Palmdale Water District

Water Rate Study

September 16, 2014

BARTLE WELLS ASSOCIATES
Independent Public Finance Advisors
1889 Alcatraz Avenue
Berkeley, CA 94703-2714
Tel. 510.653.3399
Fax 510.653.3769
www.bartlewells.com

SECTION 1: INTRODUCTION & BACKGROUND

District History

Palmdale Water District is located within the Antelope Valley in Los Angeles County, 60 miles north of the City of Los Angeles The District was established in 1918 as the Palmdale Irrigation District by a vote of the public to supply irrigation water to the approximately 4,500 acres of agricultural land. As the region developed and grew, new industries emerged in the area, notably the aerospace industry in the 1950's with the activation of Air Force Plant 42 and the growth of Edwards Airforce Base. As the region has developed, the District has moved away from a primarily agricultural customer base to a primarily residential customer base.

The population of Palmdale CA, as of 2012 is approximately 155,000, and the District's service area population is expected to more than double over the next 25 years which will increase water demands significantly. The main driver of this growth is the single family residential customer class.

District Background

The District maintains 413 miles of pipelines, 23 active ground water wells, 17 reservoir sites, 15 booster stations, 14 pressure regulating stations, 9 seismic valves, and 9 hydro-pneumatic tanks. The storage capacity of the water system is over 50 million gallons (mg) or 154.4 acre feet, according to the 2010 Urban Water Management Plan Update.

Surface water is stored in Lake Palmdale, a reservoir with a capacity of over 4,100 acre feet, and Littlerock Reservoir, which has a capacity of 3,500 acre feet. The District receives an annual entitlement from the State Water Project of 21,300 acre feet, which may be reduced in times of drought. The fixed costs of participating in the State Water Project are billed to customers through an assessment on property taxes; however the District pays separately for transportation costs when water is purchased.

Palmdale Water District obtains approximately 60% of total water produced from surface water and 40% from groundwater. Surface water from the State Water Project and the Littlerock Reservoir is gathered in Lake Palmdale and treated at a recently upgraded (2009) 35 mgd water treatment plant. The District filters water from the treatment plant through a granular activated carbon (GAC) process, which improves taste and odor of the water. The granular activated carbon is currently funded through a $ 0.20 surcharge on each CCF (hundred cubic foot) of water purchased.

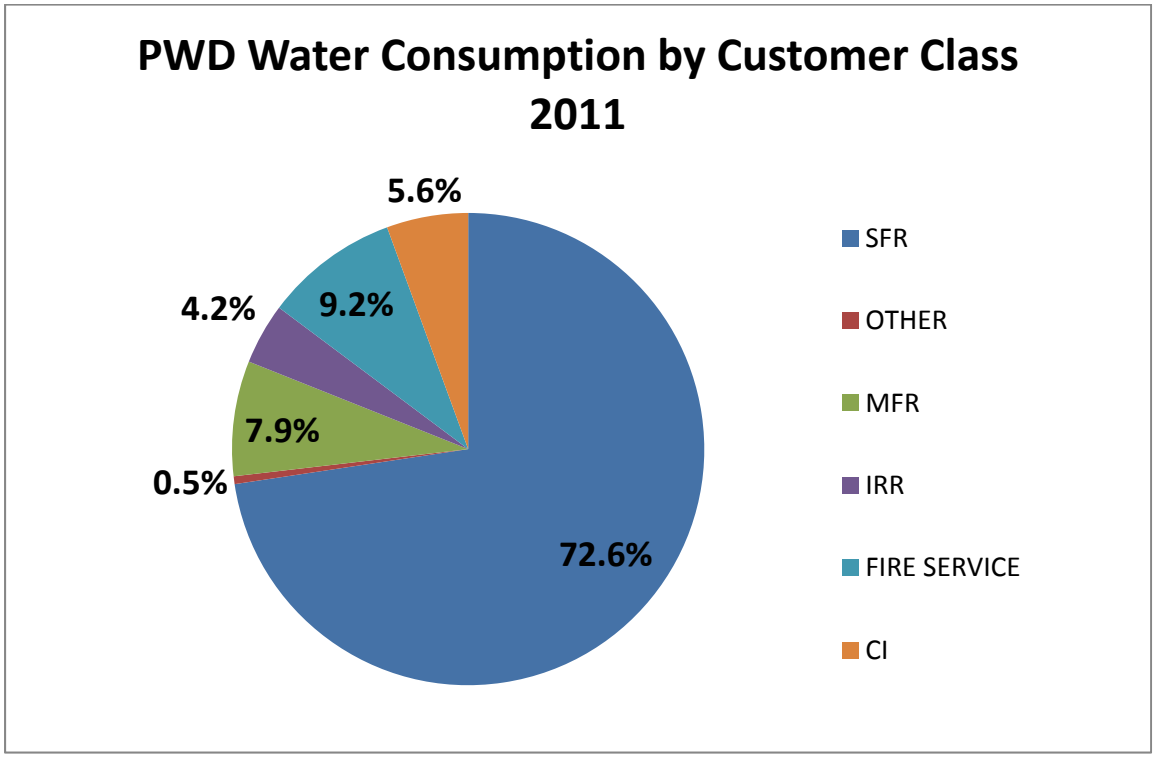
The District supplies a non-contiguous area of approximately 140 square miles, with a primary service area of 46 square miles. Elevations of the service area range from approximately 2,600 feet to 3,800 feet above sea level. The District service area slopes upward toward the San Gabriel Mountains and is divided into four elevation zones, B, A1, A2, and A3. Customers located in

elevations above B pay an elevation booster surcharge to recover greater pumping costs related to serving those customers.

Customer Base

The current customer base is primarily Single Family Residential "SFR," with a number of Multi Family Residential "MFR," Irrigation "IRR," and Commercial-Industrial "CI" customers. A "Fire Service" class covers compound meters utilized by Commercial-Industrial customers, and an "Other" customer class primarily consists of construction meters. **Table 1** shows a breakdown of water consumption by customer class in CY 2011.

Table 1



Current Rates

Rates were last updated in 2009, in which the District contracted with Raftelis Financial Consultants, Inc ("RFC") to conduct a water rate study and implement a water budget rate structure. The budget structure establishes a level of "efficient usage" for individual customers defined by each customer's class. Current rates for CY 2014 are shown in **Table 2** and **Table 3.**

Usage above the "efficient usage" tier is charged a progressively higher rate based on conservation costs and the costs of purchasing supplemental supply, with tier breakpoints determined by a percentage of each individual customer's water budget. The percentage of the water budget that determines tier breakpoints is the same for all customer classes.

Table 2

Palmdale Water District Current Rates CY 2014

Water Quality Fee ($/ccf*):	$0.20
User Classification	**Water Budget Allocation**
Single Family Residential "SFR"	Indoor Allocation + Outdoor Allocation
Multi Family Residential "MFR"	3-yr moving average by month
Commercial-Industrial "CI"	3-yr moving average by month
Irrigation Only "IRR"	Outdoor allocation
Other "OTHER"	3-yr moving average by month
Service Charge	
Meter Size	**Monthly Service Charge**
5/8"	$27.51
1"	$52.26
1-1/2"	$93.51
2"	$143.03
3"	$258.57
4"	$423.62
6"	$836.24
8"	$1,331.38
10"	$1,909.05
Commodity Rates ($/ccf*)	
Tiers	**CY 2014**
Tier 1	$0.73
Tier 2	$2.90
Tier 3	$3.70
Tier 4	$4.81
Tier 5	$5.81
Elevation Booster Surcharge ($/ccf*)	
Area	**CY 2014**
B	-
A1	$0.13
A2	$0.41
A3	$0.89
**Water use is metered in units of ccf (hundred cubic feet)*	
All Customer Classes	
Tier	**% of water budget allocation**
Tier 1	0-100%
Tier 2	101-130%
Tier 3	131-160%
Tier 4	161-190%
Tier 5	Above 191%

Table 3

Formulas and Variables CY 2014
Indoor Allocation = GPCD*Household Size*Days per billing cycle/(748 gallons/ccf)
Outdoor Allocation = (ETo/(12in))*IA*LF*Conservation Factor/(100ft3/1 ccf)
Landscape Factor (LF) = .7
Residential IA Default = 50%*Total Parcel Area
Irrigation IA Default = 100%*Total Parcel Area
Default Household Size = 4
GPCD = 66 gallons per occupant
Conservation Factor = 100%

Under current rates, each individual customer faces unique tier breakpoints based on a number of different factors:

Single Family Residential ("SFR") customers receive an indoor allocation based on the number of occupants using 66 gallons per day and an additional outdoor allocation based on monthly Evapotranspiration (ETo) data from a local weather station, the Irrigable Area (IA) of their property, and a Landscape Factor (LF).

Single Family Residential customers may submit a variance factor to the District to change their default indoor allocation. The District estimates that no more than 10% of customers have submitted a variance for their water usage, with the default indoor budget allowance of approximately 11 CCF based on a four person household, and a default irrigable area of 50% of the square footage of the parcel.

Irrigation ("IRR") customers receive an outdoor allocation which has the same basis as the Single Family Residential outdoor allocation, but based on 100% of the square footage of the parcel size.

Multi Family, Commercial/Industrial, Other ("MFR," "CI," "OTHER") customers receive an allocation based on their historical usage in the same month during the past three years.

Evapotranspiration (ETo) is the sum of evaporation and plant transpiration from the Earth's land and ocean surface to the atmosphere. The evapotranspiration factor increases during summer months, providing larger outdoor allocations for both Single Family Residential and Irrigation customers during summer months, and smaller outdoor allocations during winter months. Monthly ETo values are collected from CIMIS station 197 from Apr 05 – Nov 08.

Irrigable Area (IA) is determined by the total square footage of the parcel from assessor's data.

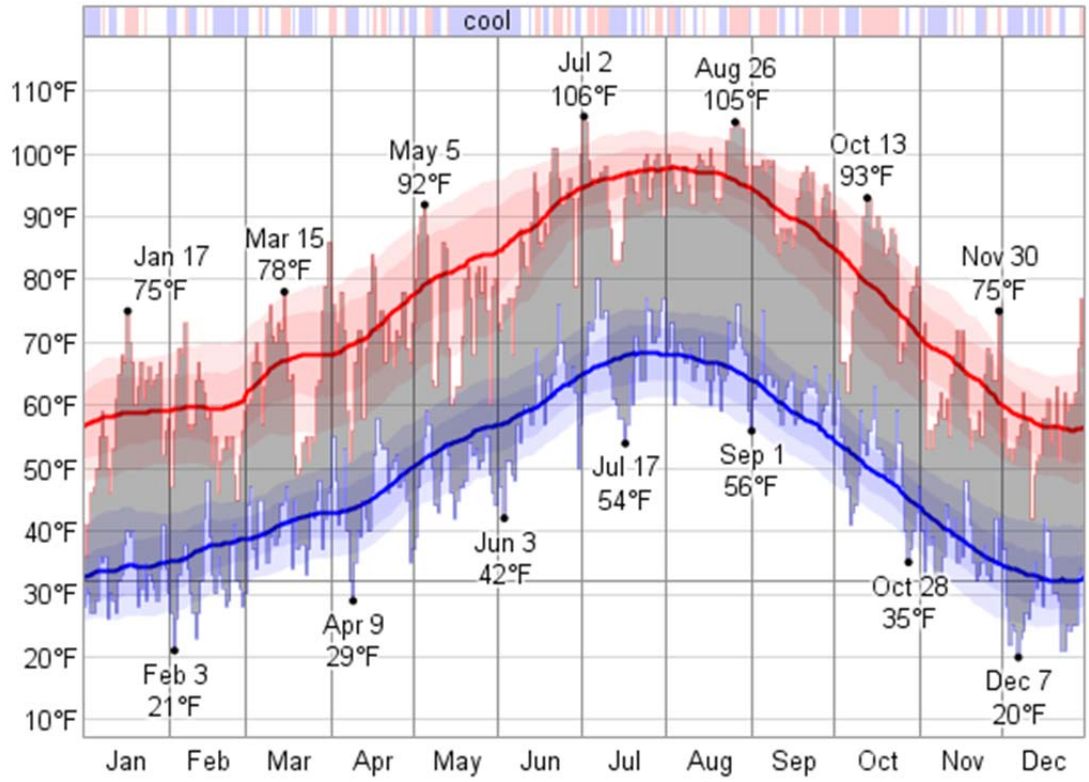
Landscape Factor (LF) is based on the water necessary to irrigate moderate usage plants with a Plant Factor (PF) of 0.5 and Irrigation Efficiency (IE) of .71 according to the **State of California AB 1881 Plant Factor/Irrigation Efficiency Standard**. The Landscape Factor (LF) is equivalent to the Plant Factor (PF)/Irrigation Efficiency (IE).

