

# PALMDALE WATER DISTRICT

2029 East Avenue Q • Palmdale, California 93550 • Telephone (661) 947-4111

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[www.palmdalewater.org](http://www.palmdalewater.org)

## Board of Directors

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LAGERLOF, SENECA, GOSNEY & KRUSE LLP  
Attorneys



October 17, 2013

*Agenda for a Meeting  
of the Water Supply & Reliability Committee of the Palmdale Water District  
Committee Members: Gordon Dexter-Chair, Gloria Dizmang  
to be held at the District's office at 2029 East Avenue Q, Palmdale*

*Monday, October 21, 2013*

*5:00 p.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.

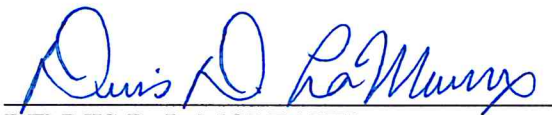
Agenda item materials, as well as materials related to agenda items submitted after distribution of the agenda packets, are available for public review at the District's office located at 2029 East Avenue Q, Palmdale. Please call Dawn Deans at 661-947-4111 x1003 for public review of materials.

PUBLIC COMMENT GUIDELINES: The prescribed time limit per speaker is three-minutes. Please refrain from public displays or outbursts such as unsolicited applause, comments, or cheering. Any disruptive activities that substantially interfere with the ability of the District to carry out its meeting will not be permitted and offenders will be requested to leave the meeting.

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.
- 4) Action Items: (The public shall have an opportunity to comment on any action item as each item is considered by the Committee prior to action being taken.)

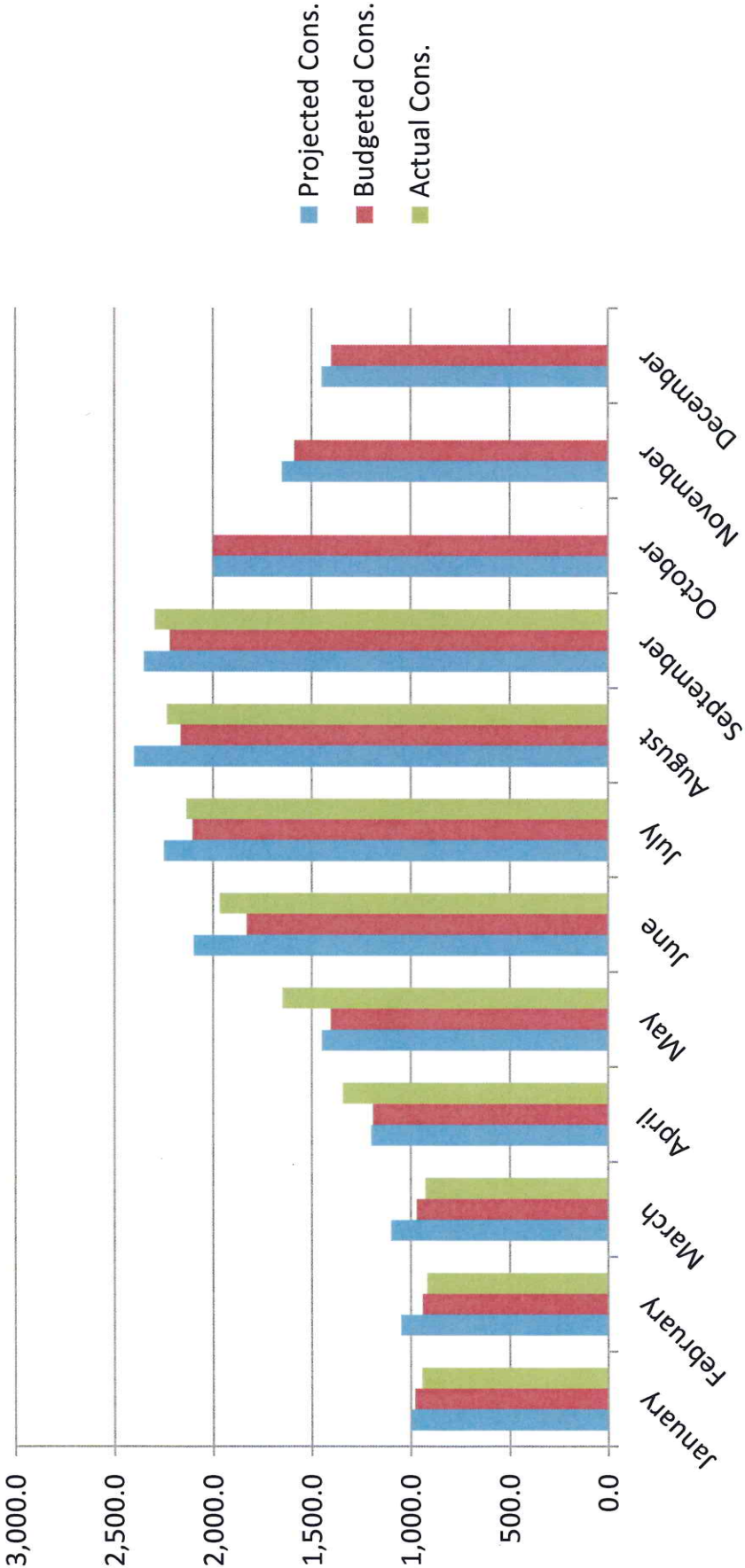
- 4.1) Consideration and possible action on approval of minutes of meeting held October 11, 2013.
- 4.2) Presentation of monthly water demand and supply status. (Water & Energy Resources Manager Pernula)
- 4.3) Consideration and possible action on Water Supply Fee. (Engineering Manager Knudson/Water & Energy Resources Manager Pernula)
- 4.4) Discussion of the District's water banking opportunities. (Chair Dexter)
- 4.5) Status on the operations of the State Water Project. (Water & Energy Resources Manager Pernula)
- 5) Project updates.
  - 5.1) Palmdale Recycled Water Authority. (General Manager LaMoreaux)
  - 5.2) Water purchase opportunities. (Water & Energy Resources Manager Pernula)
  - 5.3) Littlerock Dam Sediment Removal Project. (Engineering Manager Knudson)
- 6) Information items.
- 7) Board members' requests for future agenda items.
- 8) Adjournment.



