

# City of Biggs

## MEMORANDUM

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TO: Honorable Mayor and City Council Members

FROM: David L. Swartz, PE, PLS – City Engineer

DATE: September 20, 2010 Council Meeting, prepared September 9, 2010

SUBJECT: City Water Usage and Revenue

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- **Project:** Water Utility Rates

**Requested Action:** Update Only

**Status:** In February, we provided a Water Utility Report (attached) as was previously requested regarding the water use rates and allotments. The entire council discussed the water allotment or “base” and wanted to explore options for adjusting this allotment and its impact on the City’s ability to operate the water system at or near break even.

Briefly – the existing rate structure was established in 2004 and was a combined effort between City staff and USDA representatives. It was necessary to establish a rate structure for securing the USDA water project funds. Once we closed the loan, we implemented these rates in approximately 2006/2007. A subsequent check by the City Administrator and Finance Director was conducted at that time, and it was determined that the rate structure was slightly more than break even, however, was proposed as this would keep rates stable for a longer period of time. The rate structure was looked at again in the February 2010 council meeting, with the discovery that the City’s allocated costs to the water fund did not seem to match the amount of City staff time and resources on a percentage basis. Since that time we have examined the summer time usage and allocated costs and have come up with the following conclusions for the City Councils’ consideration.

The summary below provides a detailed analysis considering the past 12 months of historical data on the system and provides an examination of the impacts on adjusting the base water use allotment.

## Water Allotment vs. Net Operating Income Analysis

The Results of the study are detailed on a city tool we call the water calculator and are summarized below:

- At Current Base Use of 1250 CF
  - ⇒ Revenues = \$368,549/yr
  - ⇨ Expenses = \$413,448/yr w/o depreciation
  - ⇨ Net Operating Revenue = <\$44,899>
  
  - ⇨ Net Operating Revenue = <-126,899> incl. depreciation
  
- At Proposed Base Use of 1800 CF
  - ⇒ Revenues = \$357,243 diff of \$11,306/yr
  - ⇨ Expenses = \$413,448 w/o depreciation
  - ⇨ Net Operating Revenue = <\$56,205>
  
  - ⇨ Net Operating Revenue = <-138,205> incl. depreciation
  
- At Proposed Base Use of 2000 CF
  - ⇒ Revenues = \$354,855 diff of \$2,388/yr
  - ⇨ Expenses = \$413,448 w/o depreciation
  - ⇨ Net Operating Revenue = <\$58,593>
  
  - ⇨ Net Operating Revenue = <-140,593> incl. depreciation
  
- At Proposed Base Use of 2500 CF
  - ⇒ Revenues = \$352,038 diff of \$2,817/yr
  - ⇨ Expenses = \$413,448 w/o depreciation
  - ⇨ Net Operating Revenue = <\$61,410>
  
  - ⇨ Net Operating Revenue = <-143,410> incl. depreciation

Staff: D. Swartz



## City of Biggs

### Agenda Item Staff Report for the next regular City Council Meeting: February 22, 2010 6:00 PM

DATE: February 18, 2010  
TO: Members of the City Council  
FROM: City Administrator  
SUBJECT: Water Utility Report: Metered Usage, Charges (Discussion/Action)

City Administrator will report on the City's first 12-months experience with consumption-based water billing.

#### **Background:**

Council directed staff in August 2009 to provide a report in February 2010 including water rates and plans for completing installation of water meters citywide. February 2009 thru January 2010 represents the City's first full year of using water meters as a basis for water charges. 363 (59%) of the City's households are now on meters.

#### Key Questions to be answered in this report:

1. Are current rates appropriate?
2. When will all customers be on meters?

The appropriateness of rates would include conformance with legal requirements, community objectives, cost coverage, and equity for customers; comparison of rates to other water utility districts is interesting but not a major determinant of rates needed in Biggs.

#### What the Law Requires

State law requires several conservation actions of water-serving utilizes:

- A. All new construction shall install a water meter;
- B. Water providers must meter all customers by 2025;
- C. All metered water users must be billed on the basis of their metered water;
- D. Standards must be set (locally or default to State) for efficient landscape irrigation systems;
- E. Achieve 10% reduction in urban water deliveries by 2015, 20% by 2020.

Most water utilities statewide are partially implemented with water meters (with some customers on flat rates and others on meter rates), others are 100% implemented. Live Oak and Colusa, for example, are 100%.

