

**CITY OF SAFFORD  
WATER, WASTEWATER AND SOLID WASTE  
RATE STUDY AND LONG TERM FINANCIAL FORECAST  
TABLE OF CONTENTS**

<b>Section</b>		<b>Page</b>
	<b>Executive Summary</b>	<b>4</b>
<b>I</b>	<b>Introduction and Demographic Profile</b>	<b>18</b>
	Background	18
	Report Organization	19
	City Background	20
	City Leadership	21
	Population – Current and Projected	22
	Water and Wastewater Current Rates	23
	Water and Wastewater Rate Comparison	25
	Solid Waste Current Rates	27
	Solid Waste Rate Comparison	28
<b>II</b>	<b>Water and Wastewater Test Year and Forecast Volume</b>	<b>30</b>
	Customers and Meters – Current Year	31
	Customers and Meters – Ten Year Forecast	32
	Historical and Current Water Production and Consumption	36
	Water Billed Consumption – Ten Year Forecast	37
	Peaking Factors	38
	Wastewater Flows – Current Year and Forecast	40
<b>III</b>	<b>Water/Wastewater Test Year and Forecast Revenue Requirement</b>	<b>41</b>
	Operating Expenses & Capital Outlays – Current Year	42
	Operating Expenses & Capital Outlays – Ten Year Forecast	44
	Capital Improvement Plan	45
	Debt Service – Current and Forecast	46
	Depreciation Expense and Return on Rate Base	47
	Non Rate Revenues	49
	Net Revenue Requirement – Cash Basis and Utility Basis	50
	Water Utility Cost Functionalization	51
	Water Utility Cost Classification	52
	Water Utility Cost Allocation	53
	Wastewater Cost Functionalization and Classification	55
	Wastewater Cost Allocation	56
<b>IV</b>	<b>Water and Wastewater Rate Design</b>	<b>57</b>
	Revenues and COS under Current Rates	58
	Rate Design – Alternative 1	61
	Rate Design – Alternative 2	62
	Rate Design – Alternative 3	64
	Rate Alternatives – Impact on Ratepayers	66

**CITY OF SAFFORD  
WATER, WASTEWATER AND SOLID WASTE  
RATE STUDY AND LONG TERM FINANCIAL FORECAST  
TABLE OF CONTENTS**

<b>Section</b>	<b>Page</b>
<b>V</b>	
<b><u>Solid Waste Cost of Service Analysis</u></b>	<b>67</b>
Customers and Billing Units	67
Customers and Billing Units – Forecast	68
Revenue Requirement – Current Year	69
Revenue Requirement – Forecast	71
Revenues and Cost of Service under Current Rates	73
Rate Design – Base Scenario	74
Notes on Rate Recommendations	75

**Appendix A – Water and Wastewater Rate Model**

**Appendix B – Solid Waste Rate Model**

## Acknowledgements

During the course of this rate study, several City employees expended considerable time and effort in assisting the project team. These employees included the Mayor and Council, Mr. Jay Howe, Mr. Huey Long, Mr. Robert Porter, Dr. Carl Vessels, Ms. Sherry French. The project team owes a debt of gratitude to the hard work, dedication and professionalism of these individuals, without whom this project would not have been successfully completed.

# Executive Summary

## Introduction



In April 2006 the City of Safford, Arizona (“the City”) engaged **Economists.com** to conduct a water, wastewater and solid waste rate study and long-term financial plan. The City’s primary objectives were:

- A comprehensive analysis and evaluation of the water, wastewater and solid waste systems’ current cost of service and revenue requirements
- A forecast of water, wastewater and solid waste operating and capital costs for a period ten years into the future
- An estimate of current and forecast accounts, volumes and billing units for the ten year forecast

period

- A thorough review and update of the water, wastewater and solid waste system’s known capital improvement needs, as well as a determination of the need for funding capital requirements through the issuance of long-term debt
- A review of the adequacy and appropriateness of existing water, wastewater and solid waste customer classes
- An evaluation of the current water, wastewater and solid waste rate structures and revenue recovered versus the revenue requirement, both overall and for each customer class
- A development of alternative rate structures that would recover the City’s cost of service, ensure equitable treatment of identified customer classes, and maintain critical financial ratios

After a series of meetings with City officials at which these objectives and various rate scenarios were thoroughly analyzed, the project team narrowed its recommendations to the three water and wastewater alternative rate structures and the final solid waste rate recommendation contained in this study. The analysis and recommendations presented in this study achieve all of the objectives outlined above.

### Current Water and Wastewater Rates and Rate Comparison

The City last adjusted its water and wastewater rates in July 1999. Water charges are based on a daily rate related to meter size and average daily usage. Rates vary by season, with summer consumption rates set slightly higher than winter consumption rates. Residential and non-residential (commercial and fire protection) water customer classes are charged the same volume rates although the daily service charge varies according to meter size. Water service provided through the City of Safford is widely available outside of city limits. Water rates have special zoning and pumping charges for designated zones.

Wastewater accounts are serviced both inside city limits as well as outside city limits. The daily service charge for all wastewater accounts includes 239 gallons per day. Within the city limits the daily service charge is set at \$0.78, while accounts outside city limits have a daily service charge of \$1.17. There are additional quantity charges for usage that exceeds the 239 gallons per day. For most account classifications the normal quantity charge is determined by the winter average usage. The winter average is determined by averaging the usage of the two lowest of the three months of December, January, and February.

**Table ES-1** presents a comparison of the City’s current residential monthly charges for 10,000 gallons of water and 5,000 gallons of wastewater to those of Arizona water and wastewater providers as reported in the latest WIFA Rate Study completed in 2005 by Economists.com. This chart reveals that the City’s water rates are 36% lower than the average water charges for all water providers in the state. The City’s wastewater charges are 9% higher than the average for all Arizona wastewater providers.

<b>Table ES-1</b>			
<b>CITY OF SAFFORD</b>			
<b>Average Arizona Rates from 2005 WIFA Rate Study</b>			
<b>Drinking Water Survey Results 10,000 Gallons</b>		<b>Average Charge</b>	<b>Median Charge</b>
<b>City of Safford (winter)</b>	<b>\$</b>	<b>26.86</b>	<b>\$ 26.86</b>
AZ Municipal Providers		25.75	25.11
Arizona Survey Total		36.60	32.48
<b>Waste Water Survey Results 5,000 Gallons</b>			
<b>City of Safford</b>	<b>\$</b>	<b>23.40</b>	<b>\$ 23.40</b>
AZ Municipal Providers		17.72	16.34
Arizona Survey Total		21.43	17.43

### Test Year and Forecast Water and Wastewater Accounts

The first step in developing cost of service rates is to analyze patterns of usage, both for the system as a whole, and for specified customer classes. According to standard utility ratemaking methodology, in order to allocate revenue requirements equitably among system users, customers must be classified into relatively homogeneous groups with similar usage characteristics or service demands. Costs are then allocated to the customer classes in proportion to the usage characteristics of each class.

**Table ES-2** presents the project team’s forecast of water and wastewater accounts for the period 2007 – 2016. Water accounts are forecast to increase by **31.8%** over the forecast period, increasing from 7,264 in the test year to 9,577 in FY 2016. Wastewater accounts are forecast to increase by **35.4%** over the forecast period, increasing from 3,398 in the test year to 4,601 in FY 2016. A detailed analysis is presented in Section II of this study.

TABLE ES-2 CITY OF SAFFORD											
FORECAST TOTAL CUSTOMERS											
WATER Customer Classes											
	W.1 Residential City	W.2 Comm. & Fire City	W.3 Residential Thatcher	W.4 Comm. & Fire Thatcher	W.5 Residential County	W.6 Comm. & Fire County	W.7 Graham Park County	W.8 Sierra Del Sol	W.9 Prison	W.10 Other	Total
<b>WATER Total Customers</b>											
Dec-03	2,909	483	1,218	132	1,874	95	1	-	-	-	6,712
Dec-04	2,915	491	1,236	132	1,897	97	1	-	-	-	6,769
Dec-05	2,978	509	1,274	138	1,947	118	1	-	-	-	6,965
Test Year	3,128	529	1,324	142	2,022	118	1	-	-	-	6,965
2016	4,328	669	1,674	170	2,597	137	1	-	1	-	9,577
<b>WASTEWATER Customer Classes</b>											
	WW.1 Residential	WW.2 Commercial	WW.3 Other	WW.4 Other	Total						
<b>WASTEWATER Total Customers</b>											
Dec-03	2,734	352	-	-	3,086						
Dec-04	2,758	361	-	-	3,119						
Dec-05	2,840	403	-	-	3,243						
Test Year	2,980	418	-	-	3,243						
2016	4,080	521	-	-	4,601						

### Water and Wastewater Test Year and Forecast Revenue Requirement

According to the American Water Works Association (AWWA) Manual M-1, there are two generally accepted approaches to determining revenue requirements. The two approaches are defined within the manual as follows:

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

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

**To maintain consistency with national ratemaking standards, and to achieve a just and reasonable rate structure for all customers of the Safford system, the project team has developed a schedule of cost of service rates based on the Cash Needs Approach for Inside City Limit customers, and the Utility Approach for Wholesale and Outside City Limit Customers.**

**Table ES-3** presents the City’s test year and forecast water and wastewater revenue requirement under both methods. The revenue requirement differs from the City’s budget in that it represents only that amount that must be raised through the City’s water and wastewater rates. This means that non-rate revenue (such as tap fees and interest) must be subtracted from expenses to determine the net revenue requirement to be raised from rates. Detailed calculations are presented in the rate model contained in Appendix A of this report.

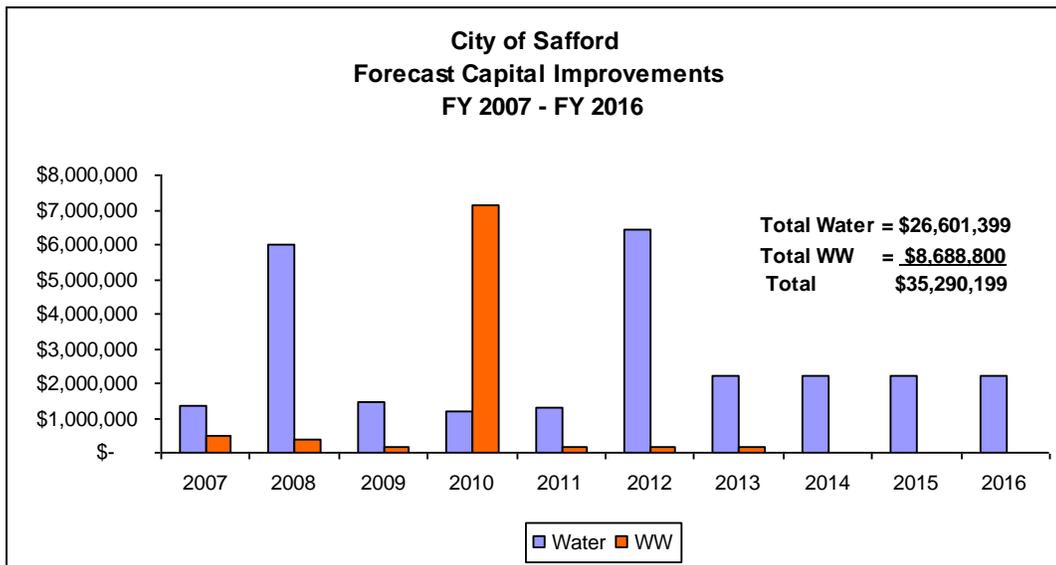
TABLE ES-3 CITY OF SAFFORD										
	FORECAST NET REVENUE REQUIREMENT									
	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013	FY 2014	FY 2015	FY 2016
<b>CASH BASIS</b>										
Operating/Cap Outlays	\$ 5,304,978	\$ 5,550,453	\$ 5,862,359	\$ 6,180,036	\$ 6,513,731	\$ 6,856,482	\$ 7,192,788	\$ 7,533,290	\$ 7,891,247	\$ 8,267,644
Debt Service	1,078,584	1,263,981	1,764,382	1,763,480	2,388,523	2,385,122	3,011,668	3,014,651	3,012,264	3,010,018
Depreciation	-	-	-	-	-	-	-	-	-	-
Return	-	-	-	-	-	-	-	-	-	-
Sub-Total	6,383,562	6,814,434	7,626,741	7,943,516	8,902,254	9,241,605	10,204,456	10,547,941	10,903,511	11,277,662
Non-Rate Revs	(587,741)	(608,124)	(628,857)	(650,722)	(672,924)	(694,642)	(713,040)	(731,807)	(750,955)	(770,495)
<b>Total</b>	<b>5,795,821</b>	<b>6,206,309</b>	<b>6,997,884</b>	<b>7,292,794</b>	<b>8,229,330</b>	<b>8,546,962</b>	<b>9,491,417</b>	<b>9,816,134</b>	<b>10,152,555</b>	<b>10,507,167</b>
<b>UTILITY BASIS</b>										
Operating/Cap Outlays	\$ 4,894,978	\$ 5,137,753	\$ 5,437,278	\$ 5,742,203	\$ 6,062,762	\$ 6,391,984	\$ 6,714,355	\$ 7,040,505	\$ 7,383,678	\$ 7,744,847
Debt Service	264,432	420,488	749,551	711,151	1,130,316	1,079,477	1,489,775	1,429,503	1,366,780	1,302,035
Depreciation	1,254,024	1,374,862	1,405,515	1,567,272	1,596,202	1,725,216	1,771,434	1,802,901	1,628,793	1,654,248
Return	1,842,040	2,094,124	2,105,039	2,444,278	2,437,407	2,680,897	2,709,575	2,730,680	2,760,490	2,789,028
Sub-Total	8,255,474	9,027,227	9,697,383	10,464,904	11,226,687	11,877,574	12,685,140	13,003,588	13,139,741	13,490,159
Non-Rate Revs	(587,741)	(608,124)	(628,857)	(650,722)	(672,924)	(694,642)	(713,040)	(731,807)	(750,955)	(770,495)
<b>Total</b>	<b>7,667,733</b>	<b>8,419,102</b>	<b>9,068,525</b>	<b>9,814,182</b>	<b>10,553,763</b>	<b>11,182,931</b>	<b>11,972,100</b>	<b>12,271,781</b>	<b>12,388,786</b>	<b>12,719,664</b>

### Capital Improvement Plan

Like most cities, Safford maintains an extensive and detailed capital improvement program to repair, maintain and expand its water and wastewater system. Minor capital improvements are contained in the City’s budget. Major capital improvements are funded through a series of debt issued by the City.

City staff and the project team developed the City’s forecast capital improvements needs over the next decade. The forecast CIP is presented in detail in **Chart ES-4**. As the chart reveals, the City is forecast to spend \$35,290,199 in total capital improvements in the next decade, the majority of which are in the water division.

Chart ES-4



Another important factor in the net revenue requirement is the city’s existing and forecast debt. The City currently maintains debt service on three outstanding loans from WIFA. The largest of these was a \$12.5 million loan for the construction of the wastewater treatment plant. Interest FY 2007 the city will be on this has been paid by the federal government for the past several years. This forecast assumes that **beginning in FY 2007 principal and interest for the \$12.5 million loan will become the responsibility of the City**. This results in additional debt service of \$760,715 to \$946,618 per year. All of this debt is assigned to the wastewater division. The two smaller loans (\$2 million and \$1.77 million) were also from WIFA and were for water line extensions. Another key assumption for this forecast is that the City issues additional debt to fund the capital improvement plan. This includes debt of \$8 million in FY 2008, \$10 million in FY 2010, and \$10 million in FY 2012. All new debt is assumed to be over a 30 year term at a 4.5% interest rate.

**Table ES-5** presents the revenues and net revenue requirement for the test year FY 2007 by customer class. **While the water accounts within the City of Safford collect adequate revenues to cover their cost of service, none of the account classifications outside the city limits are currently recovering their cost of service. To the degree that they are able, the water accounts within the city are subsidizing the water accounts in the County and in**

**the Town of Thatcher.** Further, the “zoned” rate structure is not sufficiently covering the overall differential between the revenues collected from out of city accounts and the revenue requirement.

Additionally, the wastewater utility is not recovering sufficient revenues to meet the net revenue requirements from either the residential or the commercial accounts.

**TABLE ES-5  
CITY OF SAFFORD**

**Test Year 2007 Revenues Less Revenue Requirement**

	Revenues	Net Revenue Requirement	Difference
<b>Water Utility</b>			
Residential City	\$ 1,091,393	\$ 737,545	\$ 353,848
Comm. & Fire City	277,248	250,680	26,568
Residential Thatcher	532,818	678,726	(145,908)
Comm. & Fire Thatcher	144,006	347,067	(203,061)
Residential County	811,214	998,246	(187,032)
Comm. & Fire County	143,556	260,283	(116,728)
Graham Park County	44,038	163,017	(118,979)
Sierra Del Sol	-	-	-
Prison	-	-	-
<b>Total</b>	<b>\$ 3,044,271</b>	<b>\$ 3,435,563</b>	<b>\$ (391,292)</b>
<b>Wastewater Utility</b>			
Residential	\$ 848,406	\$ 1,494,118	\$ (645,712)
Commercial	651,571	866,139	(214,568)
<b>Total</b>	<b>\$ 1,499,977</b>	<b>\$ 2,360,257</b>	<b>\$ (860,280)</b>
<b>Total</b>			
All classes	<b>\$ 4,544,248</b>	<b>\$ 5,795,820</b>	<b>\$ (1,251,572)</b>

### Wastewater Rate Design – Alternatives #1 – #3

The wastewater rate recommendation is the same for all three alternatives and is presented in **Table ES-6**. Rate adjustments are the same for both residential and commercial classes. Annual rate adjustments of 25% are required for October 2006 and October 2007, 20% for October 2008, and 3% for October 2010 through October 2016. No adjustment is required in October 2009.

TABLE ES-6  
CITY OF SAFFORD

<b>WASTEWATER RATES - ALTERNATIVES 1, 2 &amp; 3</b>						
	<b>Current</b>	<b>Effective Oct-06</b>	<b>Effective Oct-07</b>	<b>Effective Oct-08</b>	<b>Effective Oct-09</b>	<b>Effective Oct-10</b>
<b>Residential</b>						
Percent		25.0%	25.0%	20.0%	0.0%	3.0%
Base	\$ 23.73	\$ <b>29.66</b>	\$ 37.07	\$ 44.48	\$ 44.48	\$ 45.82
Per 1,000	3.41	<b>4.26</b>	5.33	6.39	6.39	6.59
<b>Commercial</b>						
Percent		25.0%	25.0%	20.0%	0.0%	3.0%
Base	\$ 23.73	\$ <b>29.66</b>	\$ 37.07	\$ 44.48	\$ 44.48	\$ 45.82
Per 1,000	3.41	<b>4.26</b>	5.33	6.39	6.39	6.59

### Water Rate Design – Alternative #1 – “Status Quo”

Table ES-7 presents a summary of the first alternative water rate design presented for the City. The following is notable about this alternative:

- Current rate structure is maintained, including seasonal summer and winter rates and current rate tiers.
- Uniform percentage rate adjustments for all customer classes annually of 12% for October 2006 and October 2007, 8% for October 2008, and 5% for October 2010 through October 2015 are required.
- Zoned rates remain in effect for qualifying customer classes. Zoned rate percentages increase by the same percentages as base water rates for each of the years in the forecast.

TABLE ES-7 CITY OF SAFFORD		WATER RATES -- ALTERNATIVE #1 "STATUS QUO"					
		Current	Effective Oct-06	Effective Oct-07	Effective Oct-08	Effective Oct-09	Effective Oct-10
		<b>Residential</b>					
Percent			12.0%	12.0%	8.0%	0.0%	5.0%
Base		\$ 16.49	\$ 18.47	\$ 20.68	\$ 22.34	\$ 22.34	\$ 23.46
<b>Summer -- Per 1,000</b>							
-	11,850	1.12	1.25	1.40	1.52	1.52	1.59
11,851	22,140	1.23	1.38	1.54	1.67	1.67	1.75
22,141	Above	1.35	1.51	1.69	1.83	1.83	1.92
<b>Winter -- Per 1,000</b>							
-	11,850	1.06	1.19	1.33	1.44	1.44	1.51
11,851	22,140	1.17	1.31	1.47	1.59	1.59	1.66
22,141	Above	1.29	1.44	1.62	1.75	1.75	1.84
		<b>Commercial</b>					
Percent			12.0%	12.0%	8.0%	0.0%	5.0%
Base		\$ 16.49	\$ 18.47	\$ 20.68	\$ 22.34	\$ 22.34	\$ 23.46
Summer -- Per 1,000		1.12	1.25	1.40	1.52	1.52	1.59
Winter -- Per 1,000		1.06	1.19	1.33	1.44	1.44	1.51
		<b>Zoned Rate Premium</b>					
<b>Per 1,000 Gal</b>							
Zone B		\$ 0.39	\$ 0.44	\$ 0.49	\$ 0.53	\$ 0.53	\$ 0.55
Zone C		0.78	0.87	0.98	1.06	1.06	1.11
Zone D		1.18	1.32	1.48	1.60	1.60	1.68
Zone E		1.57	1.76	1.97	2.13	2.13	2.23

### Water Rate Design – Alternative #2 – “Modified”

The current water rate structure is complex and difficult to administer. Rates are determined by daily usage tiers set at 395 gallons, the next 343 gallons, and over 738 gallons. Usage rates vary by season, with summer consumption rates set slightly higher than winter consumption rates. The meter charge is similarly calculated on a daily basis.

Most municipal water utilities now set monthly rates and establish tiered usage rates that reflect common break points in monthly usage. Further, the City of Safford’s current volumetric tiers for both summer rates and winter rates are separated by only a 10% rate differential. With the growing need for water conservation a greater degree of difference is commonly found in the pricing of volumetric tiers in order to encourage conservation.

The following is notable about this alternative:

- Daily rates are eliminated and replaced by monthly rates. The rate blocks are established in an inverted block rate structure with a 25% differential in pricing between blocks.
- Seasonal rates are eliminated in favor of one rate structure throughout the year.
- “Zoned” rates are eliminated. Rates outside of city limits for all customers are the same as rates within city limits.