DENNIS D. LaMOREAUX,  
General Manager

DDL/dd

Projected, Budgeted, and Actual Consumption  
Comparisons In A/F

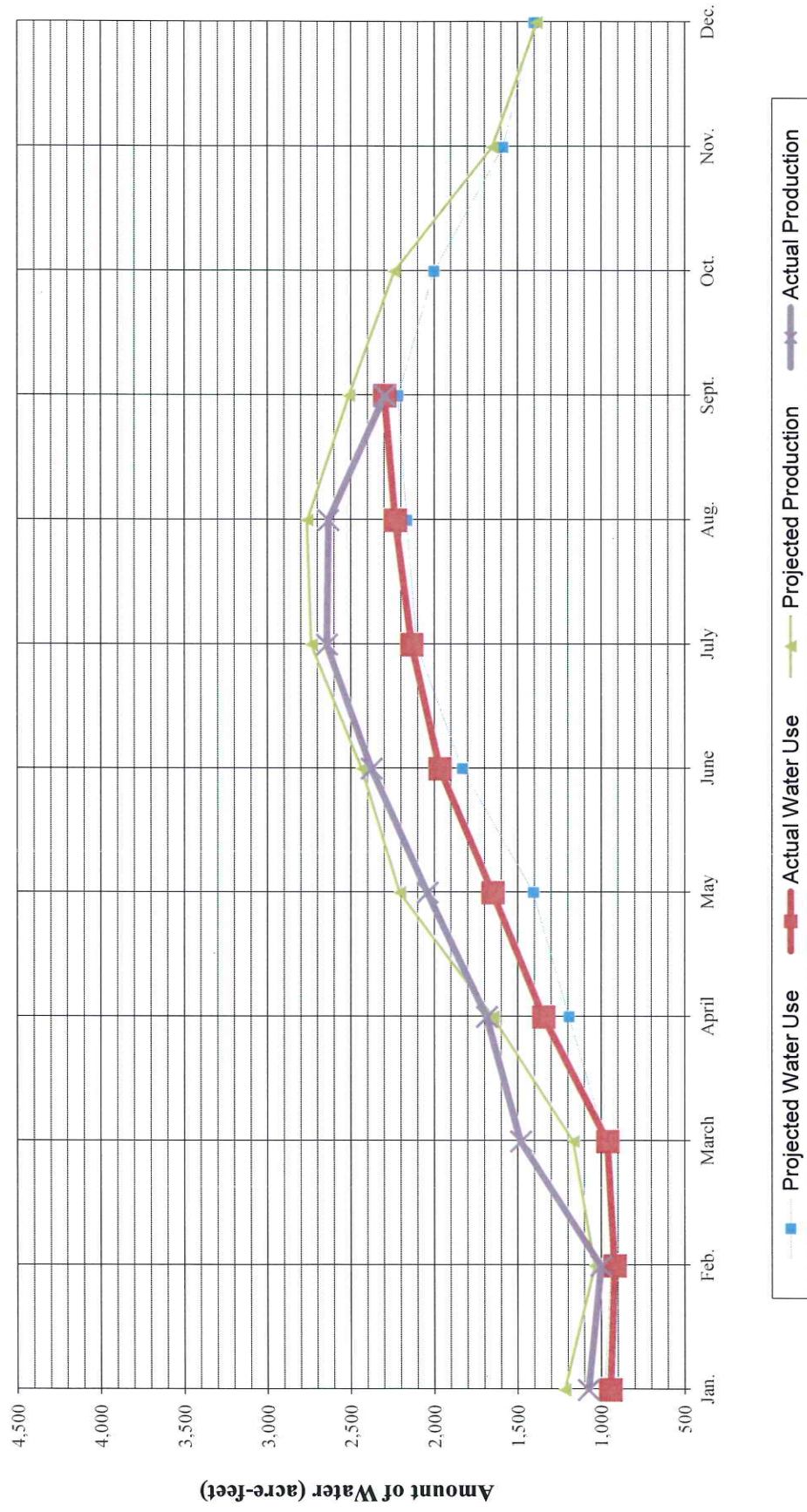


### 2013 BILLED CONSUMPTION

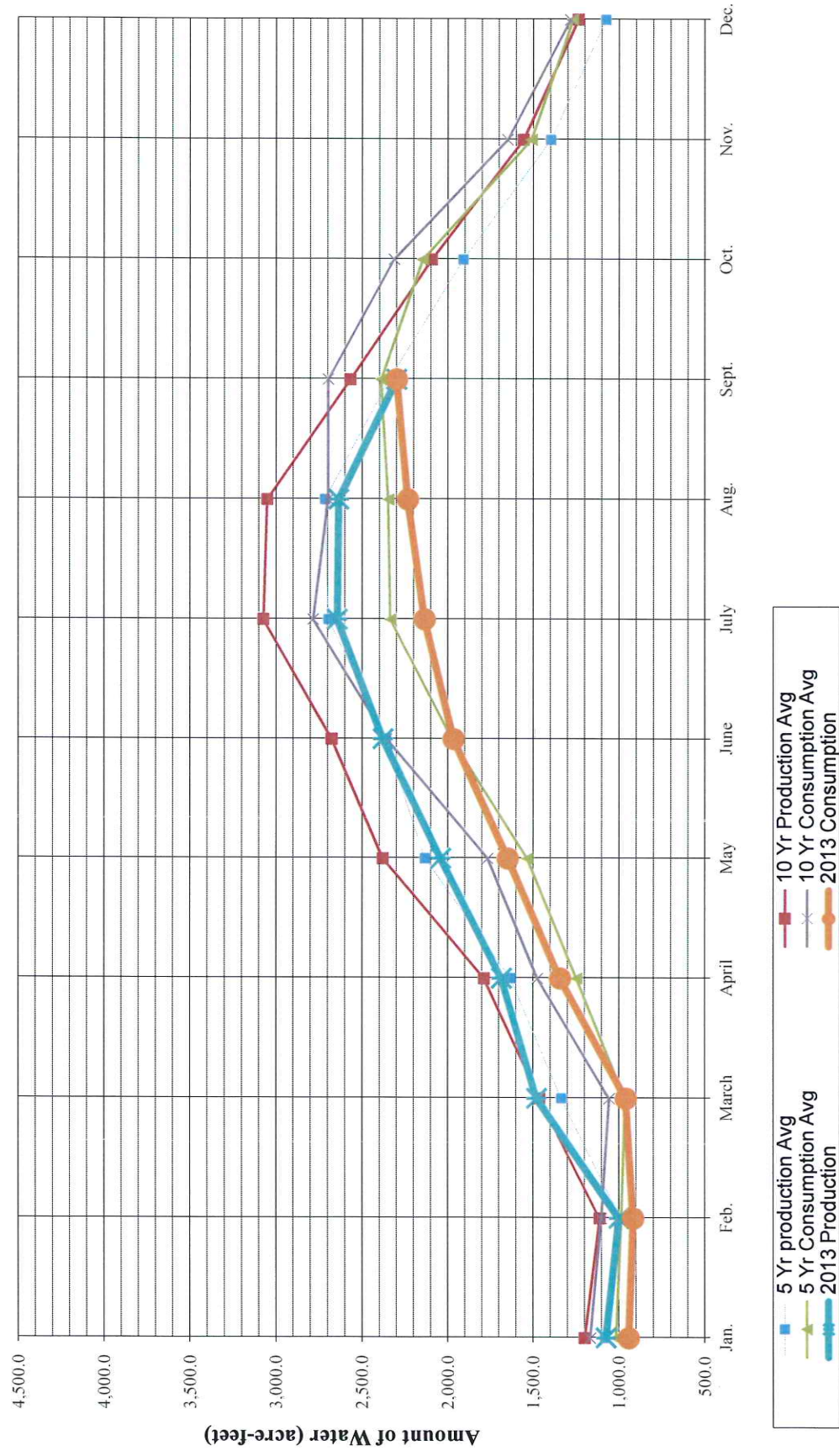
	PROJECTED	BUDGETED	ACTUAL
<b>January</b>	<b>1,000.0</b>	<b>979.1</b>	<b>944</b>
<b>February</b>	<b>1,050.0</b>	<b>940.7</b>	<b>918</b>
<b>March</b>	<b>1,100.0</b>	<b>970.5</b>	<b>927</b>
<b>April</b>	<b>1,200.0</b>	<b>1,191.5</b>	<b>1,344</b>
<b>May</b>	<b>1,450.0</b>	<b>1,405.0</b>	<b>1,650</b>
<b>June</b>	<b>2,100.0</b>	<b>1,830.7</b>	<b>1,967</b>
<b>July</b>	<b>2,250.0</b>	<b>2,104.6</b>	<b>2,136</b>
<b>August</b>	<b>2,400.0</b>	<b>2,165.7</b>	<b>2,235</b>
<b>September</b>	<b>2,350.0</b>	<b>2,219.2</b>	<b>2,296</b>
October	2,000.0	2,002.1	0
November	1,650.0	1,588.3	0
December	1,450.0	1,402.5	0
Totals	14,900.0	13807.1	14,417
	20,000.0	18,800	
Running total	<b>14,900.0</b>	<b>13,807.1</b>	<b>14,417</b>



