



City of Glendale

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# Water and Wastewater Rates

April 2009

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Report Prepared By:



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City of Glendale  
Water and Wastewater Rates

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SECTION

**1**

**Executive Summary**



# 1. Executive Summary

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## 1.1. Introduction

The City of Glendale, Arizona (City), provides water and wastewater service to about 61,200 customer accounts. The City's water and wastewater utilities are funded primarily from water and wastewater rates.

The City authorized Red Oak Consulting (Red Oak) to review the utilities' financial status and to recommend rate adjustments, as necessary, to assure their continuing financial viability. This study includes:

- Development of water and wastewater financial plans for the 10-year study period, fiscal years 2009 through 2018;
- Analysis of customer class cost of service for fiscal year 2010; and
- Design of water and wastewater rates for fiscal year 2010.

## 1.2. Definitions

References made to a year or fiscal year mean the year ending June 30. Residential and commercial water and wastewater rates in effect beginning October 1, 2008, are designated as existing rates.

## 1.3. Study Assumptions

This rate study is based on numerous assumptions. Changes in these assumptions could have a material effect on study findings. Red Oak incorporated the following key assumptions into the study:

- Based on recent historical trends, the number of accounts will increase 0.2% in 2009, 0.3% in 2010, and 0.4% per year thereafter during the study period.
- Utilities will strive to maintain the following reserve levels:
  - ◆ Ninety days of water O&M and 60 days of wastewater O&M as working capital reserve in operating funds.
  - ◆ Six months of main replacement expense in water and wastewater non-growth capital funds.
  - ◆ One year of development impact fee revenue in water and wastewater growth capital funds.

## 1.4. Water Rates

Principal findings of the water rate study are as follows:

- Utility staff has developed a \$299.4 million water capital improvement program for the 10-year study period comprised of \$214.6 million of growth related projects and \$84.8 million of non-growth related projects.
- Water sales revenue under existing rates is inadequate to meet projected O&M and capital costs during the study period. The financial plan indicates that rate adjustments are needed during the study period to increase annual water sales revenue as follows:

<u>Fiscal Year</u>	<u>Water Sales Revenue Increase</u> (%)	<u>Fiscal Year</u>	<u>Water Sales Revenue Increase</u> (%)
2010	11.0%	2015	7.0%
2011	9.0%	2016	7.0%
2012	9.0%	2017	7.0%
2013	9.0%	2018	0.0%
2014	8.0%		

- Red Oak recommends the water utility's ten-year financial plan be updated annually to reflect current estimates of revenue, operating expenses, capital improvement needs, and capital financing requirements.
- Red Oak conducted a comprehensive water utility cost of service analysis in accordance with standard methods supported by the American Water Works Association. We performed our analysis for the 2010 test year and determined the cost of providing water service to residential and commercial customers. Table 1-1 summarizes the findings of the cost of service analysis.

Table 1-1.  
Comparison of Water Cost of Service to  
Revenue Under Existing Rates  
Test Year 2010

Line No.	Customer Class	Cost of Service	Revenue under Existing Rates	Indicated Revenue Adjustment
	<b>Inside City:</b>			
1	Single Family Residential	\$ 26,661,177	\$ 23,805,997	12.0%
2	Multifamily Residential	657,715	565,961	16.2%
3	Commercial	<u>17,942,001</u>	<u>16,407,640</u>	9.4%
4	<b>Total Inside City</b>	<b>45,260,893</b>	<b>40,779,598</b>	<b>11.0%</b>
	<b>Outside City:</b>			
5	Residential	\$ 524,548	\$ 465,941	12.6%
6	Multifamily Residential	2,705	2,439	10.9%
7	Commercial	<u>282,214</u>	<u>256,850</u>	9.9%
8	<b>Total Outside City</b>	<b>809,467</b>	<b>725,230</b>	<b>11.6%</b>
9	<b>Total Cost of Service</b>	<b>\$ 46,070,360</b>	<b>\$ 41,504,828</b>	<b>11.0%</b>

- Existing water rates have been in effect since October 2008 and include monthly base charges and volume charges. Existing water rates have the following structure:
  - ◆ Base charges vary by meter size and do not include a volume allowance.
  - ◆ Volume charges for residential customers use a 4-block increasing rate structure.
  - ◆ Volume charges for commercial customers use a 2-block increasing rate structure. The first block rate is applicable to all water use during November through April (winter period) and to average winter monthly water use during May through October. The second block rate is applicable to water use in excess of average winter monthly use during May through October.
  
- Red Oak developed the proposed 2010 rates using the existing rate structure. The proposed rates will increase annual water sales revenue by 11%.

- Table 1-2 compares existing and proposed 2010 base charges.

**Table 1-2.**  
**Comparison of Existing and Proposed**  
**Monthly Water Base Charges<sup>(1)</sup>**

<b>Meter Size</b>	<b>Existing</b>	<b>Proposed</b>
<i>(inch)</i>	<i>(\$/bill)</i>	<i>(\$/bill)</i>
5/8	8.47	9.10
3/4	10.67	11.50
1	14.99	16.40
1 ½	30.58	33.20
2	54.90	58.70
3	91.51	99.50
4	163.09	178.00
6	323.19	355.00
8	480.06	525.00

(1) Rates shown are for inside City customers. Outside City rates are 1.3 times greater than inside City rates, in accordance with City policy.