- Uniform percentage rate adjustments for the base charges for all customer classes of 10% for October 2006 are required. The establishment of new volumetric rate tiers and a 25% differential in pricing between blocks requires varying adjustments in volumetric pricing for October 2006.
- Uniform percentage rate adjustments for all customer classes annually of 7.5% for October 2007 and October 2008, and 5% for October 2010 through October 2015 are required.

Table ES-8 presents a summary of the City’s second water and wastewater rate design option.

TABLE ES-8 CITY OF SAFFORD									
WATER RATES -- ALTERNATIVE #2 "MODIFIED RATE STRUCTURE"									
		Current		Effective	Effective	Effective	Effective	Effective	
		Summer	Winter	Oct-06	Oct-07	Oct-08	Oct-09	Oct-10	
<b>Residential</b>									
Percent				na	7.5%	7.5%	0.0%	7.0%	
Base		\$ 16.49	\$ 16.49	\$ 18.14	\$ 19.50	\$ 20.96	\$ 20.96	\$ 22.43	
<b>Per 1,000</b>									
	-	10,000	1.12	1.06	1.25	1.34	1.44	1.44	1.55
	10,001	20,000	1.23	1.17	1.56	1.68	1.81	1.81	1.93
	20,001	Above	1.35	1.29	1.95	2.10	2.26	2.26	2.42
<b>Commercial</b>									
Percent				na	7.5%	7.5%	0.0%	7.0%	
Base		\$ 16.49	\$ 16.49	\$ 18.14	\$ 19.50	\$ 20.96	\$ 20.96	\$ 22.43	
<b>Per 1,000</b>									
	-	10,000	1.12	1.06	1.25	1.35	1.35	1.44	1.51
	10,001	20,000	1.12	1.06	1.57	1.68	1.68	1.80	1.89
	20,001	Above	1.12	1.06	1.96	2.11	2.11	2.25	2.37

### Rate Design – Alternative #3 – “Outside City”

Table ES-9 summarizes the City’s third water and wastewater rate design option for the ten year forecast period. The following is notable about this alternative:

- Daily rates are eliminated and replaced by monthly rates. The rate blocks are established in an inverted block rate structure with a 25% differential in pricing between blocks.
- Seasonal rates are eliminated in favor of one rate structure throughout the year.
- **“Zoned” rates are eliminated, in favor of setting a separate account classification for outside city limits customers. These customers are charged a rate designed to enable the City to recover the cost of providing service beyond its geographical limits.**
- The replacement of “zoned” rates by outside city rates continues the City’s long-time policy of charging more for further-away customers who have a higher cost of service. However, the parameters are

simplified and standardized, and redesigned to fully account for the cost differentials between inside and outside city customers.

- Rates for customer classes outside city limits are 25% for October 2006 until October 2010. The rate for outside city limit customers increases to 50% beginning in October 2010. However, because of the elimination of the “zoned” rate structure, many outside customers will not experience as significant an increase in monthly total charges.

TABLE ES-9  
CITY OF SAFFORD

<b>WATER RATES -- ALTERNATIVE #3 "OUTSIDE CITY"</b>									
		<b>Current</b>		<b>Effective</b>	<b>Effective</b>	<b>Effective</b>	<b>Effective</b>	<b>Effective</b>	
		<b>Summer</b>	<b>Winter</b>	<b>Oct-06</b>	<b>Oct-07</b>	<b>Oct-08</b>	<b>Oct-09</b>	<b>Oct-10</b>	
<b>Residential -- City</b>									
Percent				na	7.5%	7.5%	0.0%	0.0%	
Base		\$ 16.49	\$ 16.49	\$ 16.49	\$ 17.73	\$ 19.05	\$ 19.05	\$ 19.05	
<b>Per 1,000</b>									
-	10,000	1.12	1.06	<b>1.06</b>	1.14	1.22	1.22	1.22	
10,001	20,000	1.23	1.17	<b>1.33</b>	1.42	1.53	1.53	1.53	
20,001	Above	1.35	1.29	<b>1.66</b>	1.78	1.91	1.91	1.91	
<b>Commercial -- City</b>									
Percent				na	7.5%	7.5%	0.0%	0.0%	
Base		\$ 16.49	\$ 16.49	\$ 16.49	\$ 17.73	\$ 19.05	\$ 19.05	\$ 19.05	
<b>Per 1,000</b>									
-	-	1.12	1.06	<b>1.06</b>	1.14	1.22	1.22	1.22	
-	10,000	1.12	1.06	<b>1.33</b>	1.42	1.53	1.53	1.53	
10,001	20,000	1.12	1.06	<b>1.66</b>	1.78	1.91	1.91	1.91	
<b>Residential -- Thatcher/County</b>									
Percent				na	7.5%	7.5%	0.0%	20.0%	
Base		\$ 16.49	\$ 16.49	\$ 20.61	\$ 22.16	\$ 23.82	\$ 23.82	\$ 28.58	
<b>Per 1,000</b>									
-	10,000	1.12	1.06	<b>1.33</b>	1.42	1.53	1.53	1.84	
10,001	20,000	1.23	1.17	<b>1.66</b>	1.78	1.91	1.91	2.30	
20,001	Above	1.35	1.29	<b>2.07</b>	2.23	2.39	2.39	2.87	
<b>Commercial -- Thatcher/County</b>									
Percent				na	7.5%	7.5%	0.0%	20.0%	
Base		\$ 16.49	\$ 16.49	\$ 20.61	\$ 22.16	\$ 23.82	\$ 23.82	\$ 28.58	
<b>Per 1,000</b>									
-	-	1.12	1.06	<b>1.33</b>	<b>1.42</b>	<b>1.53</b>	<b>1.53</b>	<b>1.84</b>	
-	10,000	1.12	1.06	<b>1.66</b>	<b>1.78</b>	<b>1.91</b>	<b>1.91</b>	<b>2.30</b>	
10,001	20,000	1.12	1.06	<b>2.07</b>	<b>2.23</b>	<b>2.39</b>	<b>2.39</b>	<b>2.87</b>	

### Rate Alternatives – Impact on Ratepayers

**Table ES-10** presents a comparison of the impact of the proposed rates under the three alternatives for the period FY 2007 – FY 2010 for the approximate average usage of a residential account within Safford and for a commercial account within Safford. The table reveals that the most significant rate increases take effect in October 2006, 2007 and 2008 under all three alternatives, but the increases for accounts within Safford are substantially lessened under Alternative 3 as the accounts outside of city limits begin paying a greater portion of their cost of service.

**It should be noted that none of these alternatives present any ratepayers who currently pay a “zoned” rate.** The impact of these recommendations on “zoned” ratepayers are significantly lower. Because of the wide variation in “zoned” rates, no “typical” impact is presented.

		<b>Rate Alternatives 1, 2 &amp; 3 -- Summary of Impacts</b>						
		<b>Current</b>		<b>Effective</b>	<b>Effective</b>	<b>Effective</b>	<b>Effective</b>	<b>Effective</b>
		<b>Summer</b>	<b>Winter</b>	<b>Oct-06</b>	<b>Oct-07</b>	<b>Oct-08</b>	<b>Oct-09</b>	<b>Oct-10</b>
<b><u>Residential -- 10,000 Gallons Water, 5,000 Gallons WW</u></b>								
Alt 1 -- Summer		\$ 51.41		\$ 60.67	\$ 71.80	\$ 82.00	\$ 82.00	\$ 85.21
Alt 1 -- Winter			\$ 50.81	60.00	71.05	81.18	81.18	84.35
Alt 2		51.41	50.81	60.29	70.01	79.89	79.89	83.70
Alt 3	(City)	51.41	50.81	56.75	66.19	75.79	75.79	77.12
<b><u>Commercial -- 50,000 Gallons Water and WW</u></b>								
Alt 1 -- Summer		\$ 266.71		\$ 323.97	\$ 394.41	\$ 462.38	\$ 462.38	\$ 478.21
Alt 1 -- Winter			\$ 263.71	320.61	390.64	458.31	458.31	473.94
Alt 2		266.71	269.65	347.88	416.45	478.61	485.16	502.55
Alt 3	(City)	266.71	263.71	332.81	400.25	468.21	468.21	479.13

### Solid Waste Customers – Current and Forecast

The City of Safford’s solid waste utility currently has a detailed and complex set of account classifications, and the City intends to streamline these classifications and services. Therefore, the City plans to standardize all residential accounts to 90 gallon containers immediately, and to convert all limited service residential customers to full service by FY 2008. These changes are reflected in **Table ES-11** which presents the current and forecast solid waste accounts by number and classification.

**TABLE ES-11**  
**CITY OF SAFFORD**

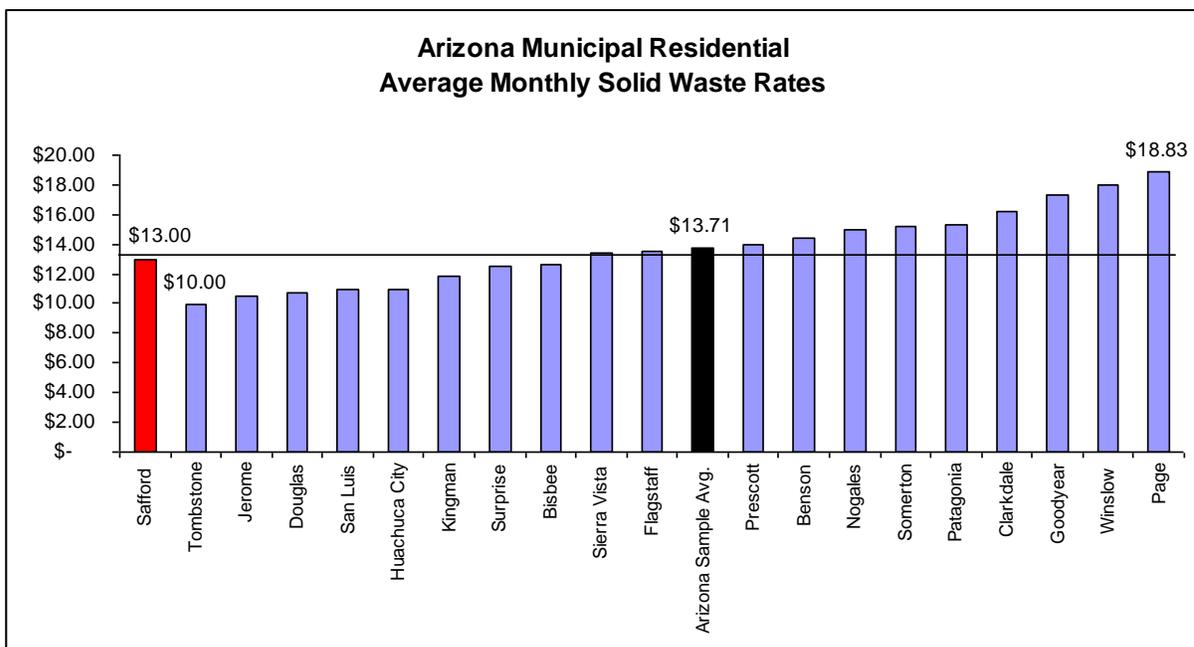
FORECAST SANITATION ACCOUNTS BY CLASS				
	FY2007 Customers	FY2010 Forecast	FY2013 Forecast	FY2016 Forecast
TRR 90 (Res.Full 90)	1,248	3,760	4,185	4,485
TRL 90 (Res.Limited 90)	2,037	-	-	-
TRC Commercial	419	479	519	549
TRP Container PickUp	22	22	22	22
TRB Bulk	43	43	43	43
<b>Total</b>	<b>3,769</b>	<b>4,304</b>	<b>4,769</b>	<b>5,099</b>

### Solid Waste Rates and Rate Comparison

The City’s rates for solid waste services are based on many factors, including the classification of the account as either residential or commercial, the size and number of containers and the number of pickups per week. The current rates were implemented in September 2003.

According to the National Solid Waste Management Association, the current monthly cost to US residents of trash, recyclables and yard waste collected and disposed of typically ranges from \$12.00 to \$20.00, with an average of **\$16.00**. **Chart ES-12** presents a sampling of the basic residential solid waste collection charges for many of the smaller municipalities in Arizona. While each may vary slightly in the type or size of container required, and the number of collections per week, overall the services are similar enough to present a broad comparison.

Chart ES-12



### Solid Waste Test Year and Forecast Revenue Requirement

As is typical for a municipal solid waste utility, the City’s cost of sanitation service is composed of personnel and operating expenses, capital outlays, and debt service. Using cost of service and projected accounts as a base, revenues by customer class are forecast for the ten-year period. The City’s solid waste utility has no current or projected debt service.

**Table ES-13** presents the forecast net revenue requirement, which is comprised of the operating expenses and capital outlays over the ten year forecast period.

TABLE ES-13 CITY OF SAFFORD						
BASE SCENARIO						
SANITATION - FORECAST NET REVENUE REQUIREMENT						
	Operating Expenses	Capital Outlays	Debt Service	Sub Total	Less Non-Rate Revs	Net Revenue Rqmt
TY FY 2007	\$ 1,062,364	\$ 7,000	\$ -	\$ 1,069,364	\$ -	\$ 1,069,364
FY 2008	1,114,907	7,000	-	1,121,907	-	1,121,907
FY 2009	1,169,976	7,000	-	1,176,976	-	1,176,976
FY 2010	1,232,400	7,000	-	1,239,400	-	1,239,400
FY 2011	1,298,311	7,000	-	1,305,311	-	1,305,311
FY 2012	1,359,929	7,000	-	1,366,929	-	1,366,929
FY 2013	1,414,155	7,000	-	1,421,155	-	1,421,155
FY 2014	1,470,789	7,000	-	1,477,789	-	1,477,789
FY 2015	1,529,930	7,000	-	1,536,930	-	1,536,930
FY 2016	1,591,686	7,000	-	1,598,686	-	1,598,686

### Solid Waste Proposed Rate Design

**Table ES-14** presents the project team’s recommendations for the monthly sanitation rates that will be required by the City to recover its operating and capital expenses over the next decade. The following is noteworthy about this recommendation:

- The rate design is based upon the City’s existing rate structure.
- An immediate adjustment is required in FY 2007 to erase the current operating deficit.
- Residential rate adjustments are proportionately higher than those applied to commercial customers and special pick up services (Container pick up and Bulk pick up), in order to reduce the discrepancy between the revenue and the cost of service for the residential rate classifications.
- Annual rate adjustments for Full Service residential ratepayers of 18.1% for October 2006, 2.9% for October 2007 and 3% for October 2010 through October 2012 are required. The remaining

years would not require an adjustment unless there is a change in operating parameters and costs.

- Annual rate adjustments for Limited Service residential ratepayers of 17.8% in October of 2006 are required. Beyond FY 2007, there would no longer be any ratepayers within this class of service as they will all become full service accounts.
- Annual rate adjustments for Commercial ratepayers of 10.1% for October 2006, 3.1% for October 2007 and 2010, and 3.0% for October 2011 and 2012 are required.
- Annual rate adjustments for Container Pick Up and Bulk Pick services of 10% for October 2006, and of 3% for October 2007, and October 2010 through October 2012 are required.
- This rate design will enable the solid waste utility to meet its revenue requirements over the ten year forecast period, including its capital expenditures.

TABLE ES-14  
CITY OF SAFFORD

<b>RECOMMENDED SOLID WASTE RATES</b>				
	<u>Current</u>	<u>Effective Oct 2006</u>	<u>Effective Oct 2007</u>	<u>Effective Oct 2010</u>
<b><u>TRR -- Residential Full</u></b>				
Monthly Charge	\$ 13.00	\$ 15.35	\$ 15.80	\$ 16.30
<b><u>TRL -- Residential Limited</u></b>				
Monthly Charge	9.85	11.60	11.95	12.30
<b><u>TRC -- Commercial</u></b>				
Monthly Minimum Charge	13.00	14.30	14.75	15.20
Volume Charge per CY	2.85	3.15	3.25	3.35
<b><u>TRP -- Containerize</u></b>				
Charge Per CY	7.50	8.25	8.50	8.75
<b><u>TRB -- Bulk</u></b>				
Charge Per CY	7.50	8.25	8.50	8.75

## SECTION 1

# Introduction and Demographic Profile

## Background



In April 2006 the City of Safford, Arizona (“the City”) engaged **Economists.com** to conduct a water, wastewater and solid waste rate study and long-term financial plan. The City identified numerous objectives for this study, including but not limited to the following:

- A comprehensive analysis and evaluation of the water, wastewater and solid waste systems’ current cost of service and revenue requirements
- A forecast of water, wastewater and solid waste operating and capital costs for a period ten years into the future
- An estimate of current and forecast accounts, volumes and billing units for the ten year forecast period
- A forecast of operating expenses over the next decade, taking into consideration such factors as inflation, system growth, and increases in staffing levels
- A thorough review and update of the water, wastewater and solid waste system’s known capital improvement needs, as well as a determination of the need for funding capital requirements through the issuance of long-term debt
- A review of the adequacy and appropriateness of existing water, wastewater and solid waste customer classes
- An evaluation of the current water, wastewater and solid waste rate structures and revenue recovered versus the revenue requirement, both overall and for each customer class
- The development of alternative rate structures that would recover the City’s cost of service, ensure equitable, just and reasonable treatment of identified customer classes, and maintain critical financial ratios

In conjunction with City staff, the project team evaluated several alternative rate structures which would enable the City to achieve these objectives while continuing to provide ratepayers with a superior quality of municipal water, wastewater and solid waste services. The rate alternatives are identified as follows:

- **“Status Quo”** – no change to overall rate structure; uniform percentage adjustments for all classes
- **“Modified”** - replacement of the summer/winter rate structure with a single inverted block rate
- **“Outside City”** - replacement of outside city “zoned” rates with a single outside city limit cost-based rate structure for Thatcher and County customers

After a series of meetings with City officials at which these various alternatives were thoroughly analyzed, the project team narrowed its recommendations to the alternative rate structures contained in this study.

The project team visited the City several times to meet with staff, gather data for this study and to evaluate cost assumptions and rate alternatives. Project status meetings were held in June, July and August, 2006 to evaluate the project team’s preliminary analysis and findings. In August 2006 the City staff and Council were briefed on the study’s findings and recommendations.

## Report Organization

This report is organized into the following sections:

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

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

**Section III – Water and Wastewater Test Year and Forecast Revenue Requirement** – outlines the process of analyzing the City’s current water and wastewater utility cost structure. The total current or “test year” revenue requirements are developed, and costs are functionalized. Using the test year as a basis, costs are forecast for a ten year period.

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

**Section V – Solid Waste Cost of Service Analysis** – Presents a detailed analysis of the City’s cost of service for the collection of refuse from the residential and commercial customer classes and the resulting rate recommendations.

**Appendix A** – presents a hard copy printout of the interactive Microsoft Excel spreadsheet model developed for the City to calculate water and wastewater current and future revenue requirements. The model automatically generates all calculations based on a set of defined user inputs. An electronic copy of this model will be provided to the City so that staff may use it as a tool for future rate development.

**Appendix B** – presents a hard copy printout of the interactive Microsoft Excel spreadsheet model developed for the City to calculate current and future revenue requirements and rates for solid waste. The model automatically generates all calculations based on a set of defined user inputs. An electronic copy of this model will be provided to the City so that staff may use it as a tool for future rate development.

## City Background



**Governor Anson Peacely Killan Safford**  
(Feb. 14, 1830 – Dec. 15, 1891)

The City of Safford was established in 1874 in the southeastern portion of the state of Arizona, in the Upper Gila River Valley. Water from both the San Simon River and the Gila River enabled early residents to establish an agricultural community that continues to thrive. Copper and silver were mined in the region as far back as the 1870's, and the provision of goods and services for the miners helped towns such as Safford to grow and prosper. Joshua Eaton Bailey, often referred to as the "Father of Safford," was instrumental in the naming of the community after Anson Peacely Killan Safford, Arizona's third territorial governor. Safford was appointed Governor of Arizona in 1869 and served for 8 years, during which time he developed the first comprehensive public school system in Arizona and addressed many other pressing needs of the young state.

Safford's location in the Gila Valley and near Mount Graham provides residents and visitors with scenic views and many options for outdoor recreation. Among these are the Gila Box National Conservation Area, Mt. Graham Recreational Area and the Natural Hot Springs. Safford is the county seat of Graham County, and has become the retail and service center for the region. Additionally, due to technological advancements and increasing copper prices, Phelps Dodge will soon begin

construction of a new mine to extract deposits of copper ore just north of Safford, in addition to their existing Morenci mine operations nearby in Greenlee County. This promises to be one of the nation's largest open pit copper mines, producing up to 250 million pounds of copper a year for up to 18 years. Currently, the Arizona Department of Environmental Quality is finalizing the issuance of the necessary water and air quality permits needed to allow construction of the mine to begin. The construction and operation of this mine is expected to spur population and economic growth in the area substantially.

### City Leadership

Currently the City operates under a Council-Manager form of government. The Council consists of the Mayor, the Vice Mayor and five council members. The City Manager reports to the Mayor, Council and the citizens of Safford, and is responsible for the day-to-day operations of the City. All changes to the City’s water and wastewater rate structure must be approved by a vote of the Council. **Table I-1** lists current serving City officials.

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

TABLE I-1 CITY OF SAFFORD		CITY OFFICIALS -- JUNE 2006	
Mayor and Council		Senior City Staff	
Ronald M. Green	<i>Mayor</i>	Huey P. Long	<i>City Manager</i>
J. T. Cotter	<i>Vice- Mayor</i>	Garnet K. Emery	<i>City Attorney</i>
Danny Hoopes	<i>Council Member</i>	Robert L. Porter	<i>Public Works Director</i>
Richard Ortega	<i>Council Member</i>	Jay Howe	<i>Safford Utility Director</i>
Ed Ragland	<i>Council Member</i>	Carlos Vessels	<i>Administrative Services Director</i>
Danny Smith	<i>Council Member</i>	Randy Petty	<i>Engineering Director</i>
Ed Zappia	<i>Council Member</i>	Bob Bigando	<i>Planning &amp; Community Svcs Dir.</i>
		Georgia Luster	<i>City Clerk</i>



### Population – Current and Projected

While Arizona as a whole has seen tremendous population growth in the past twenty years, **Chart I-2** reveals that Safford has experienced small but steady average annual gains of just over **2%** since 1940. During this time the City's population increased from 2,266 to 9,440 according to the US Census Bureau and the Arizona Department of Economic Security. Growth in the past fifteen years has averaged only 1.93% annually, but the City is poised for significant increases due to the development of the Phelps Dodge copper mine nearby, several planned housing developments and the opening of new commercial and retail outlets. **Chart I-3** shows recent historical and projected growth for both the City of Safford and Graham County. These figures provided by the Arizona Department of Economic Security project an average annual growth rate of **3%** for the City, and **1%** for Graham County for the years 2005 through 2020.