# 2013 PWD PRODUCTION & CUSTOMER WATER USE



# 2013 PwD PRODUCTION & CUSTOMER WATER USE

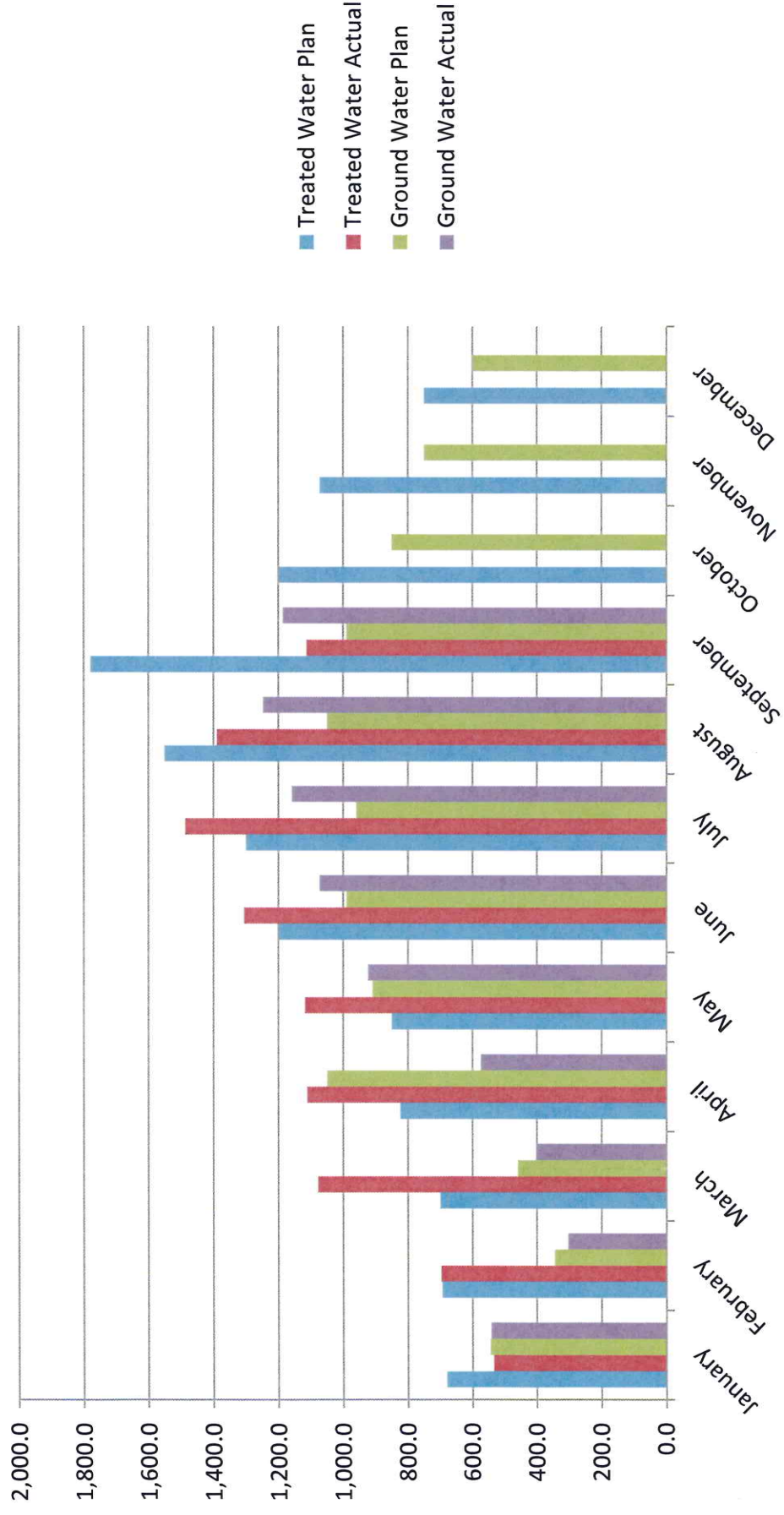


Month	Five-Year Aver. Consumption (ac.-ft.)	Budgeted 2013 Consumption (ac.-ft.)	Actual 2013 Consumption (ac.-ft.)	Difference (Act. - Pred.) (ac.-ft.)
Jan.	1018.1	979	944.3	-34.8
Feb.	987.5	941	918.3	-22.4
March	966.0	970	960.7	-9.8
April	1248.3	1,191.5	1,344.2	152.7
May	1535.9	1,405.0	1,649.6	244.6
June	1974.0	1,830.7	1,966.9	136.2
July	2335.5	2,104.6	2,135.7	31.1
Aug.	2347.3	2,165.7	2,234.8	69.1
Sept.	2389.4	2,219.2	2,295.9	76.7
Oct.	2149.1	2,002.1	0.0	0.0
Nov.	1513.5	1,588.3	0.0	0.0
Dec.	1272.0	1,402.5	0.0	0.0
	<b>19,736.6</b>	13,807.1	<b>14,450.4</b>	<b>643.3</b>
2008 thru 2012		20,000.0		4.5%

Month	Five-Year Aver. Production (ac.-ft.)	Projected 2013 Production (ac.-ft.)	Actual 2013 Production (ac.-ft.)	Difference (Act. - Pred.) (ac.-ft.)
Jan.	1082.4	1,217.8	1,076.7	-141.2
Feb.	990.3	1,036.3	1,001.2	-35.1
March	1336.7	1,164.9	1,481.1	316.2
April	1633.2	1,646.4	1,686.0	39.6
May	2134.5	2,207.1	2,042.1	-165.0
June	2362.4	2,434.8	2,378.8	-56.0
July	2696.4	2,736.8	2,645.7	-91.1
Aug.	2717.7	2,763.3	2,637.0	-126.3
Sept.	2344.3	2,512.8	2,299.6	-213.2
Oct.	1910.8	2,241.9	0.0	0.0
Nov.	1399.4	1,652.2	0.0	0.0
Dec.	1078.2	1,385.6	0.0	0.0
	<b>21,686.3</b>	17,720.3	<b>17,248.2</b>	<b>-472.1</b>
2008 thru 2012		23,000.0		-2.7%