### Water Usage in Biggs

Typically, statewide, landscape irrigation accounts for about ½ of all residential water consumption on an annual basis. 18% of household water is used for bathing, 20% for toilets. Irrigation, of course, is the most readily altered behavior for achieving personal and community water conservation objectives.

As depicted on Exhibit A, Biggs residents use 209 gallons per person per day, equivalent to 2263 cubic feet (CF) per household per month, on average, with large ranges seasonally and by customer. This average compares closely to Gridley and to the State as a whole. We use significantly more water than coastal areas, and much less than average California valley communities.

### Analysis of Current Rate Structure

Water rates vary considerably from utility to utility and are by law designed and limited to covering the utility's cost of providing the water service. Biggs' rates were restructured in 2005 to provide cost recovery for the then-pending water system upgrade project and to provide for a modest reserve for future improvement projects.

Biggs' rates were at the time not covering the City's operational costs, and were below all comparable utility rates in the region. The major waterline & well construction project addressed decades of deferred water system maintenance.

Some water utilities adjust rates for seasonality and/or set rates with graduated tiers to encourage conservation. Utility costs vary by many factors including:

- size of the system;
- cost of treating the water (which is driven by the water source);
- topography of the delivery area;
- age of the system;
- age of the rates;
- current, planned and anticipated capital improvements.

Water delivery costs are, relative to absolute cost of operations and to other utilities, almost entirely fixed costs.

Our current rates were set with all customers paying a either flat rate or a minimum monthly service charge which would cover the cost of their first 1250 CF of usage. At the time, all customers were on flat rates.

A unique and curious part of Biggs' water rate tariff is the *lower cost* per unit after 6250 CF. This would tend to favor customers with larger lots consuming much higher than average volumes.

Metered customers in Biggs paid, on average, over the course of the year, 11% more monthly than their non-metered neighbors. Metered customers appear to use less water, perhaps half as much as non-metered customers. Averages, however, do not indicate the ranges – which are significant. Water volume use varies with household size, personal habits, multiple family units vs single family, lot size, landscape design, irrigation system, leaks, etc.

Biggs metered customers are paying 64% of the total water revenues. Metered customers appear to represent 70% of all shutoffs, although electric costs and small sample size are factors in this equation. On average, metered customers exceed the City's 1250 CF allotment 64% of the time, with a significant seasonally-driven range.

### Cost Coverage

As depicted on Exhibit B, our revenue from water billings has only increased 3% during the first 12 months of metered billing vs the previous 12 months. Several months were lower than the previous monthly revenue, while hot weather months were as much as 19% higher. The fact that some metered customers – residential and commercial -- achieved consumption below 1250 CF contributed to this lower-than-expected revenue realization.

Current revenues are falling short of budget projections but meeting revenue requirements *this year*. Next year, with a larger infusion needed into the Trust Fund to pay annual project debt service, assuming rates and allocations do not change, the situation will be reversed. This situation can be addressed in several ways:

1. adjust cost allocations to match revenue requirements;
2. transfer in from General Fund and/or Electric Fund to compensate for shortages;
3. raise rates to match next year's anticipated revenue requirements;
4. wait and see, allowing the fund balances to act as a buffer.

Exhibit C provides a summarized snapshot of active water fund balances as of January 31, 2008 and 2009 and 2010.

### Rate Comparison

As shown on Exhibits D1 and D2, the results of Biggs' water rates are comparable to other regional utilities at all consumption volumes, especially at higher usages. The increasing slope at higher volumes tends to reflect the social objectives of encouraging conservation of landscape irrigation water and the repair of leaks, rather than a strict reflection of actual cost to provide the additional units of water.

It should also be noted that CalWater has already applied to CPUC (California Public Utilities Commission) for significant rate increases in each of the next three years, as much as 23% next year in Chico district.

## Meter Implementation

At \$195 per meter and a City crew install at a rate of four per month, we could have 100% meter implementation completed in 63 months at a materials cost of approximately \$50,000. Alternatively, there may be a grant available for meter installation for which this city might be eligible.

### **Recommendations:**

1. Maintain current water rates generally while working on balancing water funds via revised cost allocations in FY11 budget. Eliminate the \$6.20 tier. Revisit in Feb 2011 to assess success with balancing funds and to assess the second year of metered experience.
2. Direct city engineer to investigate grant opportunities for completion of water meter installation, and report back. If none are available, plan contract or city crew installation as internally budgeted expense.

