

**Town of Prescott Valley, Arizona**  
**Water and Sewer Rate Study**  
**July 2010**

**I. PURPOSE:**

The primary purpose of this Water and Sewer Rate Study (Study) is to develop multi-year financial projections for the Town of Prescott Valley (Town) Water System (Water) and the Town's Wastewater System (Wastewater), and to establish the service and treatment rates at a level related to the total cost of providing those services. The Water System historically was divided into two separate areas: a newer "Town" system providing services to residents and businesses north of State Route 89A and to the Yavapai County Fairgrounds, and an older "District" system providing services to all of the other residents and businesses of Prescott Valley as well as those in Castle Canyon Mesa and Prescott Country Club.

However, on March 13, 2008, by Resolution No. 1570, the Prescott Valley Water District was dissolved and the assets of the Prescott Valley Water Company were merged into the Town's water system. Yet, combination of the assets under a single management did not remove the disparity in utility rate structures between the systems that was the result of the age difference between the two systems and the fact that bond financing had been necessary for the District system, but not the Town system. Staff is proposing that this will be the last year that there will be two different tiered rate structures. Last year, the revenues and the expenditures for both systems were combined. [Note: this Study does not include an analysis of the current connection charges for either of these areas.]

When establishing service and treatment rates, the following issues must be considered:

- Cost of service;
- Pricing to encourage conservation, limit demand or discourage waste; and
- Financial performance measures such as debt service coverage and cash reserve requirements.

Any proposed increases to service and treatment rates must be based on the following criteria:

- Sufficiency – any service and treatment rate increase should be sufficient to recover the full cost of administration and enforcement, recognizing that adjustments may be necessary for the benefit of the public;
- Efficiency – service and treatment rates should be designed for easy, inexpensive administration and compliance by the individual/business paying the said rates; and
- Simplicity – service and treatment rates should be easily understood by payees and administrators, limiting the possibility of subjective interpretations.

## II. OBJECTIVES:

An objective of the Town is to annually review its respective rate structures and to recommend small, incremental rate adjustments as necessary. Based on public financing obligations, the Town is legally required to maintain minimum debt service coverage and minimum cash reserves. These obligations are reiterated in the Town Financial Policies.

Therefore, this study attempts to meet the following objectives:

- Compile and interpret historical financial results;
- Update the rate and financial planning model for the Town utilities as originally developed by outside consultants;
- Design service and treatment rates based upon projected revenue requirements and estimated expenditures (both operating and capital); and
- Comply with bond indentures and financial policies.

**Bond indentures require that the Town maintain a minimum net revenue to annual debt service (both principal and interest) coverage ratio of at least 1.25:1 times (1.50:1 times if additional debt is to be issued).**

Net revenues represent the difference between operating revenues (e.g. service and treatment rates, connection charges, new account fees and other fees, charges and penalties) and operating expenditures (all expenditures except capital outlay, debt service and depreciation). The Town's ultimate goal is to maintain a minimum ratio of net revenue to debt service of 1.60:1 to ensure debt coverage in times of revenue fluctuations attributable to weather or other causes, and to ensure a balanced "pay-as-you-go" capital improvement plan. Also, the Town Financial Policy requires maintaining a minimum cash reserve equal to 90 days (approximately 25%) of operating expenditures.

For this particular Study, staff has as an objective to also keep current other rates, fees and charges of the Town, and is including these items in this Study. Changes proposed would be included in the Town's Water Rates, Fees and Charges. Further discussion of these items and the recommended changes are addressed in section VI. Recommendations.

**III. CURRENT UTILITY RATES (last revision November 1, 2009):**

**A. Water Service Rates – Water System:**

The following table shows the current water service rates for both the former Municipal Water and former District Water areas (monthly base user rates – per billing period, and volume rates - per 1,000 gallons).

Description	Meter Size	Former District Water	Former Municipal Water
MONTHLY BASE RATES	5/8" & 3/4"	\$ 9.00	\$ 9.00
	1"	13.50	13.50
	1 1/2"	18.00	18.00
	2"	22.50	22.50
	3"	27.00	27.00
	4"	31.50	31.50
	6"	36.00	36.00
	8"	40.50	40.50
USAGE CHARGES	Block 1	\$ 3.02	\$ 2.77
	Block 2	3.62	3.32
	Block 3	4.71	4.32

Customers' meters are generally read on a monthly basis, and their bills are based on every **thousand gallons** of water read. Base user rates and volume rates are each based on meter size. The following chart illustrates the different block rates based on meter size. The block 1 water use allowance for a 5/8" or 3/4" meter is up to 9 thousand gallons. For use between 9 thousand and up to 20 thousand gallons, the block 2 rate applies. For all usage over 20 thousand gallons, the highest rate - \$4.71 (former District Water) and \$4.32 (former Municipal Water) applies. The block usage allowances increase as the meter size increases.