Conservation Factor only applies to the outdoor allocation and is meant to be lowered during times of drought. Under current rates, the District does not have the authority to alter the conservation factor, which is set to 100% as a default.

Water Usage & Weather

Palmdale is located in a high desert climate, with hot and dry summers, cool and windy winters, and low humidity and rainfall. Historical temperatures in CY 2011, water usage and average monthly evapotranspiration data are shown in **Tables 4 – 6** respectively.

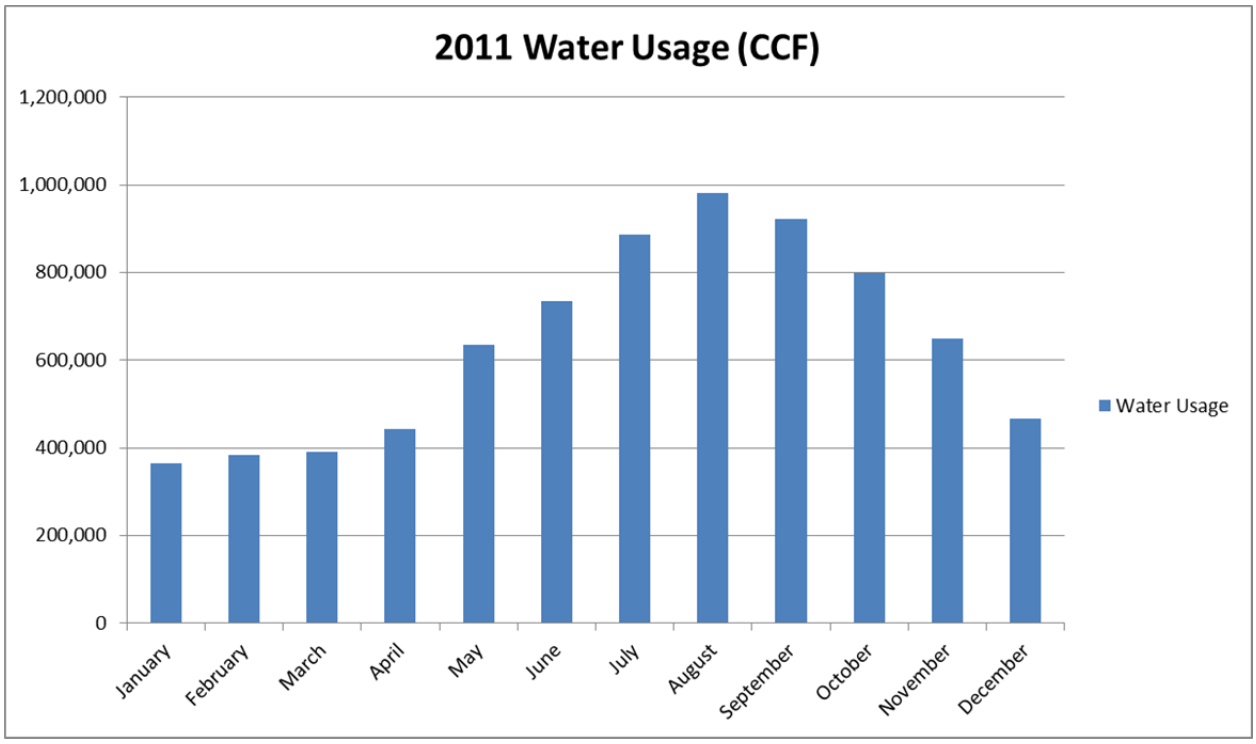
Table 4
Historical Temperatures: Palmdale, CA CY 2011.



Source: Weatherspark.com

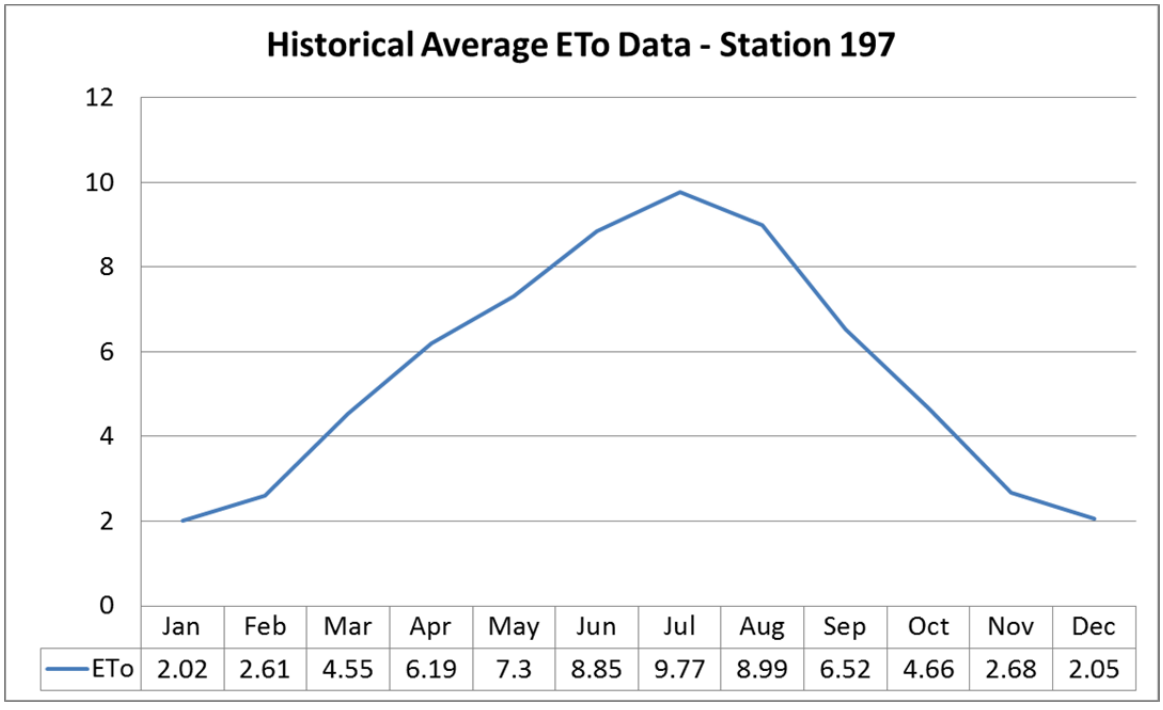
BWA has selected CY 2011 as a base year for this study due to the availability and quality of the District's data in that year. Water usage fluctuates in correlation with the temperature of the service area, with higher levels of usage during summer months, and lower levels of usage during winter months.

Table 5



Customer water usage hits peak levels in June – August, while lowest levels of usage occur in December – March. ETo data follows this same trend, allowing customers larger water budgets when they need to use more water for outdoor needs.

Table 6



	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
ETo	2.02	2.61	4.55	6.19	7.3	8.85	9.77	8.99	6.52	4.66	2.68	2.05

2009 Study Tier Cost Allocation

Table 7
2011 Water Sales Calculation

Annual Usage (CCF)		2011 Rates	Water Sales Revenue	
6,573,543	*85.87%*	$0.67	$4,404,274	*54.13%*
525,592	*6.87%*	$2.63	$1,382,307	*16.99%*
244,057	*3.19%*	$3.36	$820,032	*10.08%*
127,404	*1.66%*	$4.37	$556,755	*6.84%*
184,715	*2.41%*	$5.27	$973,448	*11.96%*
7,655,311	*100.00%*		**$8,136,816**	*100.00%*

The 2009 rate structure was designed based on recovering all basic operating costs of the system in Tier 1 (the budgeted allocation). Higher costs in higher tiers were justified based on conservation program costs and developing additional sources of supply.

In the 2009 study, the costs of supplemental water was determined to be $1,000 per acre foot for additional State Water Project water, and $2,300 per acre foot for the District's "Cash for Grass" program. Customer usage above Tier 1 resulted in excess revenues, which have been used to keep charges low. **Table 7** shows the 2011 breakdown of commodity revenues by Tier, with approximately 46% of water sales collected on usage above Tier 1.

2009 Approved Rates

Table 8
Approved Meter Charges (2009)

Meters	2009	2010	2011	2012	2013	2014	**Total Increase**
5/8"	$25.97	$29.61	$31.97	$34.53	$37.29	$40.28	55.10%
1"	$50.66	$57.75	$62.37	$67.36	$72.75	$78.57	55.09%
1.5"	$91.81	$104.65	$113.04	$122.08	$131.85	$142.39	55.09%
2"	$141.20	$160.97	$173.85	$187.75	$202.77	$219.00	55.10%
3"	$256.43	$292.33	$315.72	$340.97	$368.25	$397.71	55.09%
4"	$421.05	$480.00	$518.40	$559.87	$604.65	$653.03	55.10%
6"	$832.59	$949.15	$1,025.08	$1,107.09	$1,195.65	$1,291.31	55.10%
8"	$1,326.44	$1,512.14	$1,633.11	$1,763.76	$1,904.86	$2,057.25	55.10%
10"	$1,902.60	$2,168.96	$2,342.48	$2,529.88	$2,732.27	$2,950.85	55.10%

Table 9
Approved Commodity Rates (2009)

Tiers	2009	2010	2011	2012	2013	2014	Total Increase
Tier 1	$0.64	$0.73	$0.79	$0.85	$0.92	$0.99	
%		14.06%	8.22%	7.59%	8.24%	7.61%	54.69%
Tier 2	$2.50	$2.85	$3.08	$3.32	$3.59	$3.88	
%		14.00%	8.07%	7.79%	8.13%	8.08%	55.20%
Tier 3	$3.20	$3.65	$3.94	$4.26	$4.60	$4.96	
%		14.06%	7.95%	8.12%	7.98%	7.83%	55.00%
Tier 4	$4.16	$4.74	$5.12	$5.53	$5.97	$6.45	
%		13.94%	8.02%	8.01%	7.96%	8.04%	55.05%
Tier 5	$5.03	$5.73	$6.19	$6.69	$7.22	$7.80	
%		13.92%	8.03%	8.08%	7.92%	8.03%	55.07%

Source: *2009 Resolution 09-08*

Rates approved by the District from 2009 to 2014 accounted for a 55.10% increase over 5 years in both Meter and Commodity charges, as shown in **Table 8** and **Table 9**, respectively.