## Actual Production vs Plan Comparisons A/F



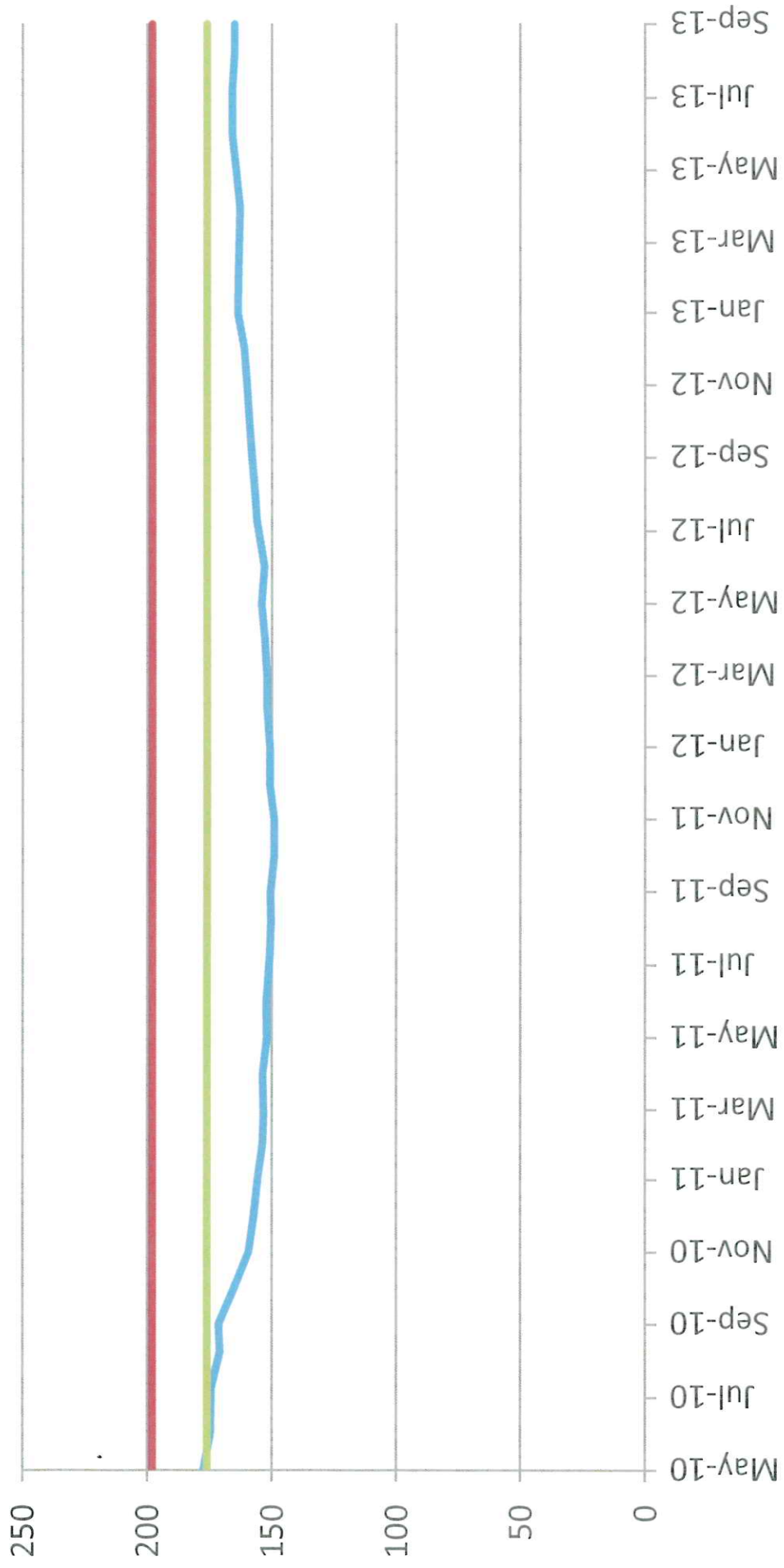


## 2013

MONTHLY TOTALS					
MONTH	TOTAL af	SW af	GW af	SW %	GW%
January	1,076.7	534.50	542.2	49.64%	50.36%
February	1,001.3	697.60	303.7	69.67%	30.33%
March	1,481.0	1077.9	403.1	72.78%	27.22%
April	1,686.0	1111.8	574.2	65.94%	34.06%
May	2,042.1	1118.1	924.0	54.75%	45.25%
June	2,378.8	1305.5	1073.3	54.88%	45.12%
July	2,646.20	1486.90	1159.30	56.19%	43.81%
August	2,637.0	1389.2	1247.8	52.68%	47.32%
September	2,299.6	1113.2	1186.5	48.41%	51.59%
October	0.00	0.00	0.00		
November	0.00	0.00	0.00		
December	0.00	0.00	0.00		

Running Averages	SW	GW
January	49.64%	50.36%
Jan. thru February	59.66%	40.34%
Jan. thru March	64.03%	35.97%
Jan. thru April	64.51%	35.49%
Jan. thru May	62.56%	37.44%
Jan. thru June	61.28%	38.72%
Jan. thru July	60.55%	39.45%
Jan. thru August	59.57%	40.43%
Jan. thru September	58.33%	41.67%
Jan. thru October	0.00%	0.00%
Jan. thru November	0.00%	0.00%
Jan. thru December	0.00%	0.00%

Current 12 month average GPCD      2015 goal = 198 GPCD      2020 Goal + 176 GPCD



**2013 Water Production Plan @ 35% Allocation**

Month	Raw Surface Water Sources							Water Production						Metered Water	
	Surface		Water		Evaporation		Total	WTP		Groundwater		Total		Water	
	Carry Over (ac-ft) *	Banking & Exchange (ac-ft) from CO *	Butte (ac-ft)	PWD/SWP (ac-ft)	LrD (ac-ft)	Plan (ac-ft)	Plan (ac-ft)	Plan (ac-ft)	Actual (ac-ft)	Plan (ac-ft)	Actual (ac-ft)	Plan (ac-ft)	Actual (ac-ft)	Plan (ac-ft)	Actual (ac-ft)
January	544.0	0.0	0.0	0.0	0.0	-9.50	534.50	680.0	534.5	545.0	542.2	1,225.0	1,076.7	1,000.0	944
February	0.0	0.0	0.0	680.0	0.0	0.00	680.00	694.0	697.6	345.0	303.7	1,039.0	1,001.3	1,050.0	918
March	0.0	0.0	1100.0	0.0	0.0	-22.10	1077.90	700.0	1077.9	460.0	403.1	1,160.0	1,481.0	1,100.0	961
April	1297.0	0.0	0	0.0	0.0	-170.00	1127.00	824.0	1111.8	1,050.0	574.2	1,874.0	1,686.0	1,200.0	1,344
May	1273.0	0.0	0	0.0	39.5	-146.00	1166.50	850.0	1118.1	910.0	924.0	1,760.0	2,042.1	1,450.0	1,650
June	0.0	0.0	0	749.0	963.9	-445.00	1267.90	1,200.0	1305.5	990.0	1073.3	2,190.0	2,378.8	2,100.0	1,967
July	0.0	0.0	1209.3	0.0	322.9	-126.30	1405.90	1,300.0	1486.9	960.0	1159.3	2,260.0	2,646.2	2,250.0	2,136
August	0.0	0.0	1190	426.0	0.0	-135.00	1481.00	1,550.0	1389.2	1,050.0	1247.8	2,600.0	2,637.0	2,400.0	2,235
September	0.0	0.0	0.0	289.2	524.8	-69.00	744.96	1,780.0	1113.2	990.0	1186.5	2,770.0	2,299.6	2,350.0	2,296
October	0.0	0.0	0.0	1516.0	0.0	-136.00	1380.00	1,200.0	0.0	850.0	0.0	2,050.0	0.0	2,000.0	0
November	0.0	0.0	0.0	1172.0	0.0	-50.00	1122.00	1,072.0	0.0	750.0	0.0	1,822.0	0.0	1,650.0	0
December	0.0	0.0	0.0	842.0	0.0	-39.00	803.00	750.0	0.0	600.0	0.0	1,350.0	0.0	1,450.0	0
	3,114.00	0.0	3499.3	2,144.2	1,851.1	(1,122.90)	9,485.66	9,578.0	9,834.6	7,300.0	7,414.09	16,878.0	17,248.7	14,900.0	14,451
Allocated Total Use:	2,577.0	2,000.0	3,500.0	7,455.0	3,000.0	1,250.0	13,000.0	13,000.0	11,000.0	9,500.0	9,000.00	23,000.0	21,500.00	20,000.0	19,999.0
Actual Planned Use	3,114.0		3,499.3	6,516.2			12,790.7								
Remaining Allotment:	-537.0	2,000.0	0.7	5,310.8	1,148.9	127.1	3,514.3	3,422.00	1,165.4	2,200.0	-1,585.91	6,122.0	4,251.32	5,100.0	5,548.1
WK returned Nov/Dec 2012		2,500.0		5,674.2		1,467.5		13,916.0		7,542.0		22,500.0	21,459.0	17,800.0	19,258
Total:	3,896.0	0.0	3,500.0	7,455.0	0.0	-1,250.0									
UNUSED TO DATE	782.0	0.0	0.7	5,310.8	0.0		6,093.5					3,424.0			
Planned Available for Carryover	3,180														

