



PALMDALE WATER DISTRICT

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Board of Directors

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July 10, 2014

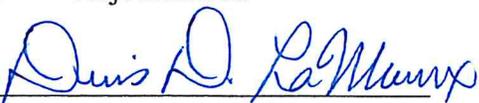
*Agenda for a Workshop Meeting
of the Board of Directors of the Palmdale Water District
to be held at the District's office at 2029 East Avenue Q, Palmdale
Wednesday, July 16, 2014
10:00 a.m.*

NOTE: To comply with the Americans with Disabilities Act, to participate in any Board meeting please contact Dawn Deans at 661-947-4111 x1003 at least 48 hours prior to a Board meeting to inform us of your needs and to determine if accommodation is feasible.

Agenda item materials, as well as materials related to agenda items submitted after distribution of the agenda packets, are available for public review at the District's office located at 2029 East Avenue Q, Palmdale. Please call Dawn Deans at 661-947-4111 x1003 for public review of materials.

Each item on the agenda shall be deemed to include any appropriate motion, resolution, or ordinance to take action on any item.

- 1) Roll Call.
- 2) Adoption of Agenda.
- 3) Public comments for non-agenda items.
- 4) Discussion and overview of 2014 Water Rate Study. (Bartle Wells/Finance Manager Williams)
- 5) Board members' requests for future agenda items.
- 6) Adjournment.


DENNIS D. LaMOREAUX, General Manager

DDL/dd

P A L M D A L E W A T E R D I S T R I C T
B O A R D M E M O R A N D U M

DATE: July 10, 2014 **July 16, 2014**
TO: BOARD OF DIRECTORS **Workshop Meeting**
FROM: Michael Williams, Finance Manager/CFO
VIA: Mr. Dennis D. LaMoreaux, General Manager
RE: ***AGENDA ITEM NO. 4 – DISCUSSION AND OVERVIEW OF 2014 WATER RATE STUDY.***

Recommendation:

Staff recommends the Board receive the 2014 rate study prepared by Bartle Wells Associates.

Background:

The Board approved the agreement with Bartle Wells Associates to prepare the 2014 rate study. Staff had a number of meetings with Bartle Wells to discuss the needs of the District according to the Strategic Plan.

The rate adjustment recommendations in the attached draft report are preliminary. Bartle Wells will have final numbers at the workshop. The key concepts and recommended adjustments to the rate schedule will remain the same. Those key factors are:

- 1) 55% fixed 45% variable cost recovery from water rates
- 2) Standardization of 1” and below meter charges for all customer classes
- 3) The addition of sub-allocation tiers for all customer classes based on their “essential usage” to further encourage conservation
- 4) 3-year 3-month averaging of the “Commercial/Industrial” customer class water usage to smooth out variances
- 5) Minimum indoor allocation for “Multi-Family” customers with no 3 year history.
- 6) A new cost allocation methodology which more accurately represents District costs being recovered by revenues based on peak system demand and conservation program costs
- 7) New policies for establishing the water quality fee and elevation booster surcharge based on five year running averages of actual costs
- 8) The development of a drought surcharge based on Board Resolution No. 09-04
- 9) Two rate increase options based on two methods of funding capital projects

BOARD OF DIRECTORS
PALMDALE WATER DISTRICT
VIA: Mr. Dennis D. LaMoreaux, General Manager

July 10, 2014

Strategic Plan Element:

This work is part of Strategic Element 1, Strategic Water Management; 3, Improve Infrastructure

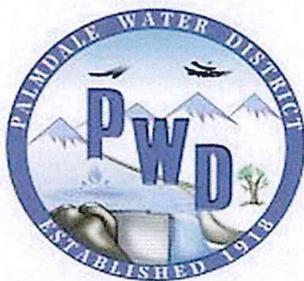
Budget:

This is under Budget Item No. PL02, Studies and Planning

Supporting Documents:

- Preliminary Draft of Water Tables prepared by Bartle Wells

Palmdale Water District Water Rate Study 2014



**Water Tables
July 9th, 2014**

PRELIMINARY DRAFT



BARTLE WELLS ASSOCIATES
Independent Public Finance Advisors



July 10th, 2014

Recommendations considered in this draft include:

- 1) Two rate increase options based on two methods of funding capital projects
- 2) 55% fixed 45% variable cost recovery from water rates
- 3) Standardization of 1" and below meter charges for all customer classes
- 4) The addition of sub-allocation tiers for all customer classes based on their "essential usage" to further encourage conservation
- 5) 3-year 3-month averaging of the "Commercial/Industrial" customer class water usage to smooth out variances
- 6) A new cost allocation methodology which more accurately represents District costs being recovered by revenues based on peak system demand and conservation program costs
- 7) New policies for establishing the water quality fee and elevation booster surcharge based on five year running averages of actual costs
- 8) The development of a drought surcharge based on Board Resolution No. 09-04

Recommended Rate Increase Options

Table 1 shows the District's current capital improvement program. Categories include: Debt Service for New Capital Projects, Studies and Planning Documents, Replacement / New Equipment, General Projects, and Replacement Capital Projects. The District's meter replacement program, which is expensed rather than capitalized, is shown in the **Table 2** operating expense category "Plant Expenditures," and includes \$900,000 per year for 5 years of meter replacements. \$1,000,000 per year in addition debt service for new capital projects is also included in the capital improvement program, and is expected to fund approximately \$13.8 million in new projects.

BWA has developed two rate increase options based on when the \$13.8 million bond is issued. **Table 2** shows the option of issuing the bond in CY 2016, and requires estimated rate increases of 5%, 5%, 6%, 6%, 6%. **Table 3** shows the bond issued in CY 2014 and requires estimated rate increases of 6%, 6% 6%, 5%, 5%.

Rate Structure Changes

The 2009 rate study proposed meter and commodity charges are displayed in **Table 4**. The prior cost allocation methodology was based on recovering all variable costs of the District based on billing all customers' usage at the Tier 1 rate. Additional costs in higher tiers were allocated based on the District purchasing additional State Water Project water and the District's "Cash for Grass" program.



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Based on 2011 consumption data, the District recovered approximately half of water sale revenue from usage above Tier 1, and about 37% of water sale revenues from marginal costs charged for conservation programs and developing additional sources of supply.

The District has utilized these additional revenues to keep the fixed meter charges low. **Table 4** indicates that the 2009 rate study recommended fixed charges of \$40.27 in 2014 for a 5/8" meter, while actual charges increased from \$25.97 to \$27.51.

For the new 2014 cost allocation, BWA has developed a cost methodology for higher costs in higher tiers based on the peak demands higher water usage places on the water system, as well as conservation costs. BWA believes that the proposed methodology, developed in **Table 5** through **Table 7**, more accurately reflects actual costs being recovered from District revenues.

Additionally, a sixth "essential usage" tier is developed for all users, and marginal peak and conservation costs are allocated to six tiers in **Table 8** and **Table 9**. Some peak costs are allocated to the new "Tier 2", which includes both indoor and outdoor usage for residential customers. A meter charge is also developed in **Table 9** based on billing and customer service costs per bill and the American Water Works Association meter capacity equivalents.

Table 10 shows the impact of combining 5/8" and 1" inch meters into the class "1" and below" and charging all customer classes with these meter sizes the same fixed rate.

The current and proposed rate structure is shown in **Table 11**. The proposed rate structure establishes a sub allocation "essential usage" tier (Tier 1) for each class of customer, while the current "efficient usage" water budget is now Tier 2 for all customers, except for Commercial/Industrial. BWA proposes allocating efficient usage to Commercial/Industrial customers based on a 3-year 3 month moving average as a solution to account for large variances in historical water usage.

The essential usage budget for residential is recommended to be "indoor usage." The essential usage budget for Multi Family, Commercial/Industrial, and Other is recommended to be based on a 3-year average of the lowest usage month for the individual customer's location class. This allocation is intended to capture indoor usage, expected to occur during the lowest usage winter month. Irrigation customers' essential usage budget is recommended to be based on the current Outdoor Usage formula, but with an "Essential Usage" landscape factor 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."

Other recommended changes include changing the Water Quality Fee to a formula based on a five-year moving average of actual GAC costs divided by billed water usage in hundred cubic feet. The Elevation Booster Surcharge is recommended to be changed to a moving five year average based on elevated units of water per elevation zone and actual pumping costs.



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Table 12 shows sample bill impacts on Single Family Residential, Irrigation, and Multi Family customers based on the current and proposed rate structure.

