



Elsinore Valley Municipal Water District

Drought Surcharge Study

Final Report | July 13, 2015

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July 13, 2015

Ms. Margie Armstrong
Chief Financial Officer
Elsinore Valley Municipal Water District
P.O. Box 3000, 31315 Chaney Street
Lake Elsinore CA 92531

Subject: Drought Surcharge Study Report

Dear Ms. Armstrong,

Raftelis Financial Consultants, Inc. (RFC) is pleased to provide this Drought Surcharge Study Memorandum Report (Report) for Elsinore Valley Municipal Water District (District).

The major objectives of the Drought Surcharge Study include the following:

1. Develop Drought Surcharges for the District to implement during times of water supply shortages, as identified in the District's drought ordinance
2. Develop an approach for estimating customer conservation and usage at various stages of shortage
3. Identify the net revenue impact of water sales reduction with consideration to unrecovered fixed costs and avoided water supply costs
4. Calculate Drought Surcharges for all users, for the three stages (nine sub-stages) of drought that require mandatory restrictions

This Report summarizes the methodology, estimations, and recommendations related to the development of Drought Surcharges for the District.

It has been a pleasure working with you, and we thank you for the support provided during the course of this study.

Sincerely,

RAFTELIS FINANCIAL CONSULTANTS, INC.

A handwritten signature in blue ink, appearing to read 'Sanjay Gaur'.

Sanjay Gaur
Vice President

A handwritten signature in blue ink, appearing to read 'Kevin Kostiuk'.

Kevin Kostiuk
Consultant

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1. INTRODUCTION

1.1 BACKGROUND

The District provides water service to a population of approximately 120,000, comprised of approximately 41,500 residential, commercial, irrigation, and commercial accounts. The District is a member agency of Western Municipal Water District (Western), who in turn is a member agency of Metropolitan Water District of Southern California (MWD). The District receives water from five sources in the following order by volume (descending): imported water from MWD via Western, local Elsinore Basin groundwater well production, Canyon Lake surface water, Back Basin Groundwater Storage Project water, and imported water via Temescal Valley Pipeline.

On July 16, 2014, the District Board declared a Stage 2 water supply shortage¹ as water supplies continued to be reduced during the third year of California's historic drought. On May 28, 2015, the District Board declared a Stage 4a water supply shortage, owing the heightened stage to the continuation and intensification of a drought now in its fourth year. Three of the District's five² drought stages include three sub-stages, noted as a-b-c. Stage 4a calls for a mandatory 25% reduction in District-wide water use. In addition to the District's declarations, on April 1, 2015, Governor Brown issued Executive Order (EO) B-29-15 directing the State Water Resources Control Board (SWRCB) to work with water service providers to reduce urban potable use by 25% statewide.³

1.2 SCOPE OF THE STUDY

The District engaged RFC to develop Drought Surcharges to facilitate reductions in consumption for each of the nine (9) mandatory drought sub-stages (Stages 3a through 5c). This Study only includes Drought Surcharges for the Elsinore Water Division.⁴ The Temescal Water Division is not included in this analysis. This report documents the key assumptions involved in the development of the Drought Surcharges, an overview of the use reduction methodology, corresponding revenue impacts, Drought Surcharge calculations, and summary of proposed surcharges. This Study Report should be read in conjunction with the Water and Recycled Water Rate Study Report dated July 13, 2015.

Throughout the course of the engagement, RFC worked with management to develop several Drought Surcharge structure options. The selected option was presented before the District Board on May 20, 2015. The surcharges presented to the Board, found within this Report in Table 4-1, represent a revenue neutral cost recovery mechanism to achieve the overall consumption reduction for each drought stage, while maintaining revenue sufficiency. The Drought Surcharges assume percentage reductions in

¹ Water Restrictions as defined in the District's Water Shortage Contingency Plan

² Mandatory restrictions and Drought Surcharges are only effective in Stages 3-5.

³ The District's mandated urban water sales reduction is 28% based upon the SWRCB tiered reductions.

⁴ This analysis is based on rates for the Elsinore Valley Municipal Water District Water and Recycled Water Rate Study Report dated July 13, 2015.

consumption, by customer class, by block, and by stage, to achieve overall consumption reductions required at each drought stage. The resultant surcharges are calculated as percentage values relative to respective base, or “non-drought” rates. Lastly, as a point of clarification, Drought Surcharges are charged in addition to base commodity rates.

2. ASSUMPTIONS

The Drought Surcharges presented in this report are based on the District’s proposed FY 2016 rates found in the Water and Recycled Water Rate Study Report dated July 13, 2015. Proposed commodity rates are presented in Table 2-1.⁵ All tables in this report relating to commodity rates, water sales and the overall calculation of drought surcharges use FY 2016⁶ values. That is, all tables whether explicitly stated or not refer to FY 2016.⁷ The commodity rates are comprised of various cost components, including: water supply, delivery, peaking, conservation, recycled water, and revenue offsets. Water supply costs represent a purely variable cost. The other cost components recover fixed costs through the variable commodity rate. Cost components and corresponding values are presented in Table 2-2.

Table 2-1: Proposed FY 2016 Commodity Rates

Customer Class	Proposed Rate (\$/ccf)
Residential	
Indoor Use	\$2.25
Efficient Outdoor Use	\$2.75
Inefficient Use	\$4.34
Excessive Use	\$6.26
Irrigation	
Efficient Outdoor Use	\$2.83
Inefficient Use	\$4.52
Excessive Use	\$6.84
Others	
Commercial	\$2.75
Institutional	\$2.75
Hydrant	\$5.33
Inter-Agency	
Block 1	\$2.41
Block 2	\$3.91
Block 3	\$5.02

⁵ Several tables in this report combine the Commercial and Institutional classes in to one classification as they have the same commodity rates and Drought Surcharges. Additionally, Irrigation customers do not receive an allotment for indoor use as it is defined as for essential, indoor household requirements.

⁶ Fiscal Year 2016 runs from July 1, 2015 through June 30, 2016.

⁷ Revenue requirements and proposed rates used in this analysis are from the Elsinore Valley Municipal Water District Water and Recycled Water Rate Study Report dated July 13, 2015.

Table 2-2: Proposed FY 2016 Commodity Rate Cost Components (\$/ccf)

Customer Class	Water Supply	Delivery	Peaking	Conservation	RW (Current)	RW Future	Revenue Offsets	Proposed Rate
Residential								
Indoor Use	\$1.60	\$0.20	\$0.48	\$0.00	\$0.00	\$0.00	(\$0.03)	\$2.25
Efficient Outdoor Use	\$1.60	\$0.20	\$0.95	\$0.00	\$0.00	\$0.00	\$0.00	\$2.75
Inefficient Use	\$2.37	\$0.20	\$0.99	\$0.11	\$0.67	\$0.00	\$0.00	\$4.34
Excessive Use	\$2.71	\$0.20	\$2.05	\$0.44	\$0.67	\$0.19	\$0.00	\$6.26
Irrigation								
Efficient Outdoor Use	\$1.60	\$0.20	\$1.03	\$0.00	\$0.00	\$0.00	\$0.00	\$2.83
Inefficient Use	\$2.37	\$0.20	\$1.17	\$0.11	\$0.67	\$0.00	\$0.00	\$4.52
Excessive Use	\$2.71	\$0.20	\$2.63	\$0.44	\$0.67	\$0.19	\$0.00	\$6.84
Others (Non-Water Budget)								
Commercial /Institutional	\$1.73	\$0.20	\$0.67	\$0.05	\$0.10	\$0.02	(\$0.02)	\$2.75
Hydrant	\$2.37	\$0.20	\$2.64	\$0.00	\$0.10	\$0.02	\$0.00	\$5.33
Inter-Agency								
Block 1	\$1.60	\$0.20	\$0.63	\$0.00	\$0.00	\$0.00	(\$0.02)	\$2.41
Block 2	\$2.37	\$0.20	\$0.84	\$0.11	\$0.39	\$0.00	\$0.00	\$3.91
Block 3	\$2.71	\$0.20	\$1.09	\$0.44	\$0.39	\$0.19	\$0.00	\$5.02

District drought stages range from Stage 1 to Stage 5. Stages 3 to 5 are comprised of three sub-stages, with consumption reductions in 5 percent increments. Stage 3a (10 percent mandatory reduction) to Stage 5c (50 percent mandatory reduction) represent the nine sub-stages included in this study. Drought Surcharges for reductions less than 10 percent (voluntary reductions) are excluded from this analysis. A summary of District drought stages is presented in Table 2-3.