Chart I-2

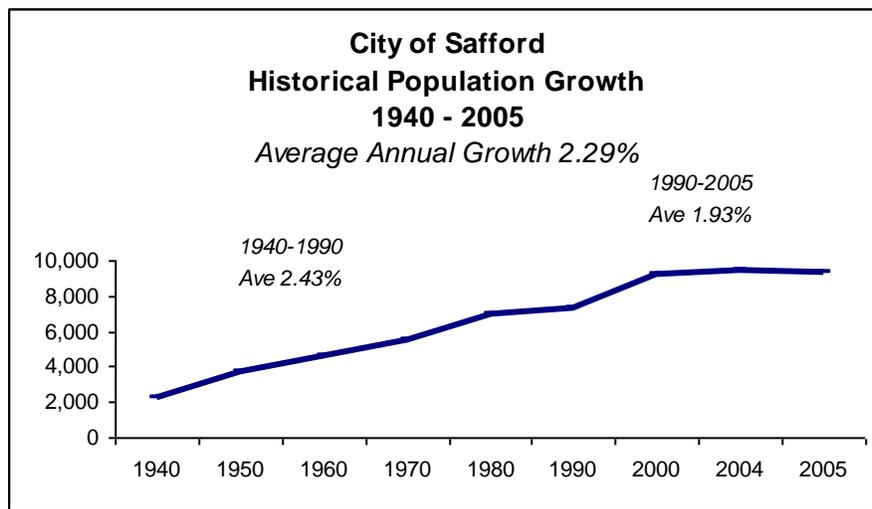
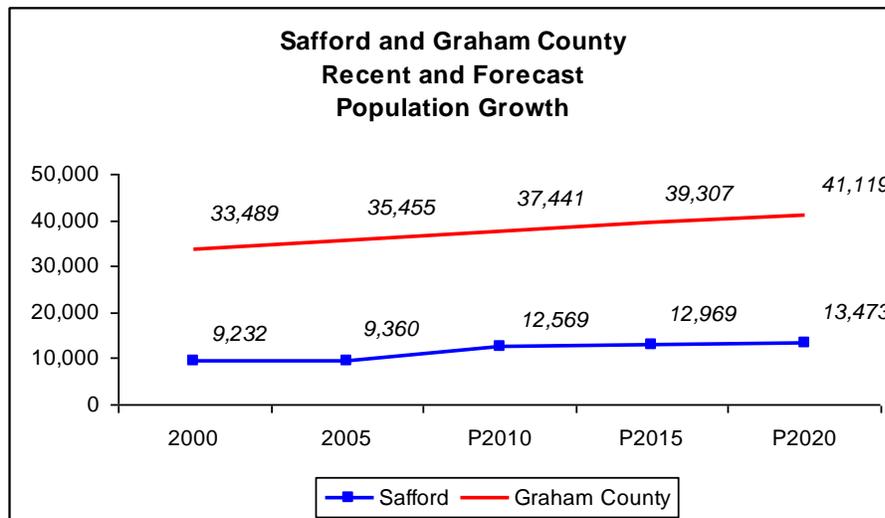


Chart I-3



## Water and Wastewater Current Rates

Table I-4 summarizes the City's current water and wastewater rate structure:

TABLE I-4 CITY OF SAFFORD				
Current Water Rates				
Water Rates (based on a 30 day month)				
<b>Daily Service Charge:</b>			<u>Per Day</u>	<u>Per month</u>
	5/8" Meter	\$	0.5421	\$ 16.26
	3/4" Meter	\$	0.5421	\$ 16.26
	1" Meter	\$	0.6242	\$ 18.73
	1 1/4" Meter	\$	0.6242	\$ 18.73
	1 1/2" Meter	\$	0.7754	\$ 23.26
	2" Meter	\$	1.1006	\$ 33.02
Rate Blocks for Average		Consumption Rate per 1,000 Gallons		
Daily Use	Monthly Use	Summer	Winter	
First 395 Gallons	11,850 Gallons	\$ 1.12	\$	1.06
Next 343 Gallons	Next 10,290 Gallons	\$ 1.23	\$	1.17
Over 738 Gallons	Over 22,140 Gallons	\$ 1.35	\$	1.29
Current Wastewater Rates				
Wastewater Rates Within City Limits (based on a 30 day month)				
<b>Daily Service Charge:</b>			<u>Per Day</u>	<u>Per month</u>
(includes 239 Gal. per day or 7,170 per month):		\$	0.78	\$ 23.40
<b>Normal Quantity Charge:</b>				
\$3.41 per thousand gallons based on the average amount of water billed Dec - Feb.				
Wastewater Rates Outside City Limits (based on a 30 day month)				
<b>Daily Service Charge:</b>			<u>Per Day</u>	<u>Per month</u>
(includes 239 Gal. per day or 7,170 per month):		\$	1.17	\$ 35.10
<b>Normal Quantity Charge:</b>				
\$3.41 per thousand gallons based on the average amount of water billed Dec - Feb.				

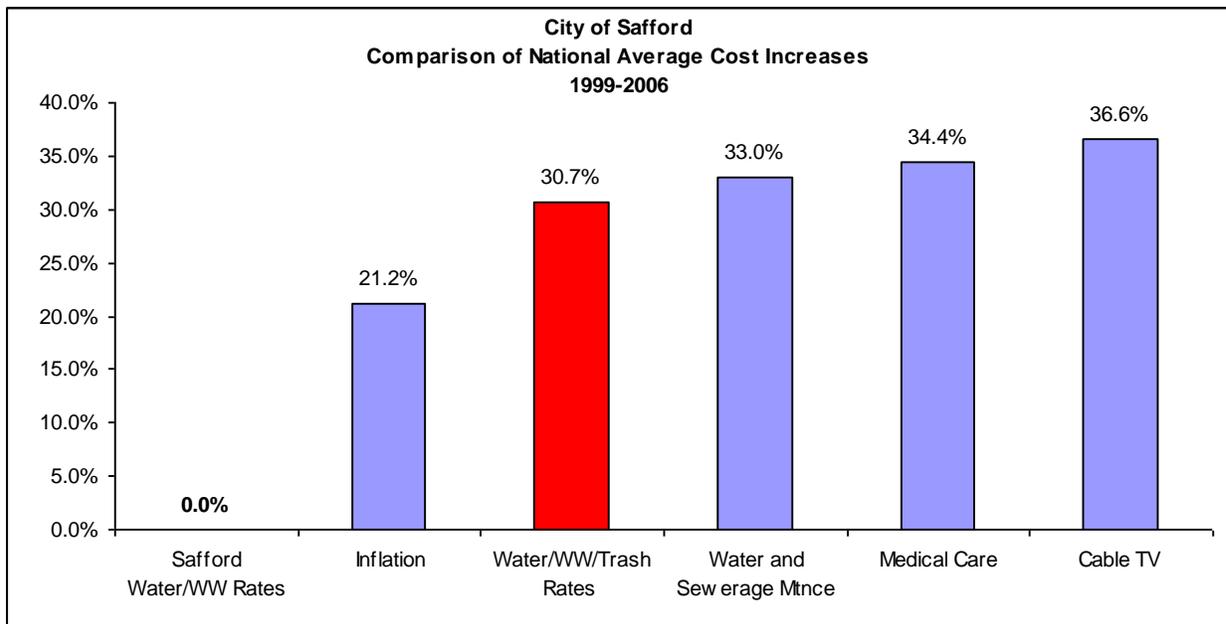
Water charges are based on a daily rate related to meter size and average daily usage. Rates vary by season, with summer consumption rates set slightly higher than winter consumption rates. Residential and non-residential (commercial and fire protection) water customer classes are charged the same volume rates although the daily service charge varies according to meter size. Water service provided through the City of Safford is widely available outside of city limits. Water rates have special zoning and pumping charges for designated zones, which are primarily outside

the City limits. This means that many customers outside the city limits in these zones currently pay a higher rate for water and wastewater service.

Wastewater accounts are serviced both inside city limits as well as outside city limits. The daily service charge for all wastewater accounts includes 239 gallons per day. Within the city limits the daily service charge is set at \$0.78, while accounts outside city limits have a daily service charge of \$1.17. There are additional quantity charges for usage that exceeds the 239 gallons per day. For most account classifications the normal quantity charge is determined by the average winter usage. The winter average is determined by averaging the usage of the two lowest of the three months of December, January, and February.

The City last adjusted its water and wastewater rates in July 1999. **Chart I-5** compares the City's historical water and wastewater rate adjustments to other key economic indicators.

Chart I-5



The chart reveals that in the past seven years, the national inflation rate has been 21.2%. However, according to the United States Bureau of Labor Statistics, the average water and wastewater and trash collection rate across the country has increased by 30.7% during this same time period and the cost of water and sewerage maintenance has increased by 33%. Other items, such as medical care, have increased by even larger margins. Notably, a key household discretionary item, Cable TV, has increased by 36.6% over the seven year period.

Further, respected organizations like the *Raftelis Group* and the *American Water Works Association Research Foundation* have stated that they expect the trend of water and wastewater rate increases exceeding that of inflation to continue over the next decade. The general consensus is that the average water and wastewater utility will increase its user rates 5.0% per year over the next decade.

### Water and Wastewater Rate Comparison

Table I-6 presents a detailed comparison of total current residential charges for water and wastewater service for sixteen cities primarily in southeastern Arizona. A volume of 10,000 gallons water and 5,000 gallons wastewater were used for the residential comparison as it represents typical usage levels for an average household.

**TABLE I-6  
CITY OF SAFFORD**

**Total Residential Charges for 10,000 Gallons Water, 5000 Gallons Wastewater  
Per Month (30 days) In Town, Winter, 5/8" Meter Rates**

	2005 Population	Yr 2000 Census Median HH Income	Water	Wastewater	Total	% of Median HH Income
<b>Safford (winter)</b>	<b>9,360</b>	<b>\$ 29,899</b>	<b>\$ 26.86</b>	<b>\$ 23.40</b>	<b>\$ 50.26</b>	<b>2.02%</b>
<b>Safford (summer)</b>	<b>9,360</b>	<b>\$ 29,899</b>	<b>\$ 27.46</b>	<b>\$ 23.40</b>	<b>\$ 50.86</b>	<b>2.04%</b>
Sierra Vista (AZ Water)	43,690	\$ 38,427	\$ 31.52	\$ 13.31	\$ 44.83	1.40%
Huachuca City	1,830	\$ 26,311	\$ 26.00	\$ 8.00	\$ 34.00	1.55%
Somerton	9,750	\$ 26,544	\$ 18.50	\$ 18.60	\$ 37.10	1.68%
Douglas	17,195	\$ 20,567	\$ 18.50	\$ 11.75	\$ 30.25	1.76%
Nogales	21,803	\$ 22,306	\$ 20.30	\$ 12.55	\$ 32.85	1.77%
San Luis	22,930	\$ 22,966	\$ 20.62	\$ 18.21	\$ 38.83	2.03%
Benson	4,740	\$ 28,289	\$ 28.93	\$ 23.62	\$ 52.55	2.23%
Tombstone	1,610	\$ 26,571	\$ 37.12	\$ 13.20	\$ 50.32	2.27%
Willcox	3,885	\$ 24,334	\$ 24.03	\$ 22.14	\$ 46.17	2.28%
Eloy	11,125	\$ 26,518	\$ 26.50	\$ 24.00	\$ 50.50	2.29%
Patagonia	920	\$ 25,795	\$ 21.30	\$ 28.50	\$ 49.80	2.32%
Bisbee (AZ Water Co.)	6,570	\$ 27,942	\$ 42.22	\$ 26.90	\$ 69.12	2.97%
<b>Average</b>		<b>\$ 26,883</b>	<b>\$ 26.42</b>	<b>\$ 19.11</b>	<b>\$ 45.53</b>	<b>2.04%</b>

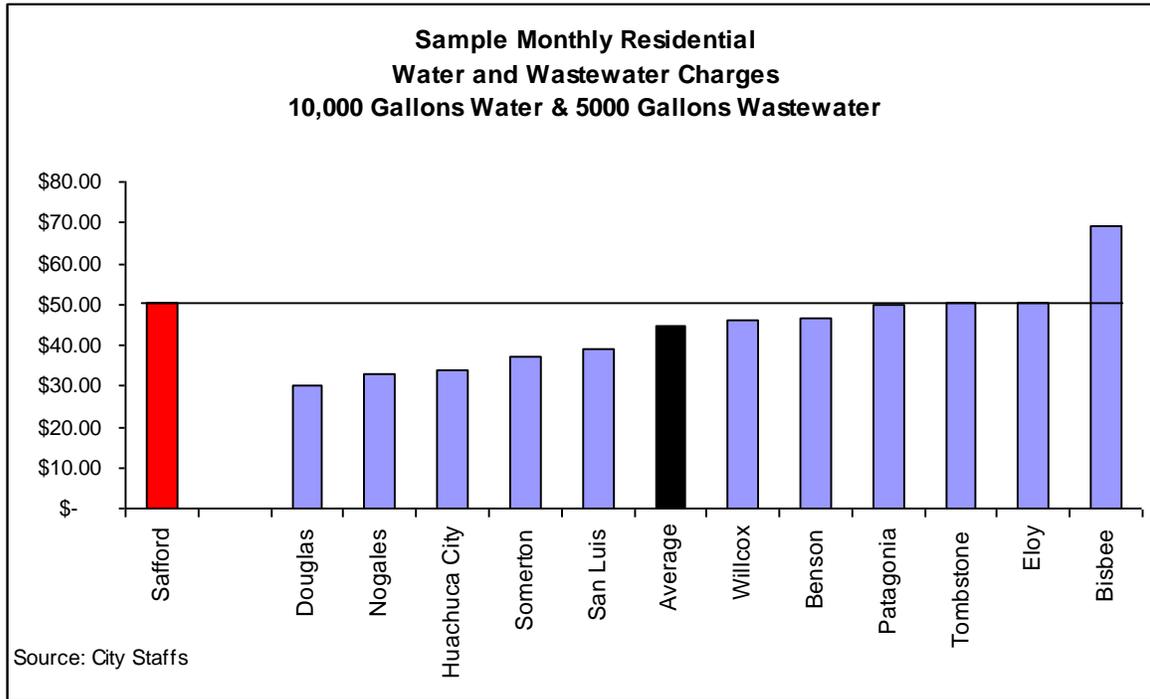
Comparisons such as these are for usage charges only. *This type of comparison may have the unintended effect of discriminating against communities who choose to finance system expansions through current rates or revenue bonds, which are included in rates, as opposed to those who utilize general obligation bonds, which are funded through taxes.* All else being equal, a City that primarily or exclusively uses general obligation bonds will have a lower water rate per 1,000 gallons but a higher tax rate.

With these caveats in mind, **Chart I-7** presents a graphic comparison of 10,000 gallons water and 5,000 gallons wastewater charges for residential accounts. The following is noteworthy:

- For 10,000 gallons of water usage, a residential ratepayer in Safford pays approximately **\$26.86** which is only slightly higher than the average of \$26.42 in the sample.
- For 5,000 gallons of wastewater usage, a residential ratepayer in Safford pays approximately **\$23.40**, as opposed to the average of \$19.11 in the sample. Many cities in Arizona have flat rate sewer service that compares more favorably than the usage based rates of Safford in these types of comparisons.

- The combined service of 10,000 gallons water and 5,000 gallons of wastewater when presented as a percentage of median household income is 2.02% - 2.04%, depending on summer or winter rates is essentially equal to the sample average of 2.04%.

Chart I-7



**Table I-8** compares current rates for the City with selected data from the statewide rate survey completed in 2005 by Economists.com and published by the Water Infrastructure Finance Authority of Arizona (WIFA). This reveals that the water rates for Safford compare favorably to all other averages shown. Water rates in Safford were 36.2% less than the statewide average for 10,000 gallons. The City’s wastewater residential monthly charge of \$23.40 (based on a 30 day month) is higher by 9.2% than the survey average.

**Table I-8**  
**CITY OF SAFFORD**

**Average Arizona Rates from 2005 WIFA Rate Study**

<b>Drinking Water Survey Results 10,000 Gallons</b>	<b>Average Charge</b>		<b>Median Charge</b>	
<b>City of Safford (winter)</b>	<b>\$</b>	<b>26.86</b>	<b>\$</b>	<b>26.86</b>
AZ Municipal Providers		25.75		25.11
Arizona Survey Total		36.60		32.48

<b>Waste Water Survey Results 5,000 Gallons</b>	<b>Average Charge</b>		<b>Median Charge</b>	
<b>City of Safford</b>	<b>\$</b>	<b>23.40</b>	<b>\$</b>	<b>23.40</b>
AZ Municipal Providers		17.72		16.34
Arizona Survey Total		21.43		17.43

### Solid Waste Current Rates

The City of Safford owns and operates a regional landfill facility that serves Safford as well as Pima, Thatcher, Graham County, Fort Thomas and the federal prison. Financially, this facility is separate from the City’s solid waste utility.

The City’s rates for solid waste services are based on many factors including the classification of the account as either residential or commercial, the size and number of containers and the number of pickups per week. As shown in **Table I-9**, current rates for residential accounts provide for twice weekly collection from one 90 gallon container per account for Limited Service. Full Service residential accounts receive the same twice weekly collection from a 90 gallon container plus an additional weekly collection of up to 4 cubic yards of bulk waste. Limited Service accounts may request the bulk waste pick up as needed and pay an additional \$11.50 for each collection. Commercial accounts are assessed the greater of a minimum monthly charge of \$13.00 or \$2.85 per cubic yard which is calculated by the cubic yards of waste collected from each account, as determined by the City. The current rates were implemented in September 2003.

TABLE I-9  
CITY OF SAFFORD

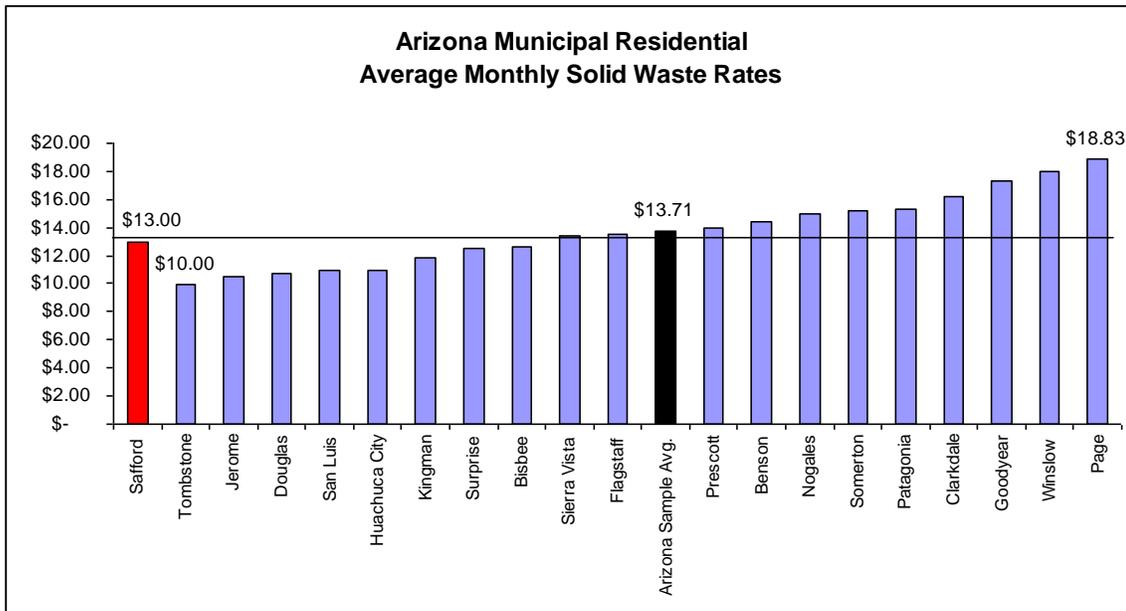
<b>Current Sanitation Rates - Effective November 2005</b>				
	<u>Container Size</u>	<u>Pickups/Week</u>	<u>Charge</u>	
<b>Residential Full Service</b>	90 Gal.	2	<b>\$ 13.00</b>	Monthly
includes special waste pick-up	0-4 Cu. Yds	1	included	
<b>Residential Limited Service</b>	90 Gal.	2	<b>9.85</b>	Monthly
optional special waste pick up	0-4 Cu. Yds	as requested	<b>11.50</b>	Each
<b>Commercial</b>			<b>\$13.00</b>	Monthly Minimum
1 Cubic Yard	1 Cu. Yd.	1	<b>\$ 2.85</b>	Each Cu Yd.
Up to 6 Cubic Yards		Up to 6 times weekly		
Example: 3 Cubic Yards picked up twice weekly :				
$((\$2.85 \times 3 \times 2) \times 52) / 12 = \$74.10$ monthly				
<b>Additional Services</b>				
Hand loaded waste per cubic yard:			<b>\$7.50</b>	per pick-up
Bulky Trash with a five cubic yard minimum			<b>\$7.50</b>	per cubic yard

### Solid Waste Rate Comparison

According to the National Solid Waste Management Association, the current monthly cost to US residents of trash, recyclables and yard waste collected and disposed of typically ranges from \$12.00 to \$20.00, with an average of **\$16.00**. The variance depends in part on the number of collections per week. When compared to the monthly costs of other utilities and services such as cable television and cell phones, it is apparent that residential trash and recycling collection is a bargain for most homeowners. Considering that the average American generates approximately 4.4 pounds of trash each day (and reportedly the average Arizonan generates slightly more), this results in over 630,000 tons of trash created daily in the United States.