Drought Surcharge

A drought surcharge is recommended on **Table 14** 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 by estimating the amount of variable revenue lost from lower water sales at each stage of drought, and subtracting the reduction in purchased water costs to determine lost revenues. The lost revenue was divided by the amount of "Non-essential" usage, or usage above the new Tier 1, to develop a per CCF drought rate for each stage.

BWA recommends a .45 cent surcharge on all non-essential 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).

Table 1
Palmdale Water District
Capital Improvement Program

	2015	2016	2017	
Debt Service - New Capital Projects	1,000,000	1,000,000	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	<u>2,500,000</u>	<u>2,500,000</u>	<u>2,500,000</u>	Covers water main replacement projects, well and booster rehab/replacement projects, and long term debt coverage on capital replacement funding
Annual Project Expenditures	4,500,000	4,500,000	4,500,000	

Table 2
Palmdale Water District
Revenues & Expenses (Cash Basis) - 2016 Bond Issue

	Projected 2013	Proposed 2014	Escalation %	Projected										
				2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	
Cash Balance	\$8,852,185	\$10,775,511		\$10,775,511	\$9,591,903	\$8,903,129	\$8,138,915	\$8,147,498	\$8,937,575	\$10,647,092	\$12,373,570	\$14,114,301	\$15,866,337	
Operating Revenue				5.0%	5.0%	6.0%	6.0%	6.0%	3.0%	3.0%	3.0%	3.0%	3.0%	
Wholesale Water (AVEK & LCID)	\$200,000	\$225,000			\$236,250	\$248,063	\$262,946	\$278,723	\$295,446	\$304,310	\$313,439	\$322,842	\$332,528	\$342,503
Water Sales	9,135,000	9,053,000			9,505,650	9,980,933	10,579,788	11,214,576	11,887,450	12,244,074	12,611,396	12,989,738	13,379,430	13,780,813
Meter Fees	11,025,000	11,255,000			11,817,750	12,408,638	13,153,156	13,942,345	14,778,886	15,222,252	15,678,920	16,149,288	16,633,766	17,132,779
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			551,250	578,813	613,541	650,354	689,375	710,056	731,358	753,299	775,898	799,175
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			\$25,549,040	\$26,757,729	\$28,256,954	\$29,842,946	\$31,520,814	\$32,466,439	\$33,440,432	\$34,443,645	\$35,476,954	\$36,541,263
Operating Expenses														
Senior Subsidy	\$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)			(\$689,619)	(\$201,489)	\$553,040	\$1,279,348	\$2,068,964	\$2,996,771	\$3,022,350	\$3,045,479	\$3,065,926	\$3,083,440
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%		38,050	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	358,218	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)			(\$1,183,609)	(\$688,774)	(\$764,214)	\$8,583	\$790,076	\$1,709,517	\$1,726,478	\$1,740,732	\$1,752,036	\$1,760,133
Cash Balance	\$10,775,511	\$10,479,681			\$9,591,903	\$8,903,129	\$8,138,915	\$8,147,498	\$8,937,575	\$10,647,092	\$12,373,570	\$14,114,301	\$15,866,337	\$17,626,470
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

Table 3
 Palmdale Water District
 Revenues & Expenses (Cash Basis) - 2014 Bond Issue

