PALMDALE WATER DISTRICT

A CENTURY OF SERVICE

July 17, 2019

AGENDA FOR REGULAR 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

MONDAY, July 22, 2019

6:00 p.m.

NOTES: 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.

Additionally, an interpreter will be made available to assist the public in making **comments** under Agenda Item No. 4 and any action items where public input is offered during the meeting if requested at least 48 hours before the meeting. Please call Dawn Deans at 661-947-4111 x1003 with your request. (PWD Rules and Regulations Section 4.03.1 (c))

Adicionalmente, un intérprete estará disponible para ayudar al público a hacer **comentarios** bajo la sección No. 4 en la agenda y cualquier elemento de acción donde se ofrece comentarios al público durante la reunión, siempre y cuando se solicite con 48 horas de anticipación de la junta directiva. Por favor de llamar Dawn Deans al 661-947-4111 x1003 con su solicitud. (PWD reglas y reglamentos sección 4.03.1 (c))

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 (Government Code Section 54957.5). 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. (PWD Rules and Regulations, Appendix DD, Sec. IV.A.)**

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

1) Pledge of Allegiance/Moment of Silence.

2) Roll Call.

3) Adoption of Agenda.

4) Public comments for non-agenda items.

5) Presentations:

5.1) Recognition of PWD's 101st Anniversary. (Public Affairs Director Shay)

6) Action Items - Consent Calendar (The public shall have an opportunity to comment on any action item on the Consent Calendar as the Consent Calendar is considered collectively by the Board of Directors prior to action being taken.)

6.1) Approval of minutes of regular meeting held July 8, 2019.

6.2) Payment of bills for July 22, 2019.

7) Action Items – Action Calendar (The public shall have an opportunity to comment on any action item as each item is considered by the Board of Directors prior to action being taken.)

7.1) Public hearing on adoption of 2019 Public Health Goal Report. (Water Quality/Regulatory Affairs Supervisor Thompson)

7.2) Consideration and possible action on adoption of 2019 Public Health Goal Report. (Water Quality/Regulatory Affairs Supervisor Thompson)

7.3) Presentation, consideration, and possible action on receiving and filing of 2018 Annual Financial Report. (No Budget Impact - Nigro & Nigro/Finance Manager Williams/Financial Health and Stability Committee).

7.4) Consideration and possible action on adoption of Resolution No. 19-11 being a Resolution of the Board of Directors of the Palmdale Water District Designating the Subrecipient's Agent for the Hazard Mitigation Grant Program and Pre-Disaster Mitigation Program. (No Budget Impact – Human Resources Director Emery)

7.5) Consideration and possible action on authorization of the following conferences, seminars, and training sessions for Board and staff attendance within budget amounts previously approved in the 2019 Budget:

a) Women in Water Inland Empire Breakfast to be held July 24, 2019 in Rancho Cucamonga.

b) 34th Annual WateReuse Symposium to be held September 8 – 11, 2019 in San Diego.

8) Information Items:

8.1) Finance Reports:

a) Status report on Cash Flow Statement and Current Cash Balances as of June 2019. (Financial Advisor Egan/Financial Health & Stability Committee)

b) Status report on Financial Statements, Revenue, and Expense and Departmental Budget Reports for June 2019. (Finance Manager Williams/Financial Health & Stability Committee)

c) Status report on committed contracts issued. (Finance Manager Williams/Financial Health & Stability Committee)

d) Proposition 218 process and timeline. (Finance Manager Williams/Financial Health & Stability Committee)

e) Other financial items. (Finance Manager Williams/Financial Health & Stability Committee)

8.2) Reports of Directors:

a) Meetings/General Report.

b) Standing Committee/Assignment Reports (Chair):

1) Antelope Valley State Water Contractors Association.

8.3) Report of General Manager.

a) July 2019 written report of activities through June 2019.

8.4) Report of General Counsel.

9) Board members' requests for future agenda items.

10) Adjournment.

Dennis D. LaMoreaux

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, 2019 **July 22, 2019**

TO: BOARD OF DIRECTORS **Board Meeting**

FROM: Mrs. Amanda Thompson, Water Quality & Regulatory Affairs Supervisor

VIA: Mr. Mynor Masaya, Operations Manager
Mr. Adam Ly, Assistant General Manager
Mr. Dennis D. LaMoreaux, General Manager

RE: ***AGENDA ITEM NO.'S 7.1 AND 7.2 – PUBLIC HEARING AND CONSIDERATION AND POSSIBLE ACTION ON ADOPTION OF 2019 PUBLIC HEALTH GOAL REPORT. (WATER QUALITY/REGULATORY AFFAIRS SUPERVISOR THOMPSON)***

Recommendation:

Staff recommends that the Board approve the final draft of a report prepared by staff comparing the District's drinking water quality with Public Health Goals (PHGs) adopted by California's EPA's Office of Environmental Health Hazard Assessment (OEHHA) and with Maximum Contaminant Level Goals (MCLGs) adopted by the USEPA. PHGs and MCLGs are not enforceable standards, and no action to meet them is mandated.

Our water system complies with all of the health-based drinking water standards and Maximum Contaminant Levels (MCLs) required by the California Division of Drinking Water and the USEPA. No additional actions are required.

Alternative Options:

The Board can choose to not approve the final draft.

Impact of Taking No Action:

The District will not be compliant with SB 1307.

Background:

SB 1307 (Calderone-Sher; effective 1-1-97) added new provisions to the California Health and Safety Code which mandate that a report be prepared by July 1, 1998 and every three years thereafter. The attached report is intended to provide information to the public in addition to the annual Consumer Confidence Report (CCR) provided to each customer.

BOARD OF DIRECTORS
PALMDALE WATER DISTRICT
VIA: Mr. Mynor Masaya, Operations Manager
Mr. Adam Ly, Assistant General Manager
Mr. Dennis D. LaMoreaux, General Manager July 10, 2019

The law requires that a public hearing be held (which can be part of a regularly scheduled public meeting) for the purpose of accepting and responding to public comment on the report. This public hearing will be scheduled as part of our Regular Board Meeting scheduled for July 22, 2019 and will be noticed as required for public hearing.

Strategic Plan Initiative/Mission Statement:

This item is under Strategic Initiative No. 6 – Customer Care, Advocacy and Outreach.
This item directly relates to the District's Mission Statement.

Budget:

This item does not affect the budget.

Supporting Documents:

- Public Health Goal Report
- PowerPoint presentation regarding the Palmdale Water District's Consumer Confidence Report and Public Health Goals (2019)
- Notice of Public Hearing published in the Antelope Valley Press on June 22, 2019 and July 7, 2019

Public Health Goal Report
2019

Background:

Provisions of the California Health and Safety Code 116470 specify that Palmdale Water District, and other water utilities with more than 10,000 service connections, prepare a special report every three years by July 1st if their water quality measurements have exceeded any Public Health Goals (PHGs). PHGs are non-enforceable goals established by the Cal-EPA's Office of Environmental Health Hazard Assessment (OEHHA). The law also requires that where OEHHA has not adopted a PHG for a constituent, the water suppliers are to use the Maximum Contaminant Level Goal (MCLG) adopted by United States Environmental Protection Agency (USEPA). Only constituents which have a California primary drinking water standard and for which either a PHG or MCLG has been set are to be addressed (Attachment No.1).

There are a few constituents that are routinely detected in water systems at levels usually well below the drinking water standards for which no PHG nor MCLG has yet been adopted by OEHHA or USEPA, including Total Trihalomethanes. These will be addressed in a future required report after a PHG has been adopted.

California Health and Safety code section 116470 (b) requires water agencies to prepare a report and hold a public meeting for the purpose of accepting and responding to public comments on the report.

If a constituent was detected in the District's water supply between 2016 and 2018 at a level exceeding an applicable PHG or MCLG, this report provides the information required by the law. Included is the numerical public health risk associated with the MCL and the PHG or MCLG, the category or type of risk to health that could be associated with each constituent (Attachment No.2), the best treatment technology available that could be used to reduce the constituent level (Attachment No.4), and an estimate of the cost to install that treatment if it is appropriate and feasible (Attachment No. 3).

What Are PHGs?

PHGs are set by the California Office of Environmental Health Hazard Assessment (OEHHA) which is part of Cal-EPA and are based solely on public health risk considerations. None of the practical risk-management factors that are considered by the USEPA or the California Division of Drinking Water (DDW) in setting drinking water standards (MCLs) are considered in setting the PHGs. These factors include analytical detection capability, treatment technology available, benefits and costs. The PHGs are not enforceable and are not required to be met by any public water system. MCLGs are the federal equivalent to PHGs.

Water Quality Data Considered:

All of the water quality data collected by our water system between 2016 and 2018 for purposes of determining compliance with drinking water standards was considered. This data was all summarized in our 2016, 2017, and 2018 Annual Water Quality Reports which were made available to all of our customers by July 1st. of each year (Attachment No. 5).

Guidelines Followed:

The Association of California Water Agencies (ACWA) formed a workgroup which prepared guidelines for water utilities to use in preparing these newly required reports. The ACWA guidelines were used in the preparation of our report. No guidance was available from state regulatory agencies.