**Chart I-10** presents a sampling of the basic residential solid waste collection charges for many of the smaller municipalities in Arizona. While each may vary slightly in the type or size of container required, and the number of collections per week, overall the services are similar enough to present a broad comparison. The rate varies from a low of \$6.00 in Hayden to a high of \$18.83 in Page. The average for the cities in this sample is **\$13.71**. It should be noted that this does not represent a comprehensive statewide survey, as a full-scale rate statewide rate study is beyond the scope of this study.

Chart I-10



Many cities outsource solid waste services, particularly commercial service, to private companies. A limited comparison of Arizona municipal commercial charges is presented in **Table I-11**. This reveals a great disparity among pricing, with two of the cities, Sierra Vista and Winslow, charging as much as two and three times the rates currently charged by the City of Safford. According to City staff, the rates of Vista Recycling are believed to be greater per cubic yard for commercial service than those of the City of Safford.

**TABLE I-11**  
CITY OF SAFFORD

<b>Commercial Monthly Sanitation Rate Comparison</b>				
<b>City</b>	<b>Collections per week</b>	<b>3 Cubic Yards</b>	<b>4 Cubic Yards</b>	<b>6 Cubic Yards</b>
<b>Safford</b>	<b>3</b>	<b>\$ 124.15</b>	<b>\$ 161.20</b>	<b>\$ 235.30</b>
<b>Eloy</b>	<b>3</b>	78.17	104.30	151.98
<b>San Luis</b>	<b>3</b>	90.75	131.00	181.00
<b>Bisbee</b>	<b>3</b>	89.86	115.21	165.91
<b>Kingman</b>	<b>3</b>	na	na	na
<b>Tombstone</b>	<b>3</b>	na	na	na
<b>Benson</b>	<b>3</b>	162.18	na	na
<b>Somerton</b>	<b>3</b>	na	238.50	357.75
<b>Sierra Vista</b>	<b>3</b>	258.19	319.51	443.68
<b>Winslow</b>	<b>3</b>	330.38	438.40	660.74

## SECTION II

## Water and Wastewater Test Year and Forecast Volumes



Safford are fortunate to have what is reported to be the best tasting water in the State of Arizona piped directly from the Bonita Creek Well.

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

After thoroughly examining volume and customer data, the project team kept the City's rate classifications essentially the same with the exception of combining the fire protection and commercial accounts for each geographic area together. This resulted in 7 distinct water customer classes currently being served, and three potential customer classes in light of projected growth. The City recorded wastewater account activity as either

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

For the City of Safford, water consumption records maintained by Gila Resources, the utility division within the City, were reviewed for a three year period beginning in July 2003. These records provided information on the monthly water volumes distributed system-wide by account type as well as the number of accounts by class for each month and the associated revenues. Additionally, these records provided the number of accounts and revenues by month for all classifications of wastewater customers.

The City provides water service to customers across an area encompassing 132 square miles, both within and beyond the city limits. Residents living in and around

Residential or Commercial, and the project team did not make any alterations to these classifications. The project team finds these customer class distinctions to be reasonable and appropriate for the City of Safford, meeting the criteria of homogenous groups with similar usage patterns.

In this section the City’s functional customer classes and test year usage patterns will be thoroughly analyzed. A ten year projection of customers and usage will also be presented. These forecasts, along with the revenue requirements to be outlined in Section III, will form the basis of the rate design recommendations.

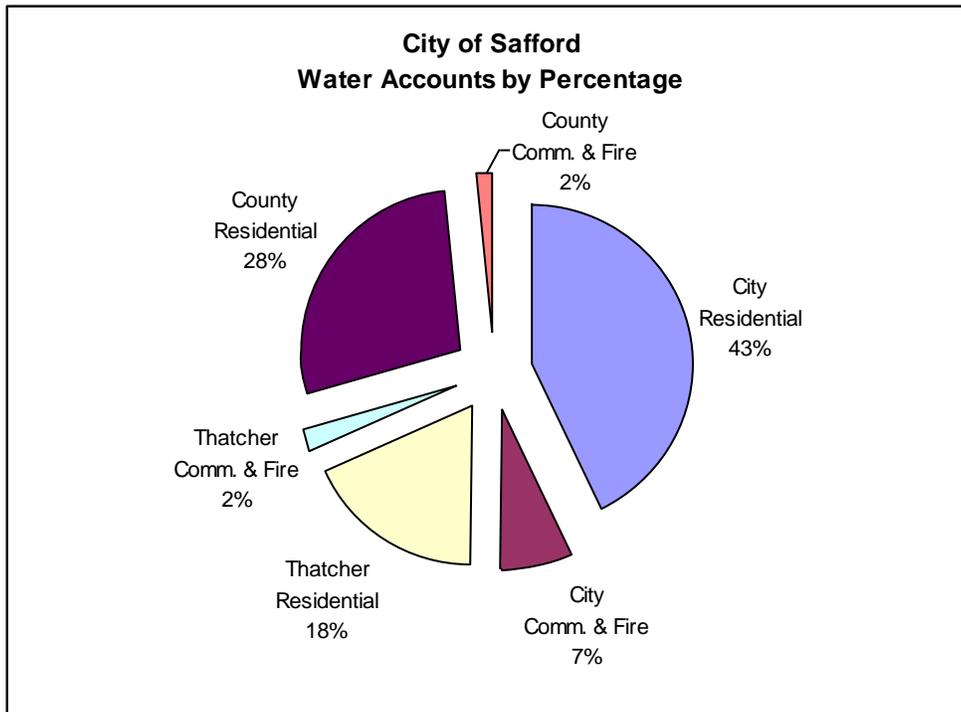
### Customers and Meters – Current Year

As stated in Section I of this study, water charges are based on a daily rate related to meter size and average daily usage. Rates vary by season, with summer consumption rates set slightly higher than winter consumption rates. Residential and non-residential (commercial and fire protection) water customer classes are charged the same volume rates although the daily service charge varies according to meter size. Water service outside of Safford city limits is subject to special zoning and pumping charges for designated zones.

The City’s customer categories and the project team’s rate model customer classes are outlined in **Table II-1**. The table reveals that as of December 2005, there were a total of 6,965 active water accounts and 3,243 active wastewater accounts. A test year adjustment factor has been added to include growth of the account base into the test year. With the inclusion of these adjustments, the totals for the test year 2007 are **7,264** active water accounts and **3,398** active wastewater accounts.

TABLE II-1 CITY OF SAFFORD						
WATER AND WASTEWATER CUSTOMERS DEC. 2005 AND TEST YEAR						
Water Account Totals						
Code	Classification Type	Location	Dec. 2005	Test Year Adjustment	Test Year Total	
W.1	Residential	City	2,978	150	3,128	
W.2	Comm. & Fire	City	509	20	529	
W.3	Residential	Thatcher	1,274	50	1,324	
W.4	Comm. & Fire	Thatcher	138	4	142	
W.5	Residential	County	1,947	75	2,022	
W.6	Comm. & Fire	County	118	-	118	
W.7	Graham Park	County	1	-	1	
W.8	Sierra Del Sol	-	-	-	-	
W.9	Prison	-	-	-	-	
W.10	Other	-	-	-	-	
	<b>Total</b>		6,965	299	7,264	
Wastewater Account Totals						
Code	Classification Type	Location	Dec. 2005	Test Year Adjustment	Test Year Total	
WW.1	Residential	all	2,840	140	2,980	
WW.2	Commercial	all	403	15	418	
	<b>Total</b>		3,243	155	3,398	

Chart II-2



**Chart II-2** further shows the distribution of water accounts between the county and the cities of Safford and Thatcher. Accounts within the City of Safford comprise **45%** of the total; those within the Town of Thatcher make up **20%**, and those in the county total **30%**. Consumption in Graham Park is expected to decline sharply in the next year.

### Customers and Meters – 10 Year Forecast

**Tables II-3 and II-4** on the following pages present the project team’s ten year forecast of water and wastewater account growth. The project team’s forecast is based on the following factors:

- Prior growth.* From 1990 to 2005, the population of the City of Safford grew at an average annual rate of 1.93%, while Graham County grew at a slightly lower average annual rate of 1.38%. This low rate of growth is demonstrated in the 0.85% growth in water accounts and the 1.07% growth in wastewater accounts between December 2003 and December 2004 for the utility. The following year shows an increased rate of growth, with water accounts increasing by 2.9% and wastewater accounts increasing by 3.98%.
- Forecast population growth.* As shown in Table I-3, the Arizona Department of Economic Security projects population in the City of Safford to increase by approximately 3% per year for the next several years.

- The forecast account growth shown in Tables II-3 and II-4 are in accordance with conservative estimates prepared by Safford City staff. These figures are consistent with an average annual growth rate of 3.12% for water accounts and 3.42% for wastewater accounts.
- The City of Safford currently provides water service to the Town of Thatcher under an intergovernmental agreement dating back to 1969. The cost of servicing accounts in Thatcher is included in the scope of this study. Thatcher is not currently a part of the Safford wastewater system. If at some point the Town of Thatcher begins sending its sewage to Safford for treatment, the City will be required to double the capacity of the wastewater treatment plant. If this happens, either the Town would become a wholesale customer of the City, or Thatcher customers would become individual residential customers of Safford.
- Sierra Del Sol is a proposed 7,000 unit residential development outside the city limits. The developer proposes to establish a separate Municipal Utility District (MUD) to serve residents of this development. It will be responsible for developing its own water sources. As of this date construction has not yet commenced. Therefore, it is set up as a potential account, but without any specific quantities or projected dates.
- The potential exists for the 800 bed prison facility to become a water customer of the City in FY 2008. The prison would be classified as a single commercial account. It is forecast to expand to 1300 beds by 2013.



In summary, Tables II-3 and II-4 reveal that the customer base will remain primarily residential, and will increase by approximately 300 - 325 water accounts and 155-175 wastewater accounts per year through FY 2012, after which growth will slow. This translates to an increase in water accounts from 7,264 in the test year to 9,577 in FY 2016, an average annual increase of 3.12%, or a total increase of **31.8%**. Wastewater accounts are forecast to increase by **35.4%** over the forecast period, increasing from 3,398 in the test year to 4,601 in FY 2016, for an average annual increase of 3.42%.

CITY OF SAFFORD											
FORECAST TOTAL CUSTOMERS											
WATER Customer Classes											
	W.1	W.2	W.3	W.4	W.5	W.6	W.7	W.8	W.9	W.10	
	Residential	Comm. & Fire	Residential	Comm. & Fire	Residential	Comm. & Fire	Graham Park	Sierra	Prison	Other	Total
	City	City	Thatcher	Thatcher	County	County	County	Del Sol			
<b>WATER Total Customers</b>											
Dec-03	2,909	483	1,218	132	1,874	95	1	-	-	-	6,712
Dec-04	2,915	491	1,236	132	1,897	97	1	-	-	-	6,769
Dec-05	2,978	509	1,274	138	1,947	118	1	-	-	-	6,965
Test Year Total	3,128	529	1,324	142	2,022	118	1	-	-	-	6,965
2008	3,278	549	1,374	146	2,097	121	1	-	-	-	7,566
2009	3,428	569	1,424	150	2,172	124	1	-	1	-	7,869
2010	3,603	589	1,474	154	2,247	127	1	-	1	-	8,196
2011	3,778	609	1,524	158	2,322	130	1	-	1	-	8,523
2012	3,928	629	1,574	162	2,397	133	1	-	1	-	8,825
2013	4,028	639	1,599	164	2,447	134	1	-	1	-	9,013
2014	4,128	649	1,624	166	2,497	135	1	-	1	-	9,201
2015	4,228	659	1,649	168	2,547	136	1	-	1	-	9,389
2016	4,328	669	1,674	170	2,597	137	1	-	1	-	9,577
<b>WATER Annual New Customers</b>											
TY 2007	150	20	50	4	75	-	-	-	-	-	299
2008	150	20	50	4	75	3	-	-	-	-	302
2009	150	20	50	4	75	3	-	-	1	-	303
2010	175	20	50	4	75	3	-	-	-	-	327
2011	175	20	50	4	75	3	-	-	-	-	327
2012	150	20	50	4	75	3	-	-	-	-	302
2013	100	10	25	2	50	1	-	-	-	-	188
2014	100	10	25	2	50	1	-	-	-	-	188
2015	100	10	25	2	50	1	-	-	-	-	188
2016	100	10	25	2	50	1	-	-	-	-	188

**TABLE II-4**  
**CITY OF SAFFORD**

<b>FORECAST TOTAL CUSTOMERS</b>					
<b>WASTEWATER Customer Classes</b>					
	<b>WW.1</b>	<b>WW.2</b>	<b>WW.3</b>	<b>WW.4</b>	
	<b>Residential</b>	<b>Commercial</b>	<b>Other</b>	<b>Other</b>	<b>Total</b>
<b>WASTEWATER Total Customers</b>					
Dec-03	2,734	352	-	-	3,086
Dec-04	2,758	361	-	-	3,119
Dec-05	2,840	403	-	-	3,243
Test Year Total	2,980	418	-	-	3,243
2008	3,120	433	-	-	3,553
2009	3,260	448	-	-	3,708
2010	3,420	463	-	-	3,883
2011	3,580	478	-	-	4,058
2012	3,720	493	-	-	4,213
2013	3,810	500	-	-	4,310
2014	3,900	507	-	-	4,407
2015	3,990	514	-	-	4,504
2016	4,080	521	-	-	4,601
<b>WASTEWATER Annual New Customers</b>					
TY 2007	140	15	-	-	155
2008	140	15	-	-	155
2009	140	15	-	-	155
2010	160	15	-	-	175
2011	160	15	-	-	175
2012	140	15	-	-	155
2013	90	7	-	-	97
2014	90	7	-	-	97
2015	90	7	-	-	97
2016	90	7	-	-	97

### Historical and Current Water Production

The project team reviewed the City’s water production and consumption data for the period July 2003 through February 2006. **Table II-5** presents total water production and consumption as well as consumption by customer class. The decreased consumption in FY 2005 despite some growth in accounts is likely due to the slightly greater than average rainfall in the area (8.97”)<sup>1</sup> for that time period, compared to the less than average rainfall (6.52”) in FY 2004 reducing the amount of water used for irrigation. As noted in the Gila Resources 20/20 Vision Plan in their plot of annual rainfall with per capita consumption, a substantial portion of water consumption in the service area is used for irrigation.

**TABLE II-5**  
**CITY OF SAFFORD**

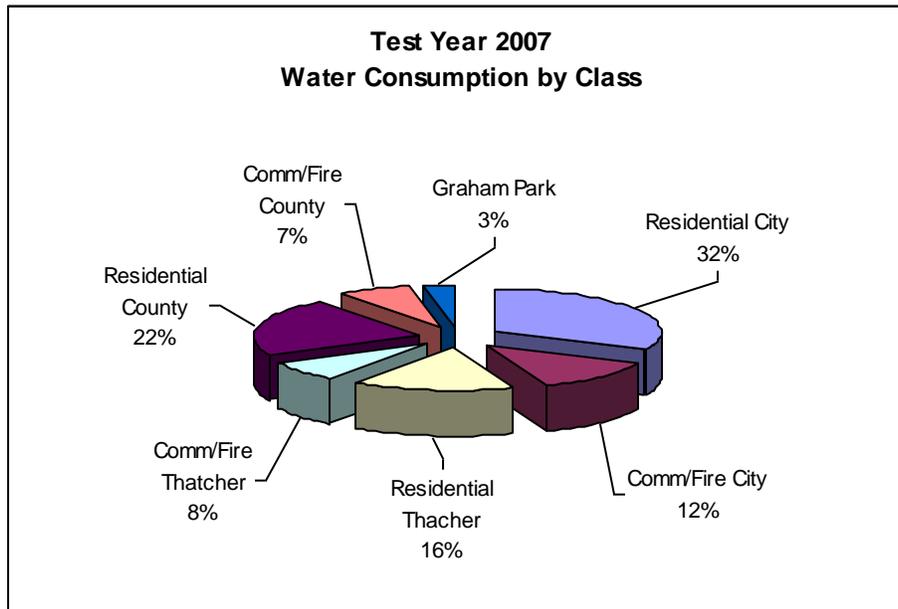
TREATED WATER PRODUCTION AND CONSUMPTION									
Date	Water Production (Gallons)	Consumption by Customer Class (Gallons)							Total
		W.1 Residential City	W.2 Com & Fire City	W.3 Residential Thatcher	W.4 Com & Fire Thatcher	W.5 Residential County	W.6 Com & Fire County	W.7 Graham Park County	
FY 2004	1,396,182,800	398,678,900	147,845,200	185,946,900	85,207,600	236,145,800	102,274,100	46,400,000	1,202,498,500
FY 2005	1,375,730,200	366,839,670	146,601,330	178,098,000	80,448,200	244,633,100	94,701,200	37,769,000	1,149,090,500
<b>Ave.</b>	<b>1,385,956,500</b>	<b>382,759,285</b>	<b>147,223,265</b>	<b>182,022,450</b>	<b>82,827,900</b>	<b>240,389,450</b>	<b>98,487,650</b>	<b>42,084,500</b>	<b>1,175,794,500</b>
Last 12 Months	1,482,588,000	394,909,700	153,168,600	196,326,600	94,815,700	272,080,500	92,112,900	39,674,000	1,243,088,000

**Chart II-6** presents the distribution by class of Test Year FY 2007 water consumption. This shows that while 70% of the usage is residential, the commercial sector does consume a significant percentage of water. It also shows the distribution of usage between the City of Safford (44%), the Town of Thatcher (24%), and the County accounts (29%). Factors such as account growth, existing rate structure and rainfall totals each exercise various degrees of influence over the ultimate level of water consumption. Therefore, the development of the test year for the volume forecast requires that each of these factors be analyzed.

The project team forecasts that total test year billed consumption will be approximately **1,266,509,968** gallons. This represents an increase of slightly less than **2%** from the previous twelve months. Total account growth is forecast to be **4.29%** over the account totals provided for December 2005.

<sup>1</sup> Safford, Graham County, Arizona Weather Station data, wunderground.com

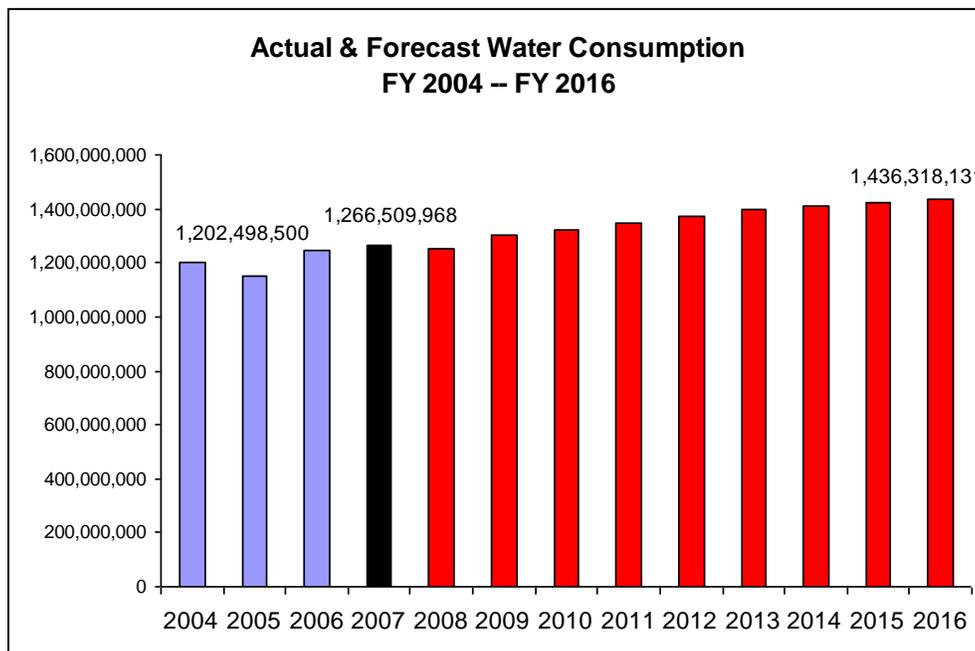
Chart II-6



**Water Billed Consumption – Ten Year Forecast**

Chart II-7 presents historical water consumption totals and the project team’s ten year forecast of water consumption in gallons for the City.

Chart II-7



The project team's forecast is based on the following factors:

- The residential population is forecast to continue to increase by 1%-3% within the City, with the higher rate of growth occurring through FY 2011.
- City of Safford commercial accounts and all County and Town of Thatcher accounts are projected to increase at rates slightly less than those of the Safford residential accounts.
- All growth projections are conservative in accordance with the wishes of City Staff.
- Graham Park is expected will reduce its consumption by 90% by FY2008 by utilizing an alternative provider for the majority of its water needs. This would have the effect of reducing this class' consumption from 3.2% of the City's total to 0.32% of the total, and the net effect on the utility barring any other significant changes, is a decrease in overall consumption from the previous year.
- The prison is forecast to become an account in FY 2008 and to expand from 800 beds to 1,300 beds in FY 2013. It is further assumed that the prison will average 75% occupancy and generate an average consumption volume of 3,000 per bed per month.