	Projected 2013	Proposed 2014	Escalation %	Projected									
				2015	2016	2017	2018	2019	2020	2021	2022	2023	2024
Cash Balance	\$8,852,185	\$10,775,511		\$10,775,511	\$8,802,483	\$7,558,033	\$7,264,802	\$7,521,823	\$8,311,900	\$10,021,417	\$11,747,895	\$13,488,626	\$15,240,682
Operating Revenue				6.0%	6.0%	6.0%	5.0%	5.0%	3.0%	3.0%	3.0%	3.0%	3.0%
Wholesale Water (AVEK & LCID)	\$200,000	\$225,000		\$238,500	\$252,810	\$267,979	\$281,378	\$295,446	\$304,310	\$313,439	\$322,842	\$332,528	\$342,503
Water Sales	9,135,000	9,053,000		9,596,180	10,171,951	10,782,268	11,321,381	11,887,450	12,244,074	12,611,396	12,989,738	13,379,430	13,780,813
Meter Fees	11,025,000	11,255,000		11,930,300	12,646,118	13,404,885	14,075,129	14,778,886	15,222,252	15,678,920	16,149,288	16,633,766	17,132,779
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		566,500	589,890	625,283	656,548	689,375	710,056	731,358	753,299	775,898	799,175
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		\$25,759,620	\$27,202,053	\$28,727,938	\$30,091,384	\$31,520,814	\$32,466,439	\$33,440,432	\$34,443,645	\$35,476,954	\$36,541,263
Operating Expenses													
Senior Subsidy	\$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	4,111,832	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)		(\$479,039)	\$242,835	\$1,024,023	\$1,527,786	\$2,068,964	\$2,996,771	\$3,022,350	\$3,045,479	\$3,065,926	\$3,083,440
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	40,573	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	1,000,000	1,000,000	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		\$7,919,170	\$7,923,589	\$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)		(\$1,493,990)	(\$1,487,285)	(\$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)		(\$1,973,029)	(\$1,244,450)	(\$293,230)	\$257,021	\$790,076	\$1,709,517	\$1,726,478	\$1,740,732	\$1,752,036	\$1,760,133
Cash Balance	\$10,775,511	\$10,479,681		\$8,802,483	\$7,558,033	\$7,264,802	\$7,521,823	\$8,311,900	\$10,021,417	\$11,747,895	\$13,488,626	\$15,240,662	\$17,000,795
Capital Plan (Not including GAC Media)	\$3,912,583	\$3,029,500		\$4,500,000	\$4,500,000	\$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	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

**Table 4
Palmdale Water District
2009 Recommended and Actual Rate Increases**

Meters	Proposed Meter Charges (2009)						Total Increase
	2009	2010	2011	2012	2013	2014	
5/8"	\$25.97	\$29.60	\$31.97	\$34.53	\$37.29	\$40.27	55.06%
1"	\$50.66	\$57.75	\$62.37	\$67.36	\$72.75	\$78.57	55.09%
1.5"	\$91.81	\$104.67	\$113.04	\$122.08	\$131.85	\$142.40	55.10%
2"	\$141.20	\$160.96	\$173.84	\$187.75	\$202.77	\$218.99	55.09%
3"	\$256.43	\$292.33	\$315.71	\$340.97	\$368.25	\$397.71	55.09%
4"	\$421.05	\$479.99	\$518.39	\$559.86	\$604.65	\$653.02	55.09%
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	\$2,529.87	\$2,732.26	\$2,950.84	55.10%

Meters	Actual Meter Charges		
	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%

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

Tiers	Actual Commodity Rates						Total Increase	Current Rates (2014)
	2009	2010	2011	2012	2013	2014		
Tier 1	\$0.64	\$0.64	\$0.67	\$0.67	\$0.72	\$0.73	14.06%	\$0.73
%		0%	5%	0%	8%	2%		
Tier 2	\$2.50	\$2.50	\$2.63	\$2.63	\$2.84	\$2.89	15.67%	\$2.90
%		0%	5%	0%	8%	2%		
Tier 3	\$3.20	\$3.20	\$3.36	\$3.36	\$3.63	\$3.70	15.67%	\$3.70
%		0%	5%	0%	8%	2%		
Tier 4	\$4.16	\$4.16	\$4.37	\$4.37	\$4.72	\$4.81	15.67%	\$4.81
%		0%	5%	0%	8%	2%		
Tier 5	\$5.03	\$5.03	\$5.28	\$5.28	\$5.70	\$5.81	15.51%	\$5.81
%		0%	5%	0%	8%	2%		

Table 5
Palmdale Water District
Cost Allocation - 2014 Budget

Base and Peak Costs	
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)
Subtotal	\$19,764,189

Capital Expenses	
Plant Expenditures	\$2,143,500
Acquisition of PP&E	886,000
Capital Leasing	217,500
Subtotal	\$3,247,000

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 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