### **Fiscal Impact:**

Modest undetermined cost for City engineer to investigate grant opportunities, perhaps 16 hours at standard staff rates. No other direct costs at this time. Negligible revenue enhancement from elimination of \$6.20/1000CF tier.

## Water Consumption Comparisons

Per Capita Consumption	Gallons per Day	Cu Ft per Day	Cu Ft / Meter / Month	Notes
Average Nationwide	80	11	866	Highest per capita consumption in the world
Average California	192	26	2,079	2X - 4X Europe average
Southern California	110	15	1,191	
Central Coast	50	7	541	
San Francisco	63	8	682	
Bay Area	97	13	1,050	
Central Valley	300	40	3,249	
Sacramento	280	37	3,032	
Davis	195	26	2,112	
Willows	165	22	1,800	
Chico/Butte County	222	30	2,400	
Oroville	148	20	1,600	
Gridley	200	27	2,166	Ranges up to 1000 gals/pp/day in August
Biggs	209	28	2,263	Metered customers only. Service Charge covers first 1250 CF.

# Biggs February 2010 Water Charges Report

Twelve months of half-metered / half flats: Feb 2009 to Jan 2010

Metered Customer Data	Feb 08 to Jan 09	Feb 09 to Jan 10	Notes
Water Delivered Total	cu ft	17.2 mil	From City well records calendar year 2009
	gals	128.8 mil	
Metered Consumption	cu ft	1.4 mil	From City meter reading records
	gals	10.3 mil	
Ave Per Meter / Per Month	cu ft	2263	Range 1155 to 4036; basic service charge covers 1250
	gals	16,927	Range 864 to 30,189
Ave Per Person / Per Month	cu ft	838	Range 428 to 1495
	gals	6,268	Range 3,201 to 11,183
Total Revenue Requirement		\$345,455	Will be \$457k next year at current allocations.
Total Revenue from Receipts		\$366,729	Up 3%. Budget FY10 is \$401k, projected is \$358k.
Ave/All Resi Flats Bill		\$46.10	Includes Improvement Fee. No rate change since 2006.
Ave Metered Bill		\$51.73	Feb-Sept; range \$39-57; some as high as \$161
Metered \$ as % of total \$		64%	Feb-Sept; range 59-67%
Metered customers > 1250 CF		64%	Feb-Sept; range 26% (Feb) - 89% (July)
Metered as % of shutoffs		70%	April-Sept; range 56-89%; low # = hi margin of error

EXHIBIT

DB

# Water Funds Analysis

Data points as January 31, 2008, 2009, 2010.

<u>Funds</u>	<u>How funded</u>	<u>2008</u>	<u>2009</u>	<u>2010</u>	<u>Notes</u>
40, 110, 112	Operating & Improvement	\$504,751	\$561,281	\$303,603	Paid \$325k city match
42, 44	Trust fund to pay project costs	From rates, USDA - \$835,668	-\$465,158	-\$447,900	AR Pending