Table 2-3: Drought Stages

EVMWD Drought Stage	Declared Shortage
2	5%
3a	10%
3b	15%
3c	20%
4a	25%
4b	30%
4c	35%
5a	40%
5b	45%
5c	50%

2.1 REVENUE REQUIREMENTS

The baseline for the Drought Surcharges is the projected FY 2016 demand and corresponding rates to determine the non-drought revenue requirements. Table 2-4 shows the baseline revenue requirement and corresponding base demand.

Table 2-4: Baseline Revenue Requirement, FY 2016

Customer Class	Base Usage (ccf)	Rev Requirement	Base Rate (\$/ccf)
Residential			
Indoor Use	4,568,250	\$10,278,563	\$2.25
Efficient Outdoor Use	2,808,746	\$7,724,052	\$2.75
Inefficient Use	317,672	\$1,378,696	\$4.34
Excessive Use	600,178	\$3,757,118	\$6.26
Irrigation			
Efficient Outdoor Use	1,292,809	\$3,658,649	\$2.83
Inefficient Use	192,767	\$871,305	\$4.52
Excessive Use	417,621	\$2,856,530	\$6.84
Others (Non-Water Budget)			
Commercial	520,496	\$1,431,364	\$2.75
Institutional	71,751	\$197,315	\$2.75
Hydrant	115,529	\$615,770	\$5.33
Inter-Agency			
Block 1	107,926	\$260,102	\$2.41
Block 2	25,026	\$97,852	\$3.91
Block 3	12,944	\$64,979	\$5.02
Total Demand/Revenue	11,051,716	\$33,192,295	

Revenue requirements are modified for each stage to account for avoided costs from reduced water purchases (a variable cost). Avoided costs consist of the variable cost component (water supply) for each classes'- and blocks'- commodity rate multiplied by the reduced sales (in ccf) in the stage. Table 2-5 details the avoided supply costs by stage. The effect of reducing water supply costs is to reduce the revenue requirement in each stage.

Table 2-5: Avoided Water Supply Costs, by Stage

Drought Stage	Declared Shortage	Avoided Costs (Water Supply)
-	<10%	\$1,555,491
3a	10%	\$2,905,900
3b	15%	\$4,154,894
3c	20%	\$5,212,381
4a	25%	\$6,029,519
4b	30%	\$6,996,743
4c	35%	\$7,756,354
5a	40%	\$8,566,575
5b	45%	\$9,506,894
5c	50%	\$10,695,675

However, reduced water sales generate unrecoverable fixed costs which include the costs associated with delivery, peaking, conservation, recycled water, and revenue offsets. Table 2-2 identifies the various cost components that makeup the individual commodity rates. All cost components, less water supply, are incurred irrespective of water sales and are therefore unavoidable. The reduction in sales units (ccf) multiplied by the unavoidable cost represents the revenue impact for each block and/or class. The net revenue impact to the District in each stage is then the sum of all unrecoverable costs across every class and block. Table 2-6 summarizes the calculation for the Residential class and uses Stage 3a as an example. Table 2-7 summarizes the net revenue impacts at each stage.

Table 2-6: Net Revenue Impact Calculation (Residential Class), Stage 3a

Customer Class	Base Usage (ccf)	Reduction (%)	Stage Usage (ccf)	Reduction (ccf)	Fixed Costs	Net Rev Impact
<i>Residential</i>						
Indoor Use	4,568,250	0%	4,568,250	0	\$0.65/ccf	\$0
Conservation Use	2,808,746	0%	2,808,746	0	\$1.15/ccf	\$0
Inefficient Use	317,672	10%	285,905	31,767	\$1.97/ccf	\$62,581
Excessive Use	600,178	100%	0	600,178	\$3.55/ccf	\$2,130,633
Total	8,294,847		7,662,901	631,945		\$2,193,215

Table 2-7: Net Revenue Impact, by Stage

Drought Stage	Required Sales Reduction	Net Revenue Impact (\$)
-	0%	\$0
-	5%	\$2,173,216
3a	10%	\$3,992,768
3b	15%	\$5,054,268
3c	20%	\$5,841,118
4a	25%	\$6,450,847
4b	30%	\$7,168,480
4c	35%	\$7,733,727
5a	40%	\$8,336,119
5b	45%	\$9,031,350
5c	50%	\$9,907,389

Table 2-8 summarizes the revenue requirements for each stage relative to baseline. Table 2-9 illustrates the modified revenue requirement calculation for Stage 3a as an example. Note, the revenue requirement only accounts for commodity (water sales), not revenue recovered through fixed charges.

Table 2-8: Stage Adjusted Revenue Requirements and Revenue Impacts

Drought Stage	Required Sales Reduction	Net Revenue Impact	Stage Revenue Requirement
-	0%	\$0	\$33,192,295
-	5%	\$2,173,216	\$31,636,804
3a	10%	\$3,992,768	\$30,286,395
3b	15%	\$5,054,268	\$29,037,401
3c	20%	\$5,841,118	\$27,979,914
4a	25%	\$6,450,847	\$27,162,775
4b	30%	\$7,168,480	\$26,195,551
4c	35%	\$7,733,727	\$25,435,941
5a	40%	\$8,336,119	\$24,625,720
5b	45%	\$9,031,350	\$23,685,400
5c	50%	\$9,907,389	\$22,496,620

Table 2-9: Stage Adjusted Revenue Requirements at Stage 3a

Customer Class	Baseline Revenue Requirement	Less Avoided Costs (Water Purchases)	Stage Revenue Requirement
Residential			
Indoor Use	\$10,278,563	\$0.00	\$10,278,563
Efficient Outdoor Use	\$7,724,052	\$0.00	\$7,724,052
Inefficient Use	\$1,378,696	\$75,288	\$1,303,408
Excessive Use	\$3,757,118	\$1,626,484	\$2,130,634
Irrigation			
Efficient Outdoor Use	\$3,658,649	\$0	\$3,658,649
Inefficient Use	\$871,305	\$45,686	\$825,620
Excessive Use	\$2,856,530	\$1,131,754	\$1,724,776
Others (Non-Water Budget)			
Commercial	\$1,431,364	\$0.00	\$1,431,364
Institutional	\$197,315	\$0.00	\$197,315
Hydrant	\$615,770	\$26,688	\$589,082
Inter-Agency			
Block 1	\$260,102	\$0	\$260,102
Block 2	\$97,852	\$0	\$97,852
Block 3	\$64,979	\$0	\$64,979
Total Revenue Requirement	\$33,192,295	\$2,905,900	\$30,286,395

2.2 CONSUMPTION

Table 2-10 below shows the forecast (projected) consumption for FY 2016. The majority of use is attributable to Residential users, with Irrigation secondary. The balance of consumption is comprised of Commercial, Industrial, Construction (Hydrant), and Inter-Agency demand. The consumption levels indicated below correspond with a typical non-water shortage year for the District. Consequently, these usage levels by customer class serve as a baseline for the consumption assumptions and revenue requirement used in each water shortage stage.