# PALMDALE WATER DISTRICT

## BOARD MEMORANDUM

**DATE:** October 17, 2013 **October 21, 2013**  
**TO:** WATER SUPPLY & RELIABILITY COMMITTEE **Committee Meeting**  
**FROM:** Mr. Matthew Knudson, Engineering Manager  
**VIA:** Mr. Dennis D. LaMoreaux, General Manager  
**RE:** ***AGENDA ITEM NO. 4.3 – CONSIDERATION AND POSSIBLE ACTION TO ADOPT RESOLUTION NO. 13-12, RESOLUTION OF THE BOARD OF DIRECTORS OF PALMDALE WATER DISTRICT MODIFYING THE POLICY REGARDING CAPITAL IMPROVEMENT FEES FOR NEW WATER SERVICE CONNECTIONS AND ADOPTING NEW WATER SUPPLY FEE.***

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### **Recommendation:**

Staff recommends that the Committee recommend the following action to the Board of Directors:

1. Adopt Resolution No. 13-12, Resolution of the Board of Directors of Palmdale Water District modifying the policy regarding Capital Improvement Fees for new water service connections and adopting new Water Supply Fee; and
2. Accept and file the Water Supply Fee Analysis dated October 17, 2013 prepared by Carollo Engineers.

### **Background:**

In order for the District to continue issuing Water Service Availability Letters and allowing the connection of new services to the water system, the District must establish an equitable revenue source that will fund the development and/or acquisition of new water sources based on identified needs. The District tracks historical and future water supply and demand within our service area through various planning documents. The attached table entitled “Palmdale Water District Water Supply and Availability” summarizes historical supply and demand. The table also shows that based on the current reliability of the available water resources, the District must acquire new water sources to support future service connections.

Earlier this year, the District retained the services of Carollo Engineers to perform a Water Supply Fee Analysis which outlined the overall methodology and fee development process. The findings of said analysis are founded on PWD’s 2010 Strategic Water Resources Plan (SWRP). The SWRP identified future service area water demands and the potential water resource options available to the District in order to meet the increased water demands.

Staff and Carollo Engineers presented the draft findings to the Board at a public workshop on August 12, 2013. The presentation had two options, one that looked at the total costs to supply a total of 35,000 acre-feet per year (AFY) and the second option looked at the costs to supply the first 14,000 (AFY). Following the presentation, there were several meetings and discussions with the Building Industry Association (BIA) and representatives from the building community regarding the two options, water supply planning, water



service availability letters, and implementation of the new policy. Staff felt that those meeting were very productive and after some additional review of the two options, staff is recommending the Board adopt Resolution No. 13-12, which incorporates the second option as presented at the workshop.

Resolution No. 13-12 and Table 1 under Appendix H incorporates the proposed modifications to the existing Capital Improvement Fees and includes the new Water Supply component of said fees. At the October 11, 2013 Water Supply and Reliability Committee meeting, it was discussed to allow the increase in fees to be spread out over the next couple of years, therefore, the following table summarizes the proposed fees for the period of January 1, 2014 – December 31, 2014.

CAPITAL IMPROVEMENT FEE (EFFECTIVE JANUARY 1, 2014-DECEMBER 31, 2014) (PER SINGLE-FAMILY DWELLING UNIT)					
SERVICE ZONE	EXISTING		PROPOSED		
	INFRASTRUCTURE (\$/EDU)	WATER SUPPLY (\$/SFDU)	INFRASTRUCTURE (\$/EDU)	WATER SUPPLY* (\$/SFDU)	TOTAL
2800' & 2850'	\$7,351	N/A	\$1,441	\$7,288	\$8,729
2950' & 3000'	\$7,192	N/A	\$1,161	\$7,349	\$8,510
3200' & 3250'	\$14,504	N/A	\$9,089	\$7,041	\$16,130
3400' & 3400'+	\$17,689	N/A	\$12,274	\$7,041	\$19,315
*FEE BASED ON TYPICAL SFR DEMAND (0.79 AFY)					
CAPITAL IMPROVEMENT FEE (EFFECTIVE JANUARY 1, 2014-DECEMBER 31, 2014) (COMMERCIAL /INDUSTRIAL)					
SERVICE ZONE	EXISTING		PROPOSED		
	INFRASTRUCTURE (\$/EDU)	WATER SUPPLY (\$/AFY)	INFRASTRUCTURE (\$/EDU)	WATER SUPPLY* (\$/AFY)	TOTAL
2800' & 2850'	\$7,351	N/A	\$1,441	\$10,970	BASED ON EDU'S & AFY
2950' & 3000'	\$7,192	N/A	\$1,161	\$10,970	
3200' & 3250'	\$14,504	N/A	\$9,089	\$10,970	
3400' & 3400' +	\$17,689	N/A	\$12,274	\$10,970	
* BASED ON FORECASTED AFY DEMAND					

For the period of January 1, 2015 – December 31, 2015, the fees will increase to the amounts shown in the following table, plus the percentage based on the published Construction Cost Index for the comparable time frame, plus the difference in the amount of the fee between Year-1 and Year-2 that would have been collected by all new connections during Year-1 and spread out over the remaining single family dwelling units within the 14,000 AFY water supply.

CAPITAL IMPROVEMENT FEE (EFFECTIVE JANUARY 1, 2015-DECEMBER 31, 2015) (PER SINGLE-FAMILY DWELLING UNIT)					
SERVICE ZONE	EXISTING		PROPOSED		
	INFRASTRUCTURE (\$/EDU)	WATER SUPPLY (\$/SFDU)	INFRASTRUCTURE (\$/EDU)	WATER SUPPLY* (\$/SFDU)	TOTAL
2800' & 2850'	\$7,351	N/A	\$1,441	\$8,665	\$10,106
2950' & 3000'	\$7,192	N/A	\$1,161	\$8,665	\$9,826
3200' & 3250'	\$14,504	N/A	\$9,089	\$8,665	\$17,754
3400' & 3400'+	\$17,689	N/A	\$12,274	\$8,665	\$20,939
*FEE BASED ON TYPICAL SFR DEMAND (0.79 AFY)					
CAPITAL IMPROVEMENT FEE (EFFECTIVE JANUARY 1, 2015-DECEMBER 31, 2015) (COMMERCIAL /INDUSTRIAL)					
SERVICE ZONE	EXISTING		PROPOSED		
	INFRASTRUCTURE (\$/EDU)	WATER SUPPLY (\$/AFY)	INFRASTRUCTURE (\$/EDU)	WATER SUPPLY* (\$/AFY)	TOTAL
2800' & 2850'	\$7,351	N/A	\$1,441	\$10,970	BASED ON EDU'S & AFY
2950' & 3000'	\$7,192	N/A	\$1,161	\$10,970	
3200' & 3250'	\$14,504	N/A	\$9,089	\$10,970	
3400' & 3400' +	\$17,689	N/A	\$12,274	\$10,970	
* BASED ON FORECASTED AFY DEMAND					

After December 31, 2015, the fees will be adjusted annually by the percentage based on the published Construction Cost Index for the comparable time frame.

**Strategic Plan Element:**

The specific elements of the Strategic Plan addressed are (Ensure adequate water supplies for future and existing customers) Strategic Goal 2.1, (Improve reliability of groundwater) Strategic Goal 2.2, (Develop recycled water as a water source) Strategic Goal 2.3.