Former District Water/Municipal Water Usage Block (gallons based on meter size)			
\$/1,000 gallons	\$3.02/\$2.77	\$3.62/\$3.32	\$4.71/\$4.32
Meter Size	Block 1	Block 2	Block 3
5/8" & 3/4"	0 – 8	9 – 20	> 20
1"	0 – 14	15 – 34	> 34
1 1/2"	0 – 26	27 – 66	> 66
2"	0 – 42	43 – 106	> 106
3"	0 – 86	87 – 214	> 214
4"	0 – 134	135 – 334	> 334
6"	0 – 266	267 – 666	> 666
8"	0 – 427	428 – 1,067	> 1,067

For example, if a customer resides in the former District Water area and uses 10 thousand gallons (assuming 3/4" meter) in a month, that customer's monthly water bill (excluding wastewater rates, fees, taxes and other charges) would be calculated as follows:

Base User Rate			\$ 9.00
Volume Rate (in thousands):			
Block 1 (0 – 8)	8 kgals	\$3.02 x 8 =	\$24.16
Block 2 (9 – 20)	2 kgals	\$3.62 x 2 =	<u>\$ 7.24</u>
			<u>\$31.40</u>
Total monthly water bill (excluding taxes)	10 kgals.		<u>\$40.40</u>

**B. Wastewater Treatment Rates – Wastewater System:**

The Town's current wastewater treatment rates are as follows (monthly base user rates – per billing period, and volume rates - per 1,000 gallons):

Description	Meter Size	Wastewater
MONTHLY BASE RATES	5/8" & 3/4"	\$ 5.07
	1"	8.06
	1 1/2"	11.06
	2"	14.05
	3"	17.04
	4"	20.03
	6"	23.03
	8"	26.02
VOLUME RATE	All	<u>\$/1,000 gallons</u> \$ 3.79

A residential customer's wastewater bill is based on each residential unit's average metered water use for each account for the months of November through March (winter average), times 90%, OR actual water usage (whichever is lower). Bills for commercial and industrial customers are based on actual metered water usage.

For example, if a residential customer has a winter average of 6,000 gallons (but only uses 5,000 gallons during a particular month), the customer's wastewater bill will be based on the 5,000 gallons actually used. The wastewater bill (excluding water rates, fees, taxes and other charges) would be calculated as follows:

Base User Rate (assuming 3/4" meter)		\$ 5.07
Volume Rate	\$3.79 x 5	<u>\$18.95</u>
Total monthly wastewater bill (excluding taxes):	5 kgals.	<u>\$24.02</u>

#### IV. GROWTH AND INFLATION ASSUMPTIONS:

This Study involves a variety of assumptions about future revenues, expenses and capital expenditures. Estimates of growth in water and wastewater utility accounts are based on historical information. Because growth and inflation do not remain constant, it is extremely important to annually review and update the assumptions.

##### A. Revenue and Expenditures Projections:

Based on historical and anticipated costs for personnel services, other operating expenses (i.e. electricity, professional services, etc.), anticipated capital improvements and contracts with the current private operator of the water and wastewater system (CH2MHill OMI), the following general inflation increases are projected:

	General Inflation Factors				
	FY 2010-11	FY 2011-12	FY 2012-13	FY 2013-14	FY 2014-15
Personnel Services	-5%	5%	5%	5%	5%
Other Operating Expenses	-5%	10%	10%	10%	10%
Capital Outlays/Improvements	0%	0%	0%	0%	5%
OMI Contracts	-2%	5%	5%	5%	5%

Projected revenues for the system are based on the projected number of accounts (see below) and the proposed rate increases in this Report as needed to maintain compliance with bond indentures and financial policies, and to build cash reserves to fund planned capital projects:

		Revenue Inflation Factors				
		FY 2010-11	FY 2011-12	FY 2012-13	FY 2013-14	FY 2014-15
<b>VALUES USED</b>						
<b>Account Growth/Usage Fees</b>		<b>1.00%</b>	<b>1.00%</b>	<b>1.00%</b>	<b>1.00%</b>	<b>1.00%</b>
Projected Accounts - Water	18,067*	18,110 0.24%	18,237 0.70%	18,364 0.70%	18,491 0.69%	18,618 0.69%
Projected Accounts-Wastewater	15,340*	15,390 0.33%	15,505 0.74%	15,619 0.74%	15,734 0.73%	15,848 0.73%

\* Actual number of accounts as of April 2010.

