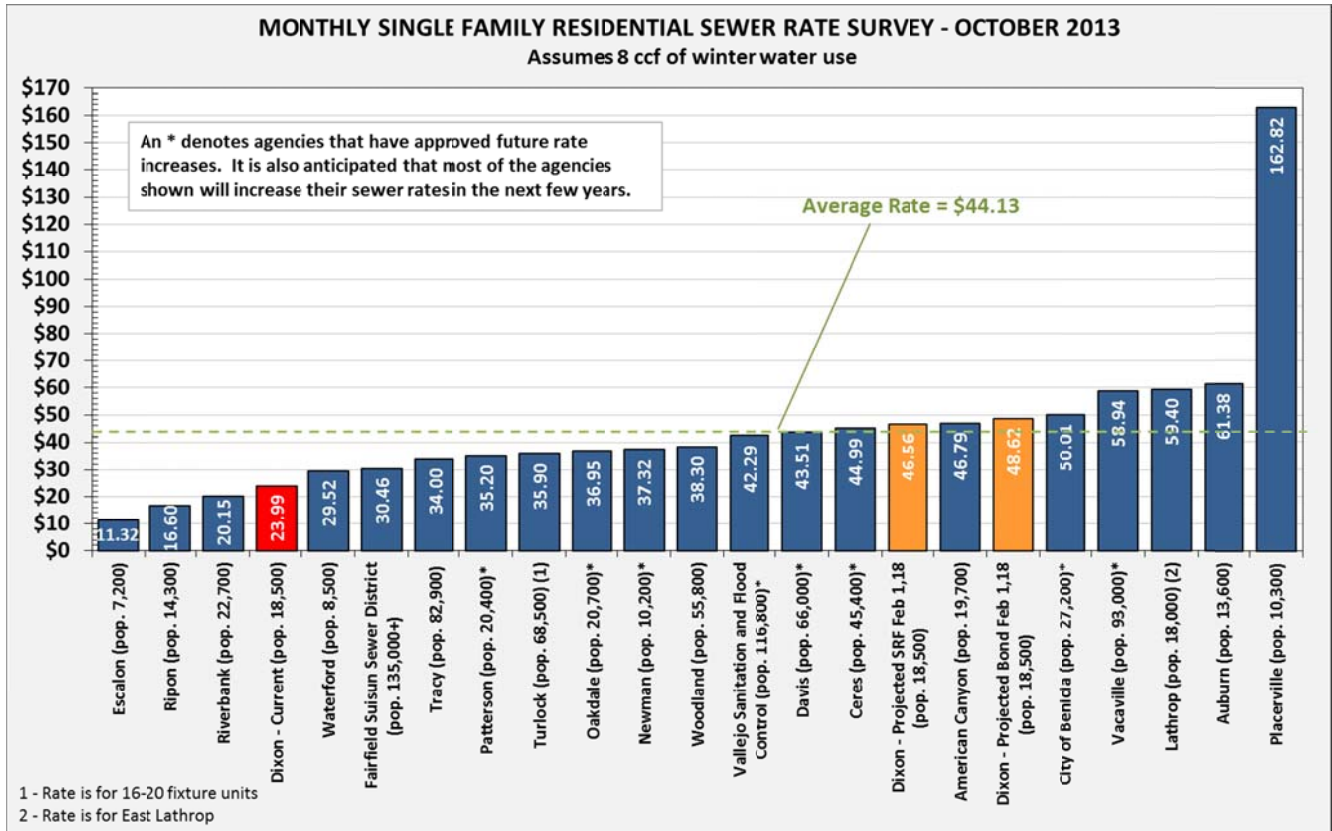
Chart 6. Proposed Monthly Sewer Bills - Single Family Residential



2.8 Regional Wastewater Rate Survey

Chart 7 compares the City’s current and proposed wastewater rates for both scenarios to those of other regional agencies for a typical single family home whose average winter water consumption is 8 ccf/month. The survey includes the City’s current rate for a single family home using 8 ccf/month and the proposed rate in 2017 for both scenarios. Rates can vary widely from agency to agency due to a wide range of factors. Many of the agencies included in the survey have already adopted future sewer rate increases, and it is anticipated that the majority of agencies will have to adjust their sewer rates in upcoming years.

Chart 7. Regional Wastewater Rate Survey



3 WASTEWATER RATES

As part of this assignment, BWA reviewed the City’s current sewer rate structure for conformance with the substantive requirements of Proposition 218 and to verify that the rates are based on the cost of providing service. The current rate structure was last modified in 2008 and detailed in the *City of Dixon Wastewater Rate Study Draft Report, October 6, 2008* (2008 wastewater rate study) by The Reed Group, Inc. The 2008 study relied upon water use and sewer flow information from a 2006 study and recommended changes to the rate structure for the single family customer class. No changes were made to the multi-family and non-residential customer classes. The rate structure was thoroughly reviewed by the City’s Wastewater Technical Advisory Committee (TAC) during the last rate study. Based on input from City staff, the current rate structure has been working well, and there has been no impetus to make any significant modifications.