Implemented Rate Increases

Table 10
Implemented Meter Charges

Meters	2009	2014	Total Increase
5/8"	$25.97	$27.51	5.93%
1"	$50.66	$52.26	3.16%
1.5"	$91.81	$93.51	1.85%
2"	$141.20	$143.03	1.30%
3"	$256.43	$258.57	0.83%
4"	$421.05	$423.62	0.61%
6"	$832.59	$836.24	0.44%
8"	$1,326.44	$1,331.38	0.37%
10"	$1,902.60	$1,909.05	0.34%

Table 11
Implemented Commodity Rates

Tiers	2009	2014	Total Increase
Tier 1	$0.64	$0.73	14.06%
Tier 2	$2.50	$2.90	16.00%
Tier 3	$3.20	$3.70	15.63%
Tier 4	$4.16	$4.81	15.63%
Tier 5	$5.03	$5.81	15.51%

Actual District rate increases since 2009 have been significantly lower than approved rates. **Table 10** shows Meter Charges were increased slightly from 2009 to 2014. For Commodity Rates, the District was able to eliminate the 2010 14% rate increase, reduce the 2011 8% increase to 5%, eliminate the 2012 8% rate increase, keep the 2013 8% rate increase, and reduce the 8% increase in 2014 to 2%. **Table 11** shows the total 5 year increase was approximately 15%.

SECTION 2: PROPOSED RATES DEVELOPMENT

Summary of Rate Structure Recommendations

After a thorough analysis of the District's rate structure and consultation with District staff and legal counsel, BWA believes the following rate structure alterations will further District goals of conservation and maintain equity and fairness across all customer classes:

1. A new cost allocation methodology which more accurately represents District costs being recovered by revenues based on peak system demand and conservation program costs

2. The addition of sub-allocation tiers for all customer classes based on their "essential usage" to further encourage conservation

3. A 55% fixed 45% variable cost recovery from water rates which will balance revenue stability with conservation incentive

4. Standardization of 1" and below meter charges for all customer classes to resolve pressure issues with 5/8" meters.

5. 3-year 3-month rolling averaging of the "Commercial/Industrial" customer class water usage to smooth out variances in usage (currently 3-year 1-month)

6. New policies for establishing the water quality fee and elevation booster surcharge based on five year running averages of actual costs

7. The development of a drought surcharge based on Board Resolution No. 09-04

Cost Allocation – 2014 Budget

Table 12

Operating Expenses	
Directors	$114,500
Administration	3,490,000
Engineering	1,079,800
Facilities	3,408,500
Operations (Less Elevation Costs)	5,108,739
Finance	2,968,750
Human Resources	215,300
Information Technology	828,600
Water Purchases	2,400,000
OAP Chrg (Prior Year)	250,000
Water Recovery	-100,000
Capital Expenses	
Plant Expenditures	$2,143,500
Acquisition of PP&E	886,000
Capital Leasing	217,500
Total	**$23,011,189**

Fixed Costs			
Billing		Meter	
5%	$5,725	50%	$57,250
20%	$698,000	40%	$1,396,000
10%	$107,980	55%	$593,890
10%	$340,850	40%	$1,363,400
15%	$766,311	40%	$2,043,495
30%	$890,625	20%	$593,750
15%	$32,295	40%	$86,120
15%	$124,290	40%	$331,440
20%	$480,000	30%	$720,000
20%	$50,000	30%	$75,000
20%	-$20,000	30%	-$30,000
Subtotal	$3,476,076		$7,230,345
10%	$214,350	50%	$1,071,750
10%	$88,600	50%	$443,000
10%	$21,750	50%	$108,750
Subtotal	$324,700		$1,623,500
Total	**$3,800,776**		**$8,853,845**
% of Total	**16.5%**		**38.5%**

Variable Costs			
Base		Peak	
25%	$28,625	20%	$22,900
25%	$872,500	15%	$523,500
20%	$215,960	15%	$161,970
40%	$1,363,400	10%	$340,850
30%	$1,532,622	15%	$766,311
35%	$1,039,063	15%	$445,313
35%	$75,355	10%	$21,530
35%	$290,010	10%	$82,860
30%	$720,000	20%	$480,000
30%	$75,000	20%	$50,000
30%	-$30,000	20%	-$20,000
	$6,182,534		$2,875,233
20%	$428,700	20%	$428,700
20%	$177,200	20%	$177,200
25%	$54,375	15%	$32,625
	$660,275		$638,525
	$6,842,809		**$3,513,758**
	29.7%		**15.3%**

Cost Allocations	
Total Fixed Costs	54.99%
Total Variable Costs	45.01%
Billing % of Fixed Costs	30.03%
Meter % of Fixed Costs	69.97%
Base % of Variable Costs	66.07%
Peak % of Variable Costs	33.93%

Total Fixed Costs **$12,654,621**

Total Variable Costs **$10,356,567**

BWA examined the O&M cost structure of the District and determined that actual costs are approximately 75% fixed and 25% variable.

Under Article 10 Section 2 of the California Constitution, public agencies are required to maximize beneficial use of water service, allocate costs in proportion to the cost of serving each customer class, and discourage waste. Section 2 states that:

> *It is hereby declared that because of the conditions prevailing in this State the general welfare requires that the water resources of the State be put to beneficial use to the fullest extent of which they are capable, and that the waste or unreasonable use or unreasonable method of use of water be prevented, and that the conservation of such waters is to be exercised with a view to the reasonable and beneficial use thereof in the interest of the people and for the public welfare.*

Based on the direction of District staff to encourage water conservation while maintaining revenue stability, BWA recommends that approximately 55% of District costs should be recovered by fixed charges, and 45% from variable charges. This mix of fixed vs. variable revenues is consistent with the current rate structure and balances revenue stability with conservation incentive.

In **Table 12**, BWA analyzed the District's expenses and determined a cost allocation which recovers approximately 55% of District costs from fixed charges, 45% from variable charges, and acknowledges that variable revenues in higher tiers are used to pay for fixed costs of the system.

Billing: covers costs associated with billing and customer service.

Meter: covers fixed costs related to sizing of facilities to meet basic consumer demands

Base: covers the cost per unit of water to satisfy basic customer demand

Peak: covers sizing of facilities and additional production costs to meet maximum demand on the water system.

Of the costs to be recovered by fixed charges, 30% represents costs associated with billing and customer service, while 70% represents costs associated with meter capacity. 66% of costs recovered by variable charges are allocated to supply base needs, while 34% are allocated to peak costs.

Revenue offsets from miscellaneous revenue sources unrelated to rates are subtracted from total expenses in **Table 13** to determine the level of expenses needed to be recovered from rates.

Table 13

Revenue Offsets	
Other Operating Revenue	$1,700,000
Wholesale Water (AVEK & LCID)	225,000
Interest	35,000
Market Adj. on Investments	(10,000)
Capital Improvement Fees	150,000
Grants - State & Federal	485,000
Other Non-Operating Revenue	185,000
Subtotal	**$2,770,000**

Costs to Be Recovered From Meter Charges and Water Sales	
Operating Expenses	$19,764,189
Capital Expenses	3,247,000
Less: Revenue Offsets	(2,770,000)
Total	**$20,241,189**

Costs including elevation pumping, water conservation and costs for the GAC Media will be recovered from surcharges and are not included in the prior cost allocation. These costs are shown in **Table 14.**

Table 14

Costs to Be Recovered by Other Charges

Elevation Costs	
Pumping Costs	$344,761
Subtotal	**$344,761**

Conservation Program Costs	
Water Conservation Department	$270,000
Non-Operating Water Conservation	$143,000
Subtotal	**$413,000**

Water Quality Costs	
GAC Media	$1,638,000
Subtotal	**$1,638,000**

Unit Cost Development

Table 15

Units Cost Development	
55% Fixed	$11,131,306
45% Variable	$9,109,883
Total	**$20,241,189**

Variable Revenue Recovery	Rates	Base Water Charge (66.1%)	Peak Costs (33.9%)
$9,109,883	Total Cost	$6,019,098	$3,090,785
	Total "Units of Service"	8,190,000	
	Unit Cost	$0.73	
	Units of Service	per ccf	

Fixed Revenue Recovery	Rates	Billing & Customer Service (30%)	Meter Charge (70%)	Total
$11,131,306	Total Cost	$3,343,253	$7,788,053	$11,131,306
	Total "Units of Service"	321,828	38,904	
	Unit Cost	$10.39	$16.68	$27.07
	Units of Service	per annual monthly bill	equiv meter per month	total monthly meter charge

In **Table 15**, BWA divided the costs allocated to "Base" by a conservative CY 2014 estimate of annual water usage (8,190,000 CCF) to derive a $0.73 charge per CCF.

"Billing and Customer Service" costs are divided by an estimate of annual monthly bills for the year based on CY 2014 meter counts to derive a charge per monthly bill. "Meter Charges" are divided by the number of total District equivalent meters (based on a 5/8" meter) to arrive at an annual charge per meter equivalent, then divided by 12 to arrive at a per month charge.

Water Usage Estimation

Table 16

Current 5 - Tier Structure

2011 Actual Water Usage by Tier - All Customers		
Tier 1	6,573,543	85.87%
Tier 2	525,592	6.87%
Tier 3	244,057	3.19%
Tier 4	127,404	1.66%
Tier 5	184,715	2.41%
Total	**7,655,311**	**100.00%**

Table 17

Proposed 6 - Tier Structure

Essential Usage Tier (New Tier 1) Water Usage Calculation
Indoor allocation = GPCD * Household Size * Days per billing cycle / (748 gallons/ccf)
Default Indoor Allocation = 66*4*365/12/748
10.74

Single Family Residential 2011 Estimated Water Usage - Essential Usage Tier

Approximate Indoor Usage	Indoor Usage (within 11 ccf tier)	Total SFR Usage	% Indoor Usage	Actual Water Usage - Tier 1	Est % Indoor Usage in Tier 1
11	2,789,105	5,559,923	50.16%	4,625,343	60.00%

2014 Estimated Water Usage With New Tier - All Customers		
Tier 1	4,219,605	51.52%
Tier 2	2,813,070	34.35%
Tier 3 (Old T2)	562,302	6.87%
Tier 4 (Old T3)	261,103	3.19%
Tier 5 (Old T4)	136,303	1.66%
Tier 6 (Old T5)	197,617	2.41%
Total	**8,190,000**	**100.00%**

In **Table 17**, BWA estimated the amount of usage in the new recommended Tier 1 "essential usage" tier based on CY 2011 consumption data, shown in **Table 16,** and a consumption block analysis. The estimation of the new Tier 1 usage is based on the Single Family Residential customer class (a 4 person household using 66 gallons per day = 11 ccf/month). Due to the low number of variances submitted (estimated below 10%), the default indoor allocation of approximately 11 CCF per month was used to determine that an estimated 60% of usage in the current Tier 1 is indoor usage.

Table 18

Estimated 2014 Usage / 2011 Allocation	
Tier 1	7,032,675
Tier 2	562,302
Tier 3	261,103
Tier 4	136,303
Tier 5	197,617
Total	**8,190,000**

CY 2014 usage in each tier, shown in **Table 17**, was estimated based on the percentage usage in each tier in 2011 multiplied by total estimated 2014 usage of 8,190,000 CCF, shown in **Table 18**. The new Tier 1 "essential usage" tier is estimated at 4,219,605 CCF or 60% of 7,032,675 CCF, and the new Tier 2 is estimated at 2,813,070 CCF or 40% of 7,032,675 CCF.