Generally, no one factor (i.e. revenue and expenditure projections, number of customers, gallons billed, etc.) affects utility rates unless the change is severe (e.g. dramatic increase in expenditures or decline in gallons billed), but an increase to rates is the result of changes to a combination of the factors listed above.

## V. FIVE-YEAR CASH FLOW SUMMARY – Combined Operating and Capital (Growth):

This section provides expected scenarios in the event the projected growth and inflation from above were to occur **without** any increases to either one of the rate structures.

### A. Water System

As shown below, the Water System is projected to fall short of required financial performance criteria. Beginning in FY 2011-12, the Water System does not meet the minimum debt service coverage test. There are various contributing factors to these declines: Revenues are increasing at a slower rate than expenditures, especially in the area of capacity fees and consumption. New housing construction continues to be an issue. This has a direct effect on capacity fees, revenue projections and base fees. Also, even though the System has adequate cash reserves, the projected ending balances continue to decline. Therefore, beginning in FY 2013-14, the Water System will not meet the minimum cash reserve requirements. In order to improve the financial performance and meet the minimum debt service coverage ratio, an increase to the utility rates will be necessary.

	<b>Base Year</b>					
	<b>FY 2009-10</b>	<b>FY 2010-11</b>	<b>FY 2011-12</b>	<b>FY 2012-13</b>	<b>FY 2013-14</b>	<b>FY 2014-15</b>
<b>Operating Revenues:</b>						
Usage Fees	\$6,933,984	\$6,950,626	\$6,999,280	\$7,048,275	\$7,096,908	\$7,145,877
Capacity Fees	154,000	191,861	193,765	195,699	203,184	206,878
Water Meter Charge	31,188	32,124	33,087	34,080	35,102	36,155
Interest Income	133,817	153,269	198,193	170,532	131,227	34,196
Miscellaneous	270,595	275,000	302,063	329,328	356,798	384,474
Total Operating Revenue	<u>7,523,584</u>	<u>7,602,879</u>	<u>7,726,388</u>	<u>7,777,914</u>	<u>7,823,219</u>	<u>7,807,580</u>
<b>Operating Expenses:</b>						
Administrative Services - Town	646,917	617,571	648,450	680,872	714,916	750,662
Contract - OMI	2,052,000	2,010,960	2,111,508	2,217,083	2,327,938	2,444,334
Other Operating Expenses	2,161,493	2,163,918	2,349,310	2,552,241	2,774,465	3,017,912
Transfer to Reclaimed Fund	229,842	253,460	430,747	440,534	388,380	398,762
Amortization/Depreciation	1,070,000	1,350,000	1,350,000	1,350,000	1,350,000	1,350,000
Total Operating Expenses	<u>6,160,252</u>	<u>6,395,910</u>	<u>6,890,015</u>	<u>7,240,731</u>	<u>7,555,699</u>	<u>7,961,670</u>
<b>Operating Income (Loss)</b>	1,363,332	1,206,970	836,373	537,183	267,521	(154,090)
<b>Other Expenditures:</b>						
Debt Service - Existing	2,201,382	1,879,482	1,850,854	1,856,223	1,825,931	1,854,225
Debt Service - Proposed	-	-	-	-	-	-
Total Other Expenditures	<u>2,201,382</u>	<u>1,879,482</u>	<u>1,850,854</u>	<u>1,856,223</u>	<u>1,825,931</u>	<u>1,854,225</u>
<b>Net Operating Income (Loss)</b>	(838,050)	(672,512)	(1,014,481)	(1,319,039)	(1,558,410)	(2,008,314)
<b>Capital Financing / (Expenditures)</b>						
Capital Expenditures	(177,634)	(618,000)	(1,376,000)	(1,525,000)	(4,314,000)	(10,317,217)
Net Capital Funding	(177,634)	(618,000)	(1,376,000)	(1,525,000)	(4,314,000)	(10,317,217)
Net Income (Loss)	(1,015,684)	(1,290,512)	(2,390,481)	(2,844,039)	(5,872,410)	(12,325,531)
Cash and Cash Equivalents at BOY	8,447,810	8,502,126	8,561,613	7,521,132	6,027,093	1,504,683
Add Back Amortization/Depreciation	1,070,000	1,350,000	1,350,000	1,350,000	1,350,000	1,350,000
<b>Total Cash and Investments at EOY</b>	<u>\$8,502,126</u>	<u>\$8,561,613</u>	<u>\$7,521,132</u>	<u>\$6,027,093</u>	<u>\$1,504,683</u>	<u>(\$9,470,849)</u>
<b>Cash Reserve Ratio (15%)</b>	167%	170%	136%	102%	24%	-143%
<b>Debt Service Coverage Ratio 1.25</b>	1.11	1.36	1.18	1.02	0.89	0.64