- Table 1-3 compares existing and proposed 2010 residential water volume charges.

**Table 1-3.**  
**Comparison of Existing and Proposed**  
**Residential Water Volume Charges<sup>(1)</sup>**

<b>Block</b>	<b>Existing</b>	<b>Proposed</b>
<i>(Kgal)</i>	<i>(\$/Kgal)</i>	<i>(\$/Kgal)</i>
First 6	1.61	1.84
Next 9	2.02	2.30
Next 15	2.83	3.22
Over 30	3.97	4.51

(1) Rates shown are for inside City customers. Outside City rates are 1.3 times greater than inside City rates, in accordance with City policy.

- Table 1-4 compares existing and proposed 2010 commercial water volume charges.

**Table 1-4.  
Comparison of Existing and Proposed  
Commercial Water Volume Charges<sup>(1)</sup>**

Block	Existing	Proposed
	(\$/Kgal)	(\$/Kgal)
Standard <sup>(2)</sup>	1.83	2.01
Summer Excess <sup>(3)</sup>	3.21	3.52
<p>(1) Rates shown are for inside City customers. Outside City rates are 1.3 times greater than inside City rates, in accordance with City policy.</p> <p>(2) Standard rates are applied to all water use during November through April (winter period) and to average winter monthly water use during May through October.</p> <p>(3) Summer excess rates are applied to water use in excess of average winter monthly use during May through October.</p>		

- Table 1-5 compares typical monthly single family water bills under existing and proposed 2010 rates. The monthly bill for the median single family customer (9,000 gallons) would increase \$2.85 from \$24.19 to \$27.04 under the proposed rates. The monthly bill for the single family customer with average monthly usage (12,500 gallons) would increase \$3.83 from \$31.26 under existing rates to \$35.09 under proposed rates.

**Table 1-5.  
Monthly Residential Water Bills - 5/8" Meter<sup>(1)</sup>**

Monthly Usage (gallons)	Percent of Total Bills	Cumulative Percent	Existing Rates	Proposed Rates	Change
0	3.6%	3.6%	\$ 8.47	9.10	0.63
1,000	1.8%	5.4%	10.08	10.94	0.86
2,000	3.0%	8.4%	11.69	12.78	1.09
3,000	4.4%	12.8%	13.30	14.62	1.32
4,000	5.4%	18.2%	14.91	16.46	1.55
5,000	6.2%	24.4%	16.52	18.30	1.78
6,000	6.5%	30.9%	18.13	20.14	2.01
7,000	6.3%	37.2%	20.15	22.44	2.29
8,000	6.0%	43.2%	22.17	24.74	2.57
<b>9,000</b>	<b>5.6%</b>	<b>48.8%</b>	<b>24.19</b>	<b>27.04</b>	<b>2.85</b>
10,000	5.2%	54.0%	26.21	29.34	3.13
11,000	4.7%	58.7%	28.23	31.64	3.41
12,000	4.3%	63.0%	30.25	33.94	3.69
<b>12,500</b>	<b>1.9%</b>	<b>64.9%</b>	<b>31.26</b>	<b>35.09</b>	<b>3.83</b>
13,000	1.9%	66.8%	32.27	36.24	3.97
14,000	3.4%	70.2%	34.29	38.54	4.25
15,000	3.1%	73.3%	36.31	40.84	4.53
16,000	2.7%	76.0%	39.14	44.06	4.92
17,000	2.5%	78.5%	41.97	47.28	5.31
18,000	2.3%	80.8%	44.80	50.50	5.70
19,000	1.9%	82.7%	47.63	53.72	6.09
20,000	1.7%	84.4%	50.46	56.94	6.48
21,000	1.6%	86.0%	53.29	60.16	6.87
22,000	1.4%	87.4%	56.12	63.38	7.26
23,000	1.3%	88.7%	58.95	66.60	7.65
24,000	1.1%	89.8%	61.78	69.82	8.04
25,000	1.0%	90.8%	64.61	73.04	8.43

(1) Bills shown are based on inside City rates.

## 1.5. Wastewater Rates

Principal findings of the wastewater rate study are as follows:

- Utility staff has developed a \$266.1 million wastewater capital improvement program for the 10-year study period comprised of \$157.9 million of growth related projects and \$108.2 million of non-growth related projects.
- Wastewater service charge revenue under existing rates is inadequate to meet projected revenue requirements during the study period. The financial plan indicates that rate adjustments are needed during the study period to increase annual wastewater service charge revenue as follows:

<u>Fiscal Year</u>	<u>Wastewater Service Revenue Increase (%)</u>	<u>Fiscal Year</u>	<u>Wastewater Service Revenue Increase (%)</u>
2010	11.0%	2015	9.0%
2011	9.0%	2016	9.0%
2012	9.0%	2017	9.0%
2013	9.0%	2018	9.0%
2014	9.0%		

- Red Oak recommends the wastewater utility's ten-year financial plan be updated annually to reflect current estimates of revenue, operating expenses, capital improvement needs, and capital financing requirements.
- Red Oak conducted a comprehensive wastewater utility cost of service analysis in accordance with standard methods supported by the Water Environment Federation. We performed our analysis for the 2010 test year and determined the cost of providing wastewater service to residential and commercial customers. Table 1-6 summarizes the findings of the cost of service analysis.