Best Available Treatment Technology and Cost Estimates:

Both the USEPA and DDW adopt what are known as Best Available Technologies (BATs) which are the best-known methods of reducing contaminant levels to the MCL. Costs have been estimated for such technologies (Attachment No.3). However, since many PHGs and all MCLGs are set much lower than the MCL, it is not always possible nor feasible to determine what treatment is needed to further reduce a constituent downward to or near the PHG or MCLG, many of which are set at zero. Estimating the costs to reduce a constituent to zero is difficult, if not impossible, because it is not possible to verify by analytical means that the level has been lowered to zero. In some cases, installing treatment to try and further reduce very low levels of one constituent may have adverse effects on other aspects of water quality.

Constituents Detected That Exceed a PHG or a MCLG:

The following is a discussion of constituents that were detected in one or more of our drinking water sources between 2016 and 2018 at levels above the PHG, or if no PHG, above the MCLG.

Aluminum:

The major sources of aluminum in drinking water are erosion of natural deposits and residue from some surface water treatment processes. The USEPA and California State MCL for aluminum is 1,000 µg/L and the California PHG is 600 µg/L.

Palmdale Water District collected and analyzed 34 samples for aluminum during 2016 – 2018 and only one sample result was detected above the PHG. Values ranged from non-detect (ND) to 690 µg/L, with an average value of ND. All sample results were below the MCL.

The category of health risk for aluminum is neurotoxicity and immunotoxicity, which means it harms the nervous and immune systems. Some people who drink water containing aluminum in excess of the MCL over many years may experience short-term gastrointestinal tract affects. The BAT for aluminum reduction (Attachment No.1: 64447.2 Table 64447.2-A) is optimizing treatment and reducing aluminum added. Since we are already optimizing treatment, no estimate of cost is included in this report.

Palmdale Water District is in full compliance with the MCL for aluminum.

Arsenic:

The major sources of arsenic in drinking water are erosion of natural deposits, runoff from orchards, glass and electronics production wastes. The USEPA and California State MCL for arsenic is 10 µg/L and the California PHG is 0.004 µg/L and USEPA MCLG is zero.

Palmdale Water District collected and analyzed 34 samples for arsenic during 2016 – 2018, with values ranges from non-detect (ND) to 3.9 µg/L, with an average value of ND. All sample results were below the MCL.

The category of health risk for arsenic is carcinogenicity. Carcinogenic risk means capable of producing cancer. Some people who drink water containing arsenic in excess of the MCL over many years may experience skin damage or circulatory system problems and may have an increased risk of getting cancer. The BATs for arsenic reduction (Attachment No.1: 64447.2 Table 64447.2-A) are listed as Activated Alumina, Coagulation/Filtration, Ion Exchange, Lime Softening, Reverse Osmosis, Electrodialysis and Oxidation/Filtration.

Palmdale Water District is in full compliance with the MCL for arsenic.

Estimated cost for arsenic removal using reverse osmosis, the most efficient technology is listed in Attachment No.3.

Lead and/or Copper:

The major sources of copper in drinking water are internal corrosion of household plumbing systems; erosion of natural deposits; leaching from wood preservatives. There is no MCL for Lead or Copper. Instead the 90th percentile value of all samples from household taps in the distribution system cannot exceed an Action Level of 0.015 mg/L for lead and 1.3 mg/l for copper. The PHG for lead is 0.0002 mg/L and the PHG for copper is 0.3 mg/L.

Based on the triennial sampling of residences within our distribution system in 2018, our 90th percentile value for copper was 0.42 mg/L which exceeded the PHG. The 90th percentile value for lead was below the DLR and therefore considered to be non-detect, or zero.

The category of health risk for copper is digestive system toxicity (causes nausea, vomiting, diarrhea). Copper is an essential nutrient, but some people who drink water containing copper in excess of the action level over a relatively short amount of time may experience gastrointestinal distress. Numerical health risk data on copper have not yet been provided by OEHHA, the State agency responsible for providing that information.

Our water system is in full compliance with the Federal and State Lead and Copper Rule. To reduce the potential that lead or copper values at consumer taps would exceed the PHG, corrosion control treatment was installed at our treated surface water source.

Based on our extensive sampling, it was determined that according to State Regulatory Requirements, we meet the Action Levels for Lead and Copper. Therefore, we are deemed by DDW to have “optimized corrosion control” for our system.

In general, optimizing corrosion control is considered to be the best available technology to deal with corrosion issues and with any lead or copper findings.
We continue to monitor our water quality parameters that relate to corrosiveness, such as the pH, hardness, alkalinity, total dissolved solids, and will take action if necessary, to maintain our system in an “optimized corrosion control” condition.

Since we are meeting the "optimized corrosion control" requirements, additional corrosion control treatment is not necessary. Therefore, no estimate of cost is included in this report.

While our system did not exceed the Lead PHG or Lead Action Level, it is possible that there may be high lead levels in your home as a result of materials in your home plumbing. Lead can cause serious health problems, especially for pregnant women and children 6 and under. If you are concerned about high lead levels in your home's water, run your water for 30 seconds to 2 minutes before using tap water and have your water tested. Additional information is available from the Safe Drinking Water Hotline at 1-800-426-4791 or at http://www.epa.gov/lead.

Gross Alpha Particle Activity:

The major source of gross alpha particle activity in drinking water is from the erosion of natural deposits. Certain minerals are radioactive and may emit alpha radiation. The MCL for gross alpha particle activity is 15 pCi/L and the MCLG is 0 pCi/L.

Palmdale Water District collected and analyzed 26 samples for gross alpha particle activity during 2010 – 2018, with values that ranged from non-detect (ND) to 5.7 pCi/L, with an average value of ND. Since individual sites are sampled for gross alpha particle activity once every 6 years or once every 9 years, the most recent results for all sources have been included in this report. All sample results were below the MCL.

The category of health risk for gross alpha particle activity is carcinogenicity. Carcinogenic risk means capable of producing cancer. Some people who drink water containing alpha emitters in excess of the MCL over many years may have an increased risk of getting cancer. Cancer risk at the MCLG is 0 and at the California MCL it is 1×10^{-3}. The BAT for gross alpha particle activity reduction is reverse osmosis (Attachment No.1: 64447.3 Table 64447.3-A).

Palmdale Water District is in full compliance with the MCL for gross alpha particle activity.

Gross Beta Particle Activity:

The major source of beta particles in drinking water is from decay of natural and man-made deposits. Certain minerals are radioactive and may emit forms of radiation known as photons and beta radiation. The MCL for gross beta particles is 50 pCi/L and the MCLG is 0 pCi/L.

Palmdale Water District collected and analyzed 26 samples for gross beta particles during 2016 – 2018, with values that ranged from non-detect (ND) to 7.8 pCi/L, with an average value of ND. All sample results were below the MCL.

The category of health risk for beta particles is carcinogenicity. Carcinogenic risk means capable of producing cancer. Some people who drink water containing beta and photon emitters in excess of the MCL over many years may have an increased risk of getting cancer. Cancer risk at the MCLG is 0 and at California MCL it is 2×10^{-3}. The BATs for gross beta reduction are ion exchange and reverse osmosis (Attachment No.1: 64447.3 Table 64447.3-A).

Palmdale Water District is in full compliance with the MCL for gross beta particle activity.

Uranium

The major source of uranium in drinking water is from erosion of natural deposits. The MCL for uranium is 20 pCi/L and the PHG for uranium is 0.43 pCi/L.

Palmdale Water District collected and analyzed 1 sample for uranium during 2016 – 2018, with a result of 1.1 pCi/L, which is below the MCL.

The category of health risk for uranium is carcinogenicity. Carcinogenic risk means capable of producing cancer. Some people who drink water containing uranium in excess of the MCL over many years may have an increased risk of getting cancer. Cancer risk at the MCLG is 0 and at the California MCL it is 5×10^{-5}. The BATs for uranium reduction are ion exchange, reverse osmosis, lime softening, and coagulation/filtration (Attachment No.1: 64447.3 Table 64447.3-A).

Palmdale Water District is in full compliance with the MCL for uranium.

RECOMMENDATIONS FOR FURTHER ACTION:

The drinking water quality of the Palmdale Water District meets all State of California, DDW and USEPA drinking water standards set to protect public health. To further reduce the levels of the constituents identified in this report that are already significantly below the health-based Maximum Contaminant Levels established to provide "safe drinking water", additional costly treatment processes would be required. The effectiveness of the treatment processes to provide any significant reductions in constituent levels at these already low values is uncertain. The health protection benefits of these further hypothetical reductions are not at all clear and may not be quantifiable. Therefore, no action is proposed.

ATTACHMENTS:

No.1 Table of Regulated Constituents with MCLs, PHGs or MCLGs

No.2 Health Risk Information for Public Health Goal Exceedance Reports (Table 1 and Table 2)

No.3 Cost Estimates for Treatment Technologies (Table 1, Table 2 and Table 3)

No.4 Excerpt from Title 22 California Code of Regulations: Best Available Technologies (BAT)

No.5 Palmdale Water District's 2016, 2017 and 2018 Water Quality Data

No.6 Glossary of terms and abbreviations used in the report

ATTACHMENT NO. 1

MCLs, DLRs, and PHGs for Regulated Drinking Water Contaminants

(Units are in milligrams per liter (mg/L), unless otherwise noted.)