## B. Wastewater System

As shown below, beginning in FY 2010-11, the Wastewater System will not sufficiently meet the required debt service coverage ratio. Various factors contribute to the decrease in the debt service coverage test. The primary factor is projected expenditures are increasing at a faster rate than projected revenues (especially in the area of capacity fees and consumption). The number of gallons billed has decreased by 4% over the previous year. Based on current assumptions, growth as it relates to new customers will increase by less than 1%.

In FY 2014-15, the projected cash balances will be negative based on the anticipated improvements to the Wastewater Treatment Plant. Staff anticipates the deficit will be eliminated by making small revisions to the rates over the next four years and issuing bonds to pay for the proposed capital outlay. The housing market will have to improve to avoid issuing bonds to fund new infrastructure.

	Base Year					
	FY 2009-10	FY 2010-11	FY 2011-12	FY 2012-13	FY 2013-14	FY 2014-15
<b>Operating Revenues:</b>						
Usage Fees	\$3,975,000	\$3,988,118	\$4,017,630	\$4,047,360	\$4,076,906	\$4,106,667
Capacity Fees	210,000	135,110	149,350	152,346	155,381	165,913
Penalty Fees	103,200	96,296	99,185	102,160	105,225	108,382
Interest Income	107,571	71,237	72,384	70,885	64,512	23,232
Miscellaneous	45,742	10,000	10,000	10,000	10,000	10,000
Total Operating Revenue	4,441,513	4,300,760	4,348,549	4,382,752	4,412,025	4,414,194
<b>Operating Expenses:</b>						
Administrative Services - Town	515,579	492,800	517,440	543,312	570,478	599,002
Contract - OMI	804,650	788,557	827,985	1,074,981	1,128,730	1,185,167
Other Operating Expenses	805,002	878,752	966,627	1,063,290	1,169,619	1,286,581
Amortization/Depreciation	2,500,000	3,000,000	3,000,000	3,000,000	3,000,000	3,000,000
Total Operating Expenses	4,625,231	5,160,109	5,312,052	5,681,583	5,868,827	6,070,749
<b>Operating Income (Loss)</b>	(183,718)	(859,349)	(963,503)	(1,298,831)	(1,456,802)	(1,656,555)
<b>Other Expenditures:</b>						
Debt Service - Existing	1,790,406	1,787,688	1,796,391	1,795,886	1,797,290	1,792,970
Debt Service - Proposed	-	-	-	-	-	-
Total Other Expenditures	1,790,406	1,787,688	1,796,391	1,795,886	1,797,290	1,792,970
<b>Net Operating Income (Loss)</b>	(1,974,124)	(2,647,036)	(2,759,894)	(3,094,717)	(3,254,092)	(3,449,525)
<b>Capital Financing / (Expenditures)</b>						
Loan / Bond Proceeds	-	-	-	-	-	-
Capital Expenditures	(350,000)	(200,000)	(440,000)	(755,000)	(5,250,000)	(3,136,006)
Net Capital Funding	(350,000)	(200,000)	(440,000)	(755,000)	(5,250,000)	(3,136,006)
Cash and Cash Equivalents at BOY	9,322,415	9,498,291	9,651,255	9,451,361	8,601,643	3,097,551
Add Back Amortization/Depreciation	2,500,000	3,000,000	3,000,000	3,000,000	3,000,000	3,000,000
<b>Total Cash and Investments at EOY</b>	\$9,498,291	\$9,651,255	\$9,451,361	\$8,601,643	\$3,097,551	(\$487,980)
<b>Cash Reserve Ratio (25%)</b>	447%	447%	409%	321%	108%	-16%
<b>Debt Service Coverage Ratio 1.25</b>	1.29	1.20	1.13	0.95	0.86	0.75

**VI. RECOMMENDATIONS:**

**A. Water System**

**Water System Financial Planning Recap**

Beginning in FY 2011-12, additional revenue increases (either rate increases or consumption) will be required to meet the minimum debt service coverages. At this time, staff is proposing an increase to the tiered rate structure of the old Municipal Water System customers to obtain the appropriate debt service coverage and financial stability. In addition, this complies with the Town’s original plan of equalizing the rates between the former Water District and Municipal System.