Peak Factor Development

Maximum day peaking factors represent the ratio of maximum day demand to average day demand on the water system.

Palmdale Water District Approximate Max Day Demand to Average Day Demand Ratio*: 2

In **Table 19**, BWA allocated the full max day peaking factor to Tier 6 and lowered the peaking factor for each tier based the methodology that wasteful users have higher peaking. Users who stay within their essential needs receive the lowest cost water, while efficient users pay for a small portion of peaking costs. Users who exceed their efficient budget allocations pay for increasingly expensive water based on system peaking costs. These peaking factors are used in **Table 20** to allocate peaking costs of the system to each tier.

Table 19

Allocation of Maximum Day Demand Ratio to Tiers		
	% Allocation	Peak Factor
Tier 1	0%	0
Tier 2	2.50%	0.05
Tier 3	37.50%	0.75
Tier 4	62.50%	1.25
Tier 5	75.00%	1.5
Tier 6	100.00%	2

*Max Day Peaking Factors have historically varied from 1.63 to 2.11 since 1990, according to the 2001 Water System Master Plan Section 3.

Palmdale Water District draft Master Plan 2008 Update Section 3, page 3-14 gives a peaking factor of 1.90 for the ratio of average day and max day demands.

Marginal Cost Allocation to Tiers

Table 20
Peaking Cost Recovery

Peaking Costs		Estimated 2014 Usage (ccf)		Peak Allocation Factor	PF Weighted by Water Use	Peak Cost % Recovered by Tier	Peak Cost Recovered	$ per ccf
	Tier 1	4,219,605	51.5%	-	0.00	0%	-	-
	Tier 2	2,813,070	34.3%	0.05	0.02	9%	$292,070	$0.10
$3,090,785	Tier 3	562,302	6.9%	0.75	0.05	28%	$875,723	$1.56
	Tier 4	261,103	3.2%	1.25	0.04	22%	$677,732	$2.60
	Tier 5	136,303	1.7%	1.50	0.02	14%	$424,552	$3.11
	Tier 6	197,617	2.4%	2.00	0.05	27%	$820,708	$4.15
	Total	**8,190,000**	**100.0%**		**0.18**	**100%**	**$3,090,785**	

Table 21
Water Conservation Cost Recovery

Conservation Costs		Usage In Tier	Cost Distribution	Revenues Collected	$ per ccf
	Tier 1	4,219,605	0%	$0	$0.00
	Tier 2	2,813,070	0%	$0	$0.00
$413,000	Tier 3	562,302	10%	$41,300	$0.07
	Tier 4	261,103	15%	$61,950	$0.24
	Tier 5	136,303	25%	$103,250	$0.76
	Tier 6	197,617	50%	$206,500	$1.04
	Total	**8,190,000**	**100.00%**	**$413,000**	

The commodity rates are made up of 3 components: the base rate of $0.73 per CCF for each tier calculated in **Table 15**, a marginal cost per CCF based on peaking costs on Tier 2 through Tier 6 calculated in **Table 20**, and a water conservation marginal cost per CCF on Tier 3 through Tier 6 calculated in **Table 21**. **Table 22** shows the proposed commodity rate schedule for CY 2014.

Table 22
2014 Proposed Commodity Rate Schedule

Commodity Rates / CCF	CY 2014 Rates	Estimated Usage (ccf)	Current 2014 Rates	Difference From 2014 Rates
Tier 1	$0.73	4,219,605	$0.73	$0.00
Tier 2	$0.84	2,813,070	$0.73	$0.11
Tier 3	$2.37	562,302	$2.90	($0.53)
Tier 4	$3.57	261,103	$3.70	($0.13)
Tier 5	$4.61	136,303	$4.81	($0.20)
Tier 6	$5.93	197,617	$5.81	$0.12

Monthly Fixed Charge Development

Table 23

2014 Proposed Meter Charge Schedule

AWWA Meter Equivalents	Meter Size	Meter Charge	CY 2014 Monthly Service Charge	Difference From CY 2014 Rates
1.00	5/8"	$27.07	$27.51	($0.44)
2.50	1"	$52.09	$52.26	($0.17)
5.00	1-1/2"	$93.80	$93.51	$0.29
8.00	2"	$143.85	$143.03	$0.82
15.00	3"	$260.62	$258.57	$2.05
25.00	4"	$427.44	$423.62	$3.82
50.00	6"	$844.50	$836.24	$8.26
80.00	8"	$1,344.96	$1,331.38	$13.58
115.00	10"	$1,928.84	$1,909.05	$19.79

The monthly meter charge consists of the $16.68 capacity charge per meter equivalent per month and the $10.39 flat rate per bill for billing and customer service costs calculated in **Table 15**. Meter equivalents are increased by meter size based on the American Water Works Association recommended meter equivalents to derive the recommended CY 2014 Meter Charge Schedule in **Table 23**.

Meter Equivalents recognize that service costs per customer vary due to the system investment required based on capacity of the meter. For example, a 1-1/2” meter has equivalent capacity related costs to five 5/8” meters, according to AWWA.

1” and Below Meter Charge Development

Table 24

Meter Type	Number of Meters	# of Monthly Bills	Meter Equivalents
5/8"	21,733	260,796	21,733
1"	4,384	52,608	10,960
Total	**26,117**	**313,404**	**32,693**

Annual Cost Allocation		Cost Per Bill	Cost Per Meter Per Month	Total Charge
Customer Service Costs	$3,255,742	$10.39	$20.88	$31.27
Meter Capacity Costs	$6,544,695			
Total Costs	**$9,800,437**			

Table 24 shows the calculation of meter charges. 1” and below meters represent approximately 32,693 meter equivalents. These equivalents are multiplied by the cost per meter equivalent of $16.68 to determine $6,544,695 should be recovered from 1” inch and below meters. In CY 2014 there were approximately 26,117 1” and below meters for a cost of $20.88 per meter per month.

The cost per monthly bill of $10.39 is added to the $20.88 cost per meter per month for a total charge per meter of $31.27.

Recommended Rate Structure Changes

Combine Meter Charges of 1" and Below Customers: BWA recommends that the District charge all customers with 1" and below meters the same fixed charge to resolve inequity due to pressure problems which cause typical 5/8" customers to purchase larger meters.

Addition of Sub Allocation Tier for all Customer Classes (New Tier 1): BWA recommends that the District implement a sub allocation tier that reflects essential water usage to further encourage water conservation for each class of customer.

Single Family Residential ("SFR"): BWA recommends SFR essential usage (New Tier 1) be based on indoor usage only.

Multi-Family ("MFR"): BWA recommends that MFR essential usage (New Tier 1) be based on a 3-year average of minimum monthly usage to reflect the lowest winter month. The average will be based on the minimum usage month of the past 3 full calendar years (January to December).

Commercial-Industrial ("CI"): BWA recommends that CI essential usage (New Tier 1) be based on a 3-year average of minimum monthly usage to reflect the lowest winter month. The average will be based on the minimum usage month of the past 3 full calendar years (January to December). Efficient usage (New Tier 2) is recommended to be based on a 3-year rolling 3-month average based on an average of the current month and surrounding two months of the past 3 full calendar years (January to December).

Irrigation Only ("IRR"): BWA recommends that IRR essential usage (New Tier 1) be based on the current outdoor usage formula with an "Essential Usage" Landscape Factor (ESLF) of .42 based on low use plants. The current landscape factor of .7 is based on moderate use plants, and is renamed "Efficient Usage Landscape Factor" (EFLF).

Other ("OTHER"): BWA recommends that OTHER essential usage (New Tier 1) be based on a 3-year average of minimum monthly usage to reflect the lowest winter month. The average will be based on the minimum usage month of the past 3 full calendar years (January to December).

Elevation Booster Surcharge: Actual pumping cost data are tracked by the District, and costs are recommended to be recovered for each elevation based on the following formula: **(5 – Year Rolling Average of Actual Pumping Costs)/(Elevated Units[ccf]).**

Water Quality Surcharge: Water Quality Costs are recommended to be recovered based on actual costs of Granular Activated Carbon Media and billed water usage utilizing the following formula: **(5 –Year Rolling Average of GAC Media Costs) / (Billed Water Usage [ccf]).**

The recommended rate structure for CY 2014 is shown in **Table 25** with the proposed formulas and variables displayed in **Table 26**.

Table 25

Palmdale Water District Proposed Rate Structure CY 2014

Water Quality Fee ($/ccf):	5-yr moving average of (GAC costs) / (billed water usage [hcf])

User Classification	**Water Budget Allocation - Essential Usage**
Single Family Residential "SFR"	Indoor Allocation
Multi Family Residential "MFR"	3-yr average of minimum monthly usage
Commercial-Industrial "CI"	3-yr average of minimum monthly usage
Irrigation Only "IRR"	Essential Outdoor Allocation
Other "OTHER"	3-yr average of minimum monthly usage

User Classification	**Water Budget Allocation - Efficient Usage**
Single Family Residential "SFR"	Indoor Allocation + Efficient Outdoor Allocation
Multi Family Residential "MFR"	3-yr moving average by month
Commercial-Industrial "CI"	3-yr moving 3 month average
Irrigation Only "IRR"	Efficient Outdoor allocation
Other "OTHER"	3-yr moving average by month

Service Charge

Meter Size	**Monthly Service Charge**
1" and Below	$31.27
1-1/2"	$93.80
2"	$143.85
3"	$260.62
4"	$427.44
6"	$844.50
8"	$1,344.96
10"	$1,928.84

Commodity Rates ($/ccf*)

Tiers	**CY 2014**
Tier 1	$0.73
Tier 2	$0.84
Tier 3	$2.37
Tier 4	$3.57
Tier 5	$4.61
Tier 6	$5.93

Elevation Booster Surcharge ($/ccf*)

Area	**CY 2014**
B	-
A1	5-Year Moving Average of Actual Pumping Costs
A2	5-Year Moving Average of Actual Pumping Costs
A3	5-Year Moving Average of Actual Pumping Costs

**Water use is metered in units of ccf (hundred cubic feet)*

All Classes

Tier	**Water Budget Allocation**
Tier 1	0 - 100% Essential Usage
Tier 2	100% Essential Usage - 100% Efficient Usage
Tier 3	101-130% Efficient Usage
Tier 4	131-160% Efficient Usage
Tier 5	161-190% Efficient Usage
Tier 6	Above 191% Efficient Usage

Table 26

Proposed Formulas and Variables
Indoor Allocation = GPCD*Household Size*Days per billing cycle/(748 gallons/ccf)
Essential Outdoor Allocation = (ETo/(12in))*IA*ESLF/(100ft3/1 ccf)
Efficient Outdoor Allocation = (ETo/(12in))*IA*EFLF/(100ft3/1 ccf)
Essential Landscape Factor (ESLF) = .42 (Based on low use plants)
Efficient Landscape Factor (EFLF) = .7 (Based on moderate use plants)
Residential IA Default = 50%
Irrigation IA Default = 100%
Default Household Size = 4
GPCD = 66 gallons per occupant

ESLF: Essential Landscape Factor (ESLF) is based on the water necessary to irrigate low usage plants with a Plant Factor (PF) of 0.3 and Irrigation Efficiency (IE) of .71 based on the **State of California Code of Regulations Title 23 Section § 492.4 Water Efficient Landscape Worksheet,** which states that low usage plants have a plant factor between 0 to 0.3. The Landscape Factor (LF) is equivalent to the Plant Factor (PF)/Irrigation Efficiency (IE).