Last Update: December 26, 2018

This table includes:

California's maximum contaminant levels (MCLs)

Detection limits for purposes of reporting (DLRs)

Public health goals (PHGs) from the Office of Environmental Health Hazard Assessment (OEHHA)

Also, the PHG for NDMA (which is not yet regulated) is included at the bottom of this table.

Regulated Contaminant	MCL	DLR	PHG	Date of PHG
Chemicals with MCLs in 22 CCR §64431—Inorganic Chemicals				
Aluminum	1	0.05	0.6	2001
Antimony	0.006	0.006	0.001	2016
Arsenic	0.010	0.002	0.000004	2004
Asbestos (MFL = million fibers per liter; for fibers >10 microns long)	7 MFL	0.2 MFL	7 MFL	2003
Barium	1	0.1	2	2003
Beryllium	0.004	0.001	0.001	2003
Cadmium	0.005	0.001	0.00004	2006
Chromium, Total - OEHHA withdrew the 0.0025-mg/L PHG	0.05	0.01	withdrawn Nov. 2001	1999
Chromium, Hexavalent - 0.01-mg/L MCL & 0.001-mg/L DLR repealed September 2017	--	--	0.00002	2011
Cyanide	0.15	0.1	0.15	1997
Fluoride	2	0.1	1	1997
Mercury (inorganic)	0.002	0.001	0.0012	1999 (rev2005)*
Nickel	0.1	0.01	0.012	2001
Nitrate (as nitrogen, N)	10 as N	0.4	45 as NO3 (=10 as N)	2018
Nitrite (as N)	1 as N	0.4	1 as N	2018
Nitrate + Nitrite (as N)	10 as N	--	10 as N	2018
Perchlorate	0.006	0.004	0.001	2015
Selenium	0.05	0.005	0.03	2010
Thallium	0.002	0.001	0.0001	1999 (rev2004)
Copper and Lead, 22 CCR §64672.3				
Values referred to as MCLs for lead and copper are not actually MCLs; instead, they are called "Action Levels" under the lead and copper rule				
Copper	1.3	0.05	0.3	2008

Lead	0.015	0.005	0.0002	2009
Radionuclides with MCLs in 22 CCR §64441 and §64443—Radioactivity				
[units are picocuries per liter (pCi/L), unless otherwise stated; n/a = not applicable]				
Gross alpha particle activity - OEHHA concluded in 2003 that a PHG was not practical	15	3	none	n/a
Gross beta particle activity - OEHHA concluded in 2003 that a PHG was not practical	4 mrem/yr	4	none	n/a
Radium-226	--	1	0.05	2006
Radium-228	--	1	0.019	2006
Radium-226 + Radium-228	5	--	--	--
Strontium-90	8	2	0.35	2006
Tritium	20,000	1,000	400	2006
Uranium	20	1	0.43	2001
Chemicals with MCLs in 22 CCR §64444—Organic Chemicals				
(a) Volatile Organic Chemicals (VOCs)				
Benzene	0.001	0.0005	0.00015	2001
Carbon tetrachloride	0.0005	0.0005	0.0001	2000
1,2-Dichlorobenzene	0.6	0.0005	0.6	1997 (rev2009)
1,4-Dichlorobenzene (p-DCB)	0.005	0.0005	0.006	1997
1,1-Dichloroethane (1,1-DCA)	0.005	0.0005	0.003	2003
1,2-Dichloroethane (1,2-DCA)	0.0005	0.0005	0.0004	1999 (rev2005)
1,1-Dichloroethylene (1,1-DCE)	0.006	0.0005	0.01	1999
cis-1,2-Dichloroethylene	0.006	0.0005	0.013	2018
trans-1,2-Dichloroethylene	0.01	0.0005	0.05	2018
Dichloromethane (Methylene chloride)	0.005	0.0005	0.004	2000
1,2-Dichloropropane	0.005	0.0005	0.0005	1999
1,3-Dichloropropene	0.0005	0.0005	0.0002	1999 (rev2006)
Ethylbenzene	0.3	0.0005	0.3	1997
Methyl tertiary butyl ether (MTBE)	0.013	0.003	0.013	1999
Monochlorobenzene	0.07	0.0005	0.07	2014
Styrene	0.1	0.0005	0.0005	2010
1,1,2,2-Tetrachloroethane	0.001	0.0005	0.0001	2003
Tetrachloroethylene (PCE)	0.005	0.0005	0.00006	2001
Toluene	0.15	0.0005	0.15	1999
1,2,4-Trichlorobenzene	0.005	0.0005	0.005	1999
1,1,1-Trichloroethane (1,1,1-TCA)	0.2	0.0005	1	2006
1,1,2-Trichloroethane (1,1,2-TCA)	0.005	0.0005	0.0003	2006
Trichloroethylene (TCE)	0.005	0.0005	0.0017	2009
Trichlorofluoromethane (Freon 11)	0.15	0.005	1.3	2014

1,1,2-Trichloro-1,2,2-Trifluoroethane (Freon 113)	1.2	0.01	4	1997 (rev2011)
Vinyl chloride	0.0005	0.0005	0.00005	2000
Xylenes	1.75	0.0005	1.8	1997
(b) Non-Volatile Synthetic Organic Chemicals (SOCs)				
Alachlor	0.002	0.001	0.004	1997
Atrazine	0.001	0.0005	0.00015	1999
Bentazon	0.018	0.002	0.2	1999 (rev2009)
Benzo(a)pyrene	0.0002	0.0001	0.000007	2010
Carbofuran	0.018	0.005	0.0007	2016
Chlordane	0.0001	0.0001	0.00003	1997 (rev2006)
Dalapon	0.2	0.01	0.79	1997 (rev2009)
1,2-Dibromo-3-chloropropane (DBCP)	0.0002	0.00001	0.0000017	1999
2,4-Dichlorophenoxyacetic acid (2,4-D)	0.07	0.01	0.02	2009
Di(2-ethylhexyl)adipate	0.4	0.005	0.2	2003
Di(2-ethylhexyl)phthalate (DEHP)	0.004	0.003	0.012	1997
Dinoseb	0.007	0.002	0.014	1997 (rev2010)
Diquat	0.02	0.004	0.006	2016
Endothal	0.1	0.045	0.094	2014
Endrin	0.002	0.0001	0.0003	2016
Ethylene dibromide (EDB)	0.00005	0.00002	0.00001	2003
Glyphosate	0.7	0.025	0.9	2007
Heptachlor	0.00001	0.00001	0.000008	1999
Heptachlor epoxide	0.00001	0.00001	0.000006	1999
Hexachlorobenzene	0.001	0.0005	0.00003	2003
Hexachlorocyclopentadiene	0.05	0.001	0.002	2014
Lindane	0.0002	0.0002	0.000032	1999 (rev2005)
Methoxychlor	0.03	0.01	0.00009	2010
Molinate	0.02	0.002	0.001	2008
Oxamyl	0.05	0.02	0.026	2009
Pentachlorophenol	0.001	0.0002	0.0003	2009
Picloram	0.5	0.001	0.166	2016
Polychlorinated biphenyls (PCBs)	0.0005	0.0005	0.00009	2007
Simazine	0.004	0.001	0.004	2001
Thiobencarb	0.07	0.001	0.042	2016
Toxaphene	0.003	0.001	0.00003	2003
1,2,3-Trichloropropane	0.000005	0.000005	0.0000007	2009
2,3,7,8-TCDD (dioxin)	$3x10^{-8}$	$5x10^{-9}$	$5x10^{-11}$	2010
2,4,5-TP (Silvex)	0.05	0.001	0.003	2014
Chemicals with MCLs in 22 CCR §64533—Disinfection Byproducts				
Total Trihalomethanes	0.080	--	--	--
Bromodichloromethane	--	0.0010	0.00006	2018 draft

Bromoform	--	0.0010	0.0005	2018 draft
Chloroform	--	0.0010	0.0004	2018 draft
Dibromochloromethane	--	0.0010	0.0001	2018 draft
Haloacetic Acids (five) (HAA5)	0.060	--	--	--
Monochloroacetic Acid	--	0.0020	--	--
Dichloroacetic Adic	--	0.0010	--	--
Trichloroacetic Acid	--	0.0010	--	--
Monobromoacetic Acid	--	0.0010	--	--
Dibromoacetic Acid	--	0.0010	--	--
Bromate	0.010	0.0050**	0.0001	2009
Chlorite	1.0	0.020	0.05	2009
Chemicals with PHGs established in response to DDW requests. These are not currently regulated drinking water contaminants.				
N-Nitrosodimethylamine (NDMA)	--	--	0.000003	2006

*OEHHA's review of this chemical during the year indicated (rev20XX) resulted in no change in the PHG.