DESCRIPTION	Base Year					
	FY 2009-10	FY 2010-11	FY 2011-12	FY 2012-13	FY 2013-14	FY 2014-15
<b>PRESCOTT VALLEY WATER</b>						
Revenue Increase (Decrease)	0%	0%	5%	5%	8%	10%
Effective Month - Revenue Change	5	5	5	5	5	5
Loan Proceeds						
Operating Non-Growth	\$0	\$0	\$0	\$0	\$0	\$2,500,000
Development - Growth	-	-	-	-	-	6,000,000
Total	\$0	\$0	\$0	\$0	\$0	\$8,500,000
Cash Balance - End of year						
Operating Non-Growth - Fund 591	\$3,147,452	\$3,594,758	\$2,912,863	\$2,260,084	\$2,547,287	\$5,399,368
Development - Growth - Fund 593	5,354,674	4,966,855	4,839,957	4,602,455	957,689	(2,987,442)
Total	\$8,502,126	\$8,561,613	\$7,752,820	\$6,862,540	\$3,504,976	\$2,411,926
Tot. Fund Cash Reserves Target: 15%	167%	170%	140%	116%	56%	36%
Debt Service Coverage Target: 1.25	1.11	1.36	1.31	1.34	1.52	1.30

Based on the current assumptions and growth projections and anticipated cash reserves, staff is recommending an increase to the volume rate for the former Municipal Water area customers only. No volume rate increase is being proposed at this time for the former District Water customers. No changes to the fixed (base) rate for the Water System are being proposed at this time.

Description	Current	Proposed	\$ Difference	% Difference
Volume Rate (\$/1,000 gallons) (former Municipal Water customers)				
Block 1	\$2.77	\$3.02	\$0.25	9.0%
Block 2	\$3.32	\$3.62	0.30	9.0%
Block 3	\$4.32	\$4.71	0.39	9.0%

## B. Wastewater System

### Wastewater System Financial Planning Recap

Beginning in FY 2010-11, additional revenue increases (either rate increases or consumption) will be required to meet the minimum debt service coverages. Beginning in FY 2012-13, unless there is a significant change in the housing market or capital growth-related projects are delayed, the Town would need to issue additional bonds to fund a portion of its capital improvement requests and to maintain the required minimum cash reserves.

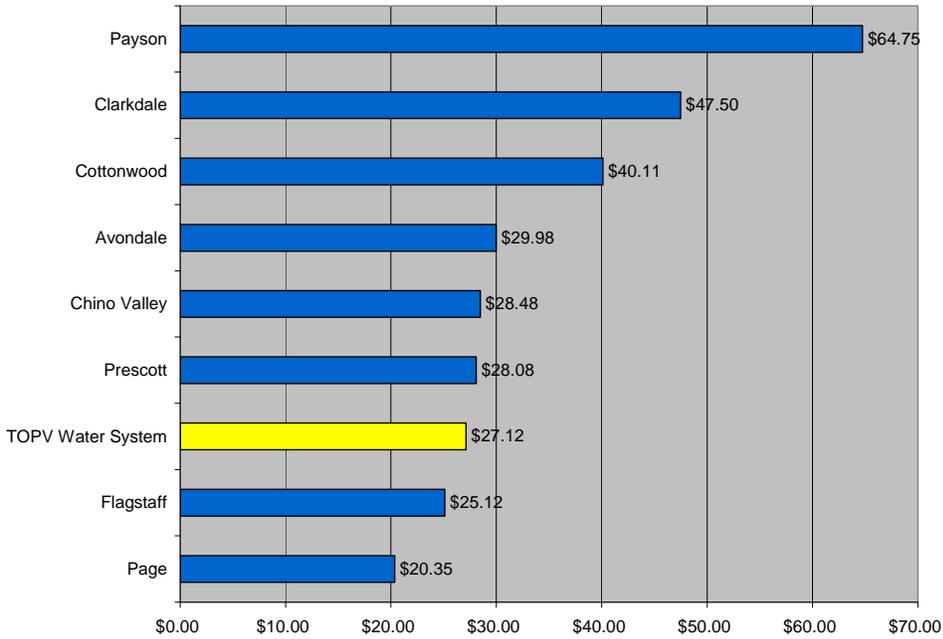
DESCRIPTION	Base Year					
	FY 2009-10	FY 2010-11	FY 2011-12	FY 2012-13	FY 2013-14	FY 2014-15
<b>WASTEWATER</b>						
Revenue Increase (Decrease)	0%	6%	5%	5%	5%	5%
Effective Month - Revenue Change	5	5	5	5	5	5
General Fund Operating Transfer	\$0	\$0	\$0	\$0	\$0	\$0
Loan Proceeds						
Operating Non-Growth	\$0	\$0	\$0	\$0	\$0	\$0
Development - Growth	-	-	-	-	7,000,000	-
Total	\$0	\$0	\$0	\$0	\$7,000,000	\$0
Cash Balance - End of year						
Operating Non-Growth - Fund 501	\$7,376,873	\$8,543,140	\$9,581,097	\$10,499,925	\$11,637,559	\$12,797,724
Development - Growth - Fund 552	2,121,418	1,267,115	412,427	(745,646)	(26,455)	(4,101,953)
Total	\$9,498,291	\$9,810,255	\$9,993,524	\$9,754,279	\$11,611,105	\$8,695,772
Tot. Fund Cash Reserves Target: 15%	447%	454%	432%	364%	405%	283%
Debt Service Coverage Target: 1.25	1.29	1.29	1.35	1.29	1.05	1.10