Elev Booster Charge
\$344,761
8,190,000
\$0.04
per ccf

Water Conservation
\$413,000
8,190,000
\$0.05
per ccf

Water Quality Surcharge
\$1,638,000
8,190,000
\$0.20
per ccf

**Table 6
Palmdale Water District
Base and Peak Cost Allocation**

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

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%

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%

Total Fixed Costs \$12,654,621

Variable Costs				
Base		Peak		%
25%	\$28,625	20%	\$22,900	100%
25%	\$872,500	15%	\$523,500	100%
20%	\$215,960	15%	\$161,970	100%
40%	\$1,363,400	10%	\$340,850	100%
30%	\$1,532,622	15%	\$766,311	100%
35%	\$1,039,063	15%	\$445,313	100%
35%	\$75,355	10%	\$21,530	100%
35%	\$290,010	10%	\$82,860	100%
30%	\$720,000	20%	\$480,000	100%
30%	\$75,000	20%	\$50,000	100%
30%	-\$30,000	20%	-\$20,000	100%
	\$6,182,534		\$2,875,233	
20%	\$428,700	20%	\$428,700	100%
20%	\$177,200	20%	\$177,200	100%
25%	\$54,375	15%	\$32,625	100%
	\$660,275		\$638,525	
	\$6,842,809		\$3,513,758	
	29.7%		15.3%	100%

Total Variable Costs \$10,356,567

Table 7
Palmdale Water District
Unit Cost Development

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

Variable Revenue Recovery	Rates	Base Water Charge	Peak Costs
\$9,109,883	Total Cost	\$6,019,098	\$3,090,785
	Total "Units of Service"	8,190,000	1,157,325
	Unit Cost	\$0.73	\$2.67
	Units of Service	per ccf	per ccf

Fixed Revenue Recovery	Rates	Billing & Customer Service	Meter Charge	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

Table 8
Palmdale Water District
Water Usage Estimation

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%

Estimated 2014 Water Usage	Budgeted 2014 Water Sales	2014 Usage / 2011 Allocation	2014 Rates	Estimated Water Sales
8,190,000	\$9,053,000	7,032,675	\$0.73	\$5,133,853
		562,302	\$2.90	\$1,630,676
		261,103	\$3.70	\$966,082
		136,303	\$4.81	\$655,615
		<u>197,617</u>	\$5.81	<u>\$1,148,152</u>
		8,190,000		\$9,534,379

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	562,302	6.87%
Tier 4	261,103	3.19%
Tier 5	136,303	1.66%
Tier 6	197,617	2.41%
Total	8,190,000	100.00%

Table 9
Palmdale Water District
Commodity and Fixed Charges

Peaking Cost Recovery

	Estimated 2014 Usage (ccf)		Peak Allocation Factor	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
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	

Water Conservation Cost Recovery

Conservation Costs		Usage In Tier	Cost Distribution	Revenues Collected	\$ per ccf
\$413,000	Tier 1	4,219,605	0%	\$0	\$0.00
	Tier 2	2,813,070	0%	\$0	\$0.00
	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

2014 Proposed Commodity Rate Schedule (1)

Commodity Rates / CCF	CY 2014 Rates	Estimated Usage (ccf)	Current 2014 Rates	Difference From 2014 Rates	Est. Water Sales
Tier 1	\$0.73	4,219,605	\$0.73	\$0.00	\$3,101,125
Tier 2	\$0.84	2,813,070	\$0.73	\$0.11	\$2,359,486
Tier 3	\$2.37	562,302	\$2.90	(\$0.53)	\$1,330,277
Tier 4	\$3.57	261,103	\$3.70	(\$0.13)	\$931,575
Tier 5	\$4.61	136,303	\$4.81	(\$0.20)	\$627,975
Tier 6	\$5.93	197,617	\$5.81	\$0.12	\$1,172,443
					\$9,522,883

(1) The Commodity Rate Schedule is composed of a base of \$.73 cents for each tier calculated on Table 7, peaking costs per ccf recovered from Tiers 2 - 6, and water conservation costs per ccf recovered from Tiers 3 - 6.