**The DLR for Bromate is 0.0010 mg/L for analysis performed using EPA Method 317.0 Revision 2.0, 321.8, or 326.0.

ATTACHMENT NO. 2

Table 1: Health Risk Categories and Cancer Risk Values for Chemicals with California Public Health Goals (PHGs)

Chemical	Health Risk Category[1]	California PHG (mg/L)[2]	Cancer Risk[3] at the PHG	California MCL[4] (mg/L)	Cancer Risk at the California MCL
Alachlor	carcinogenicity (causes cancer)	0.004	NA[5,6]	0.002	NA
Aluminum	neurotoxicity and immunotoxicity (harms the nervous and immune systems)	0.6	NA	1	NA
Antimony	digestive system toxicity (causes vomiting)	0.02	NA	0.006	NA
Arsenic	carcinogenicity (causes cancer)	0.000004 (4×10^{-6})	1×10^{-6} (one per million)	0.01	2.5×10^{-3} (2.5 per thousand)
Asbestos	carcinogenicity (causes cancer)	7 MFL[7] (fibers >10 microns in length)	1×10^{-6}	7 MFL (fibers >10 microns in length)	1×10^{-6} (one per million)
Atrazine	carcinogenicity (causes cancer)	0.00015	1×10^{-6}	0.001	7×10^{-6} (seven per million)

[1] Based on the OEHHA PHG technical support document unless otherwise specified. The categories are the hazard traits defined by OEHHA for California's Toxics Information Clearinghouse (online at: http://oehha.ca.gov/multimedia/green/pdf/GC_Regtext011912.pdf).
[2] mg/L = milligrams per liter of water or parts per million (ppm)
[3] Cancer Risk = Upper bound estimate of excess cancer risk from lifetime exposure. Actual cancer risk may be lower or zero. 1×10^{-6} means one excess cancer case per million people exposed.
[4] MCL = maximum contaminant level.
[5] NA = not applicable. Cancer risk cannot be calculated.
[6] The PHG for alachlor is based on a threshold model of carcinogenesis and is set at a level that is believed to be without any significant cancer risk to individuals exposed to the chemical over a lifetime.
[7] MFL = million fibers per liter of water.

Table 1: Health Risk Categories and Cancer Risk Values for Chemicals with California Public Health Goals (PHGs)

Chemical	Health Risk Category[1]	California PHG (mg/L)[2]	Cancer Risk[3] at the PHG	California MCL[4] (mg/L)	Cancer Risk at the California MCL
Barium	cardiovascular toxicity (causes high blood pressure)	2	NA	1	NA
Bentazon	hepatotoxicity and digestive system toxicity (harms the liver, intestine, and causes body weight effects[8])	0.2	NA	0.018	NA
Benzene	carcinogenicity (causes leukemia)	0.00015	1×10^{-6}	0.001	7×10^{-6} (seven per million)
Benzo[a]pyrene	carcinogenicity (causes cancer)	0.000007 (7×10^{-6})	1×10^{-6}	0.0002	3×10^{-5} (three per hundred thousand)
Beryllium	digestive system toxicity (harms the stomach or intestine)	0.001	NA	0.004	NA
Bromate	carcinogenicity (causes cancer)	0.0001	1×10^{-6}	0.01	1×10^{-4} (one per ten thousand)
Cadmium	nephrotoxicity (harms the kidney)	0.00004	NA	0.005	NA
Carbofuran	reproductive toxicity (harms the testis)	0.0007	NA	0.018	NA

[8] Body weight effects are an indicator of general toxicity in animal studies.

Table 1: Health Risk Categories and Cancer Risk Values for Chemicals with California Public Health Goals (PHGs)

Chemical	Health Risk Category[1]	California PHG (mg/L)[2]	Cancer Risk[3] at the PHG	California MCL[4] (mg/L)	Cancer Risk at the California MCL
Carbon tetrachloride	carcinogenicity (causes cancer)	0.0001	1×10^{-6}	0.0005	5×10^{-6} (five per million)
Chlordane	carcinogenicity (causes cancer)	0.00003	1×10^{-6}	0.0001	3×10^{-6} (three per million)
Chlorite	hematotoxicity (causes anemia) neurotoxicity (causes neurobehavioral effects)	0.05	NA	1	NA
Chromium, hexavalent	carcinogenicity (causes cancer)	0.00002	1×10^{-6}	none	NA
Copper	digestive system toxicity (causes nausea, vomiting, diarrhea)	0.3	NA	1.3 (AL[9])	NA
Cyanide	neurotoxicity (damages nerves) endocrine toxicity (affects the thyroid)	0.15	NA	0.15	NA
Dalapon	nephrotoxicity (harms the kidney)	0.79	NA	0.2	NA
Di(2-ethylhexyl) adipate (DEHA)	developmental toxicity (disrupts development)	0.2	NA	0.4	NA
Diethylhexyl-phthalate (DEHP)	carcinogenicity (causes cancer)	0.012	1×10^{-6}	0.004	3×10^{-7} (three per ten million)

[9] AL = action level. The action levels for copper and lead refer to a concentration measured at the tap. Much of the copper and lead in drinking water is derived from household plumbing (The Lead and Copper Rule, Title 22, California Code of Regulations [CCR] section 64672.3).

Table 1: Health Risk Categories and Cancer Risk Values for Chemicals with California Public Health Goals (PHGs)

Chemical	Health Risk Category[1]	California PHG (mg/L)[2]	Cancer Risk[3] at the PHG	California MCL[4] (mg/L)	Cancer Risk at the California MCL
1,2-Dibromo-3-chloropropane (DBCP)	carcinogenicity (causes cancer)	0.0000017 (1.7×10^{-6})	1×10^{-6}	0.0002	1×10^{-4} (one per ten thousand)
1,2-Dichloro-benzene (*o*-DCB)	hepatotoxicity (harms the liver)	0.6	NA	0.6	NA
1,4-Dichloro-benzene (*p*-DCB)	carcinogenicity (causes cancer)	0.006	1×10^{-6}	0.005	8×10^{-7} (eight per ten million)
1,1-Dichloro-ethane (1,1-DCA)	carcinogenicity (causes cancer)	0.003	1×10^{-6}	0.005	2×10^{-6} (two per million)
1,2-Dichloro-ethane (1,2-DCA)	carcinogenicity (causes cancer)	0.0004	1×10^{-6}	0.0005	1×10^{-6} (one per million)
1,1-Dichloro-ethylene (1,1-DCE)	hepatotoxicity (harms the liver)	0.01	NA	0.006	NA
1,2-Dichloro-ethylene, cis	nephrotoxicity (harms the kidney)	0.013	NA	0.006	NA
1,2-Dichloro-ethylene, trans	immunotoxicity (harms the immune system)	0.05	NA	0.01	NA
Dichloromethane (methylene chloride)	carcinogenicity (causes cancer)	0.004	1×10^{-6}	0.005	1×10^{-6} (one per million)

Table 1: Health Risk Categories and Cancer Risk Values for Chemicals with California Public Health Goals (PHGs)

Chemical	Health Risk Category[1]	California PHG (mg/L)[2]	Cancer Risk[3] at the PHG	California MCL[4] (mg/L)	Cancer Risk at the California MCL
2,4-Dichloro-phenoxyacetic acid (2,4-D)	hepatotoxicity and nephrotoxicity (harms the liver and kidney)	0.02	NA	0.07	NA
1,2-Dichloro-propane (propylene dichloride)	carcinogenicity (causes cancer)	0.0005	1×10^{-6}	0.005	1×10^{-5} (one per hundred thousand)
1,3-Dichloro-propene (Telone II®)	carcinogenicity (causes cancer)	0.0002	1×10^{-6}	0.0005	2×10^{-6} (two per million)
Dinoseb	reproductive toxicity (harms the uterus and testis)	0.014	NA	0.007	NA
Diquat	ocular toxicity (harms the eye) developmental toxicity (causes malformation)	0.006	NA	0.02	NA
Endothall	digestive system toxicity (harms the stomach or intestine)	0.094	NA	0.1	NA
Endrin	neurotoxicity (causes convulsions) hepatotoxicity (harms the liver)	0.0003	NA	0.002	NA
Ethylbenzene (phenylethane)	hepatotoxicity (harms the liver)	0.3	NA	0.3	NA
Ethylene dibromide (1,2-Dibromoethane)	carcinogenicity (causes cancer)	0.00001	1×10^{-6}	0.00005	5×10^{-6} (five per million)

Table 1: Health Risk Categories and Cancer Risk Values for Chemicals with California Public Health Goals (PHGs)

Chemical	Health Risk Category[1]	California PHG (mg/L)[2]	Cancer Risk[3] at the PHG	California MCL[4] (mg/L)	Cancer Risk at the California MCL
Fluoride	musculoskeletal toxicity (causes tooth mottling)	1	NA	2	NA
Glyphosate	nephrotoxicity (harms the kidney)	0.9	NA	0.7	NA
Heptachlor	carcinogenicity (causes cancer)	0.000008 (8×10^{-6})	1×10^{-6}	0.00001	1×10^{-6} (one per million)
Heptachlor epoxide	carcinogenicity (causes cancer)	0.000006 (6×10^{-6})	1×10^{-6}	0.00001	2×10^{-6} (two per million)
Hexachloroben-zene	carcinogenicity (causes cancer)	0.00003	1×10^{-6}	0.001	3×10^{-5} (three per hundred thousand)
Hexachloro-cyclopentadiene (HCCPD)	digestive system toxicity (causes stomach lesions)	0.002	NA	0.05	NA
Lead	developmental neurotoxicity (causes neurobehavioral effects in children) cardiovascular toxicity (causes high blood pressure) carcinogenicity (causes cancer)	0.0002	$<1\times10^{-6}$ (PHG is not based on this effect)	0.015 (AL[8])	2×10^{-6} (two per million)
Lindane (γ-BHC)	carcinogenicity (causes cancer)	0.000032	1×10^{-6}	0.0002	6×10^{-6} (six per million)
Mercury (inorganic)	nephrotoxicity (harms the kidney)	0.0012	NA	0.002	NA