**Budget:**

Once the modified Capital Improvement Fee and Water Supply Fee is in place, the District will segregate the revenues derived from said fees and hold and account for them as specified in Government Code Sections 66001 and 66006. The revenue generated by these fees will only be used on water supply acquisitions and projects associated with new water supply related to new development.

**Supporting Documents:**

- Resolution No. 13-12, including Table I of Appendix H
- Water Supply Fee Analysis, prepared by Carollo Engineers
- Palmdale Water District Water Supply and Availability Spreadsheet

**RESOLUTION OF THE BOARD OF DIRECTORS OF  
PALMDALE WATER DISTRICT MODIFYING THE POLICY REGARDING  
CAPITAL IMPROVEMENT FEES  
FOR NEW WATER SERVICE CONNECTIONS AND ADOPTING NEW WATER  
SUPPLY FEE**

**RESOLUTION NO. 13-12**

WHEREAS, following an update of its master plan in 1989, Palmdale Water District ("District") adopted a Capital Improvement Plan ("CIP") and a Capital Improvement Fee Policy ("Policy") which is set forth in Exhibit "H" to the District's Rules and Regulations; and

WHEREAS, the Policy established Capital Improvement Fees ("CIF") to be paid in connection with new service connections within the District's service area; and

WHEREAS, the new capital improvements identified in the CIP are the basis for determining the CIF under the Policy; and

WHEREAS, the purpose of the CIF is to create a fund to finance the estimated reasonable cost of capital improvements shown on the CIP to meet anticipated demand for water service arising from new connections; and

WHEREAS, as required under California Government Code Section 66002(b), the District has annually reviewed and, when necessary, updated the CIP and, based upon changes to the CIP, has modified the Policy and adjusted the CIF in accordance therewith; and

WHEREAS, since the initial planning period for the CIP would have expired in 1996, the District engaged Montgomery Watson in June, 1995, to review, study and update its master plan and to make recommendations to modify the CIP to meet projected needs and demands through the year 2005; and

WHEREAS, in January, 1996, Montgomery Watson submitted its final report entitled Water System Master Plan ("1996 Master Plan"), which report, among other things, made recommendations concerning the CIP to meet projected growth and development through year 2005; and

WHEREAS, on September 19, 1996, the District adopted the 1996 Master Plan which contained an updated CIP; and



WHEREAS, the 1996 Master Plan constituted an updating of the CIP, which update included the identification of recommended capital improvements to the District's water system and the estimated cost of constructing the capital facilities required to accommodate projected growth and development through year 2005; and

WHEREAS, following properly noticed and conducted public hearings in 1997, 1998, 1999, and 2000, the District duly adopted resolutions which updated the Capital Improvement Policy and modified the CIF; and

WHEREAS, in 2000, the District retained Montgomery Watson to review, study, and update the 1996 Master Plan and, among other things, make recommendations concerning the CIP to meet projected needs through year 2010; and

WHEREAS, in March 2001, Montgomery Watson submitted its final report entitled Water System Master Plan ("2001 Master Plan") including recommended modifications of the CIP, and the District has approved that report and adopted it as the District's 2001 Master Plan; and

WHEREAS, following properly noticed and conducted public hearings in 2001, 2002, 2003, 2004, 2005, and 2006 the District adopted Resolutions which updated the Capital Improvement Policy and modified the CIF; and

WHEREAS, in light of the economic slowdown which impacted growth and development within the District between 2007 and 2012, the District did not make changes to the CIP over those years; and

WHEREAS, following a properly noticed and conducted public hearing in March, 2013, the District adopted a Resolution which updated the Capital Improvement Policy and modified the CIF; and

WHEREAS, the District has adopted a Strategic Water Resources Plan ("SWRP"), which sets forth recommended water supply acquisitions and projects necessary to meet future anticipated growth within the District; and

WHEREAS, in 2013, the District retained Carollo Engineers to review, study, and calculate a proposed Water Supply Fee necessary to supply the next 14,000 acre feet per year of new water supply that will be necessary to meet anticipated growth and development within the District; and

WHEREAS, the purpose of the Water Supply Fee is to create a fund to finance the estimated reasonable cost of capital projects and water acquisitions necessary to meet anticipated demand for water service arising from new connections; and

WHEREAS, the District has considered the water supply costs and costs of constructing the capital facilities identified in the SWRP and CIP, and the impact on the existing capital improvement fees payable under the Policy and determined that the policy and the fees should be modified; and

WHEREAS, the District has given and published the required notices and conducted a public hearing with respect to the proposed modification of the Policy and CIF payable thereunder; and

WHEREAS, the Board of Directors of Palmdale Water District has found and determined that the establishment of capital improvement fees is exempt from the requirements of the California Environmental Quality Act pursuant to California Public Resources Code Section 21080(b)(8) and further has found and determined that said fees are for the purpose of obtaining funds for capital projects necessary to maintain service within existing service areas.

NOW, THEREFORE, BE IT RESOLVED that, the Board of Directors of Palmdale Water District hereby modifies and amends the Policy by deleting the existing Table 1 from Appendix "H" to the District's Rules and Regulations and inserting in place thereof proposed Table 1 attached hereto and incorporated herein.

FURTHER RESOLVED, that the General Manager of the District be and he hereby is, authorized and directed to implement this modified Policy until further order of the Board.

PASSED AND ADOPTED by the Board of Directors of the Palmdale Water District at a duly called and noticed public meeting of said Board held on October 23, 2013.

\_\_\_\_\_  
President

\_\_\_\_\_  
(date)

\_\_\_\_\_  
Secretary

\_\_\_\_\_  
(date)

## APPENDIX H

### CAPITAL IMPROVEMENT FEE

1. *Capital Improvement Fees per Article 10.07C:*

**TABLE 1**

2014 CAPITAL IMPROVEMENT FEE SUMMARY PER SERVICE ZONE (SINGLE FAMILY DWELLING UNIT)			
SERVICE / BENEFIT ZONE	INFRASTRUCTURE (\$/SFDU)	WATER SUPPLY* (\$/SFDU)	TOTAL
2800' & 2850'	\$1,441	\$7,288	\$8,729
2950' & 3000'	\$1,161	\$7,349	\$8,510
3200' & 3250'	\$9,089	\$7,041	\$16,130
3400' & 3400' +	\$12,274	\$7,041	\$19,315
*FEE BASED ON TYPICAL SFR DEMAND (0.79 AFY)			
2014 CAPITAL IMPROVEMENT FEE SUMMARY PER SERVICE ZONE (COMMERCIAL AND INDUSTRIAL)			
SERVICE / BENEFIT ZONE	INFRASTRUCTURE (\$/EDU)	WATER SUPPLY* (\$/AFY)	TOTAL
2800' & 2850'	\$1,441	\$10,970	BASED ON EDU'S & AFY
2950' & 3000'	\$1,161	\$10,970	
3200' & 3250'	\$9,089	\$10,970	
3400' & 3400' +	\$12,274	\$10,970	
* BASED ON FORECASTED AFY DEMAND			



## PROJECT MEMORANDUM

**Project Name:** Water Supply Fee Analysis

**Date:** 10/17/2013

**Client:** Palmdale Water District

**Project Number:** 09226A.00

**Prepared By:** Pierce Rossum

**Reviewed By:** Tom West

**Subject:** Water Supply Fee Analysis

**Distribution:** Final

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### INTRODUCTION AND BACKGROUND

The purpose of this memorandum is to provide the results of the Water Supply Analysis and outline the overall methodology and fee development process. For Palmdale Water District (PWD), providing clean and reliable water is an imperative public service. The purpose of this study is to develop a new revenue source (Water Supply Fee) to equitably fund the development or acquisition of future sources based on identified needs. Although PWD has numerous rates and charges, it does not have a cost recovery mechanism (fee) to fund the future development or procurement of additional water supplies. Furthermore, the new fee cannot be developed in a vacuum; instead, it must account for the District's existing rates and charges, and clearly identify the new purpose, methodology, and uses of revenues for the Water Supply Fee. Primarily, the proposed fee is designed to complement PWD's Capital Infrastructure Fee (CIF) and Water Rate Charges and provide that same costs were not being recovered twice.