Table 2-10: Baseline Demand FY 2016

Customer Class	Base Usage (ccf)
<i>Residential</i>	
Indoor Use	4,568,250
Efficient Outdoor Use	2,808,746
Inefficient Use	317,672
Excessive Use	600,178
<i>Irrigation</i>	
Efficient Outdoor Use	1,292,809
Inefficient Use	192,767
Excessive Use	417,621
<i>Others (Non-Water Budget)</i>	
Commercial	520,496
Institutional	71,751
Hydrant	115,529
<i>Inter-Agency</i>	
Block 1	107,926
Block 2	25,026
Block 3	12,944
Total Demand/Revenue	11,051,716

Stage 4a, for example, requires an overall reduction of 25 percent. Table 2-11 indicates the assumed adjustment (targeted reductions) required to achieve Stage 4a usage reductions, as well as the estimated usage once those reductions have been achieved. The method to achieve target reduction is to reduce use in the upper blocks of water budget customers first. Since the purpose of water budgets are to identify allocations for efficient use for different customer classes, we can reasonably assume that in times of shortage inefficient and wasteful usage of water should and will be reduced first. In the District’s case, this represents excessive use by Residential and Irrigation customers. Once all excessive use is reduced to zero, we reduce inefficient use to such a degree that we achieve the system wide reduction target of 25 percent in the case of stage 4a. This reduction logic continues “downward” through the blocks as the drought stages, and necessary reductions, increase.

Table 2-11: Usage Reduction by Class and Block, Stage 4a

Customer Class	Adjusted Usage (ccf/year)	Reduction	Stage Usage (ccf)
Residential			
Indoor Use	4,568,250	0%	4,568,250
Efficient Outdoor Use	2,025,374	0%	2,025,374
Inefficient Use	422,126	100%	0
Excessive Use	1,279,097	100%	0
Irrigation			
Efficient Outdoor Use	833,931	0%	833,931
Inefficient Use	198,134	100%	0
Excessive Use	871,132	100%	0
Others (Non-Water Budget)			
Commercial/Institutional	592,247	0%	592,247
Hydrant	115,529	25%	86,321
Inter-Agency			
Block 1	107,926	0%	107,926
Block 2	25,026	5%	23,775
Block 3	12,944	5%	12,297

There are several items to note regarding the estimated Stage 4a usage in Table 2-11. First, no reduction in indoor use (for Residential accounts) was assumed, as indoor use is to meet essential needs for health and sanitation.

Second, a 45 percent reduction in Efficient Outdoor Use (for efficient outdoor irrigation) for Residential and Irrigation customers is required as there is no longer enough use to be reduced in the inefficient and excessive use blocks after adjustment to meet the system-wide 25 percent reduction (see Table 2-12). Efficient Outdoor Use is reduced in the highest drought stage, 5c, to zero use to achieve the system-wide target of 50 percent.

Third, no reduction is assumed for uniform customers other than hydrant (construction) use as these classes are heterogeneous- making it difficult to estimate efficient use and therefore reductions. Additionally, uniform rate customers’ use as a whole is minimal (6.4%) relative to District-wide consumption. Hydrant and Inter-Agency use is reduced in the higher stages. See tables in Section 5 for these reductions, by stage. Considering the method above, the remaining classes and blocks must decrease their usage at an average reduction greater than 25 percent to achieve the overall 25 percent reduction target.

The consumption forecast for each of the remaining drought stages is determined using the same logic.

Table 2-12 summarizes the level of reduction in percentage terms for water budget customers at each stage.

Table 2-12: Water Budget Block Reductions, by Stage

Drought Stage	Indoor Reduction	Efficient Outdoor Reduction	Inefficient Reduction	Excessive Reduction
3a	0%	0%	10%	100%
3b	0%	5%	100%	100%
3c	0%	30%	100%	100%
4a	0%	45%	100%	100%
4b	0%	60%	100%	100%
4c	0%	70%	100%	100%
5a	0%	80%	100%	100%
5b	0%	90%	100%	100%
5c	0%	100%	100%	100%

3. DROUGHT SURCHARGE DESIGN

3.1 EXISTING NON-DROUGHT COMMODITY RATES

As mentioned above, the basis for the drought surcharge design is the projected revenue requirements for FY 2016. Table 3-1 indicates the proposed FY 2016 commodity rates. The current rate structure includes water budgets for Residential and Irrigation accounts, an inclining three-block rate structure for Inter-Agency sales, and uniform commodity rates for all other classes.

3.1.1 Water Budget Definitions

Water budgets allot water in discrete blocks to users based on defined needs, namely indoor and outdoor use. Residential customers are allotted indoor use (termed Indoor Use by the District) based upon household density, days of service, and targeted per capita use of 55 gallons per day (gpcd). This allotment is sufficient to meet household demand at efficient usage levels and is referred to as an Indoor Water Budget (IWB). Efficient Outdoor Use is allotted based upon the irrigable area (or landscape area) of a home or Irrigation account, and represents the amount of water required to keep landscapes healthy. This efficient amount of water for irrigation is referred to as an Outdoor Water Budget (OWB). Inefficient Use is defined as anything greater than the Total Water Budget (TWB), which is the IWB+OWB. Customers receive an allotment equal to 30% of their OWB in the Inefficient Use block. The next block is Excessive Use which is all usage in excess of Inefficient Use. Water Budgets function much the same as traditional Inclining Block Rates, with the difference being that in a water budget structure the block widths (or thresholds) are customized for each user, while the price within the block remains the same for all. Please

see Section 3 of the Water and Recycled Water Rate Study Report for further detail on Water Budget definitions and Water Budget development methodology.

Consumption is billed by block or by uniform rate, depending upon the customer class. For example, Residential customers are billed at \$2.25/ccf for Indoor Use (IWB), \$2.75 for Efficient Outdoor Use (OWB), \$4.34 for Inefficient Use, and \$6.26 for Excessive Use. Table 3-1 includes proposed FY 2016 rates for all customer classes (same as Table 2-1). See the Water and Recycled Water Rate Study dated July 13, 2015 for a basis upon which these rates were calculated.

Table 3-1: Proposed FY 2016 Commodity Rates

Customer Class	Proposed Rate (\$/ccf)
Residential	
Indoor Use	\$2.25
Efficient Outdoor Use	\$2.75
Inefficient Use	\$4.34
Excessive Use	\$6.26
Irrigation	
Efficient Outdoor Use	\$2.83
Inefficient Use	\$4.52
Excessive Use	\$6.84
Others	
Commercial/Institutional	\$2.75
Hydrant	\$5.33
Inter-Agency	
Block 1	\$2.41
Block 2	\$3.91
Block 3	\$5.02

3.2 WATER SHORTAGE RATE CALCULATIONS AND PROPOSED RATES

Of the District’s 5 drought stages, the proposed surcharges are for those stages in which consumption reduction is considered mandatory (i.e., Stages 3a through 5c) and are adjusted upward with each stage to reflect the severity of the water shortage and achieve the desired reduction in consumption. The option proposed and presented to the District Board is revenue neutral and recovers costs associated with the drought and the reduction in revenues due to projected reductions in consumption during identified drought stages. That is, the drought surcharges for each stage recover the FY 2016 stage-adjusted revenue requirement, and account for variable cost savings.