Table 1: Health Risk Categories and Cancer Risk Values for Chemicals with California Public Health Goals (PHGs)

Chemical	Health Risk Category[1]	California PHG (mg/L)[2]	Cancer Risk[3] at the PHG	California MCL[4] (mg/L)	Cancer Risk at the California MCL
Methoxychlor	endocrine toxicity (causes hormone effects)	0.00009	NA	0.03	NA
Methyl tertiary-butyl ether (MTBE)	carcinogenicity (causes cancer)	0.013	1×10^{-6}	0.013	1×10^{-6} (one per million)
Molinate	carcinogenicity (causes cancer)	0.001	1×10^{-6}	0.02	2×10^{-5} (two per hundred thousand)
Monochloro-benzene (chlorobenzene)	nephrotoxicity (harms the kidney)	0.07	NA	0.07	NA
Nickel	developmental toxicity (causes increased neonatal deaths)	0.012	NA	0.1	NA
Nitrate	hematotoxicity (causes methemoglobinemia)	45 as nitrate	NA	10 as nitrogen (=45 as nitrate)	NA
Nitrite	hematotoxicity (causes methemoglobinemia)	3 as nitrite	NA	1 as nitrogen (=3 as nitrite)	NA
Nitrate and Nitrite	hematotoxicity (causes methemoglobinemia)	10 as nitrogen[10]	NA	10 as nitrogen	NA

[10] The joint nitrate/nitrite PHG of 10 mg/L (10 ppm, expressed as nitrogen) does not replace the individual values, and the maximum contribution from nitrite should not exceed 1 mg/L nitrite-nitrogen.

Table 1: Health Risk Categories and Cancer Risk Values for Chemicals with California Public Health Goals (PHGs)

Chemical	Health Risk Category[1]	California PHG (mg/L)[2]	Cancer Risk[3] at the PHG	California MCL[4] (mg/L)	Cancer Risk at the California MCL
N-nitroso-dimethyl-amine (NDMA)	carcinogenicity (causes cancer)	0.000003 (3×10^{-6})	1×10^{-6}	none	NA
Oxamyl	general toxicity (causes body weight effects)	0.026	NA	0.05	NA
Pentachloro-phenol (PCP)	carcinogenicity (causes cancer)	0.0003	1×10^{-6}	0.001	3×10^{-6} (three per million)
Perchlorate	endocrine toxicity (affects the thyroid) developmental toxicity (causes neurodevelop-mental deficits)	0.001	NA	0.006	NA
Picloram	hepatotoxicity (harms the liver)	0.166	NA	0.5	NA
Polychlorinated biphenyls (PCBs)	carcinogenicity (causes cancer)	0.00009	1×10^{-6}	0.0005	6×10^{-6} (six per million)
Radium-226	carcinogenicity (causes cancer)	0.05 pCi/L	1×10^{-6}	5 pCi/L (combined $Ra^{226+228}$)	1×10^{-4} (one per ten thousand)
Radium-228	carcinogenicity (causes cancer)	0.019 pCi/L	1×10^{-6}	5 pCi/L (combined $Ra^{226+228}$)	3×10^{-4} (three per ten thousand)
Selenium	integumentary toxicity (causes hair loss and nail damage)	0.03	NA	0.05	NA

Table 1: Health Risk Categories and Cancer Risk Values for Chemicals with California Public Health Goals (PHGs)

Chemical	Health Risk Category[1]	California PHG (mg/L)[2]	Cancer Risk[3] at the PHG	California MCL[4] (mg/L)	Cancer Risk at the California MCL
Silvex (2,4,5-TP)	hepatotoxicity (harms the liver)	0.003	NA	0.05	NA
Simazine	general toxicity (causes body weight effects)	0.004	NA	0.004	NA
Strontium-90	carcinogenicity (causes cancer)	0.35 pCi/L	1×10^{-6}	8 pCi/L	2×10^{-5} (two per hundred thousand)
Styrene (vinylbenzene)	carcinogenicity (causes cancer)	0.0005	1×10^{-6}	0.1	2×10^{-4} (two per ten thousand)
1,1,2,2-Tetrachloro-ethane	carcinogenicity (causes cancer)	0.0001	1×10^{-6}	0.001	1×10^{-5} (one per hundred thousand)
2,3,7,8-Tetra-chlorodibenzo-*p*-dioxin (TCDD, or dioxin)	carcinogenicity (causes cancer)	5×10^{-11}	1×10^{-6}	3×10^{-8}	6×10^{-4} (six per ten thousand)
Tetrachloro-ethylene (perchloro-ethylene, or PCE)	carcinogenicity (causes cancer)	0.00006	1×10^{-6}	0.005	8×10^{-5} (eight per hundred thousand)
Thallium	integumentary toxicity (causes hair loss)	0.0001	NA	0.002	NA

Table 1: Health Risk Categories and Cancer Risk Values for Chemicals with California Public Health Goals (PHGs)

Chemical	Health Risk Category[1]	California PHG (mg/L)[2]	Cancer Risk[3] at the PHG	California MCL[4] (mg/L)	Cancer Risk at the California MCL
Thiobencarb	general toxicity (causes body weight effects) hematotoxicity (affects red blood cells)	0.042	NA	0.07	NA
Toluene (methylbenzene)	hepatotoxicity (harms the liver) endocrine toxicity (harms the thymus)	0.15	NA	0.15	NA
Toxaphene	carcinogenicity (causes cancer)	0.00003	1×10^{-6}	0.003	1×10^{-4} (one per ten thousand)
1,2,4-Trichloro-benzene	endocrine toxicity (harms adrenal glands)	0.005	NA	0.005	NA
1,1,1-Trichloro-ethane	neurotoxicity (harms the nervous system), reproductive toxicity (causes fewer offspring) hepatotoxicity (harms the liver) hematotoxicity (causes blood effects)	1	NA	0.2	NA
1,1,2-Trichloro-ethane	carcinogenicity (causes cancer)	0.0003	$1x10^{-6}$	0.005	2×10^{-5} (two per hundred thousand)
Trichloro-ethylene (TCE)	carcinogenicity (causes cancer)	0.0017	1×10^{-6}	0.005	3×10^{-6} (three per million)

Table 1: Health Risk Categories and Cancer Risk Values for Chemicals with California Public Health Goals (PHGs)

Chemical	Health Risk Category[1]	California PHG (mg/L)[2]	Cancer Risk[3] at the PHG	California MCL[4] (mg/L)	Cancer Risk at the California MCL
Trichlorofluoro-methane (Freon 11)	accelerated mortality (increase in early death)	1.3	NA	0.15	NA
1,2,3-Trichloro-propane (1,2,3-TCP)	carcinogenicity (causes cancer)	0.0000007 (7×10^{-7})	$1x10^{-6}$	0.000005 (5×10^{-6})	7×10^{-6} (seven per million)
1,1,2-Trichloro-1,2,2-trifluoro-ethane (Freon 113)	hepatotoxicity (harms the liver)	4	NA	1.2	NA
Tritium	carcinogenicity (causes cancer)	400 pCi/L	$1x10^{-6}$	20,000 pCi/L	$5x10^{-5}$ (five per hundred thousand)
Uranium	carcinogenicity (causes cancer)	0.43 pCi/L	1×10^{-6}	20 pCi/L	5×10^{-5} (five per hundred thousand)
Vinyl chloride	carcinogenicity (causes cancer)	0.00005	1×10^{-6}	0.0005	1×10^{-5} (one per hundred thousand)
Xylene	neurotoxicity (affects the senses, mood, and motor control)	1.8 (single isomer or sum of isomers)	NA	1.75 (single isomer or sum of isomers)	NA

Table 2: Health Risk Categories and Cancer Risk Values for Chemicals without California Public Health Goals

Chemical	Health Risk Category[1]	US EPA MCLG[2] (mg/L)	Cancer Risk[3] @ MCLG	California MCL[4] (mg/L)	Cancer Risk @ California MCL
Disinfection byproducts (DBPs)					
Chloramines	acute toxicity (causes irritation) digestive system toxicity (harms the stomach) hematotoxicity (causes anemia)	4[5,6]	NA[7]	none	NA
Chlorine	acute toxicity (causes irritation) digestive system toxicity (harms the stomach)	4[5,6]	NA	none	NA
Chlorine dioxide	hematotoxicity (causes anemia) neurotoxicity (harms the nervous system)	0.8[5,6]	NA	none	NA
Disinfection byproducts: haloacetic acids (HAA5)					
Monochloroacetic acid (MCA)	general toxicity (causes body and organ weight changes[8])	0.07	NA	none	NA
Dichloroacetic acid (DCA)	carcinogenicity (causes cancer)	0	0	none	NA

[1] Health risk category based on the US EPA MCLG document or California MCL document unless otherwise specified.
[2] MCLG = maximum contaminant level goal established by US EPA.
[3] Cancer Risk = Upper estimate of excess cancer risk from lifetime exposure. Actual cancer risk may be lower or zero. 1×10^{-6} means one excess cancer case per million people exposed.
[4] California MCL = maximum contaminant level established by California.
[5] Maximum Residual Disinfectant Level Goal, or MRDLG.
[6] The federal Maximum Residual Disinfectant Level (MRDL), or highest level of disinfectant allowed in drinking water, is the same value for this chemical.
[7] NA = not available.
[8] Body weight effects are an indicator of general toxicity in animal studies.