3.1 Proposition 218

Proposition 218, the “Right to Vote on Taxes Act”, was approved by California voters in November 1996 and is codified as Articles XIII C and XIII D of the California Constitution. Proposition 218 establishes requirements for imposing or increasing property related taxes, assessments, fees and charges. For many years, there was no legal consensus on whether water and wastewater rates met the definition of “property related fees”. In July 2007, the California Supreme Court essentially confirmed that Proposition 218 applies to water rates. The prevailing legal consensus is that Proposition 218 also applies to wastewater rates.

BWA recommends the City follow the procedural requirements of Proposition 218 for all water and wastewater rate increases. These requirements include:

- **Noticing Requirement:** The City must mail a notice of proposed rate increases to all affected property owners. The notice must specify the basis of the fee, the reason for the fee, and the date/time/location of a public rate hearing at which the proposed rates will be considered/adopted.
- **Public Hearing:** The City must hold a public hearing prior to adopting the proposed rate increases. The public hearing must be held not less than 45 days after the required notices are mailed.
- **Rate Increases Subject to Majority Protest:** At the public hearing, the proposed rate increases are subject to majority protest. If more than 50% of affected property owners submit written protests against the proposed rate increases, the increases cannot be adopted.

Proposition 218 also established a number of substantive requirements that are generally deemed to apply to utility service charges, including:

- **Cost of Service** - Revenues derived from the fee or charge cannot exceed the funds required to provide the service. In essence, fees cannot exceed the “cost of service”.
- **Intended Purpose** - Revenues derived from the fee or charge can only be used for the purpose for which the fee was imposed.
- **Proportional Cost Recovery** - The amount of the fee or charge levied on any customer shall not exceed the proportional cost of service attributable to that customer.
- No fee or charge may be imposed for a service unless that service is used by, or immediately available to, the owner of the property. Standby charges shall be classified as “assessments” which are governed by Article 13D Section 4.

Charges for water, sewer, and refuse collection are exempt from the additional voting requirements of Proposition 218 provided the charges do not exceed the cost of providing service and are adopted pursuant to procedural requirements of Proposition 218.

3.2 Rate Development Principles

In reviewing the City’s current wastewater rates, BWA uses the following criteria in developing recommendations:

1. *Revenue Sufficiency*: Rates should recover the annual cost of service and provide revenue stability.
2. *Equitable*: Rates should be fairly allocated among all customer classes based on their estimated demand characteristics. Each user class only pays its proportionate share.
3. *Practical*: Rates should be simple in form and, therefore, adaptable to changing conditions, easy to administer, and easy to understand.
4. *Provide Incentive*: Rates provide price signals which serve as indicators to use water efficiently.

3.3 Residential Sewer Rates

Single Family Residential

Prior to the 2008 study, all single family customers were charged a monthly fixed rate regardless of actual water consumption. At the request of the City's Wastewater TAC, the 2008 study developed an alternative approach to sewer rates for single family customers that took into account specific demand characteristics, such as household size and water use habits, to reflect the varying demands placed on the wastewater system by each single family customer.

To improve equity within the single family customer class, the TAC ultimately decided on the current rate structure that uses winter water use as an approximate for sewage flow. The objective was to encourage water conservation while giving customers the ability to influence a portion of their sewer bills. The current rate structure includes a series of flat rates for a range of water use that is capped at 18 ccf/month. The rates were designed to recover 50 percent of costs from the fixed charge (i.e., all single family customers pay the same fixed cost). The remaining 50 percent of costs are recovered in the variable charge, which is apportioned based on winter water use.

Average winter water use from the 2008 wastewater rate study for single family customers was 10 ccf/month. Based on 2010/11 water use data, the average winter water use for single family customer is 8 ccf/month.

Multi-Family Residential

The previous study made no changes to the multi-family rate structure which continues to be billed based on fixed flat rate. The multi-family sewer charge is equivalent to the single family residential rate for 6 ccf per month. Multi-family units are assumed to be smaller with less irrigation and therefore on average tend to produce less wastewater than single family homes.

3.4 Non-Residential Sewer Rates

Non-residential customers, pay a fixed monthly service charge based on the size of their water meter and a usage rate that varies based on the strength category (low, medium, or high) for each customer. Basing service charges on the size of the water meter is a common method to estimate the cost of providing wastewater service capacity to customers in relation to the demand that they can place on the system.

The usage rate for non-residential customers is based on average monthly water usage from the preceding 12-month period or 6-month winter period, whatever is less. Variable costs are collected through the usage rates which vary for each strength category to reflect the additional costs associated with treating higher levels of biochemical oxygen demand (BOD) and total suspended

solids (TSS). The strength characteristics used in the 2008 wastewater rate study are based on the State Water Resources Control Board (SWRCB)'s *Revenue Program Guidelines*.