3.2.1 Drought Surcharges Calculation

The Drought Surcharge calculations involve the following steps: first, we define the baseline (non-water shortage) consumption as 11.05 million ccf with a commodity revenue requirement of \$33.19 million. Again, these requirements are based upon projected FY 2016 demand and proposed FY 2016 commodity rates.

Second, we apply, by customer class and block, the percentage reductions in consumption required to achieve the overall reduction. These percentages are based on discussions with District Management, the characteristics of the District’s existing rate structure, and our experience with similar studies of this nature. The adjusted, or stage usage, is thus determined to estimate District-wide water sales at a given stage. Note that no reductions are assumed for Indoor Use (Indoor Water Budget) at any stage, and reductions in Efficient Outdoor Use (Outdoor Water Budget) begin at Stage 3b (5 percent) and escalate to 100 percent at the highest stage (5c). Said differently, in Stage 5c there is no outdoor water use.

Third, we calculate drought surcharges based on the FY 2016 revenue requirements (adjusted for incremental water purchase savings) and reduced usage (25 percent in the case of Stage 4a). This calculation is performed by determining the “across-the-board” percentage increase in the existing commodity rates required to recover the drought costs (net revenue impact) and distributing the percentage increase across all base rates. Therefore the surcharges represent a uniform percentage increase (or percentage amount) to the non-drought rates.

This methodology ensures that the Drought Surcharges reflect revenue recovery consistent with cost of service principles, given that the baseline (non-drought) commodity rates are cost of service based rates. Additionally, a percentage increase, rather than a uniform dollar surcharge, maintains the integrity of the block and budget-based rate structures, allowing a price signal to achieve desired conservation and proportionally allocate the costs of service.

Table 3-2 indicates the detailed calculations for Water Shortage Stage 4a. Table 3-2 is separated into two tables to accommodate the number of columns required in the calculation. The table should be read from left to right, with the second half representing the columns to the right of the last column of the first half. Calculations for all other Stages 3a-5c are included in the Appendix (Section 5).

Table 3-2: Drought Surcharge Calculation, Stage 4a

Stage 4a	Reduction	25%				
Customer Class	Base Usage (ccf/year)	Base Revenue Requirement	Base Rate	Adjusted Usage	Reduction	Stage Usage
Residential						
Indoor Use	4,568,250	\$10,278,563	\$2.25	4,568,250	0%	4,568,250
Efficient Outdoor Use	2,808,746	\$7,724,052	\$2.75	2,025,374	0%	2,025,374
Inefficient Use	317,672	\$1,378,696	\$4.34	422,126	100%	0
Excessive Use	600,179	\$3,757,117	\$6.26	1,279,097	100%	0
	8,294,847	\$23,138,429		8,294,847		6,593,624
Irrigation						
Efficient Outdoor Use	1,292,809	\$3,658,649	\$2.83	833,931	0%	833,931
Inefficient Use	192,767	\$871,305	\$4.52	198,134	100%	0
Excessive Use	417,621	\$2,856,530	\$6.84	871,132	100%	0
	1,903,197	\$7,386,485		1,903,197		833,931
Others (Non-Water Budget)						
Commercial	520,496	\$1,431,364	\$2.75	520,496	0%	520,496
Institutional	71,751	\$197,315	\$2.75	71,751	0%	71,751
Hydrant	115,529	\$615,770	\$5.33	115,529	25%	86,321
	707,776	\$2,244,449		707,776		678,568
Inter-Agency						
Block 1	107,926	\$260,102	\$2.41	107,926	0%	107,926
Block 2	25,026	\$97,852	\$3.91	25,026	5%	23,775
Block 3	12,944	\$64,979	\$5.02	12,944	5%	12,297
	145,896	\$422,932		145,896		143,998

Table 3-2: Drought Surcharge Calculation, Stage 4a (Continued)

Stage 4a	Reduction	25%		Uniform %	32%
Customer Class	Stage Usage	Net Rev Impact	Avoided Costs	Weighted Sales	Surcharge
Residential					
Indoor Use	4,568,250	\$0	\$0	4,568,250	\$ 0.71
Efficient Outdoor Use	2,025,374	\$900,878	\$1,253,396	2,475,457	\$ 0.86
Inefficient Use	0	\$625,814	\$752,882	0	\$ 1.37
Excessive Use	0	\$2,130,634	\$1,626,484	0	\$ 1.98
	6,593,624	\$3,657,325	\$3,632,762		
Irrigation					
Efficient Outdoor Use	833,931	\$564,419	\$734,204	1,048,900	\$ 0.89
Inefficient Use	0	\$414,448	\$456,857	0	\$ 1.43
Excessive Use	0	\$1,724,776	\$1,131,754	0	\$ 2.16
	833,931	\$2,703,644	\$2,322,815		
Others (Non-Water Budget)					
Commercial	520,496	\$0	\$0	636,162	\$ 0.86
Institutional	71,751	\$0	\$0	87,696	\$ 0.86
Hydrant	86,321	\$86,456	\$69,223	204,485	\$ 1.67
	678,568	\$86,456	\$69,223		
Inter-Agency					
Block 1	107,926	\$0	\$0	115,601	\$ 0.76
Block 2	23,775	\$1,927	\$2,966	41,315	\$ 1.22
Block 3	12,297	\$1,495	\$1,754	27,436	\$ 1.57
	143,998	\$3,422	\$4,719	Unit Cost	\$ 0.70

4. PROPOSED DROUGHT SURCHARGES

The methodology and calculation in the preceding sub-section was performed for Stages 3a-5c to produce the surcharges indicated in Table 4-1 below. Note that the surcharges indicated are additional to the base commodity rates (also shown in Table 4-1) and there is no surcharge on the fixed portion of a customer's bill

The Drought Surcharges calculated in Table 3-2 are found in the column titled 4a below. In Stage 4a, Indoor Use has a Drought Surcharge of \$0.71 while Excessive Use has a surcharge of \$1.98, nearly three times higher, since the surcharge is relative to the base rate. Efficient Outdoor Use is charged an additional \$0.86/ccf for Residential customers and \$0.89/ccf for Irrigation customers.

Table 4-1: Proposed Drought Surcharges

Class	Base Rate	Drought Surcharges								
		Stage 3			Stage 4			Stage 5		
		3a	3b	3c	4a	4b	4c	5a	5b	5c
Residential										
Indoor Use	\$2.25	\$0.35	\$0.48	\$0.60	\$0.71	\$0.85	\$0.99	\$1.16	\$1.39	\$1.78
Efficient Outdoor Use	\$2.75	\$0.42	\$0.58	\$0.73	\$0.86	\$1.04	\$1.21	\$1.41	\$1.70	\$2.18
Inefficient Use	\$4.34	\$0.66	\$0.93	\$1.16	\$1.37	\$1.64	\$1.91	\$2.24	\$2.69	\$3.44
Excessive Use	\$6.26	\$0.98	\$1.34	\$1.67	\$1.98	\$2.37	\$2.76	\$3.23	\$3.87	\$4.96
Irrigation										
Efficient Outdoor Use	\$2.83	\$0.43	\$0.60	\$0.75	\$0.89	\$1.07	\$1.24	\$1.45	\$1.75	\$2.24
Inefficient Use	\$4.52	\$0.69	\$0.97	\$1.21	\$1.43	\$1.71	\$1.99	\$2.34	\$2.80	\$3.58
Excessive Use	\$6.84	\$1.07	\$1.46	\$1.83	\$2.16	\$2.59	\$3.01	\$3.53	\$4.23	\$5.42
Others (Non-Water Budget)										
Commercial/ Institutional	\$2.75	\$0.42	\$0.58	\$0.73	\$0.86	\$1.04	\$1.21	\$1.41	\$1.70	\$2.17
Hydrant	\$5.33	\$0.81	\$1.13	\$1.41	\$1.67	\$2.01	\$2.33	\$2.73	\$3.29	\$4.20
Inter-Agency										
Block 1	\$2.41	\$0.37	\$0.51	\$0.64	\$0.76	\$0.91	\$1.06	\$1.24	\$1.49	\$1.90
Block 2	\$3.91	\$0.60	\$0.83	\$1.04	\$1.22	\$1.48	\$1.71	\$2.01	\$2.41	\$3.08
Block 3	\$5.02	\$0.77	\$1.06	\$1.33	\$1.57	\$1.90	\$2.20	\$2.57	\$3.10	\$3.96