Based on the current assumptions and growth projections and anticipated cash reserves, staff is recommending **an increase to the volume rate of the Wastewater System. The base rate for the system would remain unchanged.** The above financial planning recap does include the current wastewater connection charges.

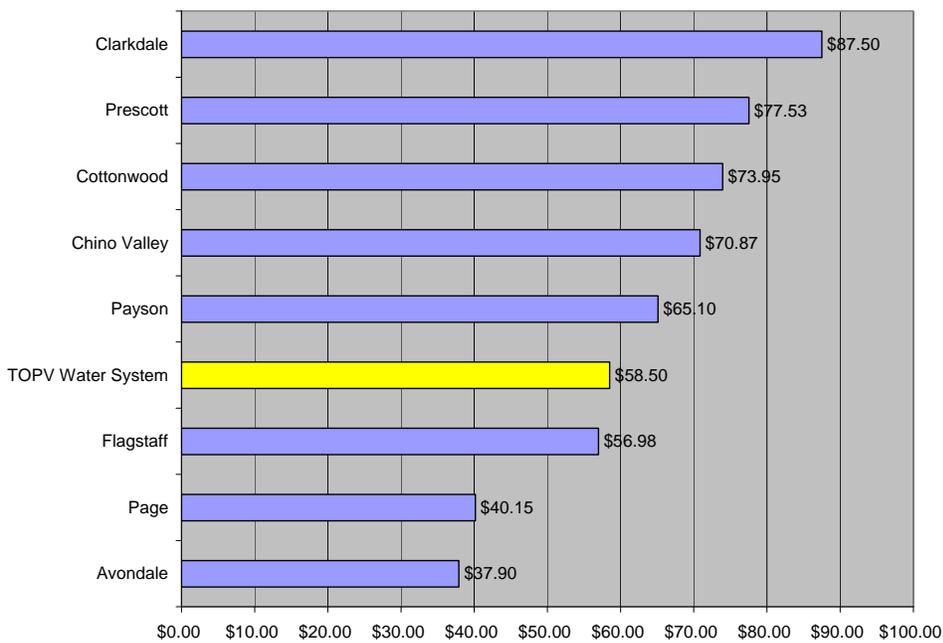
Description	Current	Proposed	\$ Difference	% Difference
Volume Rate (\$/1,000 gallons)				
Residential	\$3.79	\$3.94	\$0.15	4.0%
Non-Residential	\$3.79	\$3.94	\$0.15	4.0%

**VII. COMPARISON OF WATER RATES WITH OTHER CITIES:**

The following chart shows what a typical customer would pay if they used 6,000 gallons in a month (assuming ¾" meter).



The following chart shows what a typical customer would pay if they used 15,000 gallons in a month (assuming ¾" meter).



The following chart shows what a typical customer would pay if they used 24,000 gallons per month (assuming a ¾" meter).