The findings of this analysis are founded on PWD's 2010 Strategic Water Resources Plan (SWRP) and water and recycled water master plans. The SWRP identified service area demands and the potential water resource options available to PWD in order to meet a nearly doubling of demand. Using these studies as the foundation of the Water Supply Fee provides sound justification and creates an internal consistency throughout PWD's engineering and planning documents.

Furthermore, as PWD maintains existing water rates and capital charges, it is necessary to identify, account for, and allocate capital project, potential conservation, and recycled water offsets to achieve an equitable and cost-of-service based Water Supply Fee. Development of this fee was performed to be in conformance with existing policies and Government Code §66000.

### STRATEGIC WATER RESOURCES PLAN

The SWRP was prepared to establish objectives and identify necessary steps in order to meet the projected future needs of PWD's customers. It forecasted that over the next 25 years (2035), the population residing within PWD's service area would more than double. Anticipated supply needs to meet those demands would likewise double.



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As detailed in the SWRP, PWD has a number of water resource options available to it in order to meet these needs. These options include imported water, groundwater, local runoff, recycled water, conservation, and water banking. The plan evaluated various combinations of these options with respect to a variety of factors including cost, reliability, flexibility, ease of implementation, and sustainability. It was through this evaluation process a recommended water resources strategy was developed.

Based on the projection need of an additional 35,000 acre-feet per year (afy) to service nearly 37,000 connections, the recommended Water Resources Strategy projected capital needs of \$552 million. The majority of additional supplies would be acquired through additional imported water purchases and groundwater pumping.

Table 1 below summarizes the SWRP recommended capital costs associated with the proposed facilities.

<b>Table 1      Summary of Capital Costs Water Supply Fee Palmdale Water District</b>	
<b>Water Resource Element</b>	<b>Capital Cost<sup>(1)</sup></b>
Imported Water	\$355,923,439
Groundwater Pumping	111,581,756
Groundwater Recharge	34,597,738
Recycled Water	49,820,207
Conservation	0
	<b>551,923,140</b>
Note: (1) Capital costs provided in the SWRP have been escalated to 2013 dollars.	

As disclaimed in the SWRP, the SWRP is not meant to be a static document. As existing and future demands can vary, it is important to regularly revisit assumptions and necessary capital needs. For the purposes of this Water Supply Fee, the capital and demand needs are used “as is” and have not been modified unless specifically noted in the document or technical analysis.

### APPROACH

Given PWD’s existing rate structure, two approaches to the fee design were analyzed and calculated for discussion. The methodologies vary slightly in purchased water costs and time horizon assumptions. The cost to secure and supply an acre-foot of water is calculated.

In addition, both approaches have some SWRP project costs that were excluded from the Water Supply Fee. Carollo reviewed detailed recycled water project costs and excluded expenditures related to directly provide service to an end user. Overall, 40 percent of the recycled water project costs were excluded (laterals, pumping stations, storage) and are intended to be recovered in a separate recycled water charge.

The first approach, referred to as the “35,000 Acre-Feet SWRP” alternative, is calculated directly from the costs and demand assumptions set forth in the SRWP. Under this approach, the SWRP’s proposed capital projects costs (over 25-years) are divided by the forecasted new

## PROJECT MEMORANDUM

supply. Simply put, it defines the cost associated to acquire 1.0 afy of water. Under this structure, the proposed fee would be \$15,205 per afy (or \$12,010 per single-family connection).

Table 2 calculates the 35,000 AF SWRP Fee alternative.

<b>Table 2      35,000 AF SWRP Fee Alternative Water Supply Fee Palmdale Water District</b>	
Total Capital Cost	\$551,923,140
Excluded Capital Cost	19,752,837
Total Recovered Capital	\$532,170,302
New Supply (AFY)	35,000
<b>Water Supply Fee (Per AFY)</b>	<b>\$15,205</b>
Note:	
(1) New water supply as projected in the SWRP	

Alternatively, as projecting capital needs and water demands to supply 35,000 AF over 25 years comes with a certain margin of error, Carollo proposes a fee based on supplying the first 14,000 AF (roughly 10 years of forecasted demand). In addition, based on economic principles, it is assumed that more economical (cost per AF) projects are pursued first. Simply, the first 10,000 afy is less expensive to supply than the second 10,000 afy. As shown in Table 3, the project costs to supply the first 14,000 acre-feet are roughly 29% of the full SWRP, while providing 40% of the future water supply. The proposed fee under this approach would be \$10,970 per afy (or \$8,665 per single-family connection).

Table 3 shows the calculated 14,000 AF SWRP fee alternative.

<b>Table 3      14,000 AF SWRP Fee Alternative Water Supply Fee Palmdale Water District</b>	
Total Capital Cost	\$162,072,451
Excluded Capital Cost	8,512,861
Total Recovered Capital	\$153,559,590
New Supply (AFY)	14,000
<b>Water Supply Fee (Per AFY)</b>	<b>\$10,970</b>
Note:	
(1) Assumes 10,000 AF of imported water at \$5,000 per AF.	
(2) New supply is straight lines new water supply over the 25 year time period	

As part of the development of this fee alternative, and for discussion purposes only, Carollo calculated the present value of the fee given the remaining 21,000 AF (to complete the SWRP).

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Following the development of the first 10,000 AF, this preliminary fee would fund remaining water supply costs to development the residual 21,000 AF of the SWRP.

Table 4 shows the preliminary fee analysis provide the remaining 21,000 AF of the SWRP.

<b>Table 4      21,000 AF SWRP Fee Water Supply Fee Palmdale Water District</b>	
Total Capital Cost	\$321,209,542
Excluded Capital Cost	11,239,976
Total Recovered Capital	\$309,969,566
New Supply (AFY)	21,000
<b>Water Supply Fee (Per AFY)</b>	<b>\$14,760</b>
Note: Water Supply Costs for the remaining 21,000 AF are at the same per unit costs as the Full SWRP; however, it reflects the purchase of water incurred in the 14,000 AF SWRP.	

## DEVELOPMENT OF WATER SUPPLIES

Based on discussion with District staff, Carollo analyzed the portion of the proposed fee related to the purchase of water and that portion directly related to capital.

Table 5 presents the percent of each fee alternative related to the development of water resources.

<b>Table 5      Water Supply Fee Allocation Water Supply Fee Palmdale Water District</b>			
	<b>35,000 AF SWRP</b>	<b>14,000 AF SWRP</b>	<b>Remaining 21,000 AF SWRP</b>
Percent of Fee Related to Water Supply	66.9%	32.6%	76.6%
Percent of Fee Related to Capital Costs	33.1%	67.4%	23.4%
Proposed Fee \$/AF	\$15,205	\$10,970	\$14,760
Proposed Fee \$/Tier 1 (0.79AF)	\$12,010	\$8,665	\$11,659
Note: Water Supply Costs for the remaining 21,000 AF (35,000-14,000) are at the same per unit costs as the Full SWRP; however, it reflects the purchase of water incurred in the 14,000 AF SWRP.			