2014 Proposed Meter Charge Schedule (2)

AWWA Meter Equivalents	Meter Size	Meter Charge	Current Monthly Service Charge	Difference From 2014 Rates	Fixed Charges	Number of Meters	Est. Monthly Charges	Est. Annual Revenue
1.00	5/8"	\$27.07	\$27.51	(\$0.44)	5/8"	21,733	\$588,324	\$7,059,884
2.50	1"	\$52.09	\$52.26	(\$0.17)	1"	4,384	\$228,379	\$2,740,552
5.00	1-1/2"	\$93.80	\$93.51	\$0.29	1.5"	306	\$28,703	\$344,431
8.00	2"	\$143.85	\$143.03	\$0.82	2"	336	\$48,332	\$579,987
15.00	3"	\$260.62	\$258.57	\$2.05	3"	7	\$1,824	\$21,892
25.00	4"	\$427.44	\$423.62	\$3.82	4"	41	\$17,525	\$210,302
50.00	6"	\$844.50	\$836.24	\$8.26	6"	8	\$6,756	\$81,072
80.00	8"	\$1,344.96	\$1,331.38	\$13.58	8"	0	\$0	\$0
115.00	10"	\$1,928.84	\$1,909.05	\$19.79	10"	4	\$7,715	\$92,584
						26,819	\$927,559	\$11,130,705

(2) The Meter Charge Schedule is based on the Table 7 base charge of \$10.39 for customer service and billing and a 5/8" meter capacity charge of \$16.68 increased by meter size based on the American Water Works Association recommended meter equivalent ratios.

Estimated Revenue from Proposed Rates

CY 2014	Revenue	2014 Budget
Meter Charges	\$11,130,705	11,255,000
Water Sales	\$9,522,883	\$9,053,000
Subtotal	\$20,653,588	20,308,000
Addback - Revenue Offsets	\$2,770,000	
Water Quality Fees	\$1,638,000	
Elevation Fees	\$344,761	
Subtotal	\$4,752,761	
Total Revenue	\$25,406,349	

Table 10
Palmdale Water District
1" and Below Meter Charge

1" and Below Class Development

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
Meter Capacity Costs	\$6,544,695		
Total Costs	\$9,800,437		

Table 11
 Palmdale Water District
 Current and Proposed Rates

Palmdale Water District Current Rates 2014	
Water Quality Fee (\$/ccf):	\$0.20
New 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
<i>*Water use is metered in units of ccf (hundred cubic feet)</i>	
Single-Family Residential ("SFR") & Multi-Family Residential ("MFR")	
Allocation Equation:	SFR - Indoor + Outdoor MFR - 3-yr historical monthly average
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%
Commercial / Industrial ("CI") and Other (i.e. Municipal, School, Construction, etc...)	
Allocation Equation:	3-yr historical monthly average
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%
Irrigation only ("IRR")	
Allocation Equation:	Outdoor
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%

Indoor allocation = GPCD*Household Size*(Days per billing cycle/(748))
 Outdoor allocation = (ET0(12in))*IA*LF*conservation factor/(100ft³/1 ccf)

Landscape Factor (LF) = .7
 Residential IA Default = 50%
 Irrigation IA Default = 100%
 Default Household Size = 4
 GPCD = 65 gallons per occupant

Palmdale Water District Proposed Rate Structure	
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
<i>*Water use is metered in units of ccf (hundred cubic feet)</i>	
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

Indoor allocation = GPCD * Household Size * Days per billing cycle / (748 gallons/ccf)
 Essential Outdoor Allocation = (ET0(12in))*IA*ESLF/(100ft³/1 ccf)
 Efficient Outdoor Allocation = (ET0(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 = 65 gallons per occupant

Table 12
Palmdale Water District
Sample Bill Impacts

SFR Proposed Rates Calculation			
SFR User	20 HCF	5/8" Meter	
October (Average Eto Month)			
Efficient Outdoor Allocation = $(ET0/(12in)) * IA * EFLF / (100ft^3/1 ccf)$			
ET0	4.69	12 Inches/ft	
Sqr Footage	3,500	100 ft ³ / 1 ccf	
Area Factor	50%		
Landscape Factor	70%		
Household Size	4		
Outdoor Allocation	4.79		
Indoor Allocation	10.74		
Tier 1	0 - 10.74	Indoor	
Tier 2	10.74 - 15.53	Indoor + Outdoor	
Tier 3	15.53 - 20.19	130%	
Tier 4	20.19 - 24.84	160%	
Tier 5	24.84 - 29.50	190%	
Tier 6	>29.50	>191%	
Commodity Rate			
	Rate	Usage (HCF)	
Tier 1	\$0.73	10.74	\$7.84
Tier 2	\$0.84	4.79	\$4.02
Tier 3	\$2.37	4.47	\$10.60
Tier 4	\$3.57	0.00	\$0.00
Tier 5	\$4.61	0.00	\$0.00
Tier 6	\$5.93	0.00	\$0.00
Total		20.00	\$22.46
Meter Charge			\$31.27
Total Bill:			\$53.73
SFR Under Current Rates			
Tier 1	0 - 15.53	Indoor + Outdoor	
Tier 2	15.53 - 20.19	130%	
Tier 3	20.19 - 24.84	160%	
Tier 4	24.84 - 29.50	190%	
Tier 5	>29.50	>191%	
	Rate	Usage (HCF)	
Tier 1	\$0.73	15.53	\$11.34
Tier 2	\$2.90	4.47	\$12.97
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	\$24.30
Meter Charge			\$27.51
Total Bill:			\$51.81