Table 2: Health Risk Categories and Cancer Risk Values for Chemicals without California Public Health Goals

Chemical	Health Risk Category[1]	US EPA MCLG[2] (mg/L)	Cancer Risk[3] @ MCLG	California MCL[4] (mg/L)	Cancer Risk @ California MCL
Trichloroacetic acid (TCA)	hepatotoxicity (harms the liver)	0.02	NA	none	NA
Monobromoacetic acid (MBA)	NA	none	NA	none	NA
Dibromoacetic acid (DBA)	NA	none	NA	none	NA
Total haloacetic acids (sum of MCA, DCA, TCA, MBA, and DBA)	general toxicity, hepatotoxicity and carcinogenicity (causes body and organ weight changes, harms the liver and causes cancer)	none	NA	0.06	NA
Disinfection byproducts: trihalomethanes (THMs)					
Bromodichloro-methane (BDCM)	carcinogenicity (causes cancer)	0	0	none	NA
Bromoform	carcinogenicity (causes cancer)	0	0	none	NA
Chloroform	hepatotoxicity and nephrotoxicity (harms the liver and kidney)	0.07	NA	none	NA
Dibromo-chloromethane (DBCM)	hepatotoxicity, nephrotoxicity, and neurotoxicity (harms the liver, kidney, and nervous system)	0.06	NA	none	NA

Table 2: Health Risk Categories and Cancer Risk Values for Chemicals without California Public Health Goals

Chemical	Health Risk Category[1]	US EPA MCLG[2] (mg/L)	Cancer Risk[3] @ MCLG	California MCL[4] (mg/L)	Cancer Risk @ California MCL
Total trihalomethanes (sum of BDCM, bromoform, chloroform and DBCM)	carcinogenicity (causes cancer), hepatotoxicity, nephrotoxicity, and neurotoxicity (harms the liver, kidney, and nervous system)	none	NA	0.08	NA
Radionuclides					
Gross alpha particles[9]	carcinogenicity (causes cancer)	0 (^{210}Po included)	0	15 pCi/L[10] (includes ^{226}Ra but not radon and uranium)	up to $1x10^{-3}$ (for ^{210}Po, the most potent alpha emitter
Beta particles and photon emitters[9]	carcinogenicity (causes cancer)	0 (^{210}Pb included)	0	50 pCi/L (judged equiv. to 4 mrem/yr)	up to $2x10^{-3}$ (for ^{210}Pb, the most potent beta-emitter)

[9] MCLs for gross alpha and beta particles are screening standards for a group of radionuclides. Corresponding PHGs were not developed for gross alpha and beta particles. See the OEHHA memoranda discussing the cancer risks at these MCLs at http://www.oehha.ca.gov/water/reports/grossab.html.

[10] pCi/L = picocuries per liter of water.

ATTACHMENT NO. 3

ATTACHMENT NO. 3
Table 1
Reference: 2012 ACWA PHG Survey

COST ESTIMATES FOR TREATMENT TECHNOLOGIES

(INCLUDES ANNUALIZED CAPITAL AND O&M COSTS)

No.	Treatment Technology	Source of Information	Estimated Unit Cost 2012 ACWA Survey Indexed to 2018* ($/1,000 gallons treated)
1	Ion Exchange	Coachella Valley WD, for GW, to reduce Arsenic concentrations. 2011 costs.	2.19
2	Ion Exchange	City of Riverside Public Utilities, for GW, for Perchlorate treatment.	1.06
3	Ion Exchange	Carollo Engineers, anonymous utility, 2012 costs for treating GW source for Nitrates. Design souce water concentration: 88 mg/L NO_3. Design finished water concentration: 45 mg/L NO_3. Does not include concentrate disposal or land cost.	0.80
4	Granular Activated Carbon	City of Riverside Public Utilities, GW sources, for TCE, DBCP (VOC, SOC) treatment.	0.53
5	Granular Activated Carbon	Carollo Engineers, anonymous utility, 2012 costs for treating SW source for TTHMs. Design souce water concentration: 0.135 mg/L. Design finished water concentration: 0.07 mg/L. Does not include concentrate disposal or land cost.	0.38
6	Granular Activated Carbon, Liquid Phase	LADWP, Liquid Phase GAC treatment at Tujunga Well field. Costs for treating 2 wells. Treament for 1,1 DCE (VOC). 2011-2012 costs.	1.62
7	Reverse Osmosis	Carollo Engineers, anonymous utility, 2012 costs for treating GW source for Nitrates. Design souce water concentration: 88 mg/L NO_3. Design finished water concentration: 45 mg/L NO_3. Does not include concentrate disposal or land cost.	0.86
8	Packed Tower Aeration	City of Monrovia, treatment to reduce TCE, PCE concentrations. 2011-12 costs.	0.47
9	Ozonation+ Chemical addition	SCVWD, STWTP treatment plant includes chemical addition + ozone generation costs to reduce THM/HAAs concentrations. 2009-2012 costs.	0.10

COST ESTIMATES FOR TREATMENT TECHNOLOGIES

(INCLUDES ANNUALIZED CAPITAL AND O&M COSTS)

No.	Treatment Technology	Source of Information	Estimated Unit Cost 2012 ACWA Survey Indexed to 2018* ($/1,000 gallons treated)
10	Ozonation+ Chemical addition	SCVWD, PWTP treatment plant includes chemical addition + ozone generation costs to reduce THM/HAAs concentrations, 2009-2012 costs.	0.21
11	Coagulation/Filtration	Soquel WD, treatment to reduce manganese concentrations in GW. 2011 costs.	0.80
12	Coagulation/Filtration Optimization	San Diego WA, costs to reduce THM/Bromate, Turbidity concentrations, raw SW a blend of State Water Project water and Colorado River water, treated at Twin Oaks Valley WTP.	0.91
13	Blending (Well)	Rancho California WD, GW blending well, 1150 gpm, to reduce fluoride concentrations.	0.76
14	Blending (Wells)	Rancho California WD, GW blending wells, to reduce arsenic concentrations, 2012 costs.	0.62
15	Blending	Rancho California WD, using MWD water to blend with GW to reduce arsenic concentrations. 2012 costs.	0.74
16	Corrosion Inhibition	Atascadero Mutual WC, corrosion inhibitor addition to control aggressive water. 2011 costs.	0.09

*Costs were adjusted from date of original estimates to present, where appropriate, using the Engineering News Record (ENR) annual average building costs of 2018 and 2012. The adjustment factor was derived from the ratio of 2018 Index/2012 Index, or 1.188.

For the indexed 2015 costs, please refer to the ACWA PHG Guidance published in March 2016.

ATTACHMENT NO. 3
Table 2
Reference: Other Agencies

COST ESTIMATES FOR TREATMENT TECHNOLOGIES

(INCLUDES ANNUALIZED CAPITAL AND O&M COSTS)

No.	Treatment Technology	Source of Information	**Estimated 2012 Unit Cost Indexed to 2018*** ($/1,000 gallons treated)
1	Reduction - Coagulation-Filtration	Reference: February 28, 2013, Final Report Chromium Removal Research, City of Glendale, CA. 100-2000 gpm. Reduce Hexavalent Chromium to 1 ppb.	1.74 - 10.97
2	IX - Weak Base Anion Resin	Reference: February 28, 2013, Final Report Chromium Removal Research, City of Glendale, CA. 100-2000 gpm. Reduce Hexavalent Chromium to 1 ppb.	1.79 - 7.47
3	IX	Golden State Water Co., IX w/disposable resin, 1 MGD, Perchlorate removal, built in 2010.	0.55
4	IX	Golden State Water Co., IX w/disposable resin, 1000 gpm, perchlorate removal (Proposed; O&M estimated).	1.19
5	IX	Golden State Water Co., IX with brine regeneration, 500 gpm for Selenium removal, built in 2007.	7.81
6	GFO/Adsorption	Golden State Water Co., Granular Ferric Oxide Resin, Arsenic removal, 600 gpm, 2 facilities, built in 2006.	2.04 - 2.18
7	RO	Reference: Inland Empire Utilities Agency : Chino Basin Desalter. RO cost to reduce 800 ppm TDS, 150 ppm Nitrate (as NO3); approx. 7 mgd.	2.67
8	IX	Reference: Inland Empire Utilities Agency : Chino Basin Desalter. IX cost to reduce 150 ppm Nitrate (as NO3); approx. 2.6 mgd.	1.49

9	Packed Tower Aeration	Reference: Inland Empire Utilities Agency : Chino Basin Desalter. PTA-VOC air stripping, typical treated flow of approx. 1.6 mgd.	0.45
10	IX	Reference: West Valley WD Report, for Water Recycling Funding Program, for 2.88 mgd treatment facility. IX to remove Perchlorate, Perchlorate levels 6-10 ppb. 2008 costs.	0.62 - 0.88
11	Coagulation Filtration	Reference: West Valley WD, includes capital, O&M costs for 2.88 mgd treatment facility- Layne Christensen packaged coagulation Arsenic removal system. 2009-2012 costs.	0.41
12	FBR	Reference: West Valley WD/Envirogen design data for the O&M + actual capitol costs, 2.88 mgd fluidized bed reactor (FBR) treatment system, Perchlorate and Nitrate removal, followed by multimedia filtration & chlorination, 2012. NOTE: The capitol cost for the treatment facility for the first 2,000 gpm is $23 million annualized over 20 years with ability to expand to 4,000 gpm with minimal costs in the future. $17 million funded through state and federal grants with the remainder funded by WVWD and the City of Rialto.	1.84 - 1.94

*Costs were adjusted from date of original estimates to present, where appropriate, using the Engineering News Record (ENR) annual average building costs of 2018 and 2012. The adjustment factor was derived from the ratio of 2018 Index/2012 Index, or 1.188.
For the indexed 2015 costs, please refer to the ACWA PHG Guidance published in March 2016.