## Peaking Factors

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

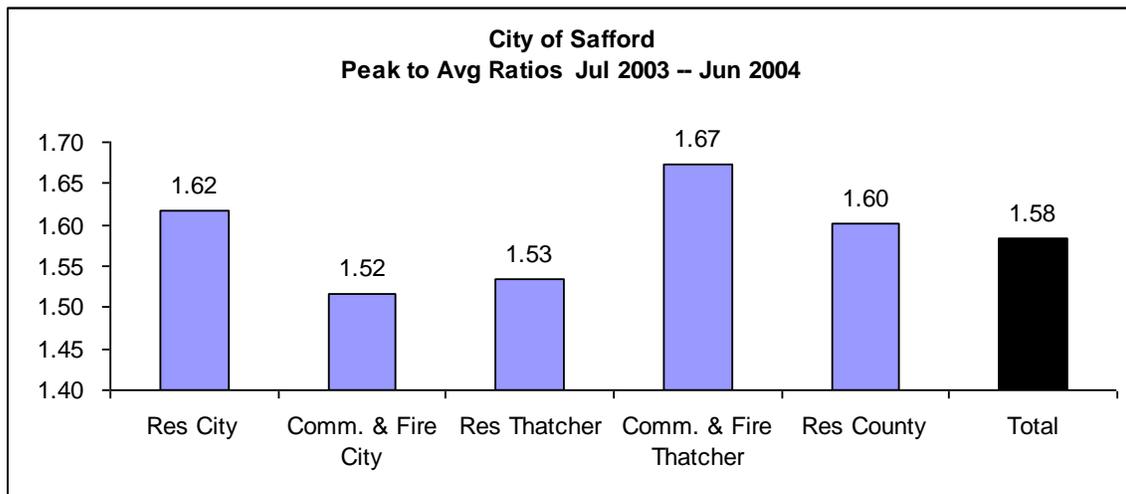
The calculation of peaking factors for individual classes relies on available pumping and consumption information as well as professional judgment. If customer meters could record daily flow rates for each customer, more refined information could be obtained on peaking factors. This is not feasible because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

Based on AWWA guidelines, the customer class peaking factors calculated in this study are for non-coincidental peaks. The peaking factors developed for this analysis are based on actual monthly water consumption by customer class for the most recent twelve month period, March 2005 – February 2006. The calculations of the peaking factors by class are calculated in **Table II-8** and summarized in **Chart II-9**. The combined peak to average ratio used in the rate model is **1.58**.

TABLE II-8  
CITY OF SAFFORD

Calculation of Customer Class Maximum Day Peaking Factors							
	W.1 Residential City	W.2 Comm. & Fire City	W.3 Residential Thatcher	W.4 Comm. & Fire Thatcher	W.5 Residential County	W.6 Comm. & Fire County	W.7 Graham Park County
Last 12 Months Consumption	394,909,700	153,168,600	196,326,600	94,815,700	272,080,500	92,112,900	39,674,000
Monthly Average	32,909,142	12,764,050	16,360,550	7,901,308	22,673,375	7,676,075	3,306,167
Peak Month	53,204,500	19,353,000	25,110,800	13,228,100	36,290,100	10,744,500	6,179,000
Peak/Avg Ratio	1.62	1.52	1.53	1.67	1.60	1.40	1.87
Customer Class Peaking Factors	1.62	1.52	1.53	1.67	1.60	1.40	1.87

Chart II-9



The chart reveals that the highest peak to average ratios are for the Thatcher Community and Fire, the Safford Residential City, and County Residential customer classes. However, the variation among the current customer classes is not large, indicating similar patterns of usage.

### Wastewater Flows – Current Year and Forecast

Like many cities across the country, the City uses monthly water sales as a basis for determining wastewater billing units for a majority of its wastewater accounts. The City uses the two lowest months’ usage from those of December, January and February to calculate a winter average usage per account. All other rate classes are charged wastewater rates based on total water usage. All wastewater accounts are billed based on domestic strength as the City does not have a high concentration of restaurants and apartments dumping high strength sewage into the system.

As with water billed consumption, the project team prepared a ten year forecast of wastewater flows. Since wastewater usage is not metered, it is derived from the water consumption figures for each customer class. The forecast is derived using anticipated growth in accounts as depicted in Table II-4. The results of the forecast are presented in **Table II-10**.

Two points are notable about this table. First, many water accounts do not return wastewater to the system, particularly if they are outside city limits and are currently using a septic system. Second, wastewater usage is not subject to the significant fluctuations experienced by water accounts. This is because the water volume fluctuation is due to outdoor usage that is not returned to the wastewater system.

The table reveals that wastewater billing units are forecast to increase by an annual average of **1.65%** during the forecast period.

TABLE II-10  
CITY OF SAFFORD

<b>Historical and Projected Wastewater Flows</b>			
	WW.1 Residential	WW.2 Commercial	Total WW Consumption
Last 12 months WW Flow	259,131,600	153,168,600	412,300,200
Adjustment for Test Year	2.52%	1.96%	
Test Year Total FY 2007	<b>265,657,748</b>	<b>156,177,806</b>	<b>421,835,555</b>
<hr/>			
FY 2008	272,027,419	159,130,128	<b>431,157,547</b>
FY 2009	278,251,354	162,028,673	<b>440,280,027</b>
FY 2010	285,353,744	164,876,277	<b>450,230,021</b>
FY 2011	292,283,650	167,675,535	<b>459,959,185</b>
FY 2012	298,085,999	170,428,828	<b>468,514,827</b>
FY 2013	301,880,373	171,783,588	<b>473,663,960</b>
FY 2014	305,627,647	173,127,747	<b>478,755,394</b>
FY 2015	309,329,532	174,461,551	<b>483,791,083</b>
FY 2016	312,987,639	175,785,235	<b>488,772,874</b>

## SECTION III

## Water / Wastewater Test Year and Forecast Revenue Requirement



In this section of the report, the City of Safford's test year and forecast water and wastewater utility revenue requirements are developed. As noted earlier in this report, the test year consists of the City's current fiscal year, July 1, 2006 through June 30, 2007. The revenue requirement differs from the City's budget in that it represents only that amount that must be raised through the City's water and wastewater rates. This means that non-rate revenue (such as tap fees and interest.) must be subtracted from the budgeted operating expenses, capital expenditures and debt service to determine the net revenue requirement to be raised from rates.

According to the AWWA Manual M-1, there are two generally accepted approaches to determining revenue requirements. Manual M-1 specifically pertains to water ratemaking, although these principles are equally

applicable to wastewater ratemaking as well. The two approaches are defined within the manual as follows:

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

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

**Table III-1** compares and contrasts how revenue requirements are calculated under the two approaches.

**TABLE III-1  
CITY OF SAFFORD**

<b>COMPARISON OF REVENUE REQUIREMENTS</b>			
<b>Revenue Requirement Component</b>	<b>Cash Needs Approach</b>		<b>Utility Approach</b>
O & M Expenses			
Depreciation			
Capital Outlays			
Debt Principal			
Debt Interest			
Return on Investment			

To maintain consistency with national ratemaking standards, and to achieve a just and reasonable rate structure for all customers of the Safford system, the project team has developed a schedule of cost of service rates based on the Cash Needs Approach for Inside City Limit customers, and the Utility Approach for outside City Limit Customers.

All data used in the development of the revenue requirements was obtained from the financial statements, budgets and other information provided by the City. Detailed calculations are presented in the rate model contained in Appendix A of this report. For rate design purposes, revenue requirements are developed separately for the water and wastewater systems.

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

In this section, current and forecast Operating Costs, Capital Outlays and Debt Service will be examined first. Non-rate revenues will be subtracted from the total to yield the net revenue requirement. In addition, consistent with the requirements of the Utility Basis approach, Depreciation Expense and the Return on the Base Rate will also be examined.

**Operating Expenses and Capital Outlays – Current Year**

Table III-2 below summarizes the test year FY 2007 operating expenses and capital outlays for the City of Safford for the Cash Needs (Cash) Basis and the Utility Basis. These totals are derived from the City’s proposed FY 2007 budget.

TABLE III-2 CITY OF SAFFORD				
<b>TEST YEAR OPERATING EXPENSES</b>				
	FY 2007 Budget	FY 2007 Rev Rqmt	WATER Utility	WASTEWATER Utility
<b>Budget Operating Expenses/Capital Outlays</b>				
<b>CASH BASIS</b>				
<b>OPERATING EXPENSES</b>				
<i>Water Division</i>	\$ 3,437,129	\$ 3,324,326	\$ 3,324,326	\$ -
<i>Wastewater Collection Div.</i>	679,539	679,539	-	679,539
<i>Water Reclamation Div.</i>	891,113	891,113	-	891,113
	<u>5,007,781</u>	<u>4,894,978</u>	<u>3,324,326</u>	<u>1,570,652</u>
<b>CAPITAL OUTLAYS</b>				
<i>Water Division</i>	320,000	320,000	320,000	-
<i>Wastewater Collection Div.</i>	90,000	90,000	-	90,000
<i>Water Reclamation Div.</i>	-	-	-	-
	<u>410,000</u>	<u>410,000</u>	<u>320,000</u>	<u>90,000</u>
<b>Total Operating/Cap Outlays</b>	<b>\$ 5,417,781</b>	<b>\$ 5,304,978</b>	<b>\$ 3,644,326</b>	<b>\$ 1,660,652</b>
<b>UTILITY BASIS</b>				
<b>OPERATING EXPENSES</b>				
<i>Water Division</i>	\$ 3,437,129	\$ 3,324,326	\$ 3,324,326	\$ -
<i>Wastewater Collection Div.</i>	679,539	679,539	-	679,539
<i>Water Reclamation Div.</i>	891,113	891,113	-	891,113
<b>Total Operating/Capital Outlays</b>	<b>\$ 5,007,781</b>	<b>\$ 4,894,978</b>	<b>\$ 3,324,326</b>	<b>\$ 1,570,652</b>

The following is noteworthy about this table:

- Total operating expenses are divided by the City into the following divisions: Water Division, Wastewater Collection Division, and the Water Reclamation Division.
- Debt service interest that is included in the City’s budget for FY 2007 is not included in the operating expenses portion when developing the revenue requirement. This accounts for the difference between the operating expenses in the budget and the revenue requirement.
- Under the Utility Basis, capital outlays are not included in the revenue requirement.
- As Table III-2 shows, the total operating expenses in the test year under the Cash Basis are **\$5,304,978** of which \$3,644,326 is for the Water Utility, and \$1,660,652 is for the wastewater utility. The total operating expenses in the test year under the Utility Basis are **\$4,894,978**, of which \$3,324,326 is for the water utility and \$1,570,652 is for the wastewater utility.

Details behind these calculations and cost allocations are presented in the water and wastewater rate model contained in Appendix A.

## Operating Expenses and Capital Outlays – Ten Year Forecast

**Table III-3** presents the project team's ten year forecast of the City's operating costs under the Cash Basis and Utility Basis. This forecast was completed after extensive analysis and consultation with senior City staff. A detailed forecast of all expenses by account and line item is presented in the rate model contained in Appendix A.

The primary assumptions used in the development of this forecast of operating costs are as follows:

- Currently there are 17 full time employees; 11 involved with Water Distribution, 2 with Water Production and 4 with the Wastewater Division. Over the forecast period, it is anticipated that with the growth of the utility, additional personnel will be needed as follows: 4 additional employees in Water Distribution, 1 additional employee for meter reading, and 3-4 additional employees in the Wastewater Division.
- Most operating costs are expected to increase at an annual rate of 3.0%, which is approximately equivalent to the rate of inflation.
- Certain expenses will increase at above-inflation rates, to reflect the rapid rate of increase of these costs. These expenses include workers compensation, medicare and insurance. While the average annual rate of increase in salaries is 3.0%, the projected annual increase for benefits will be 8.0%.
- Certain expenses will increase at faster rates to reflect the forecast growth in accounts and volumes. These expenses include but are not limited to chemicals, maintenance, and system repairs.

Table III-3 reveals that under the Cash approach water-related operating expenses and capital outlays are forecast to increase from the test year total of \$3,644,326 to **\$5,636,733** by FY 2016. Wastewater-related operating costs are expected to increase from the test year total of \$1,660,652 to **\$2,630,911** by FY 2016. This represents a total average annual rate of increase of **5.05%**.

Since the Utility Basis does not include capital outlays in the development of the revenue requirement, the water-related operating expenses under this approach are shown to increase from the test year total of \$3,324,326 to **\$5,231,366** by FY 2016. Wastewater-related operating costs are expected to increase from the test year total of \$1,570,652 to **\$2,513,481** by FY 2016. This represents a total average annual rate of increase of **5.23%**.

The total of operating expenses and capital outlays for both utilities combined under each of the methodologies are shown at the bottom of Table III-3.

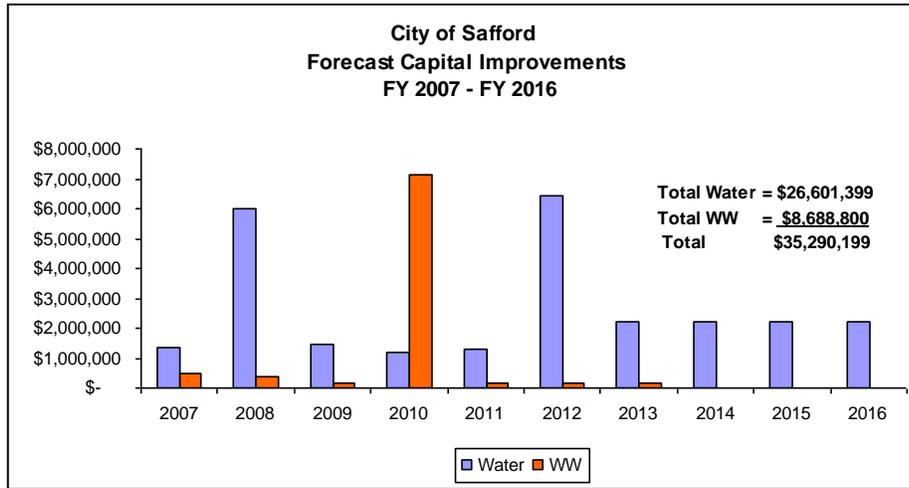
TABLE III-3 CITY OF SAFFORD										
FORECAST OPERATING EXPENSES AND CAPITAL OUTLAYS										
	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013	FY 2014	FY 2015	FY 2016
<b>Budget Operating Expenses/Capital Outlays</b>										
<b>WATER</b>										
<b>CASH BASIS</b>										
Water Division	\$ 3,644,326	\$ 3,808,895	\$ 4,023,074	\$ 4,240,372	\$ 4,468,074	\$ 4,700,969	\$ 4,925,443	\$ 5,151,593	\$ 5,388,509	\$ 5,636,733
Wastewater Collection Div.	-	-	-	-	-	-	-	-	-	-
Water Reclamation Div.	-	-	-	-	-	-	-	-	-	-
<b>Total Operating/Cap Outlays</b>	<b>\$ 3,644,326</b>	<b>\$ 3,808,895</b>	<b>\$ 4,023,074</b>	<b>\$ 4,240,372</b>	<b>\$ 4,468,074</b>	<b>\$ 4,700,969</b>	<b>\$ 4,925,443</b>	<b>\$ 5,151,593</b>	<b>\$ 5,388,509</b>	<b>\$ 5,636,733</b>
<b>UTILITY BASIS</b>										
Water Division	\$ 3,324,326	\$ 3,488,895	\$ 3,693,474	\$ 3,900,884	\$ 4,118,401	\$ 4,340,806	\$ 4,554,475	\$ 4,769,497	\$ 4,994,949	\$ 5,231,366
Wastewater Collection Div.	-	-	-	-	-	-	-	-	-	-
Water Reclamation Div.	-	-	-	-	-	-	-	-	-	-
<b>Total Operating Exp.</b>	<b>\$ 3,324,326</b>	<b>\$ 3,488,895</b>	<b>\$ 3,693,474</b>	<b>\$ 3,900,884</b>	<b>\$ 4,118,401</b>	<b>\$ 4,340,806</b>	<b>\$ 4,554,475</b>	<b>\$ 4,769,497</b>	<b>\$ 4,994,949</b>	<b>\$ 5,231,366</b>
<b>WASTEWATER</b>										
<b>CASH BASIS</b>										
Water Division	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Wastewater Collection Div.	769,539	805,868	844,033	884,857	927,473	970,862	1,012,595	1,056,170	1,101,760	1,149,475
Water Reclamation Div.	891,113	935,689	995,253	1,054,807	1,118,184	1,184,652	1,254,750	1,325,527	1,400,978	1,481,436
<b>Total Operating/Cap Outlays</b>	<b>\$ 1,660,652</b>	<b>\$ 1,741,557</b>	<b>\$ 1,839,285</b>	<b>\$ 1,939,664</b>	<b>\$ 2,045,657</b>	<b>\$ 2,155,514</b>	<b>\$ 2,267,346</b>	<b>\$ 2,381,697</b>	<b>\$ 2,502,738</b>	<b>\$ 2,630,911</b>
<b>UTILITY BASIS</b>										
Water Division	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Wastewater Collection Div.	679,539	713,168	748,552	786,512	826,177	866,527	905,130	945,481	987,750	1,032,045
Water Reclamation Div.	891,113	935,689	995,253	1,054,807	1,118,184	1,184,652	1,254,750	1,325,527	1,400,978	1,481,436
<b>Total Operating Exp.</b>	<b>\$ 1,570,652</b>	<b>\$ 1,648,857</b>	<b>\$ 1,743,804</b>	<b>\$ 1,841,319</b>	<b>\$ 1,944,361</b>	<b>\$ 2,051,179</b>	<b>\$ 2,159,881</b>	<b>\$ 2,271,008</b>	<b>\$ 2,388,728</b>	<b>\$ 2,513,481</b>
<b>CASH BASIS TOTAL</b>										
<b>Total</b>	<b>\$ 5,304,978</b>	<b>\$ 5,550,453</b>	<b>\$ 5,862,359</b>	<b>\$ 6,180,036</b>	<b>\$ 6,513,731</b>	<b>\$ 6,856,482</b>	<b>\$ 7,192,788</b>	<b>\$ 7,533,290</b>	<b>\$ 7,891,247</b>	<b>\$ 8,267,644</b>
<b>UTILITY BASIS TOTAL</b>										
<b>Total</b>	<b>\$ 4,894,978</b>	<b>\$ 5,137,753</b>	<b>\$ 5,437,278</b>	<b>\$ 5,742,203</b>	<b>\$ 6,062,762</b>	<b>\$ 6,391,984</b>	<b>\$ 6,714,355</b>	<b>\$ 7,040,505</b>	<b>\$ 7,383,678</b>	<b>\$ 7,744,847</b>

### Capital Improvement Plan

Like most cities, Safford maintains an extensive and detailed capital improvement program to repair, maintain and expand its water and wastewater system. Minor capital improvements are contained in the City’s budget. Major capital improvements are funded through a series of debt issued by the City.

City staff and the project team developed the City’s forecast capital improvements needs over the next decade. The forecast CIP is presented in detail in Table III-4 and is summarized in Chart III-5. As the chart reveals, the City is forecast to spend \$35,290,199 in total capital improvements in the next decade. The majority of these improvements are forecast to be in the water division.

Chart III-5



### Debt Service – Current and Forecast

The project team assigned the City’s existing debt service to the water and wastewater functions based on the assets purchased by the funds accumulated through each debt issue. The City currently maintains debt service on three outstanding loans from WIFA. The largest of these was a \$12.5 million loan for the construction of the wastewater treatment plant. Interest FY 2007 the city will be on this has been paid by the federal government for the past several years. This forecast assumes that **beginning in FY 2007 principal and interest for the \$12.5 million loan will become the responsibility of the City**. This results in additional debt service of \$760,715 to \$946,618 per year. All of this debt is assigned to the wastewater division. The two smaller loans (\$2 million and \$1.77 million) were also from WIFA and were for water line extensions.

**Table III-6** presents total debt service under the Cash Basis and the Utility Basis. **The most important difference is that under the Utility Basis, debt principal is not recovered through rates.**

Another key assumption for this forecast is that the City issues additional debt to fund the capital improvement plan. This includes debt of \$8 million in FY 2008, \$10 million in FY 2010, and \$10 million in FY 2012. All new debt is assumed to be over a 30 year term at a 4.5% interest rate.

Table III-4 shows that under the Cash Basis, annual debt service on both water and wastewater utilities combined is forecast to increase from the test year total of **\$1,078,584 to \$3,010,018** by FY 2016. This represents an average annual increase in debt service of **12.1%** over the forecast period. Debt principal is not included in the Utility Basis calculations.