5. APPENDIX – STAGE SURCHARGE CALCULATIONS

Table 5-1: Stage 3a

Stage 3a	Reduction	10%				
Customer Class	Base Usage (ccf/year)	Base Revenue Requirement	Base Rate	Adjusted Usage	Reduction	Stage Usage
Residential						
Low Volume Use	4,568,250	\$10,278,563	\$2.25	4,568,250	0%	4,568,250
Conservation Base Use	2,808,746	\$7,724,052	\$2.75	2,808,746	0%	2,808,746
Inefficient Use	317,672	\$1,378,696	\$4.34	317,672	10%	285,905
Excessive Use	600,179	\$3,757,117	\$6.26	600,179	100%	0
	8,294,847	\$23,138,429		8,294,847		7,662,901
Irrigation						
Conservation Base Use	1,292,809	\$3,658,649	\$2.83	1,292,809	0%	1,292,809
Inefficient Use	192,767	\$871,305	\$4.52	192,767	10%	173,490
Excessive Use	417,621	\$2,856,530	\$6.84	417,621	100%	0
	1,903,197	\$7,386,485		1,903,197		1,466,299
Others (Non-Water Budget)						
Commercial	520,496	\$1,431,364	\$2.75	520,496	0%	520,496
Institutional	71,751	\$197,315	\$2.75	71,751	0%	71,751
Hydrant	115,529	\$615,770	\$5.33	115,529	10%	104,268
	707,776	\$2,244,449		707,776		696,515
Inter-Agency						
Block 1	107,926	\$260,102	\$2.41	107,926	0%	107,926
Block 2	25,026	\$97,852	\$3.91	25,026	0%	25,026
Block 3	12,944	\$64,979	\$5.02	12,944	0%	12,944
	145,896	\$422,932		145,896		145,896

Table 5-1: Stage 3a (cont.)

Stage 3a	Reduction	10%		Uniform %	16%
Customer Class	Stage Usage	Net Rev Impact	Avoided Costs	Weighted Sales	Surcharge
Residential					
Low Volume Use	4,568,250	\$0	\$0.00	4,568,250	\$ 0.35
Conservation Base Use	2,808,746	\$0	\$0.00	3,432,912	\$ 0.42
Inefficient Use	285,905	\$62,581	\$75,288	551,478	\$ 0.66
Excessive Use	0	\$2,130,634	\$1,626,484	0	\$ 0.98
	7,662,901	\$2,193,215	\$1,701,772		
Irrigation					
Conservation Base Use	1,292,809	\$0	\$0.00	1,626,066	\$ 0.43
Inefficient Use	173,490	\$41,445	\$45,686	348,522	\$ 0.69
Excessive Use	0	\$1,724,776	\$1,131,754	0	\$ 1.07
	1,466,299	\$1,766,221	\$1,177,440		
Others (Non-Water Budget)					
Commercial	520,496	\$0	\$0	636,162	\$ 0.42
Institutional	71,751	\$0	\$0	87,696	\$ 0.42
Hydrant	104,268	\$33,332	\$26,688	247,000	\$ 0.81
	696,515	\$33,332	\$26,688		
Inter-Agency					
Block 1	107,926	\$0	\$0	115,601	\$ 0.37
Block 2	25,026	\$0	\$0	43,490	\$ 0.60
Block 3	12,944	\$0	\$0	28,880	\$ 0.77
	145,896	\$0	\$0		

Table 5-2: Stage 3b

Stage 3b	Reduction	15%				
Customer Class	Base Usage (ccf/year)	Base Revenue Requirement	Base Rate	Adjusted Usage	Reduction	Stage Usage
Residential						
Low Volume Use	4,568,250	\$10,278,563	\$2.25	4,568,250	0%	4,568,250
Conservation Base Use	2,808,746	\$7,724,052	\$2.75	2,756,507	0%	2,756,507
Inefficient Use	317,672	\$1,378,696	\$4.34	333,278	100%	0
Excessive Use	600,179	\$3,757,117	\$6.26	636,812	100%	0
	8,294,847	\$23,138,429		8,294,847		7,324,758
Irrigation						
Conservation Base Use	1,292,809	\$3,658,649	\$2.83	1,253,061	0%	1,253,061
Inefficient Use	192,767	\$871,305	\$4.52	198,744	100%	0
Excessive Use	417,621	\$2,856,530	\$6.84	451,392	100%	0
	1,903,197	\$7,386,485		1,903,197		1,253,061
Others (Non-Water Budget)						
Commercial	520,496	\$1,431,364	\$2.75	520,496	0%	520,496
Institutional	71,751	\$197,315	\$2.75	71,751	0%	71,751
Hydrant	115,529	\$615,770	\$5.33	115,529	15%	98,762
	707,776	\$2,244,449		707,776		691,009
Inter-Agency						
Block 1	107,926	\$260,102	\$2.41	107,926	0%	107,926
Block 2	25,026	\$97,852	\$3.91	25,026	0%	25,026
Block 3	12,944	\$64,979	\$5.02	12,944	0%	12,944
	145,896	\$422,932		145,896		145,896

Table 5-2: Stage 3b (cont.)

Stage 3b	Reduction	15%		Uniform %	21%
Customer Class	Stage Usage	Net Rev Impact	Avoided Costs	Weighted Sales	Surcharge
Residential					
Low Volume Use	4,568,250	\$0	\$0.00	4,568,250	\$ 0.48
Conservation Base Use	2,756,507	\$60,075	\$83,582	3,369,064	\$ 0.58
Inefficient Use	0	\$625,814	\$752,882	0	\$ 0.93
Excessive Use	0	\$2,130,634	\$1,626,484	0	\$ 1.34
	7,324,758	\$2,816,522	\$2,462,948		
Irrigation					
Conservation Base Use	1,253,061	\$48,890	\$63,596.36	1,576,073	\$ 0.60
Inefficient Use	0	\$414,448	\$456,857	0	\$ 0.97
Excessive Use	0	\$1,724,776	\$1,131,754	0	\$ 1.46
	1,253,061	\$2,188,114	\$1,652,207		
Others (Non-Water Budget)					
Commercial	520,496	\$0	\$0.00	636,162	\$ 0.58
Institutional	71,751	\$0	\$0.00	87,696	\$ 0.58
Hydrant	98,762	\$49,631	\$39,739	233,955	\$ 1.13
	691,009	\$49,631	\$39,739		
Inter-Agency					
Block 1	107,926	\$0	\$0	115,601	\$ 0.51
Block 2	25,026	\$0	\$0	43,490	\$ 0.83
Block 3	12,944	\$0	\$0	28,880	\$ 1.06
	145,896	\$0	\$0		