EFLF: Efficient Landscape Factor (EFLF) is based on the water necessary to irrigate moderate usage plants with a Plant Factor (PF) of 0.5 and Irrigation Efficiency (IE) of .71 according to the **State of California AB 1881 Plant Factor/Irrigation Efficiency Standard**. The Landscape Factor (LF) is equivalent to the Plant Factor (PF)/Irrigation Efficiency (IE).

Multi Family Recommended Variance Process

In some cases customers in the "Multi Family" customer class may have their water budget allocation calculated based on no usage in extenuating circumstances such as renovations or foreclosures.

To resolve the issue of artificially low water budget allocations, BWA recommends District allow the customer to submit an application for variance in recorded usage for that period.

The standard calculation for "Multi Family Residential" for each month of variance will be based on the follow formula: **(# of Building Units) * (GPCD * Unit Occupants * Days per Billing Cycle) / (748 gallons/ccf)**

Default Unit Occupants= 4
GPCD = 66 gallons per occupant

Drought Surcharge

Revenue that is lost during mandatory cutbacks is revenue the District still requires to cover its costs whether or not water is available from the State or elsewhere. Not all fixed costs are recovered from the District's fixed charges, and the District relies upon estimated use to recover its fixed costs, which is not available during times of drought. Additionally, there are additional costs to the District during drought and mandatory cutbacks, including, but not limited to, enforcement of State mandated restrictions on customers and additional reporting to the State.

A drought surcharge is recommended based on the Board Resolution No. 09-04, which calls for 3 stages of mandatory cutbacks of 20%, 30%, and 40% of water deliveries. The rate was developed in **Table 27** by estimating the amount of variable revenue lost from lower water sales at each stage of drought, and subtracting the reduction in estimated purchased water costs from the State Water Project to determine lost revenues.

The lost revenue was divided by the amount of "nonessential" usage, or usage above the new Tier 1, to develop a per CCF drought rate for each stage. For CY 2014, BWA recommends a .45 cent surcharge on all nonessential usage for Stage 1 (20% mandatory reduction), a .77 cent surcharge for Stage 2 (30% mandatory reduction), and a $1.19 charge for Stage 3 (40% mandatory reduction).

Drought Surcharge Calculation

Table 27

Rationing Stages to Address Water Supply Shortages

Stage No.	Policy	% Mandatory Cutback
1	Water Rationing	20% reduction in water deliveries
2	Water Rationing	30% reduction in water deliveries
3	Water Rationing	40% reduction in water deliveries

Board Resolution No. 09-04

2014 Estimated Water Usage With New Tier - All Customers			Estimated Variable Revenue	
Tier 1	4,219,605	51.52%	$0.73	$3,080,312
Tier 2	2,813,070	34.35%	$0.84	$2,362,979
Tier 3	562,302	6.87%	$2.37	$1,332,656
Tier 4	261,103	3.19%	$3.57	$932,139
Tier 5	136,303	1.66%	$4.61	$628,355
Tier 6	197,617	2.41%	$5.93	$1,171,866
Total	**8,190,000**	**100%**		**$9,508,307**
Non-Essential Usage	**3,970,395**			

Stage 1 - 20% Water Delivery Cutback			Estimated Variable Revenue	
Tier 1	3,375,684	51.52%	$0.73	$2,464,249
Tier 2	2,250,456	34.35%	$0.84	$1,890,383
Tier 3	449,842	6.87%	$2.37	$1,066,125
Tier 4	208,883	3.19%	$3.57	$745,711
Tier 5	109,042	1.66%	$4.61	$502,684
Tier 6	158,093	2.41%	$5.93	$937,493
Total	**6,552,000**	**100%**		**$7,606,645**
Non-Essential Usage	**3,176,316**			

Stage 1 Lost Revenue
$1,901,661
Less: SWP Cost Reductions
$1,421,661
$0.45
per ccf

Stage 2 - 30% Water Delivery Cutback			Estimated Variable Revenue	
Tier 1	2,953,724	51.52%	$0.73	$2,156,218
Tier 2	1,969,149	34.35%	$0.84	$1,654,085
Tier 3	393,612	6.87%	$2.37	$932,859
Tier 4	182,772	3.19%	$3.57	$652,497
Tier 5	95,412	1.66%	$4.61	$439,848
Tier 6	138,332	2.41%	$5.93	$820,306
Total	**5,733,000**	**100%**		**$6,655,815**
Non-Essential Usage	**2,779,276**			

Stage 2 Lost Revenue
$2,852,492
Less: SWP Cost Reductions
$2,132,492
$0.77
per ccf

Stage 3 - 40% Water Delivery Cutback			Estimated Variable Revenue	
Tier 1	2,531,763	51.52%	$0.73	$1,848,187
Tier 2	1,687,842	34.35%	$0.84	$1,417,787
Tier 3	337,381	6.87%	$2.37	$799,594
Tier 4	156,662	3.19%	$3.57	$559,283
Tier 5	81,782	1.66%	$4.61	$377,013
Tier 6	118,570	2.41%	$5.93	$703,120
Total	**4,914,000**	**100%**		**$5,704,984**
Non-Essential Usage	**2,382,237**			

Stage 3 Lost Revenue
$3,803,323
Less: SWP Cost Reductions
$2,843,323
$1.19
per ccf

	Stage 1 Cutback	Stage 2 Cutback	Stage 3 Cutback
2014 Budgeted Water Purchases	**20%**	**30%**	**40%**
$2,400,000	$1,920,000	$1,680,000	$1,440,000
SWP Cost Reduction	$480,000	$720,000	$960,000

SECTION 3: RECOMMENDED RATE INCREASES

Capital Improvement Program

Table 28

	2015	2016	2017	
Debt Service - New Capital Projects	-	-	1,000,000	Funds an estimated $13.8 million in new capital projects (Based on a 5% 30-year issue)
Studies and Planning Documents	200,000	200,000	200,000	Documents to assist in developing long-term guidelines for the District
Replacement / New Equipment	300,000	300,000	300,000	Covers projects such as fleet, pumps, motors, and minor treatment and distribution equipment
General Projects	500,000	500,000	500,000	Covers tank maintenance program and small facility improvement projects
Replacement Capital Projects	2,500,000	2,500,000	2,500,000	Covers water main replacement projects, well and booster rehab/replacement projects, and long term debt coverage on capital replacement funding
Annual Project Expenditures	**3,500,000**	**3,500,000**	**4,500,000**	

Recommended Rate Increases

After gathering input from District staff and the Board of Directors throughout the study, a plan was approved by the Board to fund the District's capital improvement program, shown in **Table 28**. The plan enables the District to obtain bond proceeds of approximately $13.8 million in CY 2016 for new projects and approves rate increases of **5.5%, 5.5%, 5.5%, 5.5%, 5.5%**. These increases are estimated to be required from CY 2015 – CY 2019, and are projected to meet escalating District expenses, as well as the reserve target in CY 2024. The impact of these rate increases on the District's cash flow is displayed on **Table 29.**