TABLE III-6 CITY OF SAFFORD												
CURRENT AND FORECAST DEBT SERVICE												
			FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013	FY 2014	FY 2015	FY 2016
<b>Budget Debt Service</b>												
<b>WATER</b>												
1	WIFA 2000	\$ 2,000,000	\$ 148,863	\$ 148,563	\$ 148,253	\$ 147,932	\$ 147,600	\$ 145,256	\$ 146,901	\$ 146,533	\$ 146,153	\$ 146,153
2	WIFA	1,770,000	169,006	168,900	168,556	167,975	167,156	166,100	164,806	168,156	166,150	163,905
3	WIFA	12,500,000	-	-	-	-	-	-	-	-	-	-
4	Series 2008	6,100,000	-	-	450,859	450,859	450,859	450,859	450,859	450,859	450,859	450,859
5	Series 2010	7,575,000	-	-	-	-	344,407	344,407	344,407	344,407	344,407	344,407
6	Series 2012	1,500,000	-	-	-	-	-	-	563,574	563,574	563,574	563,574
<b>Total Debt Service</b>			<b>\$ 317,869</b>	<b>\$ 317,463</b>	<b>\$ 767,669</b>	<b>\$ 766,766</b>	<b>\$ 1,110,022</b>	<b>\$ 1,106,622</b>	<b>\$ 1,670,547</b>	<b>\$ 1,673,530</b>	<b>\$ 1,671,144</b>	<b>\$ 1,668,898</b>
<b>CASH BASIS</b>			<b>\$ 317,869</b>	<b>\$ 317,463</b>	<b>\$ 767,669</b>	<b>\$ 766,766</b>	<b>\$ 1,110,022</b>	<b>\$ 1,106,622</b>	<b>\$ 1,670,547</b>	<b>\$ 1,673,530</b>	<b>\$ 1,671,144</b>	<b>\$ 1,668,898</b>
<b>UTILITY BASIS</b>			<b>\$ 112,803</b>	<b>\$ 103,970</b>	<b>\$ 418,771</b>	<b>\$ 403,494</b>	<b>\$ 640,035</b>	<b>\$ 617,342</b>	<b>\$ 1,010,898</b>	<b>\$ 981,588</b>	<b>\$ 950,952</b>	<b>\$ 919,456</b>
<b>WASTEWATER</b>												
1	WIFA 2000	\$ 2,000,000	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
2	WIFA	1,770,000	-	-	-	-	-	-	-	-	-	-
3	WIFA	12,500,000	760,715	946,518	946,618	946,618	946,619	946,618	946,619	946,619	946,618	946,618
4	Series 2008	6,100,000	-	-	50,095	50,095	50,095	50,095	50,095	50,095	50,095	50,095
5	Series 2010	7,575,000	-	-	-	-	281,787	281,787	281,787	281,787	281,787	281,787
6	Series 2012	1,500,000	-	-	-	-	-	-	62,619	62,619	62,619	62,619
<b>Total Debt Service</b>			<b>\$ 760,715</b>	<b>\$ 946,518</b>	<b>\$ 996,713</b>	<b>\$ 996,713</b>	<b>\$ 1,278,502</b>	<b>\$ 1,278,501</b>	<b>\$ 1,341,121</b>	<b>\$ 1,341,121</b>	<b>\$ 1,341,120</b>	<b>\$ 1,341,120</b>
<b>CASH BASIS</b>			<b>\$ 760,715</b>	<b>\$ 946,518</b>	<b>\$ 996,713</b>	<b>\$ 996,713</b>	<b>\$ 1,278,502</b>	<b>\$ 1,278,501</b>	<b>\$ 1,341,121</b>	<b>\$ 1,341,121</b>	<b>\$ 1,341,120</b>	<b>\$ 1,341,120</b>
<b>UTILITY BASIS</b>			<b>\$ 151,629</b>	<b>\$ 316,518</b>	<b>\$ 330,780</b>	<b>\$ 307,658</b>	<b>\$ 490,281</b>	<b>\$ 462,135</b>	<b>\$ 478,877</b>	<b>\$ 447,915</b>	<b>\$ 415,828</b>	<b>\$ 382,579</b>
<b>CASH BASIS TOTAL</b>												
<b>Total</b>			<b>\$ 1,078,584</b>	<b>\$ 1,263,981</b>	<b>\$ 1,764,382</b>	<b>\$ 1,763,480</b>	<b>\$ 2,388,523</b>	<b>\$ 2,385,122</b>	<b>\$ 3,011,668</b>	<b>\$ 3,014,651</b>	<b>\$ 3,012,264</b>	<b>\$ 3,010,018</b>
<b>UTILITY BASIS TOTAL</b>												
<b>Total</b>			<b>\$ 264,432</b>	<b>\$ 420,488</b>	<b>\$ 749,551</b>	<b>\$ 711,151</b>	<b>\$ 1,130,316</b>	<b>\$ 1,079,477</b>	<b>\$ 1,489,775</b>	<b>\$ 1,429,503</b>	<b>\$ 1,366,780</b>	<b>\$ 1,302,035</b>

### Depreciation Expense and Return on Rate Base

Development of the utility’s revenue requirement for customers within the city limits is done under the Cash Basis approach, as discussed previously in this section. Under the Cash Basis methodology, depreciation expense and a return on the rate base are not applicable. However, these components are included in revenue requirement calculations under the Utility Basis, which is utilized for applications where customers receive service outside the geographical limits of a government owned utility. Therefore, the current and forecast depreciation expense and return on rate base for the City’s water and wastewater system over the ten year period FY 2007 – FY 2016 presented in **Table III-7** is reflected in the Utility Basis calculations of the revenue requirement. Depreciation expense is forecast to increase due to the addition of system assets through the City’s capital spending program.

As described on p. 7 of AWWA *Manual M-1*, the return component is intended to provide a fair rate of return for the total equity capital employed to finance facilities used to provide water and wastewater service. This requires the establishment of a rate base, defined to be the value of the assets on which the utility is entitled to earn a return, and the setting of a fair return on the rate base. The rate base is primarily composed of the depreciated value of the utility’s property devoted to serving the public.

The project team has determined that 5.0% represents a just and reasonable rate of return for the City of Safford. This is based primarily on recent bond issues. A rate of 5.0% is at or below those returns set in Arizona as well as other states such as Texas and California.

TABLE III-7 CITY OF SAFFORD										
FORECAST DEPRECIATION EXPENSE										
	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013	FY 2014	FY 2015	FY 2016
<b>Budget Depreciation Expense/Return on Rate Base</b>										
<b>WATER</b>										
<b>Depreciation Exp</b>										
Existing	\$ 651,713	\$ 646,866	\$ 646,446	\$ 641,163	\$ 640,981	\$ 640,162	\$ 639,955	\$ 637,496	\$ 429,252	\$ 413,157
Forecast (CIP)	26,604	147,035	176,611	200,752	227,028	356,028	400,028	444,028	488,028	532,028
Total	\$ 678,317	\$ 793,901	\$ 823,057	\$ 841,915	\$ 868,009	\$ 996,190	\$ 1,039,983	\$ 1,081,524	\$ 917,280	\$ 945,185
<b>CASH BASIS</b>										
<b>UTILITY BASIS</b>										
\$ 678,317	\$ 793,901	\$ 823,057	\$ 841,915	\$ 868,009	\$ 996,190	\$ 1,039,983	\$ 1,081,524	\$ 917,280	\$ 945,185	
<b>Return on Rate Base</b>										
Plant in Service -- Existing	\$ 15,584,156	\$ 14,937,289	\$ 14,290,843	\$ 13,649,680	\$ 13,008,699	\$ 12,368,537	\$ 11,728,582	\$ 11,091,086	\$ 10,661,834	\$ 10,248,677
Plant in Service -- Forecast	1,303,596	7,178,110	8,480,299	9,486,597	10,573,369	16,667,341	18,467,313	20,223,285	21,935,257	23,603,229
Total	\$ 16,887,752	\$ 22,115,399	\$ 22,771,142	\$ 23,136,277	\$ 23,582,068	\$ 29,035,878	\$ 30,195,895	\$ 31,314,371	\$ 32,597,092	\$ 33,851,907
Rate of Return	5.0%	5.0%	5.0%	5.0%	5.0%	5.0%	5.0%	5.0%	5.0%	5.0%
Total Return	\$ 844,388	\$ 1,105,770	\$ 1,138,557	\$ 1,156,814	\$ 1,179,103	\$ 1,451,794	\$ 1,509,795	\$ 1,565,719	\$ 1,629,855	\$ 1,692,595
<b>CASH BASIS</b>										
<b>UTILITY BASIS</b>										
\$ 844,388	\$ 1,105,770	\$ 1,138,557	\$ 1,156,814	\$ 1,179,103	\$ 1,451,794	\$ 1,509,795	\$ 1,565,719	\$ 1,629,855	\$ 1,692,595	
<b>WASTEWATER</b>										
<b>Depreciation Exp</b>										
Existing	\$ 564,391	\$ 561,745	\$ 560,341	\$ 560,341	\$ 560,277	\$ 558,210	\$ 557,735	\$ 547,160	\$ 536,797	\$ 533,847
Forecast	11,316	19,216	22,116	165,016	167,916	170,816	173,716	174,216	174,716	175,216
Total	\$ 575,707	\$ 580,961	\$ 582,457	\$ 725,357	\$ 728,193	\$ 729,026	\$ 731,451	\$ 721,376	\$ 711,513	\$ 709,063
<b>CASH BASIS</b>										
<b>UTILITY BASIS</b>										
\$ 575,707	\$ 580,961	\$ 582,457	\$ 725,357	\$ 728,193	\$ 729,026	\$ 731,451	\$ 721,376	\$ 711,513	\$ 709,063	
<b>Return on Rate Base</b>										
Plant in Service -- Existing	\$ 19,470,565	\$ 18,908,820	\$ 18,348,479	\$ 17,788,138	\$ 17,227,861	\$ 16,669,651	\$ 16,111,916	\$ 15,564,756	\$ 15,027,959	\$ 14,494,111
Plant in Service -- Forecast	482,484	858,268	981,152	7,961,136	7,938,220	7,912,404	7,883,688	7,734,472	7,584,756	7,434,540
Total	\$ 19,953,049	\$ 19,767,088	\$ 19,329,631	\$ 25,749,274	\$ 25,166,081	\$ 24,582,055	\$ 23,995,604	\$ 23,299,228	\$ 22,612,715	\$ 21,928,651
Rate of Return	5.0%	5.0%	5.0%	5.0%	5.0%	5.0%	5.0%	5.0%	5.0%	5.0%
Total Return	\$ 997,652	\$ 988,354	\$ 966,482	\$ 1,287,464	\$ 1,258,304	\$ 1,229,103	\$ 1,199,780	\$ 1,164,961	\$ 1,130,636	\$ 1,096,433
<b>CASH BASIS</b>										
<b>UTILITY BASIS</b>										
\$ 997,652	\$ 988,354	\$ 966,482	\$ 1,287,464	\$ 1,258,304	\$ 1,229,103	\$ 1,199,780	\$ 1,164,961	\$ 1,130,636	\$ 1,096,433	

### Non-Rate Revenues

Although sales revenues constitute the majority of the revenue received by the City for water and wastewater service, a certain amount of revenue is accrued from non-rate sources. These revenues include other general revenues, surcharges, development charges, and service revenues. These non-rate revenues are subtracted from the overall budget to determine the revenue requirement to be raised from rates.

Most non-rate revenues are conservatively forecast to increase only nominally during the next ten years. The forecast is the same under both the Cash Basis and the Utility Basis. Totals are presented in **Table III-8**.

	FORECAST NON-RATE REVENUES									
	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013	FY 2014	FY 2015	FY 2016
<b>Total Non-Rate Revenues</b>										
<b>WATER</b>										
Other General Revenues	\$ 53,689	\$ 55,300	\$ 56,959	\$ 58,667	\$ 60,427	\$ 62,240	\$ 64,107	\$ 66,031	\$ 68,012	\$ 70,052
Service Revenues	-	-	-	-	-	-	-	-	-	-
Legal Fee Surcharge	-	-	-	-	-	-	-	-	-	-
Penalties & Surcharges	122,354	127,441	132,545	138,053	143,560	148,647	151,814	154,981	158,147	161,314
Customer Payback Rev	252,003	259,563	267,350	275,370	283,632	292,141	300,905	309,932	319,230	328,807
Development Charges	98,585	102,684	106,796	111,234	115,672	119,770	122,322	124,873	127,425	129,976
<b>Total</b>	<b>\$ 526,631</b>	<b>\$ 544,987</b>	<b>\$ 563,649</b>	<b>\$ 583,324</b>	<b>\$ 603,291</b>	<b>\$ 622,799</b>	<b>\$ 639,148</b>	<b>\$ 655,817</b>	<b>\$ 672,814</b>	<b>\$ 690,149</b>
<b>CASH BASIS</b>	<b>\$ 526,631</b>	<b>\$ 544,987</b>	<b>\$ 563,649</b>	<b>\$ 583,324</b>	<b>\$ 603,291</b>	<b>\$ 622,799</b>	<b>\$ 639,148</b>	<b>\$ 655,817</b>	<b>\$ 672,814</b>	<b>\$ 690,149</b>
<b>UTILITY BASIS</b>	<b>\$ 526,631</b>	<b>\$ 544,987</b>	<b>\$ 563,649</b>	<b>\$ 583,324</b>	<b>\$ 603,291</b>	<b>\$ 622,799</b>	<b>\$ 639,148</b>	<b>\$ 655,817</b>	<b>\$ 672,814</b>	<b>\$ 690,149</b>
<b>WASTEWATER</b>										
<b>Wastewater Collection</b>										
Other General Revenues	\$ 33,063	\$ 34,055	\$ 35,077	\$ 36,129	\$ 37,213	\$ 38,329	\$ 39,479	\$ 40,663	\$ 41,883	\$ 43,140
Service Revenues	-	-	-	-	-	-	-	-	-	-
Customer Payback Rev	15,630	16,099	16,582	17,079	17,592	18,119	18,663	19,223	19,800	20,394
Development Charges	12,417	12,983	13,550	14,189	14,829	15,395	15,750	16,104	16,459	16,813
<b>Water Reclamation</b>										
Other General Revenues	-	-	-	-	-	-	-	-	-	-
Service Revenues	-	-	-	-	-	-	-	-	-	-
Reserve Funds	-	-	-	-	-	-	-	-	-	-
<b>Total</b>	<b>\$ 61,110</b>	<b>\$ 63,137</b>	<b>\$ 65,208</b>	<b>\$ 67,397</b>	<b>\$ 69,633</b>	<b>\$ 71,844</b>	<b>\$ 73,892</b>	<b>\$ 75,990</b>	<b>\$ 78,141</b>	<b>\$ 80,346</b>
<b>CASH BASIS</b>	<b>\$ 61,110</b>	<b>\$ 63,137</b>	<b>\$ 65,208</b>	<b>\$ 67,397</b>	<b>\$ 69,633</b>	<b>\$ 71,844</b>	<b>\$ 73,892</b>	<b>\$ 75,990</b>	<b>\$ 78,141</b>	<b>\$ 80,346</b>
<b>UTILITY BASIS</b>	<b>\$ 61,110</b>	<b>\$ 63,137</b>	<b>\$ 65,208</b>	<b>\$ 67,397</b>	<b>\$ 69,633</b>	<b>\$ 71,844</b>	<b>\$ 73,892</b>	<b>\$ 75,990</b>	<b>\$ 78,141</b>	<b>\$ 80,346</b>

### Net Revenue Requirement –Cash Basis and Utility Basis

Table III-9 presents the City of Safford’s net revenue requirement for the water utility and the wastewater utility, under both the Cash Basis and the Utility Basis, to be raised from rates in the test year FY 2007 and the forecast period. As the table reveals, under the Cash Basis methodology, the City’s net revenue requirement is forecast to increase from **\$5,795,821** in FY 2007 to **\$10,507,167** in FY 2016. This represents an annual rate of growth of 6.83%. Under the Utility Basis methodology, the City’s net revenue requirement is forecast to increase from **\$7,667,733** in FY 2007 to **\$12,719,664** in FY 2016. This represents an annual rate of growth of 5.78%. It is noteworthy that **the City’s revenue requirement is approximately 25% - 50% higher for outside city customers under the Utility Basis.**

Detailed calculations are presented in the rate model contained in Appendix A of this report.

TABLE III-9 CITY OF SAFFORD										
FORECAST NET REVENUE REQUIREMENT										
	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013	FY 2014	FY 2015	FY 2016
<b>Net Revenue Requirement</b>										
<b>WATER</b>										
<b>CASH BASIS</b>										
Operating/Cap Outlays	\$ 3,644,326	\$ 3,808,895	\$ 4,023,074	\$ 4,240,372	\$ 4,468,074	\$ 4,700,969	\$ 4,925,443	\$ 5,151,593	\$ 5,388,509	\$ 5,636,733
Debt Service	317,869	317,463	767,669	766,766	1,110,022	1,106,622	1,670,547	1,673,530	1,671,144	1,668,898
Depreciation	-	-	-	-	-	-	-	-	-	-
Return	-	-	-	-	-	-	-	-	-	-
Sub-Total	\$ 3,962,195	\$ 4,126,358	\$ 4,790,743	\$ 5,007,139	\$ 5,578,095	\$ 5,807,590	\$ 6,595,990	\$ 6,825,123	\$ 7,059,652	\$ 7,305,631
Non-Rate Revs	(526,631)	(544,987)	(563,649)	(583,324)	(603,291)	(622,799)	(639,148)	(655,817)	(672,814)	(690,149)
<b>Total</b>	<b>\$ 3,435,564</b>	<b>\$ 3,581,371</b>	<b>\$ 4,227,094</b>	<b>\$ 4,423,814</b>	<b>\$ 4,974,804</b>	<b>\$ 5,184,792</b>	<b>\$ 5,956,842</b>	<b>\$ 6,169,307</b>	<b>\$ 6,386,839</b>	<b>\$ 6,615,482</b>
<b>UTILITY BASIS</b>										
Operating/Cap Outlays	\$ 3,324,326	\$ 3,488,895	\$ 3,693,474	\$ 3,900,884	\$ 4,118,401	\$ 4,340,806	\$ 4,554,475	\$ 4,769,497	\$ 4,994,949	\$ 5,231,366
Debt Service	112,803	103,970	418,771	403,494	640,035	617,342	1,010,898	981,588	950,952	919,456
Depreciation	678,317	793,901	823,057	841,915	868,009	996,190	1,039,983	1,081,524	917,280	945,185
Return	844,388	1,105,770	1,138,557	1,156,814	1,179,103	1,451,794	1,509,795	1,565,719	1,629,855	1,692,595
Sub-Total	\$ 4,959,833	\$ 5,492,536	\$ 6,073,860	\$ 6,303,107	\$ 6,805,548	\$ 7,406,132	\$ 8,115,151	\$ 8,398,328	\$ 8,493,035	\$ 8,788,603
Non-Rate Revs	(526,631)	(544,987)	(563,649)	(583,324)	(603,291)	(622,799)	(639,148)	(655,817)	(672,814)	(690,149)
<b>Total</b>	<b>\$ 4,433,202</b>	<b>\$ 4,947,549</b>	<b>\$ 5,510,211</b>	<b>\$ 5,719,783</b>	<b>\$ 6,202,257</b>	<b>\$ 6,783,333</b>	<b>\$ 7,476,003</b>	<b>\$ 7,742,511</b>	<b>\$ 7,820,221</b>	<b>\$ 8,098,454</b>
<b>WASTEWATER</b>										
<b>CASH BASIS</b>										
Operating/Cap Outlays	\$ 1,660,652	\$ 1,741,557	\$ 1,839,285	\$ 1,939,664	\$ 2,045,657	\$ 2,155,514	\$ 2,267,346	\$ 2,381,697	\$ 2,502,738	\$ 2,630,911
Debt Service	760,715	946,518	996,713	996,713	1,278,502	1,278,501	1,341,121	1,341,121	1,341,120	1,341,120
Depreciation	-	-	-	-	-	-	-	-	-	-
Return	-	-	-	-	-	-	-	-	-	-
Sub-Total	2,421,367	2,688,075	2,835,999	2,936,377	3,324,159	3,434,014	3,608,467	3,722,818	3,843,858	3,972,031
Non-Rate Revs	(61,110)	(63,137)	(65,208)	(67,397)	(69,633)	(71,844)	(73,892)	(75,990)	(78,141)	(80,346)
<b>Total</b>	<b>2,360,257</b>	<b>2,624,938</b>	<b>2,770,790</b>	<b>2,868,980</b>	<b>3,254,526</b>	<b>3,362,170</b>	<b>3,534,575</b>	<b>3,646,828</b>	<b>3,765,717</b>	<b>3,891,685</b>
<b>UTILITY BASIS</b>										
Operating/Cap Outlays	\$ 1,570,652	\$ 1,648,857	\$ 1,743,804	\$ 1,841,319	\$ 1,944,361	\$ 2,051,179	\$ 2,159,881	\$ 2,271,008	\$ 2,388,728	\$ 2,513,481
Debt Service	151,629	316,518	330,780	307,658	490,281	462,135	478,877	447,915	415,828	382,579
Depreciation	575,707	580,961	582,457	725,357	728,193	729,026	731,451	721,376	711,513	709,063
Return	997,652	988,354	966,482	1,287,464	1,258,304	1,229,103	1,199,780	1,164,961	1,130,636	1,096,433
Sub-Total	3,295,641	3,534,690	3,623,523	4,161,797	4,421,139	4,471,442	4,569,989	4,605,260	4,646,706	4,701,556
Non-Rate Revs	(61,110)	(63,137)	(65,208)	(67,397)	(69,633)	(71,844)	(73,892)	(75,990)	(78,141)	(80,346)
<b>Total</b>	<b>3,234,531</b>	<b>3,471,553</b>	<b>3,558,315</b>	<b>4,094,400</b>	<b>4,351,506</b>	<b>4,399,598</b>	<b>4,496,097</b>	<b>4,529,270</b>	<b>4,568,564</b>	<b>4,621,210</b>
<b>CASH BASIS TOTAL</b>										
<b>Total</b>	<b>5,795,821</b>	<b>6,206,309</b>	<b>6,997,884</b>	<b>7,292,794</b>	<b>8,229,330</b>	<b>8,546,962</b>	<b>9,491,417</b>	<b>9,816,134</b>	<b>10,152,555</b>	<b>10,507,167</b>
<b>UTILITY BASIS TOTAL</b>										
<b>Total</b>	<b>7,667,733</b>	<b>8,419,102</b>	<b>9,068,525</b>	<b>9,814,182</b>	<b>10,553,763</b>	<b>11,182,931</b>	<b>11,972,100</b>	<b>12,271,781</b>	<b>12,388,786</b>	<b>12,719,664</b>

## Water Utility Cost Functionalization

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

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

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

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

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

*Administration* – miscellaneous overhead and other non-operating costs

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

The project team allocated operating budget line item expenses individually to system functions based on general guidelines, specific research and input from City staff. The results of the allocation process for the test year are presented in **Table III-10**. The rate model presented in Appendix A includes a detailed listing of the allocations by line item.

**TABLE III-10  
CITY OF SAFFORD**

**COST FUNCTIONALIZATION  
TEST YEAR FY 2007**

	Cash Basis	Utility Basis
	<b>WATER System</b>	
Supply/Treatment	\$ 258,220	\$ 554,435
Distribution	2,316,093	2,979,183
Administration	1,209,283	1,215,703
Customer	178,600	210,513
<b>Total</b>	<b>\$ 3,962,195</b>	<b>\$ 4,959,833</b>

### Water Utility Cost Classification

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

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

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

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

As stated earlier in this report, limitations in the availability of information resulted in the decision not to attempt to allocate costs further to the maximum hour component.

According to AWWA Manual M-1 (p. 12), in the base-extra capacity method, care must be taken in separating costs between those devoted to base capacity and those devoted to extra capacity. Over the past twelve months the City’s peak to average capacity factor was calculated to be **1.58**. The peak to average factor is calculated by dividing the volume on the peak day of the year by the average daily volume. This means that facilities designed to meet maximum-day requirements, such as the treatment and distribution functions, are allocated 63.29% (1/1.58) to base, and 36.70% to extra capacity (accounting for rounding).

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

The rate model in Appendix A provides the detailed allocations of costs to service characteristics. The system-wide costs by service characteristic for the Cash Basis and Utility Basis are shown in **Table III-11**. As with cost functionalization, these percentages are not expected to change significantly in the forecast period.