Table 5-3: Stage 3c

Stage 3c	Reduction	20%				
Customer Class	Base Usage (ccf/year)	Base Revenue Requirement	Base Rate	Adjusted Usage	Reduction	Stage Usage
Residential						
Low Volume Use	4,568,250	\$10,278,563	\$2.25	4,568,250	0%	4,568,250
Conservation Base Use	2,808,746	\$7,724,052	\$2.75	2,346,212	0%	2,346,212
Inefficient Use	317,672	\$1,378,696	\$4.34	414,312	100%	0
Excessive Use	600,179	\$3,757,117	\$6.26	966,073	100%	0
	8,294,847	\$23,138,429		8,294,847		6,914,462
Irrigation						
Conservation Base Use	1,292,809	\$3,658,649	\$2.83	1,011,189	0%	1,011,189
Inefficient Use	192,767	\$871,305	\$4.52	211,770	100%	0
Excessive Use	417,621	\$2,856,530	\$6.84	680,239	100%	0
	1,903,197	\$7,386,485		1,903,197		1,011,189
Others (Non-Water Budget)						
Commercial	520,496	\$1,431,364	\$2.75	520,496	0%	520,496
Institutional	71,751	\$197,315	\$2.75	71,751	0%	71,751
Hydrant	115,529	\$615,770	\$5.33	115,529	20%	92,847
	707,776	\$2,244,449		707,776		685,094
Inter-Agency						
Block 1	107,926	\$260,102	\$2.41	107,926	0%	107,926
Block 2	25,026	\$97,852	\$3.91	25,026	0%	25,026
Block 3	12,944	\$64,979	\$5.02	12,944	0%	12,944
	145,896	\$422,932		145,896		145,896

Table 5-3: Stage 3c (cont.)

Stage 3c	Reduction	20%		Uniform %	27%
Customer Class	Stage Usage	Net Rev Impact	Avoided Costs	Weighted Sales	Surcharge
Residential					
Low Volume Use	4,568,250	\$0	\$0	4,568,250	\$ 0.60
Conservation Base Use	2,346,212	\$531,915	\$740,056	2,867,592	\$ 0.73
Inefficient Use	0	\$625,814	\$752,882	0	\$ 1.16
Excessive Use	0	\$2,130,634	\$1,626,484	0	\$ 1.67
	6,914,462	\$3,288,362	\$3,119,422		
Irrigation					
Conservation Base Use	1,011,189	\$346,393	\$450,593	1,271,850	\$ 0.75
Inefficient Use	0	\$414,448	\$456,857	0	\$ 1.21
Excessive Use	0	\$1,724,776	\$1,131,754	0	\$ 1.83
	1,011,189	\$2,485,618	\$2,039,204		
Others (Non-Water Budget)					
Commercial	520,496	\$0	\$0	636,162	\$ 0.73
Institutional	71,751	\$0	\$0	87,696	\$ 0.73
Hydrant	92,847	\$67,138	\$53,756	219,945	\$ 1.41
	685,094	\$67,138	\$53,756		
Inter-Agency					
Block 1	107,926	\$0	\$0	115,601	\$ 0.64
Block 2	25,026	\$0	\$0	43,490	\$ 1.04
Block 3	12,944	\$0	\$0	28,880	\$ 1.33
	145,896	\$0	\$0		

Table 5-4: Stage 4a

Stage 4a	Reduction	25%				
Customer Class	Base Usage (ccf/year)	Base Revenue Requirement	Base Rate	Adjusted Usage	Reduction	Stage Usage
Residential						
Indoor Use	4,568,250	\$10,278,563	\$2.25	4,568,250	0%	4,568,250
Efficient Outdoor Use	2,808,746	\$7,724,052	\$2.75	2,025,374	0%	2,025,374
Inefficient Use	317,672	\$1,378,696	\$4.34	422,126	100%	0
Excessive Use	600,179	\$3,757,117	\$6.26	1,279,097	100%	0
	8,294,847	\$23,138,429		8,294,847		6,593,624
Irrigation						
Efficient Outdoor Use	1,292,809	\$3,658,649	\$2.83	833,931	0%	833,931
Inefficient Use	192,767	\$871,305	\$4.52	198,134	100%	0
Excessive Use	417,621	\$2,856,530	\$6.84	871,132	100%	0
	1,903,197	\$7,386,485		1,903,197		833,931
Others (Non-Water Budget)						
Commercial	520,496	\$1,431,364	\$2.75	520,496	0%	520,496
Institutional	71,751	\$197,315	\$2.75	71,751	0%	71,751
Hydrant	115,529	\$615,770	\$5.33	115,529	25%	86,321
	707,776	\$2,244,449		707,776		678,568
Inter-Agency						
Block 1	107,926	\$260,102	\$2.41	107,926	0%	107,926
Block 2	25,026	\$97,852	\$3.91	25,026	5%	23,775
Block 3	12,944	\$64,979	\$5.02	12,944	5%	12,297
	145,896	\$422,932		145,896		143,998

Table 5-4: Stage 4a (cont.)

Stage 4a	Reduction	25%		Uniform %	32%
Customer Class	Stage Usage	Net Rev Impact	Avoided Costs	Weighted Sales	Surcharge
Residential					
Indoor Use	4,568,250	\$0	\$0	4,568,250	\$ 0.71
Efficient Outdoor Use	2,025,374	\$900,878	\$1,253,396	2,475,457	\$ 0.86
Inefficient Use	0	\$625,814	\$752,882	0	\$ 1.37
Excessive Use	0	\$2,130,634	\$1,626,484	0	\$ 1.98
	6,593,624	\$3,657,325	\$3,632,762		
Irrigation					
Efficient Outdoor Use	833,931	\$564,419	\$734,204	1,048,900	\$ 0.89
Inefficient Use	0	\$414,448	\$456,857	0	\$ 1.43
Excessive Use	0	\$1,724,776	\$1,131,754	0	\$ 2.16
	833,931	\$2,703,644	\$2,322,815		
Others (Non-Water Budget)					
Commercial	520,496	\$0	\$0	636,162	\$ 0.86
Institutional	71,751	\$0	\$0	87,696	\$ 0.86
Hydrant	86,321	\$86,456	\$69,223	204,485	\$ 1.67
	678,568	\$86,456	\$69,223		
Inter-Agency					
Block 1	107,926	\$0	\$0	115,601	\$ 0.76
Block 2	23,775	\$1,927	\$2,966	41,315	\$ 1.22
Block 3	12,297	\$1,495	\$1,754	27,436	\$ 1.57
	143,998	\$3,422	\$4,719	Unit Cost	\$ 0.70

Table 5-5: Stage 4b

Stage 4b	Reduction	30%				
Customer Class	Base Usage (ccf/year)	Base Revenue Requirement	Base Rate	Adjusted Usage	Reduction	Stage Usage
Residential						
Low Volume Use	4,568,250	\$10,278,563	\$2.25	4,568,250	0%	4,568,250
Conservation Base Use	2,808,746	\$7,724,052	\$2.75	1,631,406	0%	1,631,406
Inefficient Use	317,672	\$1,378,696	\$4.34	431,183	100%	0
Excessive Use	600,179	\$3,757,117	\$6.26	1,664,008	100%	0
	8,294,847	\$23,138,429		8,294,847		6,199,656
Irrigation						
Conservation Base Use	1,292,809	\$3,658,649	\$2.83	633,886	0%	633,886
Inefficient Use	192,767	\$871,305	\$4.52	166,676	100%	0
Excessive Use	417,621	\$2,856,530	\$6.84	1,102,635	100%	0
	1,903,197	\$7,386,485		1,903,197		633,886
Others (Non-Water Budget)						
Commercial	520,496	\$1,431,364	\$2.75	520,496	0%	520,496
Institutional	71,751	\$197,315	\$2.75	71,751	0%	71,751
Hydrant	115,529	\$615,770	\$5.33	115,529	30%	81,222
	707,776	\$2,244,449		707,776		673,469
Inter-Agency						
Block 1	107,926	\$260,102	\$2.41	107,926	0%	107,926
Block 2	25,026	\$97,852	\$3.91	25,026	10%	22,523
Block 3	12,944	\$64,979	\$5.02	12,944	10%	11,650
	145,896	\$422,932		145,896		142,099

Table 5-5: Stage 4b (cont.)