Table 29

Palmdale Water District
Revenues & Expenses (Cash Basis) - 2016 Bond Issue

	Projected	Proposed	Esclation	Projected									
	2013	2014	%	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024
Cash Balance	$8,852,185	$10,775,511		$10,775,511	$9,697,193	$9,230,054	$8,583,584	$8,593,339	$9,254,221	$10,830,669	$12,420,086	$14,019,644	$15,626,271
Operating Revenue				5.5%	5.5%	5.5%	5.5%	5.5%	3.0%	3.0%	3.0%	3.0%	3.0%
Wholesale Water (AVEK & LCID)	$200,000	$225,000		$237,375	$250,431	$264,204	$278,736	$294,066	$302,888	$311,975	$321,334	$330,974	$340,903
Water Sales	9,135,000	9,053,000		9,550,915	10,076,215	10,630,407	11,215,080	11,831,909	12,186,866	12,552,472	12,929,046	13,316,918	13,716,425
Meter Fees	11,025,000	11,255,000		11,874,025	12,527,096	13,216,087	13,942,971	14,709,835	15,151,130	15,605,664	16,073,834	16,556,049	17,052,730
Water Quality Fees	1,650,000	1,638,000		1,687,140	1,737,754	1,789,887	1,843,583	1,898,891	1,955,858	2,014,533	2,074,969	2,137,218	2,201,335
Elevation Fees	565,000	525,000		553,875	584,338	616,477	650,383	686,154	706,739	727,941	749,779	772,272	795,441
Other	1,685,000	1,700,000	3.0%	1,751,000	1,803,530	1,857,636	1,913,365	1,970,766	2,029,889	2,090,786	2,153,509	2,218,114	2,284,658
Operating Revenue	**$24,260,000**	**$24,396,000**		**$25,654,330**	**$26,979,365**	**$28,374,698**	**$29,844,118**	**$31,391,621**	**$32,333,369**	**$33,303,370**	**$34,302,471**	**$35,331,546**	**$36,391,492**
Operating Expenses													
Rate Assistance Program	$0	$0	3.0%	$150,000	$154,500	$159,135	$163,909	$168,826	$173,891	$179,108	$184,481	$190,016	$195,716
Directors	100,500	114,500	3.0%	117,935	121,473	125,117	128,871	132,737	136,719	140,821	145,045	149,397	153,878
Administration	2,172,750	3,598,000	3.0%	2,885,375	2,971,936	3,061,094	3,152,927	3,247,515	3,344,940	3,445,289	3,548,647	3,655,107	3,764,760
Engineering	1,252,250	1,187,300	3.0%	1,222,919	1,259,607	1,297,395	1,336,317	1,376,406	1,417,698	1,460,229	1,504,036	1,549,157	1,595,632
Facilities	2,912,000	3,763,000	3.0%	3,875,890	3,992,167	4,111,932	4,235,290	4,362,348	4,493,219	4,628,015	4,766,856	4,909,861	5,057,157
Operations	5,109,000	5,173,500	3.0%	5,328,705	5,488,566	5,653,223	5,822,820	5,997,504	6,177,430	6,362,752	6,553,635	6,750,244	6,952,751
Finance	2,871,000	2,890,750	3.0%	2,977,473	3,066,797	3,158,801	3,253,565	3,351,172	3,451,707	3,555,258	3,661,916	3,771,773	3,884,926
Water Conservation	234,750	275,000	3.0%	283,250	291,748	300,500	309,515	318,800	328,364	338,215	348,362	358,813	369,577
Human Resources	186,250	273,800	3.0%	282,014	290,474	299,189	308,164	317,409	326,932	336,739	346,842	357,247	367,964
Information Technology	661,500	828,600	3.0%	853,458	879,062	905,434	932,597	960,574	989,392	1,019,073	1,049,646	1,081,135	1,113,569
Water Purchases	2,500,000	2,400,000	5.0%	2,520,000	2,646,000	2,778,300	2,917,215	3,063,076	3,216,230	3,377,041	3,545,893	3,723,188	3,909,347
OAP Chrg (Prior Year)	436,485	250,000	3.0%	257,500	265,225	273,182	281,377	289,819	298,513	307,468	316,693	326,193	335,979
Water Recovery	(750,000)	(100,000)	3.0%	(103,000)	(106,090)	(109,273)	(112,551)	(115,927)	(119,405)	(122,987)	(126,677)	(130,477)	(134,392)
Water Quality (GAC Media) (1)	1,345,000	1,638,000	3.0%	1,687,140	1,737,754	1,789,887	1,843,583	1,898,891	1,955,858	2,014,533	2,074,969	2,137,218	2,201,335
Plant Expenditures (Includes Meter Replacements)	685,000	2,143,500	3.0%	900,000	900,000	900,000	900,000	900,000	-	-	-	-	-
General Projects	-	-	3.0%	500,000	500,000	500,000	515,000	530,450	546,364	562,754	579,637	597,026	614,937
Replacement Capital Projects	-	-	3.0%	2,500,000	2,500,000	2,500,000	2,575,000	2,652,250	2,731,818	2,813,772	2,898,185	2,985,131	3,074,685
Operating Expenses	**$19,716,485**	**$24,435,950**		**$26,238,659**	**$26,959,218**	**$27,703,915**	**$28,563,598**	**$29,451,850**	**$29,469,668**	**$30,418,082**	**$31,398,165**	**$32,411,028**	**$33,457,823**
Net Operating Income	**$4,543,515**	**($39,950)**		**($584,329)**	**$20,146**	**$670,783**	**$1,280,520**	**$1,939,770**	**$2,863,702**	**$2,885,288**	**$2,904,306**	**$2,920,517**	**$2,933,669**
Non-Operating Revenue													
Assessments (Debt Service) (2)	$4,756,500	$4,400,000	DWR Debt Service	$3,718,000	$3,718,000	$3,718,000	$3,718,000	$3,718,000	$3,718,000	$3,718,000	$3,718,000	$3,718,000	$3,718,000
Assessments (1%)	1,720,314	1,600,000	SWP PMT	2,336,380	2,336,380	2,336,380	2,336,380	2,336,380	2,336,380	2,336,380	2,336,380	2,336,380	2,336,380
Successor Agency Component (Prop Tax)	515,391	200,000	3.0%	-	-	-	-	-	-	-	-	-	-
Interest	30,000	35,000	3.0%	36,050	37,132	38,245	39,393	40,575	41,792	43,046	44,337	45,667	47,037
Market Adj. on Investments	(30,000)	(10,000)	3.0%	(10,300)	(10,609)	(10,927)	(11,255)	(11,593)	(11,941)	(12,299)	(12,668)	(13,048)	(13,439)
Capital Improvement Fees	244,949	150,000	3.0%	154,500	159,135	163,909	168,826	173,891	179,108	184,481	190,016	195,716	201,587
Grants - State & Federal	-	485,000	3.0%	-	-	-	-	-	-	-	-	-	-
Other	175,000	185,000	3.0%	190,550	196,267	202,154	208,219	214,466	220,900	227,527	234,352	241,383	248,625
Non-Operating Revenue	**$7,412,154**	**$7,045,000**		**$6,425,180**	**$6,436,304**	**$6,447,762**	**$6,459,563**	**$6,471,719**	**$6,484,239**	**$6,497,135**	**$6,510,417**	**$6,524,098**	**$6,538,190**
Non-Operating Expenses													
Payments for State Water Project	$2,821,029	$2,336,380	N/A	$2,336,380	$2,336,380	$2,336,380	$2,336,380	$2,336,380	$2,336,380	$2,336,380	$2,336,380	$2,336,380	$2,336,380
Principal Paid on Long Term Debt	1,840,455	1,473,000	Debt Service	1,473,000	1,473,000	1,473,000	1,473,000	1,473,000	1,473,000	1,473,000	1,473,000	1,473,000	1,473,000
Interest Paid on Long Term Debt	1,778,719	2,245,000	Debt Service	2,245,000	2,245,000	2,245,000	2,245,000	2,245,000	2,245,000	2,245,000	2,245,000	2,245,000	2,245,000
Capital Leasing	239,557	217,500	0.0%	217,500	217,500	54,375	-	-	-	-	-	-	-
Water Conservation	125,000	143,000	3.0%	147,290	151,709	156,260	160,948	165,776	170,749	175,872	181,148	186,583	192,180
Acquisition of PP&E	3,227,583	886,000	Capital Program	-	-	-	-	-	-	-	-	-	-
Studies and Planning Documents	-	-	3.0%	200,000	200,000	200,000	206,000	212,180	218,545	225,102	231,855	238,810	245,975
Replacement / New Equipment	-	-	3.0%	300,000	300,000	300,000	309,000	318,270	327,818	337,653	347,782	358,216	368,962
Additional Debt Service -- Capital Projects	-	-	Debt Service	0	0	1,000,000	1,000,000	1,000,000	1,000,000	1,000,000	1,000,000	1,000,000	1,000,000
Non-Operating Expenses	**$10,032,343**	**$7,300,880**		**$6,919,170**	**$6,923,589**	**$7,765,015**	**$7,730,328**	**$7,750,606**	**$7,771,493**	**$7,793,006**	**$7,815,165**	**$7,837,989**	**$7,861,497**
Net Non-Operating Income	**($2,620,189)**	**($255,880)**		**($493,990)**	**($487,285)**	**($1,317,253)**	**($1,270,765)**	**($1,278,888)**	**($1,287,254)**	**($1,295,872)**	**($1,304,748)**	**($1,313,890)**	**($1,323,307)**
Net Income	**$1,923,326**	**($295,830)**		**($1,078,319)**	**($467,138)**	**($646,470)**	**$9,755**	**$660,883**	**$1,576,448**	**$1,589,416**	**$1,599,558**	**$1,606,627**	**$1,610,362**
Cash Balance	$10,775,511	$10,479,681		$9,697,193	$9,230,054	$8,583,584	$8,593,339	$9,254,221	$10,830,669	$12,420,086	$14,019,644	$15,626,271	$17,236,633
Capital Plan (Not including GAC Media)	**$3,912,583**	**$3,029,500**		**$3,500,000**	**$3,500,000**	**$4,500,000**	**$4,605,000**	**$4,713,150**	**$4,824,545**	**$4,939,281**	**$5,057,459**	**$5,179,183**	**$5,304,559**
Reserve Target Met (Based on Resolution No. 13-13) (4)	NO	NO		NO	NO	NO	NO	NO	NO	NO	NO	NO	YES

(1) Paid for from .20 cent Water Quality Charge
(2) Assessments set based on DWR state water project costs.
(3) "Net water revenues" (revenues including assessments less O&M) must be equal to one hundred and ten percent (110%) of debt service and (100%) of policy cost.
(4) Reserve target is currently $16.2 million

Meter Revenue Projection

Table 30

A. Meter Charges	% Increase	5.5%	5.5%	5.5%	5.5%	5.5%
Meter Size	**CY 2014**	**CY 2015**	**CY 2016**	**CY 2017**	**CY 2018**	**CY 2019**
1" and Below	$31.27	$32.99	$34.80	$36.71	$38.73	$40.86
1.5"	93.80	98.96	104.40	110.14	116.20	122.59
2"	143.85	151.76	160.11	168.92	178.21	188.01
3"	260.62	274.95	290.07	306.02	322.85	340.61
4"	427.44	450.95	475.75	501.92	529.53	558.65
6"	844.50	890.95	939.95	991.65	1,046.19	1,103.73
8"	1,344.96	1,418.93	1,496.97	1,579.30	1,666.16	1,757.80
10"	1,928.84	2,034.93	2,146.85	2,264.93	2,389.50	2,520.92

B. Meter Growth	% Meter Growth	0.50%	0.50%	0.50%	0.50%	0.50%
Meter Size	**CY 2014**	**CY 2015**	**CY 2016**	**CY 2017**	**CY 2018**	**CY 2019**
1" and Below	26,117	26,248	26,379	26,511	26,644	26,777
1.5"	306	308	310	312	314	316
2"	336	338	340	342	344	346
3"	7	7	7	7	7	7
4"	41	41	41	41	41	41
6"	8	8	8	8	8	8
8"	0	0	0	0	0	0
10"	4	4	4	4	4	4
Total	**26,819**	**26,954**	**27,089**	**27,225**	**27,362**	**27,499**

C. Est. Meter Revenue						
Meter Size	**CY 2014**	**CY 2015**	**CY 2016**	**CY 2017**	**CY 2018**	**CY 2019**
1" and Below	$816,679	$865,922	$917,989	$973,219	$1,031,922	$1,094,108
1.5"	28,703	30,480	32,364	34,364	36,487	38,738
2"	48,334	51,295	54,437	57,771	61,304	65,051
3"	1,824	1,925	2,030	2,142	2,260	2,384
4"	17,525	18,489	19,506	20,579	21,711	22,905
6"	6,756	7,128	7,520	7,933	8,370	8,830
8"	0	0	0	0	0	0
10"	7,715	8,140	8,587	9,060	9,558	10,084
Monthly Totals	**$927,536**	**$983,377**	**$1,042,434**	**$1,105,067**	**$1,171,611**	**$1,242,101**
Annual Revenue	**$11,130,429**	**$11,800,524**	**$12,509,206**	**$13,260,803**	**$14,059,336**	**$14,905,207**
Difference From Cashflow	-$124,571	-$73,501	-$17,890	$44,716	$116,365	$195,372

Table 30 shows the projected meter charges, meter growth, and meter revenues from the proposed rate increases. BWA estimates conservative meter growth of 0.5% per year to avoid over estimating revenues. Growth in new housing development remains flat in recent years due to the economic downturn, and it is unclear when growth will return to historical levels.

Commodity Revenue Projection

Table 31

D. Commodity Rates	% Increase	5.5%	5.5%	5.5%	5.5%	5.5%
	CY 2014	CY 2015	CY 2016	CY 2017	CY 2018	CY 2019
Tier 1	$0.73	$0.77	$0.81	$0.85	$0.90	$0.95
Tier 2	$0.84	$0.89	$0.94	$0.99	$1.04	$1.10
Tier 3	$2.37	$2.50	$2.64	$2.79	$2.94	$3.10
Tier 4	$3.57	$3.77	$3.98	$4.20	$4.43	$4.67
Tier 5	$4.61	$4.86	$5.13	$5.41	$5.71	$6.02
Tier 6	$5.93	$6.26	$6.60	$6.96	$7.34	$7.74

E. Water Usage	% Increase	0.0%	0.0%	0.0%	0.0%	0.0%
	CY 2014	CY 2015	CY 2016	CY 2017	CY 2018	CY 2019
Tier 1	4,219,605	4,219,605	4,219,605	4,219,605	4,219,605	4,219,605
Tier 2	2,813,070	2,813,070	2,813,070	2,813,070	2,813,070	2,813,070
Tier 3	562,302	562,302	562,302	562,302	562,302	562,302
Tier 4	261,103	261,103	261,103	261,103	261,103	261,103
Tier 5	136,303	136,303	136,303	136,303	136,303	136,303
Tier 6	197,617	197,617	197,617	197,617	197,617	197,617
Total	**8,190,000**	**8,190,000**	**8,190,000**	**8,190,000**	**8,190,000**	**8,190,000**

F. Est. Commodity Revenue						
	CY 2014	CY 2015	CY 2016	CY 2017	CY 2018	CY 2019
Tier 1	$3,080,312	$3,249,096	$3,417,880	$3,586,664	$3,797,645	$4,008,625
Tier 2	2,362,979	2,503,632	2,644,286	2,784,939	2,925,593	3,094,377
Tier 3	1,332,656	1,405,756	1,484,478	1,568,823	1,653,169	1,743,137
Tier 4	932,139	984,359	1,039,191	1,096,634	1,156,688	1,219,352
Tier 5	628,355	662,431	699,232	737,397	778,288	820,542
Tier 6	1,171,866	1,237,079	1,304,269	1,375,411	1,450,505	1,529,552
Total	**$9,508,307**	**$10,042,353**	**$10,589,336**	**$11,149,869**	**$11,761,887**	**$12,415,585**
Difference From Cashflow	$455,307	$491,438	$513,121	$519,462	$546,807	$583,676

Table 31 shows the proposed commodity rates and projected water usage and commodity revenues under the proposed rate increases. BWA forecasts 0% growth in water usage due to the addition of the new sub allocation tier (Tier 1) to further encourage water conservation, and due to level annual water usage in recent years.