**TABLE III-11**  
**CITY OF SAFFORD**

	<b>COST CLASSIFICATION</b>	
	<b>TEST YEAR FY 2007</b>	
	<b>Cash Basis</b>	<b>Utility Basis</b>
	<b>WATER System</b>	
Base	\$ 1,891,798	\$ 2,374,660
Max Day	1,891,798	2,374,660
Customer	178,600	210,513
Total	\$ 3,962,195	\$ 4,959,833

### Water Utility Cost Allocation

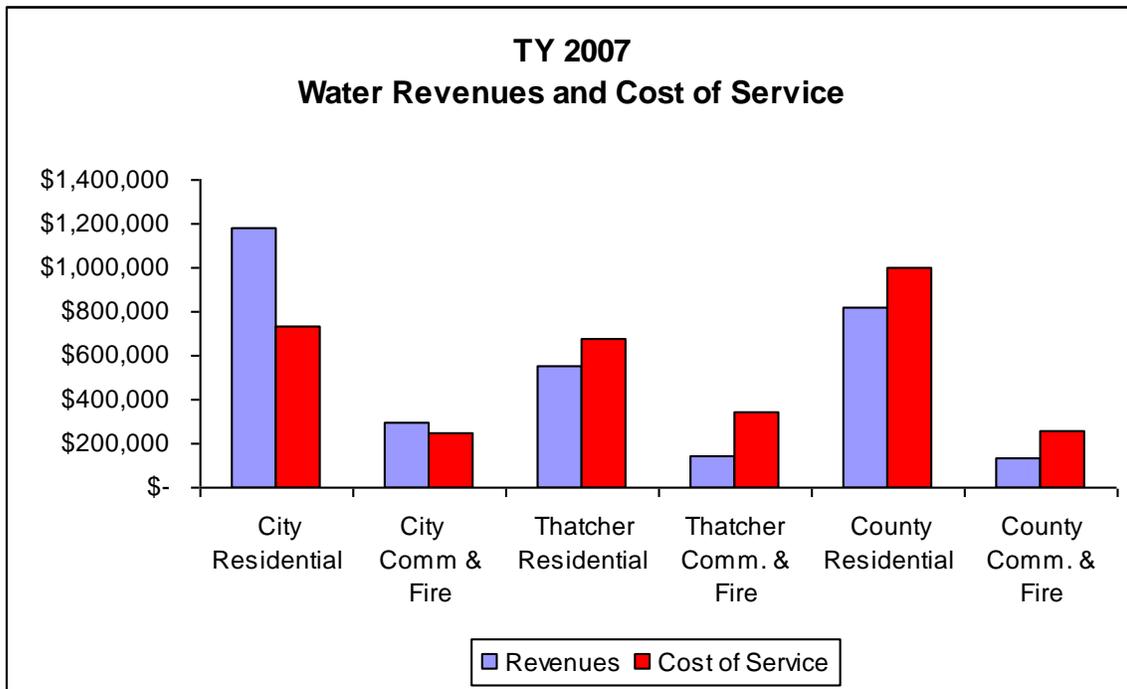
Allocation of costs by service characteristic to customer classes is based on the proportionate use levels of each characteristic by each class. Inside city customers are assigned a cost of service based on the Cash Basis, while outside city customers utilize the Utility Basis.

The total water utility costs by customer class are summarized in **Table III-12**. Overall cost calculations are presented in detail in the rate model contained in Appendix A. **Chart III-13** shows revenues for each customer class in comparison to their respective cost of service. While customers within the City currently provide revenues that exceed their cost of service, customers outside of Safford city limits in the County and in the Town of Thatcher currently contribute revenues that are less than their cost of service.

**TABLE III-12**  
**CITY OF SAFFORD**

<b>FORECAST COST OF SERVICE BY CUSTOMER CLASS</b>										
	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016
<b>WATER System</b>										
<b>CASH Basis</b>										
Residential Inside	\$ 737,545	\$ 693,404	\$ 722,779	\$ 997,854	\$ 1,070,257	\$ 1,154,018	\$ 1,181,844	\$ 1,488,379	\$ 1,631,433	\$ 1,697,825
Commercial Inside	250,680	234,365	243,047	334,485	355,934	383,450	390,586	491,327	535,874	554,987
<b>UTILITY Basis</b>										
Residential - Thatcher	\$ 678,726	\$ 783,290	\$ 808,438	\$ 890,316	\$ 924,672	\$ 1,053,953	\$ 1,085,470	\$ 1,188,607	\$ 1,199,085	\$ 1,239,890
Comm. & Fire - Thatcher	347,067	400,730	411,308	452,440	467,776	533,064	547,653	600,236	603,833	623,061
Residential - County	998,246	1,151,822	1,188,547	1,308,327	1,358,455	1,547,714	1,598,261	1,754,275	1,773,918	1,838,622
Comm. & Fire - County	260,283	299,536	306,970	337,231	348,266	396,398	406,209	444,133	445,774	458,932
Graham Park	163,017	18,632	18,863	20,490	20,911	23,550	24,044	26,208	26,201	26,872
Sierra Del Sol	-	-	-	-	-	-	-	-	-	-
Prison	-	-	76,936	83,574	85,278	96,044	158,850	173,160	173,108	177,539

Chart III-13



### Wastewater Utility Cost Functionalization and Classification

Wastewater system costs are allocated to the following functions:

*Treatment* – the costs associated with treating wastewater discharges

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

*Administration* – miscellaneous overhead and other non-operating costs

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

As was the case for the water system, wastewater utility operating budget line item expenses are allocated individually to functions. The results of the allocation process are presented in **Table III-14**. The rate model in Appendix A presents a detailed listing of the cost allocations by line item. As with the water utility, these percentages are not forecast to change significantly during the next ten years.

TABLE III-14 CITY OF SAFFORD		
<b>COST FUNCTIONALIZATION AND CLASSIFICATION TEST YEAR FY 2007</b>		
	Cash Basis	Utility Basis
	<b>WASTEWATER System</b>	
Treatment	\$ 1,520,622	\$ 1,933,608
Collection	473,755	935,042
Administration	400,290	400,290
Customer	26,700	26,700
Total	<b>\$ 2,421,367</b>	<b>\$ 3,295,641</b>

The limited size of the system, and the absence of high strength commercial and industrial customers, eliminates the necessity to develop strength-related wastewater rates. In this case, all costs, with the exception of those specifically pertaining to customer billing, may be classified as flow-related.

### Wastewater Utility Cost Allocation

Allocation of wastewater utility costs by service characteristic to customer classes is performed in the same manner as described for the water utility. The total wastewater utility cost by customer class for the Cash Basis and the Utility Basis are summarized in **Table III-15**. The rate model in Appendix A presents a detailed listing of the cost calculations by line item.

**TABLE III-15  
CITY OF SAFFORD**

<b>FORECAST COST OF SERVICE BY CUSTOMER CLASS</b>										
	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016
<b>WASTEWATER System</b>										
<b>CASH Basis</b>										
Residential	\$ 1,494,118	\$ 1,664,153	\$ 1,759,523	\$ 1,827,214	\$ 2,077,313	\$ 2,148,823	\$ 2,262,812	\$ 2,338,661	\$ 2,418,854	\$ 2,503,690
Commercial	866,139	960,785	1,011,267	1,041,765	1,177,212	1,213,348	1,271,763	1,308,167	1,346,863	1,387,995
Other	-	-	-	-	-	-	-	-	-	-
<b>UTILITY Basis</b>										
Residential	\$ 2,044,372	\$ 2,198,006	\$ 2,256,944	\$ 2,603,471	\$ 2,774,062	\$ 2,808,534	\$ 2,875,298	\$ 2,901,680	\$ 2,931,880	\$ 2,970,552
Commercial	1,190,159	1,273,548	1,301,370	1,490,929	1,577,444	1,591,064	1,620,799	1,627,590	1,636,684	1,650,658
Other	-	-	-	-	-	-	-	-	-	-



## SECTION IV

## Water and Wastewater Rate Design



Rate design involves determining charges for each class of customers that will generate a desired level of revenue. This section of the rate study will begin by analyzing the extent to which the City's current rate plan will recover revenues sufficient to fund water and wastewater operating and capital costs in the test year and over the forecast period.

Over the course of the engagement, the project team has participated in numerous conversations and meetings with City staff at which various alternative rate plans were discussed. As a result of these conversations and worksessions, the project team has developed the three alternative sets of long-term rate adjustments presented in this section. Each of these alternatives is designed to allow the City to recover sufficient and equivalent revenues to meet all operating and capital obligations, including the debt service required to fund the City's forecast capital improvements. Volumes and financial assumptions for all alternatives are the same.

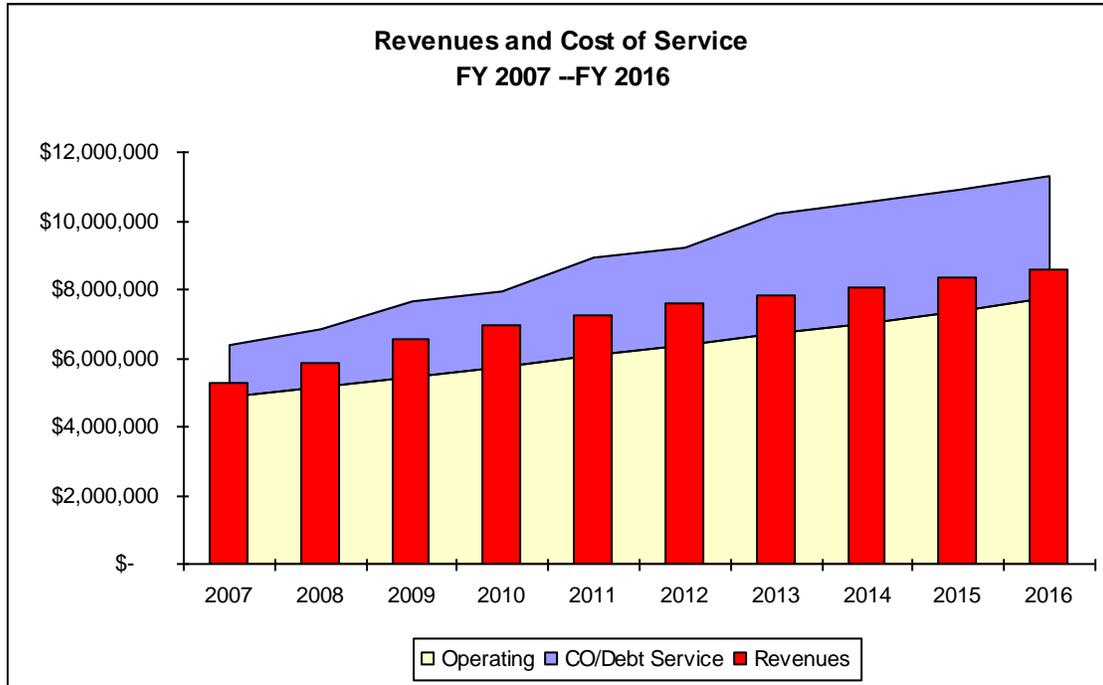
The alternative rate structures presented in this section are as follows:

- 1) **Alternative 1 – “Status Quo”** – Under Alternative 1, the current rate structures are maintained, including the winter averaging approach for wastewater rates, seasonal water rates and “zoned” rate structure. Uniform adjustments are applied to all classes over the forecast period.
- 2) **Alternative 2 – “Modified”** – This alternative is the same as Alternative 1 with three exceptions. First, the rate blocks are modified to implement a 25% price differential between rate blocks, providing a more conservation-based inverted block rate structure. Secondly, the water rate adjustments required are smaller in the first three years under Alternative 2 when compared to Alternative 1 due to the additional volume revenues realized with the modified rate blocks. Finally, the seasonal water rates are eliminated in favor of one rate structure throughout the year.
- 3) **Alternative 3 – “Outside City”** – Alternative 3 includes the same modifications as Alternative 2. However, “zoned” rates are replaced by a cost-based rate structure for accounts outside the Safford city limits.

### Revenues and Cost of Service under Current Rate Structure

**Chart IV-1** compares the revenues expected to be recovered under the City’s current rate structure with the water and wastewater cost of service for the test year FY 2007 and the forecast period. The table reveals that at present, the City’s rates are sufficient to cover the water and wastewater utility operating costs; however, they are not sufficient to cover operating costs as well as associated capital outlays and debt service.

Chart IV-1



**Table IV-2** presents the revenues and net revenue requirement for the test year FY 2007 in greater detail. **While the water accounts within the City of Safford collect adequate revenues to cover their cost of service, none of the account classifications outside the city limits are currently recovering their cost of service. To the degree that they are able, the water accounts within the city are subsidizing the water accounts in the County and in the Town of Thatcher.** Further, the “zoned” rate structure is not sufficiently covering the overall differential between the revenues collected from out of city accounts and the revenue requirement.

Additionally, the wastewater utility is not recovering sufficient revenues to meet the net revenue requirements from either the residential or the commercial accounts.

**TABLE IV-2  
CITY OF SAFFORD**

**Test Year 2007 Revenues Less Revenue Requirement**

	<b>Revenues</b>	<b>Net Revenue Requirement</b>	<b>Difference</b>
<b>Water Utility</b>			
Residential City	\$ 1,091,393	\$ 737,545	\$ 353,848
Comm. & Fire City	277,248	250,680	26,568
Residential Thatcher	532,818	678,726	(145,908)
Comm. & Fire Thatcher	144,006	347,067	(203,061)
Residential County	811,214	998,246	(187,032)
Comm. & Fire County	143,556	260,283	(116,728)
Graham Park County	44,038	163,017	(118,979)
Sierra Del Sol	-	-	-
Prison	-	-	-
<b>Total</b>	<b>\$ 3,044,271</b>	<b>\$ 3,435,563</b>	<b>\$ (391,292)</b>
<b>Wastewater Utility</b>			
Residential	\$ 848,406	\$ 1,494,118	\$ (645,712)
Commercial	651,571	866,139	(214,568)
<b>Total</b>	<b>\$ 1,499,977</b>	<b>\$ 2,360,257</b>	<b>\$ (860,280)</b>
<b>Total</b>			
All classes	<b>\$ 4,544,248</b>	<b>\$ 5,795,820</b>	<b>\$ (1,251,572)</b>

The overall objectives of the rate recommendations presented in this section include the following:

- Enable the City to recover sufficient revenue to fund operations and capital improvements, including existing and forecast debt service.
- Ensure that water and wastewater rates pay their own cost of service.
- Ensure that each customer class pays its own cost of service.
- Present a rate plan that is less confusing and easier to administer than the current rate plan.

### Wastewater Rate Design – Alternatives #1 – #3

The wastewater rate recommendation is the same for all three alternatives and is presented in **Table IV-3**. Rate adjustments are the same for both residential and commercial classes. Annual rate adjustments of 25% are required for October 2006 and October 2007, 20% for October 2008, and 3% for October 2010 through October 2016. No adjustment is required in October 2009.

TABLE IV-3 CITY OF SAFFORD						
WASTEWATER RATES - ALTERNATIVES 1, 2 & 3						
	Current	Effective Oct-06	Effective Oct-07	Effective Oct-08	Effective Oct-09	Effective Oct-10
<b>Residential</b>						
Percent		25.0%	25.0%	20.0%	0.0%	3.0%
Base	\$ 23.73	\$ <b>29.66</b>	\$ 37.07	\$ 44.48	\$ 44.48	\$ 45.82
Per 1,000	3.41	<b>4.26</b>	5.33	6.39	6.39	6.59
<b>Commercial</b>						
Percent		25.0%	25.0%	20.0%	0.0%	3.0%
Base	\$ 23.73	\$ <b>29.66</b>	\$ 37.07	\$ 44.48	\$ 44.48	\$ 45.82
Per 1,000	3.41	<b>4.26</b>	5.33	6.39	6.39	6.59

### Water Rate Design – Alternative #1 – “Status Quo”

Table IV-4 presents a summary of the first water rate design alternative presented for the City. This alternative is intended to meet all the financial objectives listed previously in this section, while maintaining the same basic rate structure as is currently in effect. Table IV-5 presents pages from the rate model that summarize forecast revenues under this alternative by year over the next decade. The following is notable about this alternative:

#### Water Rates

- Current rate structure is maintained, including seasonal summer and winter rates and current rate tiers.
- Uniform percentage rate adjustments for all customer classes annually of 12% for October 2006 and October 2007, 8% for October 2008, and 5% for October 2010 through October 2015 are required.
- Zoned rates remain in effect for qualifying customer classes. Zoned rate percentages increase by the same percentages as base water rates for each of the years in the forecast.

		WATER RATES -- ALTERNATIVE #1 "STATUS QUO"					
		Current	Effective Oct-06	Effective Oct-07	Effective Oct-08	Effective Oct-09	Effective Oct-10
<b>Residential</b>							
Percent			12.0%	12.0%	8.0%	0.0%	5.0%
Base		\$ 16.49	\$ 18.47	\$ 20.68	\$ 22.34	\$ 22.34	\$ 23.46
<b>Summer -- Per 1,000</b>							
-	11,850	1.12	1.25	1.40	1.52	1.52	1.59
11,851	22,140	1.23	1.38	1.54	1.67	1.67	1.75
22,141	Above	1.35	1.51	1.69	1.83	1.83	1.92
<b>Winter -- Per 1,000</b>							
-	11,850	1.06	1.19	1.33	1.44	1.44	1.51
11,851	22,140	1.17	1.31	1.47	1.59	1.59	1.66
22,141	Above	1.29	1.44	1.62	1.75	1.75	1.84
<b>Commercial</b>							
Percent			12.0%	12.0%	8.0%	0.0%	5.0%
Base		\$ 16.49	\$ 18.47	\$ 20.68	\$ 22.34	\$ 22.34	\$ 23.46
Summer -- Per 1,000		1.12	1.25	1.40	1.52	1.52	1.59
Winter -- Per 1,000		1.06	1.19	1.33	1.44	1.44	1.51
<b>Zoned Rate Premium</b>							
<b>Per 1,000 Gal</b>							
Zone B		\$ 0.39	\$ 0.44	\$ 0.49	\$ 0.53	\$ 0.53	\$ 0.55
Zone C		0.78	0.87	0.98	1.06	1.06	1.11
Zone D		1.18	1.32	1.48	1.60	1.60	1.68
Zone E		1.57	1.76	1.97	2.13	2.13	2.23

## Water Rate Design – Alternative #2 – “Modified”

The current water rate structure is complex and difficult to administer. Rates are determined by daily usage tiers set at 395 gallons, the next 343 gallons, and over 738 gallons. Usage rates vary by season, with summer consumption rates set slightly higher than winter consumption rates. The meter charge is similarly calculated on a daily basis. Tiered rates are imposed for certain customers.

Most municipal water utilities now set monthly rates and establish tiered usage rates that reflect common break points in monthly usage. Further, the City of Safford’s current volumetric tiers for both summer rates and winter rates are separated by only a 10% rate differential. With the growing need for water conservation a greater degree of difference is commonly found in the pricing of volumetric tiers in order to encourage conservation.

The following is notable about this alternative:

- Daily rates are eliminated and replaced by monthly rates.
- The rate blocks are established in an inverted block rate structure with a 25% differential in pricing between blocks.
- Seasonal rates are eliminated in favor of one rate structure throughout the year.
- “Zoned” rates are eliminated. Rates outside of city limits for all customers are the same as rates within city limits.
- Uniform percentage rate adjustments for the base charges for all customer classes of 10% for October 2006 are required. The establishment of new volumetric rate tiers and a 25% differential in pricing between blocks requires varying adjustments in volumetric pricing for October 2006.
- Uniform percentage rate adjustments for all customer classes annually of 7.5% for October 2007 and October 2008, and 5% for October 2010 through October 2015 are required.

**Table IV-6** presents a summary of the City’s second water and wastewater rate design option for the ten year forecast period. This alternative is intended to meet all the financial objectives listed previously in this section, simplify the rate structure making it easier to administer, and encourage conservation. **Table IV-7** presents pages from the rate model that summarize forecast revenues under this alternative by year over the next decade.

TABLE IV-6  
CITY OF SAFFORD

<b>WATER RATES -- ALTERNATIVE #2 "MODIFIED RATE STRUCTURE"</b>									
		<b>Current</b>		<b>Effective</b>	<b>Effective</b>	<b>Effective</b>	<b>Effective</b>	<b>Effective</b>	<b>Effective</b>
		<b>Summer</b>	<b>Winter</b>	<b>Oct-06</b>	<b>Oct-07</b>	<b>Oct-08</b>	<b>Oct-09</b>	<b>Oct-09</b>	<b>Oct-10</b>
<b>Residential</b>									
Percent				na	7.5%	7.5%	0.0%		7.0%
Base		\$ 16.49	\$ 16.49	\$ 18.14	\$ 19.50	\$ 20.96	\$ 20.96	\$	22.43
<b>Per 1,000</b>									
-	10,000	1.12	1.06	1.25	1.34	1.44	1.44		1.55
10,001	20,000	1.23	1.17	1.56	1.68	1.81	1.81		1.93
20,001	Above	1.35	1.29	1.95	2.10	2.26	2.26		2.42
<b>Commercial</b>									
Percent				na	7.5%	7.5%	0.0%		7.0%
Base		\$ 16.49	\$ 16.49	\$ 18.14	\$ 19.50	\$ 20.96	\$ 20.96	\$	22.43
<b>Per 1,000</b>									
-	10,000	1.12	1.06	1.25	1.35	1.35	1.44		1.51
10,001	20,000	1.12	1.06	1.57	1.68	1.68	1.80		1.89
20,001	Above	1.12	1.06	1.96	2.11	2.11	2.25		2.37



## Rate Design – Alternative #3 – “Outside City”

**Table IV-8** summarizes the City’s third water and wastewater rate design option for the ten year forecast period. Alternative 3 includes all of the recommendations of Alternative 2 plus the incorporation of a separate cost based rate for accounts outside the Safford city limits. All accounts outside the city would be charged rates designed to recover their cost of service as developed under the Utility Basis methodology.