Irrigation Proposed Rates Calculation			
IRR User	80 HCF	1" Meter	
October (Average Eto Month)			
Essential Outdoor Allocation = $(ET0/(12in)) * IA * ESLF / (100ft^3/1 ccf)$			
Efficient Outdoor Allocation = $(ET0/(12in)) * IA * EFLF / (100ft^3/1 ccf)$			
ET0	4.69	12 Inches/ft	
Sqr Footage	20,000	100 ft ³ / 1 ccf	
Area Factor	100%		
ESLF	42%		
EFLF	70%		
Essential Outdoor	32.83		
Efficient Outdoor	54.72		
Tier 1	0 - 32.83	Essential Outdoor	
Tier 2	32.83 - 54.72	Efficient Outdoor	
Tier 3	54.72 - 71.13	130%	
Tier 4	71.13 - 87.55	160%	
Tier 5	87.55 - 103.96	190%	
Tier 6	>103.96	>191%	
Commodity Rate			
	Rate	Usage (HCF)	
Tier 1	\$0.73	32.83	\$23.97
Tier 2	\$0.84	21.89	\$18.39
Tier 3	\$2.37	16.41	\$38.90
Tier 4	\$3.57	8.87	\$31.66
Tier 5	\$4.61	0.00	\$0.00
Tier 6	\$5.93	0.00	\$0.00
Total		80.00	\$112.91
Meter Charge			\$31.27
Total Bill:			\$144.18
IRR Under Current Rates			
Tier 1	0 - 54.72	Efficient Outdoor	
Tier 2	54.72 - 71.14	130%	
Tier 3	71.14 - 87.55	160%	
Tier 4	87.55 - 103.97	190%	
Tier 5	>103.97	>191%	
	Rate	Usage (HCF)	
Tier 1	\$0.73	54.72	\$39.95
Tier 2	\$2.90	16.41	\$47.59
Tier 3	\$3.70	8.87	\$32.81
Tier 4	\$4.81	0.00	\$0.00
Tier 5	\$5.81	0.00	\$0.00
Total		80.00	\$120.35
Meter Charge			\$52.26
Total Bill:			\$172.61

Multi Family Proposed Rates Calculation			
Multi Family User	140 HCF	2" Meter	
June			
Location Class Annual Minimum Monthly Usage			
Year 1	February	68	
Year 2	March	75	
Year 3	January	82	
3 Year Average:		75	
Location Class Average Monthly Usage			
Year 1	June	105	
Year 2	June	125	
Year 3	June	130	
3 Year Average:		120	
Tier 1	0 - 75	Min Mo 3 Yr Avg	
Tier 2	75 - 120	Mo 3 Yr Avg	
Tier 3	120 - 156	130%	
Tier 4	156 - 192	160%	
Tier 5	192 - 228	190%	
Tier 6	>228	>191%	
Commodity Rate			
	Rate	Usage (HCF)	
Tier 1	\$0.73	75.00	\$54.75
Tier 2	\$0.84	45.00	\$37.80
Tier 3	\$2.37	20.00	\$47.40
Tier 4	\$3.57	0.00	\$0.00
Tier 5	\$4.61	0.00	\$0.00
Tier 6	\$5.93	0.00	\$0.00
Total		140.00	\$139.95
Meter Charge			\$143.85
Total Bill:			\$283.80
Multi Family Under Current Rates			
Location Class Average Monthly Usage			
Year 1	June	105	
Year 2	June	125	
Year 3	June	130	
3 Year Average:		120	
Tier 1	0 - 120	Mo 3 Yr Avg	
Tier 2	120 - 156	130%	
Tier 3	156 - 192	160%	
Tier 4	192 - 228	190%	
Tier 5	>228	>191%	
Commodity Rate			
	Rate	Usage (HCF)	
Tier 1	\$0.73	120.00	\$87.60
Tier 2	\$2.90	20.00	\$58.00
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		140.00	\$145.60
Meter Charge			\$143.03
Total Bill:			\$288.63