5-Year Drought Rate Surcharge

Table 32

Drought Surcharges

Stage No.	Policy	% Shortage	Drought Surcharge per CCF*					
			CY 2014	CY 2015	CY 2016	CY 2017	CY 2018	CY 2019
1	Water Rationing	20% reduction in water deliveries	$0.45	$0.47	$0.50	$0.53	$0.56	$0.59
2	Water Rationing	30% reduction in water deliveries	$0.77	$0.81	$0.86	$0.90	$0.95	$1.01
3	Water Rationing	40% reduction in water deliveries	$1.19	$1.26	$1.33	$1.41	$1.49	$1.57

**Charged to usage above Tier 1*

Table 32 shows the recommended drought surcharges over five years. Drought rate increases from 2015-2019 were calculated based on approved rate increases, projected purchased water costs, and level annual water usage. The drought surcharge will only apply to nonessential usage (usage in Tiers 2 – 6.)

Table 33

Sample Bill Impacts: Single Family

SFR Proposed Rates Calculation CY 2015

SFR User	CCF	Meter Size(s)	Meter Charge
June	20	1	$32.99
			$0.00

	June	
ETO	8.77	12 Inches/ft
Sqr Footage	3500	100 ft3 /1 ccf
Area Factor	50%	
Landscape Factor	70%	
Household Size	4	

Outdoor Allocation	8.95
Indoor Allocation	10.74

Tier 1	0.00 - 10.74	Indoor
Tier 2	10.74 - 19.69	Indoor + Outdoor
Tier 3	19.69 - 25.59	130%
Tier 4	25.59 - 31.50	160%
Tier 5	31.50 - 37.41	190%
Tier 6	> 37.41	>191%

Commodity Rate

	Rate	Usage (CCF)	
Tier 1	$0.77	10.74	$8.27
Tier 2	$0.89	8.95	$7.97
Tier 3	$2.50	0.31	$0.78
Tier 4	$3.77	0.00	$0.00
Tier 5	$4.86	0.00	$0.00
Tier 6	$6.26	0.00	$0.00
Total		**20.00**	**$17.01**

Monthly Service Charge	**$32.99**
Total Bill:	**$50.00**

SFR Current Rates Calculation CY 2014

SFR User	CCF	Meter Sizes	Meter Charge
June	20	1	$52.26
		0	$0.00

Indoor + Outdoor	19.69

Tier 1	0.00 - 19.69	Indoor + Outdoor
Tier 2	19.69 - 25.59	130%
Tier 3	25.59 - 31.50	160%
Tier 4	31.50 - 37.41	190%
Tier 5	> 37.41	>191%

Commodity Rate

	Rate	Usage (CCF)	
Tier 1	$0.73	19.69	$14.37
Tier 2	$2.90	0.31	$0.90
Tier 3	$3.70	0.00	$0.00
Tier 4	$4.81	0.00	$0.00
Tier 5	$5.81	0.00	$0.00
Total		**20.00**	**$15.28**

Monthly Service Charge	**$52.26**
Total Bill:	**$67.54**
Difference in Bills	**-$17.53**
% Difference	**-25.96%**

SFR Proposed Rates Calculation CY 2015

SFR User	CCF	Meter Size(s)	Meter Charge
June	20	5/8	$32.99
			$0.00

	June	
ETO	8.77	12 Inches/ft
Sqr Footage	3500	100 ft3 /1 ccf
Area Factor	50%	
Landscape Factor	70%	
Household Size	4	

Outdoor Allocation	8.95
Indoor Allocation	10.74

Tier 1	0.00 - 10.74	Indoor
Tier 2	10.74 - 19.69	Indoor + Outdoor
Tier 3	19.69 - 25.59	130%
Tier 4	25.59 - 31.50	160%
Tier 5	31.50 - 37.41	190%
Tier 6	> 37.41	>191%

Commodity Rate

	Rate	Usage (CCF)	
Tier 1	$0.77	10.74	$8.27
Tier 2	$0.89	8.95	$7.97
Tier 3	$2.50	0.31	$0.78
Tier 4	$3.77	0.00	$0.00
Tier 5	$4.86	0.00	$0.00
Tier 6	$6.26	0.00	$0.00
Total		**20.00**	**$17.01**

Monthly Service Charge	**$32.99**
Total Bill:	**$50.00**

SFR Current Rates Calculation CY 2014

SFR User	CCF	Meter Sizes	Meter Charge
June	20	5/8	$27.51
		0	$0.00

Indoor + Outdoor	19.69

Tier 1	0.00 - 19.69	Indoor + Outdoor
Tier 2	19.69 - 25.59	130%
Tier 3	25.59 - 31.50	160%
Tier 4	31.50 - 37.41	190%
Tier 5	> 37.41	>191%

Commodity Rate

	Rate	Usage (CCF)	
Tier 1	$0.73	19.69	$14.37
Tier 2	$2.90	0.31	$0.90
Tier 3	$3.70	0.00	$0.00
Tier 4	$4.81	0.00	$0.00
Tier 5	$5.81	0.00	$0.00
Total		**20.00**	**$15.28**

Monthly Service Charge	**$27.51**
Total Bill:	**$42.79**
Difference in Bills	**$7.22**
% Difference	**16.87%**

Table 34

Sample Bill Impacts: Multi Family

MFR Proposed Rates Calculation CY 2015

MFR User	CCF	Meter Size(s)	Meter Charge
June	120	1	$32.99
			$0.00

Location Class Annual Minimum Monthly Usage
3 Year Average: 75.00

Location Class Average Monthly Usage
3 Year Average: 120.00

Tier 1	0.00 - 75.00	Min Mo 3 Yr Avg
Tier 2	75.00 - 120.00	Mo 3 Yr Avg
Tier 3	120.00 - 156.00	130%
Tier 4	156.00 - 192.00	160%
Tier 5	192.00 - 228.00	190%
Tier 6	> 228.00	>191%

Commodity Rate

	Rate	Usage (CCF)	
Tier 1	$0.77	75.00	$57.75
Tier 2	$0.89	45.00	$40.05
Tier 3	$2.50	0.00	$0.00
Tier 4	$3.77	0.00	$0.00
Tier 5	$4.86	0.00	$0.00
Tier 6	$6.26	0.00	$0.00
Total		**120.00**	**$97.80**

Monthly Service Charge $32.99

Total Bill: $130.79

MFR Current Rates Calculation CY 2014

MFR User	CCF	Meter Sizes	Meter Charge
June	120	1	$52.26
		0	$0.00

Location Class Average Monthly Usage
3 Year Average: 120.00

Tier 1	0.00 - 120.00	Mo 3 Yr Avg
Tier 2	120.00 - 156.00	130%
Tier 3	156.00 - 192.00	160%
Tier 4	192.00 - 228.00	190%
Tier 5	> 228.00	>191%

Commodity Rate

	Rate	Usage (CCF)	
Tier 1	$0.73	120.00	$87.60
Tier 2	$2.90	0.00	$0.00
Tier 3	$3.70	0.00	$0.00
Tier 4	$4.81	0.00	$0.00
Tier 5	$5.81	0.00	$0.00
Total		**120.00**	**$87.60**

Monthly Service Charge $52.26

Total Bill: $139.86

Difference in Bills -$9.07
% Difference -6.49%

MFR Proposed Rates Calculation CY 2015

MFR User	CCF	Meter Size(s)	Meter Charge
June	120	1.5	$98.96
			$0.00

Location Class Annual Minimum Monthly Usage
3 Year Average: 75.00

Location Class Average Monthly Usage
3 Year Average: 120.00

Tier 1	0.00 - 75.00	Min Mo 3 Yr Avg
Tier 2	75.00 - 120.00	Mo 3 Yr Avg
Tier 3	120.00 - 156.00	130%
Tier 4	156.00 - 192.00	160%
Tier 5	192.00 - 228.00	190%
Tier 6	> 228.00	>191%

Commodity Rate

	Rate	Usage (CCF)	
Tier 1	$0.77	75.00	$57.75
Tier 2	$0.89	45.00	$40.05
Tier 3	$2.50	0.00	$0.00
Tier 4	$3.77	0.00	$0.00
Tier 5	$4.86	0.00	$0.00
Tier 6	$6.26	0.00	$0.00
Total		**120.00**	**$97.80**

Monthly Service Charge $98.96

Total Bill: $196.76

MFR Current Rates Calculation CY 2014

MFR User	CCF	Meter Sizes	Meter Charge
June	120	1.5	$93.51
		0	$0.00

Location Class Average Monthly Usage
3 Year Average: 120.00

Tier 1	0.00 - 120.00	Mo 3 Yr Avg
Tier 2	120.00 - 156.00	130%
Tier 3	156.00 - 192.00	160%
Tier 4	192.00 - 228.00	190%
Tier 5	> 228.00	>191%

Commodity Rate

	Rate	Usage (CCF)	
Tier 1	$0.73	120.00	$87.60
Tier 2	$2.90	0.00	$0.00
Tier 3	$3.70	0.00	$0.00
Tier 4	$4.81	0.00	$0.00
Tier 5	$5.81	0.00	$0.00
Total		**120.00**	**$87.60**

Monthly Service Charge $93.51

Total Bill: $181.11

Difference in Bills $15.65
% Difference 8.64%

Table 35

Sample Bill Impacts: Irrigation

Irrigation Proposed Rates Calculation CY 2015

Irrigation User	CCF	Meter Size(s)	Meter Charge
June	103	1	$32.99
			$0.00

	June	
ETO	8.77	12 Inches/ft
Sqr Footage	20000	100 ft3 /1 ccf
Area Factor	100%	
ESLF	42%	
EFLF	70%	

Essential Outdoor	61.39
Efficient Outdoor	102.32

Tier 1	0.00 - 61.39	Essential Outdoor
Tier 2	61.39 - 102.32	Efficient Outdoor
Tier 3	102.32 - 133.01	130%
Tier 4	133.01 - 163.71	160%
Tier 5	163.71 - 194.40	190%
Tier 6	> 194.40	>191%

Commodity Rate

	Rate	Usage (CCF)	
Tier 1	$0.77	61.39	$47.27
Tier 2	$0.89	40.93	$36.42
Tier 3	$2.50	0.68	$1.71
Tier 4	$3.77	0.00	$0.00
Tier 5	$4.86	0.00	$0.00
Tier 6	$6.26	0.00	$0.00
Total		**103.00**	**$85.40**

Monthly Service Charge	**$32.99**
Total Bill:	**$118.39**

Irrigation Current Rates Calculation CY 2014

Irrigation User	CCF	Meter Sizes	Meter Charge
June	103	1	$52.26
		0	$0.00

Efficient Outdoor	102.32

Tier 1	0.00 - 102.32	Efficient Outdoor
Tier 2	102.32 - 133.01	130%
Tier 3	133.01 - 163.71	160%
Tier 4	163.71 - 194.40	190%
Tier 5	> 194.40	>191%

Commodity Rate

	Rate	Usage (CCF)	
Tier 1	$0.73	102.32	$74.69
Tier 2	$2.90	0.68	$1.98
Tier 3	$3.70	0.00	$0.00
Tier 4	$4.81	0.00	$0.00
Tier 5	$5.81	0.00	$0.00
Total		**103.00**	**$76.67**