The following is notable about this alternative:

- Daily rates are eliminated and replaced by monthly rates.
- The rate blocks are established in an inverted block rate structure with a 25% differential in pricing between blocks.
- Seasonal rates are eliminated in favor of one rate structure throughout the year.
- **“Zoned” rates are eliminated, in favor of setting a separate account classification for outside city limits customers. These customers are charged a rate designed to enable the City to recover the cost of providing service beyond its geographical limits.**
- The replacement of “zoned” rates by outside city rates continues the City’s long-time policy of charging more for further-away customers who have a higher cost of service. However, the parameters are simplified and standardized, and redesigned to fully account for the cost differentials between inside and outside city customers.
- Uniform percentage rate adjustments for all customer classes are made to the base charges of 10% for October 2006. The establishment of new volumetric rate tiers and a 25% differential in pricing between blocks requires varying adjustments in volumetric pricing for October 2006.
- Uniform percentage rate adjustments for all customer classes within city limits annually of 7.5% for October 2007 and October 2008, and 5% for October 2012 through October 2015 are required.
- Rates for customer classes outside city limits are 25% for October 2006 until October 2010. The rate for outside city limit customers increases to 50% beginning in October 2010. However, because of the elimination of the “zoned” rate structure, many outside customers will not experience as significant an increase in monthly total charges.

**Table IV-9** presents pages from the rate model that summarize forecast revenues under this alternative by year over the next decade.

TABLE IV-8  
CITY OF SAFFORD

<b>WATER RATES -- ALTERNATIVE #3 "OUTSIDE CITY"</b>									
		<b>Current</b>		<b>Effective</b>	<b>Effective</b>	<b>Effective</b>	<b>Effective</b>	<b>Effective</b>	<b>Effective</b>
		<b>Summer</b>	<b>Winter</b>	<b>Oct-06</b>	<b>Oct-07</b>	<b>Oct-08</b>	<b>Oct-09</b>	<b>Oct-09</b>	<b>Oct-10</b>
<b>Residential -- City</b>									
Percent				na	7.5%	7.5%	0.0%	0.0%	
Base		\$ 16.49	\$ 16.49	\$ 16.49	\$ 17.73	\$ 19.05	\$ 19.05	\$ 19.05	\$ 19.05
<b>Per 1,000</b>									
-	10,000	1.12	1.06	<b>1.06</b>	1.14	1.22	1.22	1.22	1.22
10,001	20,000	1.23	1.17	<b>1.33</b>	1.42	1.53	1.53	1.53	1.53
20,001	Above	1.35	1.29	<b>1.66</b>	1.78	1.91	1.91	1.91	1.91
<b>Commercial -- City</b>									
Percent				na	7.5%	7.5%	0.0%	0.0%	
Base		\$ 16.49	\$ 16.49	\$ 16.49	\$ 17.73	\$ 19.05	\$ 19.05	\$ 19.05	\$ 19.05
<b>Per 1,000</b>									
-	-	1.12	1.06	<b>1.06</b>	1.14	1.22	1.22	1.22	1.22
-	10,000	1.12	1.06	<b>1.33</b>	1.42	1.53	1.53	1.53	1.53
10,001	20,000	1.12	1.06	<b>1.66</b>	1.78	1.91	1.91	1.91	1.91
<b>Residential -- Thatcher/County</b>									
Percent				na	7.5%	7.5%	0.0%	20.0%	
Base		\$ 16.49	\$ 16.49	\$ 20.61	\$ 22.16	\$ 23.82	\$ 23.82	\$ 23.82	\$ 28.58
<b>Per 1,000</b>									
-	10,000	1.12	1.06	<b>1.33</b>	1.42	1.53	1.53	1.53	1.84
10,001	20,000	1.23	1.17	<b>1.66</b>	1.78	1.91	1.91	1.91	2.30
20,001	Above	1.35	1.29	<b>2.07</b>	2.23	2.39	2.39	2.39	2.87
<b>Commercial -- Thatcher/County</b>									
Percent				na	7.5%	7.5%	0.0%	20.0%	
Base		\$ 16.49	\$ 16.49	\$ 20.61	\$ 22.16	\$ 23.82	\$ 23.82	\$ 23.82	\$ 28.58
<b>Per 1,000</b>									
-	-	1.12	1.06	<b>1.33</b>	1.42	1.53	1.53	1.53	1.84
-	10,000	1.12	1.06	<b>1.66</b>	1.78	1.91	1.91	1.91	2.30
10,001	20,000	1.12	1.06	<b>2.07</b>	2.23	2.39	2.39	2.39	2.87

### Rate Alternatives – Impact on Ratepayers

**Table IV-10** presents a comparison of the impact of the proposed rates under the three alternatives for the period FY 2007 – FY 2010 for the approximate average usage of a residential account within Safford and for a commercial account within Safford. The table reveals that the most significant rate increases take effect in October 2006, 2007 and 2008 under all three alternatives, but the increases for accounts within Safford are substantially lessened under Alternative 3 as the accounts outside of city limits begin paying a greater portion of their cost of service.

**It should be noted that none of these alternatives present any ratepayers who currently pay a “zoned” rate.** The impact of these recommendations on “zoned” ratepayers are significantly lower. Because of the wide variation in “zoned” rates, no “typical” impact is presented.

		<b>Rate Alternatives 1, 2 &amp; 3 -- Summary of Impacts</b>						
		<b>Current</b>		<b>Effective</b>	<b>Effective</b>	<b>Effective</b>	<b>Effective</b>	<b>Effective</b>
		<b>Summer</b>	<b>Winter</b>	<b>Oct-06</b>	<b>Oct-07</b>	<b>Oct-08</b>	<b>Oct-09</b>	<b>Oct-10</b>
<b><u>Residential -- 10,000 Gallons Water, 5,000 Gallons WW</u></b>								
Alt 1 -- Summer		\$ 51.41		\$ 60.67	\$ 71.80	\$ 82.00	\$ 82.00	\$ 85.21
Alt 1 -- Winter			\$ 50.81	60.00	71.05	81.18	81.18	84.35
Alt 2		51.41	50.81	60.29	70.01	79.89	79.89	83.70
Alt 3	(City)	51.41	50.81	56.75	66.19	75.79	75.79	77.12
<b><u>Commercial -- 50,000 Gallons Water and WW</u></b>								
Alt 1 -- Summer		\$ 266.71		\$ 323.97	\$ 394.41	\$ 462.38	\$ 462.38	\$ 478.21
Alt 1 -- Winter			\$ 263.71	320.61	390.64	458.31	458.31	473.94
Alt 2		266.71	269.65	347.88	416.45	478.61	485.16	502.55
Alt 3	(City)	266.71	263.71	332.81	400.25	468.21	468.21	479.13

## SECTION V

## Solid Waste Cost of Service Analysis

This section of the Rate Study and Long Term Financial Forecast focuses on the City's Solid Waste Utility's revenue and cost of service forecast for the ten-year period FY 2007 -- FY 2016. This section will include a detailed analysis of the City's cost of service for the collection of refuse from the residential and commercial customer classes and the resulting rate recommendations.

Using cost of service and projected accounts as a base, revenues by customer class are forecast for the ten-year period. Total revenues include non-rate revenues from sources other than monthly sanitation fees. The forecast also includes recommendations for the rate adjustments that will be required to ensure that the utility recovers sufficient revenues to recover operating and capital expenses. These recommended rates are designed to recover the cost of service, and are based on national ratemaking standards.

This section concludes with the project team's rate recommendations for the current year and the forecast period.

### Customers and Billing Units

**Table V-1** presents total customers by class as of April 2006, the most recent month of data provided by the City. The City has a detailed and somewhat complex set of account classifications. As expected, residential customers represent the overwhelming majority of total customers. Approximately 80% of residential customers utilize a single 90 gallon container, while the remaining utilize a 300 gallon container. The City plans to standardize all residential accounts to 90 gallon containers within the next year.

Additionally, there are currently two residential collection classifications. All residential containers are emptied twice-weekly. However, "full service" accounts receive a third weekly collection for up to 4 cubic yards of special wastes that do not have to be in a container. "Limited service" residential accounts must make a special request for this service as needed and are charged an additional \$11.50 per collection. The City also plans to convert all limited service residential customers to full service in the next fiscal year.

The Commercial accounts are charged according to the quantity of cubic yards collected each week with a minimum monthly charge of \$13.00. **Table V-1** reveals that for the test year 2007, the city is forecast to have a total of **3,285** residential accounts and **419** commercial accounts. The containerized and bulk waste pick up units vary from month to month, but a representative monthly quantity is included as the revenues and cost of service for these accounts need to be included in the analysis.

**TABLE V-1**  
**CITY OF SAFFORD**

**Test Year Sanitation Accounts**

	Test Year Customers	Percent
TRR 90 (Res.Full 90)	1,248	33.1%
TRL 90 (Res.Limited 90)	2,037	54.0%
TRC Commercial	419	11.1%
TRP Container PickUp	22	0.6%
TRB Bulk	43	1.1%
Total	3,769	100.0%

### Customers and Billing Units – Forecast

The City’s sanitation cost of service is primarily a function of both the number of collections required each week and the volume of waste disposed. As Safford and the surrounding area grow in population, the demand for city services will increase. As discussed in Section I, the City’s average annual population growth rate between FY 2000 and FY 2005 has been **1.93%**. Continued growth of 3% annually is forecast, which would result in a 2015 population for the city of 12,969, a **40%** increase from the year 2000.

The current and forecast accounts by class are identified in **Table V-2**. Both residential and commercial accounts are projected to grow by amounts similar to water and wastewater accounts, or 4% - 5% in each of the next five years, before tapering off to 2% to 3% throughout the balance of the forecast period. This projected growth is forecast to result in total accounts of **5,099** in FY 2016.

**TABLE V-2**  
**CITY OF SAFFORD**

**FORECAST SANITATION ACCOUNTS BY CLASS**

	FY2007 Customers	FY2010 Forecast	FY2013 Forecast	FY2016 Forecast
TRR 90 (Res.Full 90)	1,248	3,760	4,185	4,485
TRL 90 (Res.Limited 90)	2,037	-	-	-
TRC Commercial	419	479	519	549
TRP Container PickUp	22	22	22	22
TRB Bulk	43	43	43	43
Total	3,769	4,304	4,769	5,099

## Revenue Requirement – Current Year

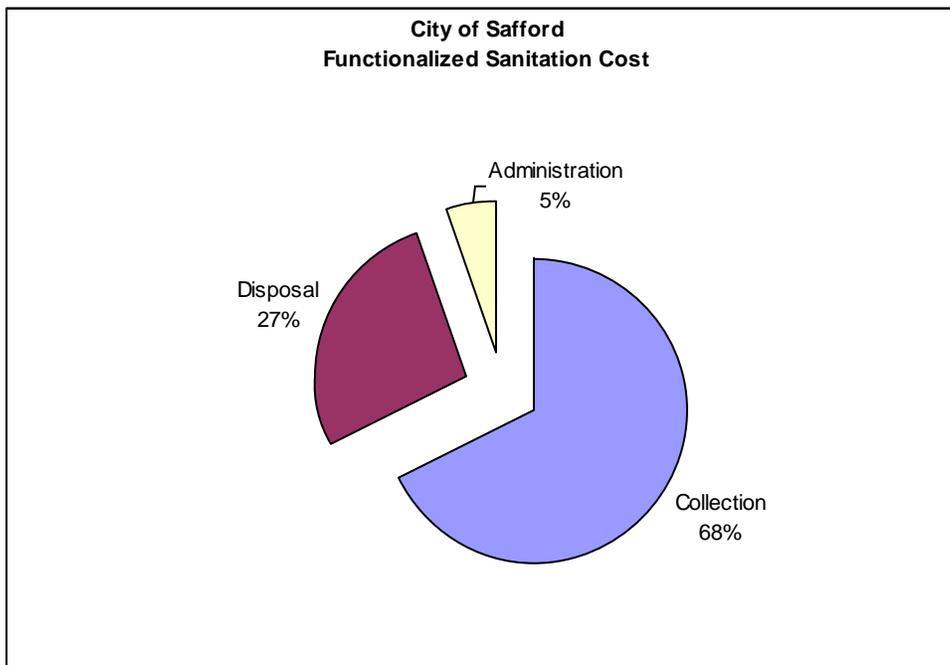
**Table V-3** presents the City's FY 2007 sanitation revenue requirement. The following is notable:

- Personnel expenses cover the six current full time employees, all of whom are dedicated to collection activities.
- The City maintains its solid waste-related revenues and expenditures in a separate enterprise fund with a "Tipping Fees" expense item that represents a calculation or pass-through of the total tipping or disposal fees assessed to city customers from the landfill. This represents the disposal portion of the budget. All other expense items in the Solid Waste Fund budget are allocated to collection. Landfill rates are not being reviewed at this time.
- The largest element of cost is operating expenses, of which 27% is currently devoted to landfill fees and the remaining 73% is comprised of collection expenses. All administrative and customer related costs are handled by the contributions to Internal Services.
- Solid waste containers are not sold or leased to customers. The cost of these containers is assumed to be included in the Operating Supplies category as a collection cost.
- All vehicle expenses are contained in the Fleet Management category as a collection cost.
- The only Capital expense item for the current year was related to the purchase of a new Steam Cleaner.
- The City does not have any existing or forecast debt service in the solid waste utility.

TABLE V-3 CITY OF SAFFORD		
BUDGET OPERATING EXPENSES SANITATION		Test Year FY 2007
<b>Personnel</b>		
Wages/Salary Regular	\$	222,538
Wages Overtime		2,000
Employee Benefits		130,286
<b>Sub-Total Personnel</b>		<b>354,824</b>
<b>Operating</b>		
Professional Services		-
Testing Certification		500
Outside Repairs & Mtnc		100
Outside Rentals & Lease		-
Fleet Management Rentals		247,140
Insurance Expense		20,000
Communications		1,300
Advertising		300
Travel		200
Training		500
Prisoner Labor		1,200
Dues & Subscriptions		200
Office Supplies		200
Operating Supplies		22,600
Cleaning & Janitorial		1,000
Vehicles & Equipment		41,000
Safety Supplies		1,600
Uniforms		2,800
Internal Svc Charge		6,800
Other		500
Internal Telephones & Comp.		5,000
Internal Svcs -Info Proc		34,800
Internal Svcs -Billing/Collection		29,800
Tipping Fees		290,000
<b>Total Operating</b>		<b>707,540</b>
<b>Total Personnel and Operating</b>		<b>1,062,364</b>
<b>Capital Outlays</b>		
Office Equipment		-
Other Capital Expend.		7,000
<b>Total Capital Outlays</b>		<b>7,000</b>
<b>Total O&amp;M/Capital</b>		<b>1,069,364</b>
<b>Debt Service</b>		<b>-</b>
<b>Total Cost of Service</b>		<b>1,069,364</b>
<b>Non-Rate Revenues</b>		<b>-</b>
<b>Revenue Requirement Raised from Rates</b>	\$	<b>1,069,364</b>

**Chart V-4** below presents the functionalized revenue requirement for the test year FY 2007. The chart reveals that collection is the largest component of cost incurred by the City in providing solid waste services. Detailed calculations of these cost components are contained in the sanitation cost of service model contained in Appendix B of this analysis. Recycling is another common component found in solid waste service cost analysis; however the City does not have a recycling program in place at this time.

**CHART V-4**



**Revenue Requirement -- Forecast**

**Table V-5** presents forecast net revenue requirement over the next ten years. For the City of Safford, only operating expenses and capital outlays are forecast, as there are no current or forecast debt obligations or non-rate revenues.

The following is notable about this forecast:

- Salaries and wages are projected to increase at a rate of 3.0% annually except when additional personnel are hired. The need for an additional driver is forecast for FY 2012 and beyond when it is projected that account growth will require an additional collection vehicle.
- Benefits typically increase at a rate greater than the average inflation rate, and are thus projected to increase at a rate of 8% annually.
- Most operating costs are anticipated to increase at the forecast annual inflation rate of 3.0%.
- Capital Outlays are projected to remain stable over the forecast period.

- Those operating costs that are directly affected by the growth of accounts are forecast to increase at a rate commensurate with the sum of the rate of normal inflation and the growth of accounts. Examples of these costs are Operating Supplies (including containers), vehicle and equipment expenses, Fleet Management Rentals, and the Internal Service Charges that cover administrative expenses such as customer billing.
- Tipping fees are projected to increase in accordance with the growth in account volume and rate projections provided by the City.
- The total net revenue requirement is projected to grow at an average annual rate of **4.57%** from \$1,069,364 in FY 2007 to \$1,598,686 in FY 2016.

**TABLE V-5**  
**CITY OF SAFFORD**

<b>BASE SCENARIO</b>						
<b>SANITATION - FORECAST NET REVENUE REQUIREMENT</b>						
	<b>Operating Expenses</b>	<b>Capital Outlays</b>	<b>Debt Service</b>	<b>Sub Total</b>	<b>Less Non-Rate Revs</b>	<b>Net Revenue Rqmt</b>
TY FY 2007	\$ 1,062,364	\$ 7,000	\$ -	\$ 1,069,364	\$ -	\$ 1,069,364
FY 2008	1,114,907	7,000	-	1,121,907	-	1,121,907
FY 2009	1,169,976	7,000	-	1,176,976	-	1,176,976
FY 2010	1,232,400	7,000	-	1,239,400	-	1,239,400
FY 2011	1,298,311	7,000	-	1,305,311	-	1,305,311
FY 2012	1,359,929	7,000	-	1,366,929	-	1,366,929
FY 2013	1,414,155	7,000	-	1,421,155	-	1,421,155
FY 2014	1,470,789	7,000	-	1,477,789	-	1,477,789
FY 2015	1,529,930	7,000	-	1,536,930	-	1,536,930
FY 2016	1,591,686	7,000	-	1,598,686	-	1,598,686

**Table V-6** presents the forecast cost of service for each customer class throughout the forecast ten year period. This table reveals that the utility’s total cost of service is expected to increase by an average of **5%** annually over the next ten years.

TABLE V-6  
CITY OF SAFFORD

FORECAST SANITATION COST OF SERVICE BY CLASS						
	Residential Full Service	Residential Limited Service	Commercial	TRP Container Pick Up	TRB Bulk	Total
TY FY2007	\$ 246,315	\$ 355,882	\$ 463,401	\$ 291	\$ 3,475	\$ 1,069,364
FY2008	651,625	-	466,662	280	3,340	1,121,907
FY2009	683,189	-	490,152	281	3,355	1,176,976
FY2010	721,027	-	514,714	283	3,376	1,239,400
FY2011	760,917	-	540,704	285	3,404	1,305,311
FY2012	802,711	-	560,469	290	3,460	1,366,929
FY2013	836,227	-	581,116	295	3,518	1,421,155
FY2014	871,215	-	602,694	300	3,580	1,477,789
FY2015	907,740	-	625,240	305	3,645	1,536,930
FY2016	945,868	-	648,794	311	3,713	1,598,686

### Revenues and Cost of Service under Current Rates

The rate model incorporates the volumes collected by each class of customer and calculates the difference between the overall revenues by class and total cost of service per class. **Table V-7** demonstrates the variance between the current revenues and the current cost of service for the primary rate classes. The City's projected revenue under the current rate plan is \$790,000 for the test year, FY 2007 and the projected cost of service is \$1,069,364. This results in a deficit of **\$279,364** for FY 2007 if rate adjustments are not implemented.

TABLE V-7  
CITY OF SAFFORD

Test Year FY 2007 Solid Waste Revenue Requirement	
Revenue under Current Rates	\$ 790,000
Personnel	354,824
Operating	707,540
Capital Outlays	7,000
Debt Service	-
Total Cost of Service	\$ 1,069,364
<b>Surplus/(Deficit)</b>	<b>(279,364)</b>

## Proposed Rate Design

Rate Design involves determining charges for each class of customers that will generate a desired level of revenue. The solid waste rates developed in this section are designed to cover the revenue requirements presented for the test year and the forecast period, and generate revenues by class that approximately equal the allocated cost responsibility of each class.

The rate recommendations developed for this study are based on the City's projected expenditures and growth. The current rate structure remains essentially the same as it takes into account the number and size of the containers as well as the number of pickups per week. Additionally, as noted previously in this study, it recognizes that the City will convert all residential accounts with 300 gallon containers to 90 gallon containers immediately, and by the end of FY 2007, all limited service residential accounts will be re-classified as full service accounts.

**Table V-8** on the following page presents the project team's recommendations for the monthly sanitation rates that will be required by the City to recover its operating and capital expenses over the next decade. The following is noteworthy about this recommendation:

- The rate design is based upon the City's existing rate structure.
- Significant adjustments are required in FY 2007. Once rates are brought more in line with expenses, the modest growth in expenses should be manageable with only minor adjustments made periodically to keep pace with inflationary cost pressures.
- Residential rate adjustments are proportionately higher than those applied to commercial customers and special pick up services (Container pick up and Bulk pick up), in order to reduce the discrepancy between the revenue and the cost of service for the residential rate classifications.
- Annual rate adjustments for Full Service residential ratepayers of 18.1% for October 2006, 2.9% for October 2007 and 3% for October 2010 through October 2012 are required. The remaining years would not require an adjustment unless there is a change in operating parameters and costs.
- Annual rate adjustments for Limited Service residential ratepayers of 17.8% in October of 2006 are required. Beyond FY 2007, there would no longer be any ratepayers within this class of service as they will all become full service accounts.
- Annual rate adjustments for Commercial ratepayers of 10.1% for October 2006, 3.1% for October 2007 and 2010, and 3.0% for October 2011 and 2012 are required.
- Annual rate adjustments for Container Pick Up and Bulk Pick services of 10% for October 2006, and of 3% for October 2007, and October 2010 through October 2012 are required.
- This rate design will enable the solid waste utility to meet its revenue requirements over the ten year forecast period, including its capital expenditures.

### Notes on Rate Recommendations

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

- Actual growth in accounts and consumed volumes is less than (or significantly greater than) forecast
- Capital improvement plan funding costs increase significantly due to the rising cost of materials or other factors
- An unforeseen event impacts the City, such as a recession, natural catastrophe or terrorist attack
- City budget levels or priorities change significantly from those forecast in this study

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

**If any of these events occur the City may be compelled to consider further adjustments to its solid waste rates.**