Stage 4b	Reduction	30%		Uniform %	38%
Customer Class	Stage Usage	Net Rev Impact	Avoided Costs	Weighted Sales	Surcharge
Residential					
Low Volume Use	4,568,250	\$0	\$0	4,568,250	\$ 0.85
Conservation Base Use	1,631,406	\$1,353,941	\$1,883,745	1,993,940	\$ 1.04
Inefficient Use	0	\$625,814	\$752,882	0	\$ 1.64
Excessive Use	0	\$2,130,634	\$1,626,484	0	\$ 2.37
	6,199,656	\$4,110,389	\$4,263,111		
Irrigation					
		\$2,130,634	\$1,626,484		
Conservation Base Use	633,886	\$810,475	\$1,054,276	797,288	\$ 1.07
Inefficient Use	0	\$414,448	\$456,857	0	\$ 1.71
Excessive Use	0	\$1,724,776	\$1,131,754	0	\$ 2.59
	633,886	\$2,949,699	\$2,642,887		
		\$1,724,776	\$1,131,754		
Others (Non-Water Budget)					
Commercial	520,496	\$0	\$0	636,162	\$ 1.04
Institutional	71,751	\$0	\$0	87,696	\$ 1.04
Hydrant	81,222	\$101,548	\$81,307	192,407	\$ 2.01
	673,469	\$101,548	\$81,307		
Inter-Agency					
Block 1	107,926	\$0	\$0	115,601	\$ 0.91
Block 2	22,523	\$3,854	\$5,931	39,141	\$ 1.48
Block 3	11,650	\$2,990	\$3,508	25,992	\$ 1.90
	142,099	\$6,844	\$9,439		

Table 5-6: Stage 4c

Stage 4c	Reduction	35%				
Customer Class	Base Usage (ccf/year)	Base Revenue Requirement	Base Rate	Adjusted Usage	Reduction	Stage Usage
Residential						
Low Volume Use	4,568,250	\$10,278,563	\$2.25	4,568,250	0%	4,568,250
Conservation Base Use	2,808,746	\$7,724,052	\$2.75	1,313,153	0%	1,313,153
Inefficient Use	317,672	\$1,378,696	\$4.34	384,849	100%	0
Excessive Use	600,179	\$3,757,117	\$6.26	2,028,594	100%	0
	8,294,847	\$23,138,429		8,294,847		5,881,404
Irrigation						
Conservation Base Use	1,292,809	\$3,658,649	\$2.83	489,395	0%	489,395
Inefficient Use	192,767	\$871,305	\$4.52	135,791	100%	0
Excessive Use	417,621	\$2,856,530	\$6.84	1,278,011	100%	0
	1,903,197	\$7,386,485		1,903,197		489,395
Others (Non-Water Budget)						
Commercial	520,496	\$1,431,364	\$2.75	520,496	0%	520,496
Institutional	71,751	\$197,315	\$2.75	71,751	0%	71,751
Hydrant	115,529	\$615,770	\$5.33	115,529	35%	75,104
	707,776	\$2,244,449		707,776		667,351
Inter-Agency						
Block 1	107,926	\$260,102	\$2.41	107,926	0%	107,926
Block 2	25,026	\$97,852	\$3.91	25,026	15%	21,272
Block 3	12,944	\$64,979	\$5.02	12,944	15%	11,002
	145,896	\$422,932		145,896		140,201

Table 5-6: Stage 4c (cont.)

Stage 4c	Reduction	35%		Uniform %	44%
Customer Class	Stage Usage	Net Rev Impact	Avoided Costs	Weighted Sales	Surcharge
Residential					
Low Volume Use	4,568,250	\$0	\$0	4,568,250	\$ 0.99
Conservation Base Use	1,313,153	\$1,719,932	\$2,392,949	1,604,965	\$ 1.21
Inefficient Use	0	\$625,814	\$752,882	0	\$ 1.91
Excessive Use	0	\$2,130,634	\$1,626,484	0	\$ 2.76
	5,881,404	\$4,476,379	\$4,772,315		
Irrigation					
Conservation Base Use	489,395	\$988,199	\$1,285,462	615,550	\$ 1.24
Inefficient Use	0	\$414,448	\$456,857	0	\$ 1.99
Excessive Use	0	\$1,724,776	\$1,131,754	0	\$ 3.01
	489,395	\$3,127,424	\$2,874,073		
Others (Non-Water Budget)					
Commercial	520,496	\$0	\$0	636,162	\$ 1.21
Institutional	71,751	\$0	\$0	87,696	\$ 1.21
Hydrant	75,104	\$119,658	\$95,808	177,913	\$ 2.33
	667,351	\$119,658	\$95,808		
Inter-Agency					
Block 1	107,926	\$0	\$0.00	115,601	\$ 1.06
Block 2	21,272	\$5,781	\$8,897	36,966	\$ 1.71
Block 3	11,002	\$4,485	\$5,262	24,548	\$ 2.20
	140,201	\$10,266	\$14,158		

Table 5-7: Stage 5a

Stage 5a	Reduction	40%				
Customer Class	Base Usage (ccf/year)	Base Revenue Requirement	Base Rate	Adjusted Usage	Reduction	Stage Usage
Residential						
Low Volume Use	4,568,250	\$10,278,563	\$2.25	4,568,250	0%	4,568,250
Conservation Base Use	2,808,746	\$7,724,052	\$2.75	972,875	0%	972,875
Inefficient Use	317,672	\$1,378,696	\$4.34	359,151	100%	0
Excessive Use	600,179	\$3,757,117	\$6.26	2,394,571	100%	0
	8,294,847	\$23,138,429		8,294,847		5,541,125
Irrigation						
Conservation Base Use	1,292,809	\$3,658,649	\$2.83	335,298	0%	335,298
Inefficient Use	192,767	\$871,305	\$4.52	99,040	100%	0
Excessive Use	417,621	\$2,856,530	\$6.84	1,468,859	100%	0
	1,903,197	\$7,386,485		1,903,197		335,298
Others (Non-Water Budget)						
Commercial	520,496	\$1,431,364	\$2.75	520,496	0%	520,496
Institutional	71,751	\$197,315	\$2.75	71,751	0%	71,751
Hydrant	115,529	\$615,770	\$5.33	115,529	40%	68,985
	707,776	\$2,244,449		707,776		661,232
Inter-Agency						
Block 1	107,926	\$260,102	\$2.41	107,926	0%	107,926
Block 2	25,026	\$97,852	\$3.91	25,026	20%	20,021
Block 3	12,944	\$64,979	\$5.02	12,944	20%	10,355
	145,896	\$422,932		145,896		138,302

Table 5-7: Stage 5a (cont.)