**Table 1-6.**  
**Comparison of Wastewater Cost of Service to**  
**Revenue under Existing Rates**  
**Test Year 2010**

Line No.	Customer Class	Cost of Service	Revenue Under Existing Rates	Indicated Adjustment
<b>Inside City:</b>				
1	Residential	\$ 24,660,955	\$ 22,117,000	11.5%
2	Group 2 Commercial	57,228	50,397	13.6%
3	Group 3 Commercial	907,442	803,362	13.0%
4	Group 4 Commercial	426,372	376,488	13.2%
5	Group 5 Commercial	718,093	637,229	12.7%
6	Group 6 Commercial	175,067	156,415	11.9%
7	Group 7 Commercial	31,437	27,990	12.3%
8	Group 8 Commercial	0	0	NA
9	Group 9 Commercial	53,978	48,237	11.9%
10	Group 10 Commercial	404,748	382,652	5.8%
11	Group 11 Commercial	1,971,233	1,892,671	4.2%
12	Group 12 Commercial	0	0	NA
13	<b>Total Inside City</b>	<b>\$ 29,406,554</b>	<b>\$ 26,492,441</b>	<b>11.0%</b>
<b>Outside City:</b>				
14	Residential	\$ 13,135	\$ 11,783	11.5%
15	<b>Total Cost of Service</b>	<b>\$ 29,419,689</b>	<b>\$ 26,504,224</b>	<b>11.0%</b>

- Existing wastewater rates have been in effect since October 2008 and include a monthly base charge for all customers and volume charges that vary by class.
- Red Oak developed the proposed 2010 rates using the existing rate structure. The proposed rates will increase annual wastewater service charge revenue by 11%. Table 1-7 compares existing and proposed 2010 wastewater base charges.

**Table 1-7.**  
**Comparison of Existing and Proposed**  
**Wastewater Base Charges**

Customer Class	Existing (\$/bill)	Proposed (\$/bill)
Inside City Customers	7.91	8.40
Outside City Customers	10.28	10.92

- Table 1-8 compares existing and proposed 2010 wastewater volume charges.

**Table 1-8.  
Comparison of Existing and Proposed  
Wastewater Volume Charges**

<b>Customer Class</b>	<b>Existing</b> <i>(\$/Kgal)</i>	<b>Proposed</b> <i>(\$/Kgal)</i>
<b>Inside City:</b>		
Residential	2.77	3.14
Group 2 Commercial	1.91	2.18
Group 3 Commercial	2.26	2.57
Group 4 Commercial	2.40	2.73
Group 5 Commercial	2.34	2.66
Group 6 Commercial	2.62	2.97
Group 7 Commercial	2.89	3.27
Group 9 Commercial	2.85	3.24
Group 10 Commercial	6.01	6.36
Group 11 Commercial	6.14	6.40
<b>Outside City:</b>		
Residential	3.61	4.08

- Table 1-9 compares typical monthly single family wastewater bills under existing and proposed 2010 rates. The monthly bill for the median single family customer (6,000 gallons) would increase \$2.71 from \$24.53 to \$27.24 under the proposed rates. The monthly bill for the single family customer with average billable monthly usage (7,400 gallons) would increase \$3.23 from \$28.41 under existing rates to \$31.64 under proposed rates.

**Table 1-9.  
Monthly Single Family Wastewater Bills<sup>(1)</sup>**

Billable Monthly Usage	Existing Rates	Proposed Rates	Change
<i>(gallons)</i>			
0	\$ 7.91	\$8.40	\$0.49
1,000	10.68	11.54	0.86
2,000	13.45	14.68	1.23
3,000	16.22	17.82	1.60
4,000	18.99	20.96	1.97
5,000	21.76	24.10	2.34
<b>6,000</b>	<b>24.53</b>	<b>27.24</b>	<b>2.71</b>
7,000	27.30	30.38	3.08
<b>7,400</b>	<b>28.41</b>	<b>31.64</b>	<b>3.23</b>
8,000	30.07	33.52	3.45
9,000	32.84	36.66	3.82
10,000	35.61	39.80	4.19
11,000	38.38	42.94	4.56
12,000	41.15	46.08	4.93
13,000	43.92	49.22	5.30
14,000	46.69	52.36	5.67
15,000	49.46	55.50	6.04
16,000	52.23	58.64	6.41
17,000	55.00	61.78	6.78
18,000	57.77	64.92	7.15
19,000	60.54	68.06	7.52
20,000	63.31	71.20	7.89

(1) Bills shown are based on inside City rates.