Monthly Service Charge	**$52.26**
Total Bill:	**$128.93**

Difference in Bills	**-$10.54**
% Difference	**-8.17%**

Irrigation Proposed Rates Calculation CY 2015

Irrigation User	CCF	Meter Size(s)	Meter Charge
June	103	1.5	$98.96
			$0.00

	June	
ETO	8.77	12 Inches/ft
Sqr Footage	20000	100 ft3 /1 ccf
Area Factor	100%	
ESLF	42%	
EFLF	70%	

Essential Outdoor	61.39
Efficient Outdoor	102.32

Tier 1	0.00 - 61.39	Essential Outdoor
Tier 2	61.39 - 102.32	Efficient Outdoor
Tier 3	102.32 - 133.01	130%
Tier 4	133.01 - 163.71	160%
Tier 5	163.71 - 194.40	190%
Tier 6	> 194.40	>191%

Commodity Rate

	Rate	Usage (CCF)	
Tier 1	$0.77	61.39	$47.27
Tier 2	$0.89	40.93	$36.42
Tier 3	$2.50	0.68	$1.71
Tier 4	$3.77	0.00	$0.00
Tier 5	$4.86	0.00	$0.00
Tier 6	$6.26	0.00	$0.00
Total		**103.00**	**$85.40**

Monthly Service Charge	**$98.96**
Total Bill:	**$184.36**

Irrigation Current Rates Calculation CY 2014

Irrigation User	CCF	Meter Sizes	Meter Charge
June	103	1.5	$93.51
		0	$0.00

Efficient Outdoor	102.32

Tier 1	0.00 - 102.32	Efficient Outdoor
Tier 2	102.32 - 133.01	130%
Tier 3	133.01 - 163.71	160%
Tier 4	163.71 - 194.40	190%
Tier 5	> 194.40	>191%

Commodity Rate

	Rate	Usage (CCF)	
Tier 1	$0.73	102.32	$74.69
Tier 2	$2.90	0.68	$1.98
Tier 3	$3.70	0.00	$0.00
Tier 4	$4.81	0.00	$0.00
Tier 5	$5.81	0.00	$0.00
Total		**103.00**	**$76.67**

Monthly Service Charge	**$93.51**
Total Bill:	**$170.18**

Difference in Bills	**$14.18**
% Difference	**8.33%**

Table 36

Sample Bill Impacts: Commercial/Industrial

Commercial Proposed Rates Calculation CY 2015

Commercial	CCF	Meter Size(s)	Meter Charge
June	400	4	$450.95
		1	$32.99

Location Class Annual Minimum Monthly Usage
3 Year Average: 320.00

Location Class Average Monthly Usage
3 Year 3 Month Average: 400.00

Tier 1	0.00 - 320.00	Min Mo 3 Yr Avg
Tier 2	320.00 - 400.00	Mo 3 Yr 3 Mo Avg
Tier 3	400.00 - 520.00	130%
Tier 4	520.00 - 640.00	160%
Tier 5	640.00 - 760.00	190%
Tier 6	> 760.00	>191%

Commodity Rate

	Rate	Usage (CCF)	
Tier 1	$0.77	320.00	$246.40
Tier 2	$0.89	80.00	$71.20
Tier 3	$2.50	0.00	$0.00
Tier 4	$3.77	0.00	$0.00
Tier 5	$4.86	0.00	$0.00
Tier 6	$6.26	0.00	$0.00
Total		**400.00**	**$317.60**

Monthly Service Charge $483.94

Total Bill: $801.54

Commercial Current Rates Calculation CY 2014

Commercial	CCF	Meter Sizes	Meter Charge
June	400	4	$423.62
		1	$52.26

Location Class Average Monthly Usage
3 Year Average: 400

Tier 1	0.00 - 400.00	Mo 3 Yr Avg
Tier 2	400.00 - 520.00	130%
Tier 3	520.00 - 640.00	160%
Tier 4	640.00 - 760.00	190%
Tier 5	> 760.00	>191%

Commodity Rate

	Rate	Usage (CCF)	
Tier 1	$0.73	400.00	$292.00
Tier 2	$2.90	0.00	$0.00
Tier 3	$3.70	0.00	$0.00
Tier 4	$4.81	0.00	$0.00
Tier 5	$5.81	0.00	$0.00
Total		**400.00**	**$292.00**

Monthly Service Charge $475.88

Total Bill: $767.88

Difference in Bills $33.66
% Difference 4.38%

Commercial Proposed Rates Calculation CY 2015

Commercial	CCF	Meter Size(s)	Meter Charge
June	150	1.5	$98.96
			$0.00

Location Class Annual Minimum Monthly Usage
3 Year Average: 120.00

Location Class Average Monthly Usage
3 Year 3 Month Average: 150.00

Tier 1	0.00 - 120.00	Min Mo 3 Yr Avg
Tier 2	120.00 - 150.00	Mo 3 Yr 3 Mo Avg
Tier 3	150.00 - 195.00	130%
Tier 4	195.00 - 240.00	160%
Tier 5	240.00 - 285.00	190%
Tier 6	> 285.00	>191%

Commodity Rate

	Rate	Usage (CCF)	
Tier 1	$0.77	120.00	$92.40
Tier 2	$0.89	30.00	$26.70
Tier 3	$2.50	0.00	$0.00
Tier 4	$3.77	0.00	$0.00
Tier 5	$4.86	0.00	$0.00
Tier 6	$6.26	0.00	$0.00
Total		**150.00**	**$119.10**

Monthly Service Charge $98.96

Total Bill: $218.06

Commercial Current Rates Calculation CY 2014

Commercial	CCF	Meter Sizes	Meter Charge
June	150	1.5	$93.51
		0	$0.00

Location Class Average Monthly Usage
3 Year Average: 150

Tier 1	0.00 - 150.00	Mo 3 Yr Avg
Tier 2	150.00 - 195.00	130%
Tier 3	195.00 - 240.00	160%
Tier 4	240.00 - 285.00	190%
Tier 5	> 285.00	>191%

Commodity Rate

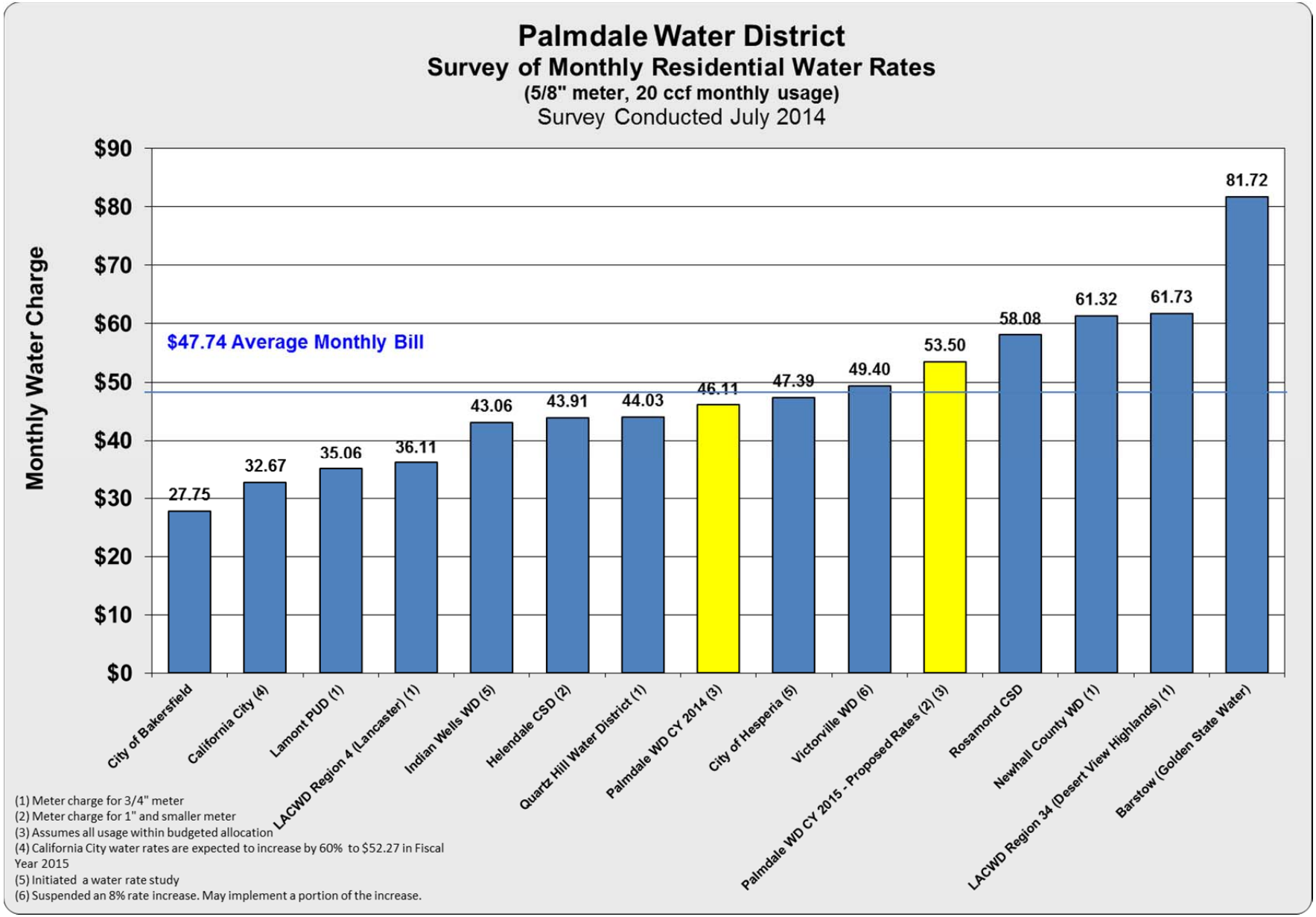
	Rate	Usage (CCF)	
Tier 1	$0.73	150.00	$109.50
Tier 2	$2.90	0.00	$0.00
Tier 3	$3.70	0.00	$0.00
Tier 4	$4.81	0.00	$0.00
Tier 5	$5.81	0.00	$0.00
Total		**150.00**	**$109.50**

Monthly Service Charge $93.51

Total Bill: $203.01

Difference in Bills $15.05
% Difference 7.41%

Table 37


Palmdale Water District
Survey of Monthly Residential Water Rates
(5/8" meter, 20 ccf monthly usage)
Survey Conducted July 2014
Monthly Water Charge
$90
$80
$70
$60
$50
$40
$30
$20
$10
$0
$47.74 Average Monthly Bill
27.75
32.67
35.06
36.11
43.06
43.91
44.03
46.11
47.39
49.40
53.50
58.08
61.32
61.73
81.72
City of Bakersfield
California City (4)
Lamont PUD (1)
LACWD Region 4 (Lancaster) (1)
Indian Wells WD (5)
Helendale CSD (2)
Quartz Hill Water District (1)
Palmdale WD CY 2014 (3)
City of Hesperia (5)
Victorville WD (6)
Palmdale WD CY 2015 - Proposed Rates (2) (3)
Rosamond CSD
Newhall County WD (1)
LACWD Region 34 (Desert View Highlands) (1)
Barstow (Golden State Water)
(1) Meter charge for 3/4" meter
(2) Meter charge for 1" and smaller meter
(3) Assumes all usage within budgeted allocation
(4) California City water rates are expected to increase by 60% to $52.27 in Fiscal Year 2015
(5) Initiated a water rate study
(6) Suspended an 8% rate increase. May implement a portion of the increase.