Stage 5a	Reduction	40%		Uniform %	52%
Customer Class	Stage Usage	Net Rev Impact	Avoided Costs	Weighted Sales	Surcharge
Residential					
Low Volume Use	4,568,250	\$0	\$0	4,568,250	\$ 1.16
Conservation Base Use	972,875	\$2,111,252	\$2,937,394	1,189,069	\$ 1.41
Inefficient Use	0	\$625,814	\$752,882	0	\$ 2.24
Excessive Use	0	\$2,130,634	\$1,626,484	0	\$ 3.23
	5,541,125	\$4,867,700	\$5,316,761		
Irrigation					
Conservation Base Use	335,298	\$1,177,738	\$1,532,017	421,730	\$ 1.45
Inefficient Use	0	\$414,448	\$456,857	0	\$ 2.34
Excessive Use	0	\$1,724,776	\$1,131,754	0	\$ 3.53
	335,298	\$3,316,963	\$3,120,628		
Others (Non-Water Budget)					
Commercial	520,496	\$0	\$0	636,162	\$ 1.41
Institutional	71,751	\$0	\$0	87,696	\$ 1.41
Hydrant	68,985	\$137,769	\$110,308	163,419	\$ 2.73
	661,232	\$137,769	\$110,308		
Inter-Agency					
Block 1	107,926	\$0	\$0	115,601	\$ 1.24
Block 2	20,021	\$7,708	\$11,862	34,792	\$ 2.01
Block 3	10,355	\$5,980	\$7,016	23,104	\$ 2.57
	138,302	\$13,688	\$18,878		

Table 5-8: Stage 5b

Stage 5b	Reduction	45%				
Customer Class	Base Usage (ccf/year)	Base Revenue Requirement	Base Rate	Adjusted Usage	Reduction	Stage Usage
Residential						
Low Volume Use	4,568,250	\$10,278,563	\$2.25	4,568,250	0%	4,568,250
Conservation Base Use	2,808,746	\$7,724,052	\$2.75	557,414	0%	557,414
Inefficient Use	317,672	\$1,378,696	\$4.34	284,827	100%	0
Excessive Use	600,179	\$3,757,117	\$6.26	2,884,356	100%	0
	8,294,847	\$23,138,429		8,294,847		5,125,664
Irrigation						
Conservation Base Use	1,292,809	\$3,658,649	\$2.83	173,561	0%	173,561
Inefficient Use	192,767	\$871,305	\$4.52	55,210	100%	0
Excessive Use	417,621	\$2,856,530	\$6.84	1,674,425	100%	0
	1,903,197	\$7,386,485		1,903,197		173,561
Others (Non-Water Budget)						
Commercial	520,496	\$1,431,364	\$2.75	520,496	0%	520,496
Institutional	71,751	\$197,315	\$2.75	71,751	0%	71,751
Hydrant	115,529	\$615,770	\$5.33	115,529	45%	63,887
	707,776	\$2,244,449		707,776		656,134
Inter-Agency						
Block 1	107,926	\$260,102	\$2.41	107,926	0%	107,926
Block 2	25,026	\$97,852	\$3.91	25,026	25%	18,770
Block 3	12,944	\$64,979	\$5.02	12,944	25%	9,708
	145,896	\$422,932		145,896		136,404

Table 5-8: Stage 5b (cont.)

Stage 5b	Reduction	45%		Uniform %	62%
Customer Class	Stage Usage	Net Rev Impact	Avoided Costs	Weighted Sales	Surcharge
Residential					
Low Volume Use	4,568,250	\$0	\$0	4,568,250	\$ 1.39
Conservation Base Use	557,414	\$2,589,032	\$3,602,132	681,284	\$ 1.70
Inefficient Use	0	\$625,814	\$752,882	0	\$ 2.69
Excessive Use	0	\$2,130,634	\$1,626,484	0	\$ 3.87
	5,125,664	\$5,345,480	\$5,981,498		
Irrigation					
Conservation Base Use	173,561	\$1,376,674	\$1,790,796	218,302	\$ 1.75
Inefficient Use	0	\$414,448	\$456,857	0	\$ 2.80
Excessive Use	0	\$1,724,776	\$1,131,754	0	\$ 4.23
	173,561	\$3,515,899	\$3,379,407		
Others (Non-Water Budget)					
Commercial	520,496	\$0	\$0	636,162	\$ 1.70
Institutional	71,751	\$0	\$0	87,696	\$ 1.70
Hydrant	63,887	\$152,861	\$122,392	151,341	\$ 3.29
	656,134	\$152,861	\$122,392		
Inter-Agency					
Block 1	107,926	\$0	\$0	115,601	\$ 1.49
Block 2	18,770	\$9,635	\$14,828	32,617	\$ 2.41
Block 3	9,708	\$7,475	\$8,770	21,660	\$ 3.10
	136,404	\$17,110	\$23,597		

Table 5-9: Stage 5c

Stage 5c	Reduction	50%				
Customer Class	Base Usage (ccf/year)	Base Revenue Requirement	Base Rate	Adjusted Usage	Reduction	Stage Usage
Residential						
Low Volume Use	4,568,250	\$10,278,563	\$2.25	4,568,250	0%	4,568,250
Conservation Base Use	2,808,746	\$7,724,052	\$2.75	0	0%	0
Inefficient Use	317,672	\$1,378,696	\$4.34	0	100%	0
Excessive Use	600,179	\$3,757,117	\$6.26	3,726,597	100%	0
	8,294,847	\$23,138,429		8,294,847		4,568,250
Irrigation						
Conservation Base Use	1,292,809	\$3,658,649	\$2.83	0	0%	0
Inefficient Use	192,767	\$871,305	\$4.52	0	100%	0
Excessive Use	417,621	\$2,856,530	\$6.84	1,903,197	100%	0
	1,903,197	\$7,386,485		1,903,197		0
Others (Non-Water Budget)						
Commercial	520,496	\$1,431,364	\$2.75	520,496	0%	520,496
Institutional	71,751	\$197,315	\$2.75	71,751	0%	71,751
Hydrant	115,529	\$615,770	\$5.33	115,529	50%	57,768
	707,776	\$2,244,449		707,776		650,015
Inter-Agency						
Block 1	107,926	\$260,102	\$2.41	107,926	0%	107,926
Block 2	25,026	\$97,852	\$3.91	25,026	30%	17,518
Block 3	12,944	\$64,979	\$5.02	12,944	30%	9,061
	145,896	\$422,932		145,896		134,505

Table 5-9: Stage 5c (cont.)

Stage 5c	Reduction	50%		Uniform %	79%
Customer Class	Stage Usage	Net Rev Impact	Avoided Costs	Weighted Sales	Surcharge
Residential					
Low Volume Use	4,568,250	\$0	\$0	4,568,250	\$ 1.78
Conservation Base Use	0	\$3,230,058	\$4,493,994	0	\$ 2.18
Inefficient Use	0	\$625,814	\$752,882	0	\$ 3.44
Excessive Use	0	\$2,130,634	\$1,626,484	0	\$ 4.96
	4,568,250	\$5,986,505	\$6,873,360		
Irrigation					
Conservation Base Use	0	\$1,590,155	\$2,068,494	0	\$ 2.24
Inefficient Use	0	\$414,448	\$456,857	0	\$ 3.58
Excessive Use	0	\$1,724,776	\$1,131,754	0	\$ 5.42
	0	\$3,729,380	\$3,657,105		
Others (Non-Water Budget)					
Commercial	520,496	\$0	\$0	636,162	\$ 2.17
Institutional	71,751	\$0	\$0	87,696	\$ 2.17
Hydrant	57,768	\$170,971	\$136,893	136,847	\$ 4.20
	650,015	\$170,971	\$136,893		
Inter-Agency					
Block 1	107,926	\$0	\$0	115,601	\$ 1.90
Block 2	17,518	\$11,562	\$17,793	30,443	\$ 3.08
Block 3	9,061	\$8,970	\$10,523	20,216	\$ 3.96
	134,505	\$20,532	\$28,317		