Please note, the SWRP provides a comprehensive water supply portfolio to meet the future demands of the District. The purchase of additional water supplies alone does not fully meet the District's desired water supply, reliability, and sustainability concerns. As such a capital



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component of the proposed water supply fee is necessary to achieve the outlined SWRP objectives.

### RATE DESIGN CONSISTENCY

The proposed water supply fee is designed to mirror PWD's water rate structure. Under the existing budget-based tiered rate structure, each customer is budgeted a specific allotment of water in one of five-tiers. As a budget or allotment is exceeded, a user enters the next tier where water becomes more costly. This increase in costs is typically done to reflect the additional cost of acquiring additional water, additional energy use, or additional infrastructure needs.

As defined in the 2009 Water Rate Study, Tiers 2 through 5 include costs related to new water supplies and conservation. As a result, this approach is designed to capture water acquisition costs related only to a Tier 1 allotment.

The proposed Single-Family fee is defined by a typical SFR parcel. For Single-Family, the Tier 1 allotment up to 100% of its combined indoor and outdoor allocations. A user's indoor allocation is standardized at an assumed 4 residents consuming 66 gallons per capita per day. This is roughly 10.73 hundred cubic feet (hcf) 0.3 afy. To calculate the outside allotment, Carollo assumed a typical lot size of 8,000 square feet (consistent with the Water Rate Study). Based on the calculated irrigable area, landscape factor, conservation factor, and historical evapotranspiration (ET<sub>o</sub>), the typical outside allotment is 17.94 hcf or 0.49 afy. Combine indoor and outdoor allotments equate to a monthly volume of 28.7 hcf or 0.79 afy.

This assumption assumes each new connection pays immediately for a "baseline" amount of supply and will pay overtime for additional needs through tiers 2-5. Under this structure, the proposed fee would be \$8,700 per single-family connection.

A non-residential customer's fee would be based on its forecasted annual water demand. To provide equity between structures, the customers subsequent budget based allocation would be based on the forecasted annual demand.



## PROJECT MEMORANDUM

### SUMMARY

This is a point-in-time analysis with numerous capital and financial assumptions and water demand forecasts. The purpose of this fee is to provide that new customers establishing new connections pay for new supplies and the infrastructure to deliver those supplies. This includes funding new imported water acquisition, recharge and recovery facilities, and recycled water facilities. This fee does not include the capital costs of transmission, treatment, or distribution, as these charges are recovered in PWD's CIF. Furthermore, operation and maintenance costs related to the new supplies are set to be recovered in PWD's monthly water rates and charges.

Table 6 outlines the projected water supply fee for each alternative.

<b>Table 6      Water Supply Fee by Meter Size</b>		
<b>Water Supply Fee</b>		
<b>Palmdale Water District</b>		
	<b>35,000 AF Fee</b>	<b>14,000 AF Fee</b>
Per AFY	\$ 15,205	\$ 10,970
Single-Family	12,010	\$8,665
Note:		
(1) Based on a typical single family, a SFR is allocated 0.79 afy		

# **Palmdale Water District** **Water Supply and Availability**

## **I: Historical Water Supply, Production, and Consumption**

Supply	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	10-Year Average
State Water Project	11,547	12,162	11,712	12,492	19,634	14,256	15,498	10,989	10,743	16,540	13,557
Groundwater	10,607	11,046	11,086	11,359	10,427	9,786	7,764	7,776	7,025	7,543	9,442
Littlerock Reservoir	3,499	3,659	6,999	4,173	-	3,045	79	1,861	2,569	-	2,588
Total	25,653	26,867	29,797	28,024	30,061	27,087	23,341	20,626	20,337	24,083	25,588
Production / Consumption	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	10-Year Average
Production	24,911	25,646	26,128	27,930	28,151	25,339	22,310	19,768	19,600	21,459	24,124
Consumption	23,929	24,715	24,548	25,711	26,109	23,325	20,635	18,043	17,572	19,258	22,385
Active Connections	23,681	24,418	25,243	26,173	26,284	25,644	25,822	26,073	26,255	26,219	N/A
GPCD (12-Mo. Avg.)	230	229	222	223	225	198	183	157	151	161	198

## **II: Available Raw Water Supply Summary**

State Water Project (60%)	Groundwater (10-Year Average)	Littlerock Reservoir (10-Year Average)	Evaporation	Total Available Supply
12,780	9,442	2,588	(1,250)	23,560

## **III: Water Supply based on 2020 GPCD Goal of 176**

Total Available Supply	Demand Based on 176 GPCD	System Losses	Total Demand	Supply Available for Commitment	WSA Letter Commitments
23,560	22,670	1,814	24,484	(924)	47

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# What about Desalination?

October 07, 2013

*By Nancy Vogel, California Department of Water Resources*

Despite high costs and other barriers to adoption, the appeal of desalination never vanishes in California. It sharpens during drought or when debates over the Delta intensify, but so far, it has not proven the silver bullet to end California's water woes. So where does desalination fit in?

Today, desalination creates an estimated 84,000 acre-feet of potable water a year in the state, mostly through treatment of brackish groundwater, which is not so salty and cheaper to treat than sea water. Most of these plants are operated by local water districts on the South Coast. They serve as one of many supply water sources that protect local communities during droughts.

A few small plants in California treat pure ocean water, but that picture is shifting. The San Diego County Water Authority intends to get up to 56,000 acre-feet a year -- roughly seven percent of the water it needs -- from a desalination plant now under construction next to a coastal power plant in Carlsbad. While supplying a modest amount of water, desalination projects like this can be an important hedge against drought or water supply disruption. When finished, the Carlsbad plant will be the largest desalination plant in the Western Hemisphere.

Thus far, despite high hopes, desalination has not proved workable for large-scale generation of water supplies.

Forty-five years ago, while the State Water Project was under construction, Southern California's regional water wholesaler, the Metropolitan Water District of Southern California (MWD) and local utilities pursued construction of two nuclear reactors near Huntington Beach. They planned to generate electricity for a plant that would strip salt from ocean water to create drinking water. The complex would have generated water for 700,000 people and power for 1.3 million. Experts predicted that by the mid-1970s, desalination plants would generate huge volumes of water in California. MWD abandoned plans for the Huntington Beach complex in 1968, after the cost nearly doubled.

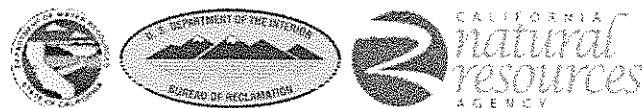
Today, MWD provides on average more than 1 million acre-feet of water a year from the State Water Project to cities from Ventura to San Diego. Stripping salt from ocean water takes huge amounts of electricity, and ocean-desalting plants must be located along the coast. To replace half of the water MWD gets each year from the Delta through the State Water Project would require construction of approximately a dozen plants the size of the Carlsbad facility in the MWD territory -- about one every 13 miles along the coast from Malibu to San Diego.

To bring potable water from the coast also would require MWD to install pumping plants throughout its territory. The district now distributes water by gravity, with water flowing downhill from east to west toward the coast.

The State Water Project now supplies about a third of the water used in Southern California. The reliability of that source has been undercut by pumping restrictions to protect threatened native fish. The Bay Delta Conservation Plan aims to stabilize those deliveries with a new conveyance system that would provide water managers more flexibility and improve Delta fish habitat on a large scale.

The BDCP would not necessarily increase the overall volume of Delta water exported to Southern California, but it would make the deliveries more predictable. For people who must plan to meet the water demands of future generations, there is great value in such predictability.

When Southern California water managers know what to expect year to year in Delta deliveries, then they can make the economic case for investments in other technologies to meet future demand – including desalination. In that way, the BDCP would help advance the diverse portfolio of water resources needed across California.



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