ATTACHMENT NO. 3
Table 3
Reference: Updated 2012 ACWA Cost of Treatment Table

COST ESTIMATES FOR TREATMENT TECHNOLOGIES

(INCLUDES ANNUALIZED CAPITAL AND O&M COSTS)

No.	Treatment Technology	Source of Information	Estimated 2012 Unit Cost Indexed to 2018* ($/1,000 gallons treated)
1	Granular Activated Carbon	Reference: Malcolm Pirnie estimate for California Urban Water Agencies, large surface water treatment plants treating water from the State Water Project to meet Stage 2 D/DBP and bromate regulation, 1998	0.63 - 1.19
2	Granular Activated Carbon	Reference: Carollo Engineers, estimate for VOC treatment (PCE), 95% removal of PCE, Oct. 1994,1900 gpm design capacity	0.29
3	Granular Activated Carbon	Reference: Carollo Engineers, est. for a large No. Calif. surf. water treatment plant (90 mgd capacity) treating water from the State Water Project, to reduce THM precursors, ENR construction cost index = 6262 (San Francisco area) - 1992	1.38
4	Granular Activated Carbon	Reference: CH2M Hill study on San Gabriel Basin, for 135 mgd central treatment facility for VOC and SOC removal by GAC, 1990	0.54 - 0.78
5	Granular Activated Carbon	Reference: Southern California Water Co. - actual data for "rented" GAC to remove VOCs (1,1-DCE), 1.5 mgd capacity facility, 1998	2.47
6	Granular Activated Carbon	Reference: Southern California Water Co. - actual data for permanent GAC to remove VOCs (TCE), 2.16 mgd plant capacity, 1998	1.60
7	Reverse Osmosis	Reference: Malcolm Pirnie estimate for California Urban Water Agencies, large surface water treatment plants treating water from the State Water Project to meet Stage 2 D/DBP and bromate regulation, 1998	1.85 - 3.55
8	Reverse Osmosis	Reference: Boyle Engineering, RO cost to reduce 1000 ppm TDS in brackish groundwater in So. Calif., 1.0 mgd plant operated at 40% of design flow, high brine line cost, May 1991	4.38
9	Reverse Osmosis	Reference: Boyle Engineering, RO cost to reduce 1000 ppm TDS in brackish groundwater in So. Calif., 1.0 mgd plant operated at 100% of design flow, high brine line cost, May 1991	2.70
10	Reverse Osmosis	Reference: Boyle Engineering, RO cost to reduce 1000 ppm TDS in brackish groundwater in So. Calif., 10.0 mgd plant operated at 40% of design flow, high brine line cost, May 1991	2.92

COST ESTIMATES FOR TREATMENT TECHNOLOGIES

(INCLUDES ANNUALIZED CAPITAL AND O&M COSTS)

No.	Treatment Technology	Source of Information	Estimated 2012 Unit Cost Indexed to 2018* ($/1,000 gallons treated)
11	Reverse Osmosis	Reference: Boyle Engineering, RO cost to reduce 1000 ppm TDS in brackish groundwater in So. Calif., 10.0 mgd plant operated at 100% of design flow, high brine line cost, May 1991	2.26
12	Reverse Osmosis	Reference: Arsenic Removal Study, City of Scottsdale, AZ - CH2M Hill, for a 1.0 mgd plant operated at 40% of design capacity, Oct. 1991	7.33
13	Reverse Osmosis	Reference: Arsenic Removal Study, City of Scottsdale, AZ - CH2M Hill, for a 1.0 mgd plant operated at 100% of design capacity, Oct. 1991	4.33
14	Reverse Osmosis	Reference: Arsenic Removal Study, City of Scottsdale, AZ - CH2M Hill, for a 10.0 mgd plant operated at 40% of design capacity, Oct. 1991	3.24
15	Reverse Osmosis	Reference: Arsenic Removal Study, City of Scottsdale, AZ - CH2M Hill, for a 10.0 mgd plant operated at 100% of design capacity, Oct. 1991	2.01
16	Reverse Osmosis	Reference: CH2M Hill study on San Gabriel Basin, for 135 mgd central treatment facility with RO to remove nitrate, 1990	2.02 - 3.55
17	Packed Tower Aeration	Reference: Analysis of Costs for Radon Removal... (AWWARF publication), Kennedy/Jenks, for a 1.4 mgd facility operating at 40% of design capacity, Oct. 1991	1.16
18	Packed Tower Aeration	Reference: Analysis of Costs for Radon Removal... (AWWARF publication), Kennedy/Jenks, for a 14.0 mgd facility operating at 40% of design capacity, Oct. 1991	0.62
19	Packed Tower Aeration	Reference: Carollo Engineers, estimate for VOC treatment (PCE) by packed tower aeration, without off-gas treatment, O&M costs based on operation during 329 days/year at 10% downtime, 16 hr/day air stripping operation, 1900 gpm design capacity, Oct. 1994	0.31
20	Packed Tower Aeration	Reference: Carollo Engineers, for PCE treatment by Ecolo-Flo Enviro-Tower air stripping, without off-gas treatment, O&M costs based on operation during 329 days/year at 10% downtime, 16 hr/day air stripping operation, 1900 gpm design capacity, Oct. 1994	0.32
21	Packed Tower Aeration	Reference: CH2M Hill study on San Gabriel Basin, for 135 mgd central treatment facility - packed tower aeration for VOC and radon removal, 1990	0.50 - 0.82

COST ESTIMATES FOR TREATMENT TECHNOLOGIES

(INCLUDES ANNUALIZED CAPITAL AND O&M COSTS)

No.	Treatment Technology	Source of Information	Estimated 2012 Unit Cost Indexed to 2018* ($/1,000 gallons treated)
22	Advanced Oxidation Processes	Reference: Carollo Engineers, estimate for VOC treatment (PCE) by UV Light, Ozone, Hydrogen Peroxide, O&M costs based on operation during 329 days/year at 10% downtime, 24 hr/day AOP operation, 1900 gpm capacity, Oct. 1994	0.61
23	Ozonation	Reference: Malcolm Pirnie estimate for CUWA, large surface water treatment plants using ozone to treat water from the State Water Project to meet Stage 2 D/DBP and bromate regulation, *Cryptosporidium* inactivation requirements,1998	0.14 - 0.29
24	Ion Exchange	Reference: CH2M Hill study on San Gabriel Basin, for 135 mgd central treatment facility - ion exchange to remove nitrate, 1990	0.67 - 0.88

*Costs were adjusted from date of original estimates to present, where appropriate, using the Engineering News Record (ENR) annual average building costs of 2018 and 2012. The adjustment factor was derived from the ratio of 2018 Index/2012 Index, or 1.188.
For the indexed 2015 costs, please refer to the ACWA PHG Guidance published in March 2016.

ATTACHMENT NO. 4

discontinued, if directed by the State Board. Such a water source shall not be returned to service without written approval from the State Board.

§64445.2. Sampling of Treated Water Sources.

(a) Each water supplier utilizing treatment to comply with any MCL for an organic chemical listed in table 64444-A shall collect monthly samples of the treated water at a site prior to the distribution system. If the treated water exceeds the MCL, the water supplier shall resample the treated water to confirm the result and report the result to the State Board within 48 hours of the confirmation.

(b) The State Board will consider requiring more frequent monitoring based on an evaluation of (1) the treatment process used, (2) the treatment effectiveness and efficiency, and (3) the concentration of the organic chemical in the water source.

Article 12. Best available technologies (BAT)

§64447. Best Available Technologies (BAT) – Microbiological Contaminants.

The technologies identified by the State Board as the best available technology, treatment techniques, or other means available for achieving compliance with the total coliform MCL are as follows:

(a) Protection of wells from coliform contamination by appropriate placement and construction;

(b) Maintenance of a disinfectant residual throughout the distribution system;

(c) Proper maintenance of the distribution system; and

(d) Filtration and/or disinfection of approved surface water, in compliance with Section 64650, or disinfection of groundwater.

§64447.2. Best Available Technologies (BAT) - Inorganic chemicals.