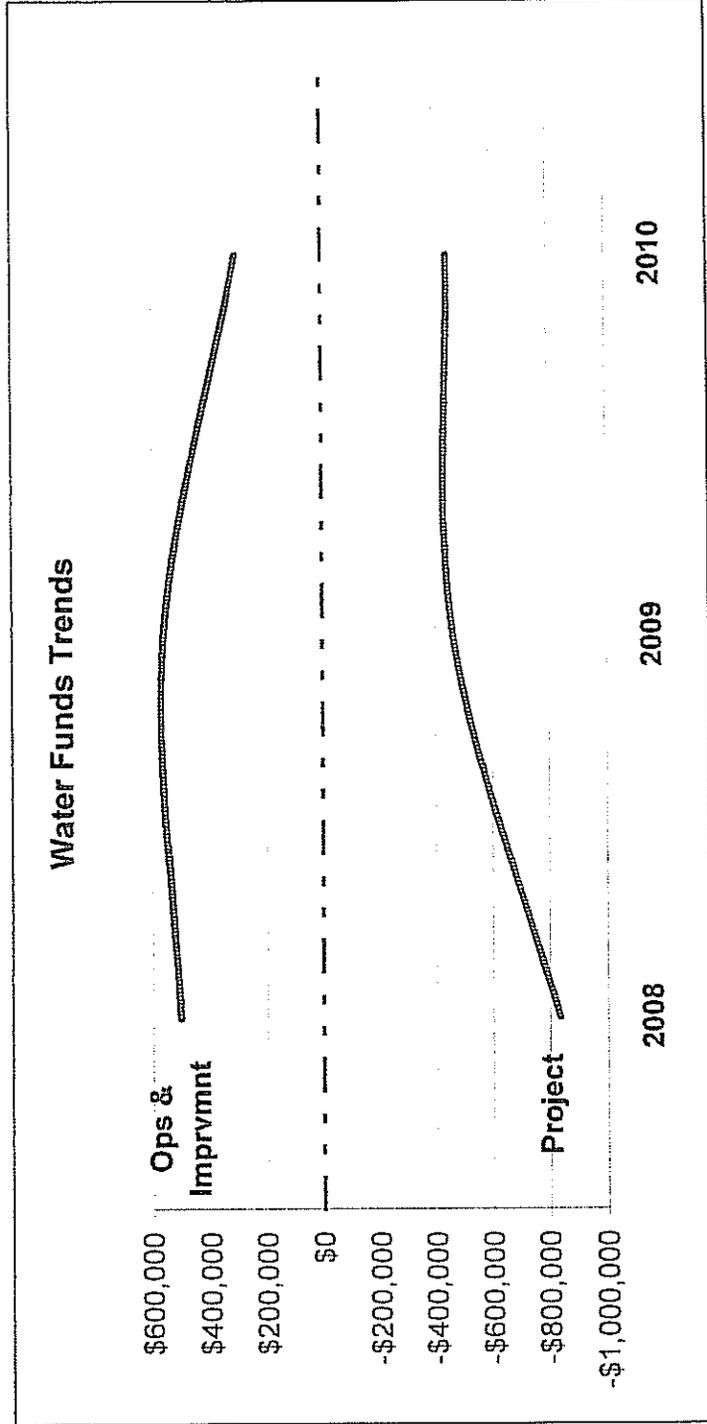


EXHIBIT C

# Water Rate Comparison

February 2010

	Minimum Service Charge	Min Usage CF	Rate	+ First Tiered Rate	+ Second Tiered Rate	Bill @ 1250 CF	Bill @ 2000 CF	Bill @ 4000 CF	Bill @ 10,000 CF
Biggs	\$39.82	1250	\$.82 per 100 CF 1250 to 6250 CF	\$.620/100 > 6250 CF	None	\$39.82	\$45.97	\$62.37	\$104.07
Gridley	\$23.60	None	\$0.92 per 133.7 CF	None	None	\$32.20	\$37.36	\$51.13	\$92.42
Live Oak	\$23.97	2000	\$1.41 per 100 CF	None	None	\$23.97	\$23.97	\$52.17	\$136.77
Oroville	\$38.85	None	\$1.375 per 100 CF up to 1300 CF	\$1.4763/100 next 2100	\$1.7369 > 3400	\$56.05	\$67.07	\$98.16	\$198.90
Chico / Butte County	\$18.35	None	\$ .7747 per 100 CF up to 1000 CF	\$.8300/100 next 2200	\$.8853 > 3200	\$28.17	\$34.40	\$51.44	\$104.56
Willows	\$29.31	None	\$.8003 per 100 CF up to 800 CF	\$.8592/100 next 1800	\$.9688 > 2600	\$39.59	\$46.04	\$63.79	\$122.88
Colusa (Projected)	\$34.35	1000	\$1.20 per 100 CF 1001 to 6000 CF	\$1.35/100 6001 to 11000	\$1.50/100 11,001 to 16000	\$37.35	\$46.35	\$70.35	\$148.35

Biggs service charge shown includes monthly water improvement fee of \$4.25; flat rate is \$46.10; rate is converted from 1000CF to 100 CF.

Gridley has no allotment; min shown is a meter fee; rate is converted from gallons to cubic feet @ 1 CF = 7.48 gals; flat rate is \$52.88.

Live Oak has no flat rate, 100% are on meters.

Oroville, Chico, Willows and much of unincorp Butte County are served by CalWater; rates shown do not include non-CPUC surcharges.

CalWater is projecting rate increases of 14-23% in 2011, 6.7-15% in 2012, and 6.2-20.5% in 2013.

Colusa has additional tier for >16k CF. 100% on meters. Flat rate is now \$11.45, rates projected to triple this year.

# Water Rate Results on Billing