Schools

Public schools are charged a flat amount per student based on the average daily attendance (ADA) as of the prior October 1. The rate structure for schools has been in place since 2002 for administrative ease.

3.5 Cost of Service Review

Agencies may implement a wide range of rate structures to recover operating and capital costs. BWA finds that the wastewater rates are based on the cost of service, follow generally accepted rate design criteria, and adhere to the substantive requirements of Proposition 218. The wastewater rates are fair to the City's customers and reflect the use and benefit of the wastewater enterprise. Details of the cost of service review are included in a separate memo.

4 CONCLUSIONS & RECOMMENDATIONS

The wastewater financial plan and sewer rates presented in this report have been developed to fund the wastewater enterprise's annual revenue requirements through 2022/23. BWA finds the sewer rates recommended in this report satisfy the substantive requirements of Proposition 218 and are based on cost of service. BWA recommends the City continue with the SRF loan application process, but adopt the sewer rates proposed under "Scenario 2: Bond Financing" through April 1, 2017. As updated cost information becomes available, the City may choose to implement lower rates than those shown in the Proposition 218 notice.

Scenario 2: Bond Financing – Proposed Rates

	Current	1-Apr-14	1-Apr-15	1-Apr-16	1-Apr-17
<i>Rate Increase %</i>		13.0%	13.0%	26.0%	26.0%
RESIDENTIAL (\$/month per Dwelling Unit)					
Single Family Residential					
Up to 3 CCF	\$17.32	\$19.57	\$22.11	\$27.86	\$35.10
4 CCF	\$18.66	\$21.09	\$23.83	\$30.03	\$37.84
5 CCF	\$19.99	\$22.59	\$25.53	\$32.17	\$40.53
6 CCF	\$21.32	\$24.09	\$27.22	\$34.30	\$43.22
7 CCF	\$22.65	\$25.59	\$28.92	\$36.44	\$45.91
8 CCF	\$23.99	\$27.11	\$30.63	\$38.59	\$48.62
9 CCF	\$25.32	\$28.61	\$32.33	\$40.74	\$51.33
10 CCF	\$26.65	\$30.11	\$34.02	\$42.87	\$54.02
11 CCF	\$27.98	\$31.62	\$35.73	\$45.02	\$56.73
12 CCF	\$29.32	\$33.13	\$37.44	\$47.17	\$59.43
13 CCF	\$30.65	\$34.63	\$39.13	\$49.30	\$62.12
14 CCF	\$31.98	\$36.14	\$40.84	\$51.46	\$64.84
15 CCF	\$33.31	\$37.64	\$42.53	\$53.59	\$67.52
16 CCF	\$34.65	\$39.15	\$44.24	\$55.74	\$70.23
17 CCF	\$35.98	\$40.66	\$45.95	\$57.90	\$72.95
18 CCF and Over	\$37.31	\$42.16	\$47.64	\$60.03	\$75.64
Multi-Family Residential					
Apartments, Mobile Homes	\$21.32	\$24.09	\$27.22	\$34.30	\$43.22
Duplex, Triplex, and Fourplex	\$21.32	\$24.09	\$27.22	\$34.30	\$43.22
NON-RESIDENTIAL (excluding schools)					
Base Charge (\$/month)					
5/8" meter	\$10.22	\$11.55	\$13.05	\$16.44	\$20.71
3/4" meter	\$14.73	\$16.64	\$18.80	\$23.69	\$29.85
1" meter	\$23.84	\$26.94	\$30.44	\$38.35	\$48.32
1-1/2" meter	\$46.40	\$52.43	\$59.25	\$74.66	\$94.07
2" meter	\$73.39	\$82.93	\$93.71	\$118.07	\$148.77
3" meter	\$136.32	\$154.04	\$174.07	\$219.33	\$276.36
4" meter	\$226.57	\$256.02	\$289.30	\$364.52	\$459.30
Usage Charge*					
Low Strength	\$1.74	\$1.97	\$2.23	\$2.81	\$3.54
Medium Strength	\$2.30	\$2.60	\$2.94	\$3.70	\$4.66
High Strength	\$3.87	\$4.37	\$4.94	\$6.22	\$7.84
Schools (\$/month per ADA)	\$0.54	\$0.61	\$0.69	\$0.87	\$1.10

The projections and rates detailed in this report are based on the best information available at this time. Regular updates of the financing and rate projections should be performed as better and more complete information becomes available. Updates should be performed at least annually to reflect the results of project construction bids, revised O&M costs, and the actual financing received for the projects. The City should conduct another comprehensive cost of service and rate design study in three to five years when the final cost of the wastewater treatment plan project is known.

APPENDIX A

Wastewater Rate Study Tables