Table 13
Palmdale Water District
Proposed Rate Increases - Option 1

A. Meter Charges	% Increase	5.0%	5.0%	6.0%	6.0%	6.0%
Meter Size	CY 2014	CY 2015	CY 2016	CY 2017	CY 2018	CY 2019
1" and Below	\$31.27	\$32.83	\$34.47	\$36.54	\$38.73	\$41.05
1.5"	93.80	98.49	103.41	109.61	116.19	123.16
2"	143.85	151.04	158.59	168.11	178.20	188.89
3"	260.62	273.65	287.33	304.57	322.84	342.21
4"	427.44	448.81	471.25	499.53	529.50	561.27
6"	844.50	886.73	931.07	986.93	1,046.15	1,108.92
8"	1,344.96	1,412.21	1,482.82	1,571.79	1,666.10	1,766.07
10"	1,928.84	2,025.28	2,126.54	2,254.13	2,389.38	2,532.74

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	\$861,722	\$909,284	\$968,712	\$1,031,922	\$1,099,196
1.5"	28,703	30,335	32,057	34,198	36,484	38,919
2"	48,334	51,052	53,921	57,494	61,301	65,356
3"	1,824	1,916	2,011	2,132	2,260	2,395
4"	17,525	18,401	19,321	20,481	21,710	23,012
6"	6,756	7,094	7,449	7,895	8,369	8,871
8"	0	0	0	0	0	0
10"	7,715	8,101	8,506	9,017	9,558	10,131
Monthly Totals	\$927,536	\$978,620	\$1,032,549	\$1,099,929	\$1,171,603	\$1,247,880
Annual Revenue	\$11,130,429	\$11,743,440	\$12,390,589	\$13,199,143	\$14,059,232	\$14,974,563
Difference From Cashflow	-\$124,571	-\$74,310	-\$18,048	\$45,987	\$116,887	\$195,677

D. Commodity Rates	% Increase	5.0%	5.0%	6.0%	6.0%	6.0%
	CY 2014	CY 2015	CY 2016	CY 2017	CY 2018	CY 2019
Tier 1	\$0.73	\$0.77	\$0.81	\$0.86	\$0.91	\$0.96
Tier 2	\$0.84	\$0.88	\$0.92	\$0.98	\$1.04	\$1.10
Tier 3	\$2.37	\$2.49	\$2.61	\$2.77	\$2.94	\$3.12
Tier 4	\$3.57	\$3.75	\$3.94	\$4.18	\$4.43	\$4.70
Tier 5	\$4.61	\$4.84	\$5.08	\$5.38	\$5.70	\$6.04
Tier 6	\$5.93	\$6.23	\$6.54	\$6.93	\$7.35	\$7.79

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	\$3,628,860	\$3,839,841	\$4,050,821
Tier 2	2,362,979	2,475,502	2,588,025	2,756,809	2,925,593	3,094,377
Tier 3	1,332,656	1,400,133	1,467,609	1,557,577	1,653,169	1,754,383
Tier 4	932,139	979,137	1,028,747	1,091,412	1,156,688	1,227,185
Tier 5	628,355	659,705	692,417	733,308	776,925	823,268
Tier 6	1,171,866	1,231,151	1,292,412	1,369,482	1,452,481	1,539,433
Total	\$9,508,307	\$9,994,723	\$10,487,090	\$11,137,449	\$11,804,696	\$12,489,467
Difference From Cashflow	\$455,307	\$489,073	\$506,157	\$557,660	\$590,120	\$602,017

Table 14
Palmdale Water District
Drought Rate Calculation

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

Proposed Drought Surcharges

Stage No.	Policy	% Shortage	Drought Surcharge per CCF*
1	Water Rationing	20% reduction in water deliveries	\$0.45
2	Water Rationing	30% reduction in water deliveries	\$0.77
3	Water Rationing	40% reduction in water deliveries	\$1.19

*Charged to usage above Tier 1