The technologies listed in table 64447.2-A are the best available technology, treatment techniques, or other means available for achieving compliance with the MCLs in table 64431-A for inorganic chemicals.

Table 64447.2-A
Best Available Technologies (BAT)
Inorganic Chemicals

Chemical	*Best Available Technologies (BATs)*
Aluminum	10
Antimony	2, 7
Arsenic	1, 2, 5, 6, 7, 9, 13
Asbestos	2, 3, 8
Barium	5, 6, 7, 9
Beryllium	1, 2, 5, 6, 7
Cadmium	2, 5, 6, 7
Chromium	2, 5, 6[a], 7
Cyanide	5, 7, 11
Fluoride	1
Mercury	2[b], 4, 6[b], 7[b]
Nickel	5, 6, 7
Nitrate	5, 7, 9
Nitrite	5, 7
Perchlorate	5,12
Selenium	1, 2[c], 6, 7, 9
Thallium	1, 5

[a]BAT for chromium III (trivalent chromium) only.
[b]BAT only if influent mercury concentrations <10 µg/L.
[c]BAT for selenium IV only.

Key to BATs in table 64447.2:
1 = Activated Alumina
2 = Coagulation/Filtration (not BAT for systems < 500 service connections)
3 = Direct and Diatomite Filtration
4 = Granular Activated Carbon
5 = Ion Exchange
6 = Lime Softening (not BAT for systems < 500 service connections)
7 = Reverse Osmosis
8 = Corrosion Control
9 = Electrodialysis
10 = Optimizing treatment and reducing aluminum added
11 = Chlorine oxidation
12 = Biological fluidized bed reactor
13 = Oxidation/Filtration

§64447.3. Best Available Technologies (BAT) - Radionuclides.

The technologies listed in tables 64447.3-A, B and C are the best available technology, treatment technologies, or other means available for achieving compliance with the MCLs for radionuclides in tables 64442 and 64443.

Table 64447.3-A
Best Available Technologies (BATs)
Radionuclides

Radionuclide	*Best Available Technology*
Combined radium-226 and radium-228	Ion exchange, reverse osmosis, lime softening
Uranium	Ion exchange, reverse osmosis, lime softening, coagulation/filtration
Gross alpha particle activity	Reverse osmosis
Beta particle and photon radioactivity	Ion exchange, reverse osmosis

Table 64447.3-B
Best Available Technologies (BATs) and Limitations for Small Water Systems
Radionuclides

Unit Technologies	*Limitations (see footnotes)*	*Operator Skill Level Required*	*Raw Water Quality Range and Considerations*
1. Ion exchange	(a)	Intermediate	All ground waters; competing anion concentrations may affect regeneration frequency
2. Point of use, ion exchange	(b)	Basic	All ground waters; competing anion concentrations may affect regeneration frequency
3. Reverse osmosis	(c)	Advanced	Surface waters usually require pre-filtration
4. Point of use, reverse osmosis	(b)	Basic	Surface waters usually require pre-filtration
5. Lime softening	(d)	Advanced	All waters

ATTACHMENT NO. 5

THE WATER QUALITY DATA CHART LISTS ALL DRINKING WATER CONTAMINANTS DETECTED DURING THE 2016 CALENDAR YEAR.

The presence of these contaminants in the water does not necessarily indicate the water poses a health risk. PWD tests for many contaminants in addition to those listed in the chart. Test results for these additional contaminants were all "None Detected (ND)" and are not required to be included in the chart. The state allows us to monitor for some contaminants less than once per year because the concentrations of these contaminants do not change frequently. As a result, some of the data, though representative of the water quality, is more than one year old. Unless otherwise noted, the data presented in this chart is from testing performed January 1 to December 31, 2016. Unregulated contaminant monitoring helps USEPA and the State Water Resources Control Board to determine where certain contaminants occur and whether the contaminants need to be regulated.

Parameter Primary Standards	MCL or MRDL (units)	Meets Standard?	DLR	Sample Frequency* Surface Water/ Groundwater	Treated Surface Water		*Ground Water Sampled in 2016		EPA (MCLG) PHG or [MRDLG]	Typical Source of Contaminant
					Range	Sampled 3/17/2016 or Average Effluent	Range	Average		
Turbidity (Water Clarity)	TT = 1 NTU TT = 95% of monthly samples ≤0.3 NTU	Y	NA	Continuous/Once in 3yrs.	0.05 - 0.13 100%	0.08 100%	0.06 - 0.62 NA	0.12 NA	NA	Soil Runoff

Turbidity is a measure of the cloudiness of the water. We measure it because it is a good indicator of the effectiveness of our filtration system. Treated Surface Water Range and Average are of Daily Maximum

Dist. System Microbiological										
Total Coliform Bacteria (Total Coliform Rule)	For systems that collect less than 40 samples per month: More than 1 positive sample. For systems that collect 40 or more samples per month: No more than 5.0% of monthly samples are positive	Y	NA	Weekly	NA	0%	NA	NA	(0)	Naturally present in the environment
E. coli (Federal Ground Water Rule)	0	Y	NA	Weekly	NA	0	NA	0	(0)	Human and animal fecal waste

Organic Chemicals										
Disinfection By-products										
					Stage 2 D/DBP					
					All Sample Range	Highest LRAA				
TTHMs	80 µg/L	Y	NA	Monthly/NA	1 - 113	54	NA	NA	NA	By-product of drinking water disinfection
HAA5	60 µg/L	Y	NA	Quarterly/NA	ND - 17	7.8				
Disinfectant Residual										
					System RAA from Dist. Syst.					
Chlorine Residual	4.0 (mg/L as Cl2)	Y	NA	Weekly/NA	0.04 - 1.86	0.98	NA	NA	[4]	Drinking water disinfectant added for treatment
Disinfectant By-product Precursors										
Control of DBP Precursor (Total Organic Carbon, TOC) - see explanation on the next page	TT = ratio of actual TOC removal to required TOC removal shall be ≥ 1	Y	1	Monthly/NA	2.04 - 3.14	2.63	NA	NA	NA	Various natural and manmade sources
Total Organic Carbon	Reported as mg/L		0.3		0.7 - 1.4	1.1				

Inorganic Chemicals										
Arsenic	10 µg/L	Y	2	Yearly/Once in 3yrs.	NA	ND	ND - 2.3	ND	0.004	Erosion of natural deposits; runoff from orchards; glass and electronics production wastes
Fluoride	2 mg/L	Y	0.1	Quarterly/Quarterly	0.12 - 0.21	0.15	ND - 0.56	0.19	1	Erosion of natural deposits; water additive that promotes strong teeth; discharge from fertilizer and aluminum factories
Nitrate (as nitrogen)	10 mg/L	Y	0.4	Quarterly/Quarterly	NA	ND	ND - 6.8	1.3	10	Runoff and leaching from fertilizer use; leaching from septic tanks and sewage; erosion of natural deposits
Hexavalent Chromium	10 µg/L	Y	1	Quarterly/Quarterly	NA	ND	ND - 9.5	4.0	0.02	Steel and pulp mill discharges, chrome plating, natural erosion

Radioactivity										
Gross Alpha Activity**	15 pCi/L	Y	3	**See comment below	NA	ND	ND - 5.7	ND	(0)	Erosion of natural deposits
Uranium***	20 pCi/L	Y	1	NA/Quaterly	NA	ND	NA	1.1	0.43	

Tap Monitoring Lead & Copper	Action Level			No. of samples in 2015	90th Percentile	No. sites exceeded AL			
Lead	15 µg/L	Y	5	50	ND	NONE	NA	0.2	Internal corrosion of household water plumbing systems; discharges from industrial manufacturers; erosion of natural deposits
Copper	1.3 mg/L	Y	0.05	50	0.370	NONE	NA	0.3	Internal corrosion of household plumbing systems; erosion of natural deposits; leaching from wood preservatives

Parameter Secondary Standards	MCL or MRDL (units)	Meets Standard?	DLR	Sample Frequency* Surface Water/ Groundwater	Treated Surface Water		*Ground Water Sampled in 2016		EPA (MCLG) PHG or [MRDLG]	Typical Source of Contaminant
					Range	Sampled 3/17/2016 or Average Effluent	Range	Average		
Color	15 units	Y	NA	Weekly/Once in 3yrs.	NA	ND	NA	ND	NA	Naturally occurring organic materials
Odor-Threshold	3 units	Y	1	Weekly/Once in 3yrs.	NA	1.0	ND - 1.0	ND	NA	
Chloride	500 mg/L	Y	NA	Quarterly/Quarterly	93 - 140	124	5 - 110	24	NA	Runoff/leaching from natural deposits; seawater influence
Sulfate	500 mg/L	Y	0.5	Quarterly/Quarterly	46 - 87	64	16 - 170	41	NA	Runoff/leaching of natural deposits; industrial wastes
Total Dissolved Solids	1000 mg/L	Y	NA	Yearly/Once in 3yrs.	NA	500	140 - 550	246	NA	Runoff/leaching of natural deposits
Specific Conductance	1600 µmhos/cm	Y	NA	Yearly/Once in 3yrs.	NA	800	250 - 900	406	NA	Substances that form ions when in water; seawater influence
Additional Constituents Analyzed										
pH	NA (Units)	NA	NA	Continuous/Once in 3yrs.	6.8 - 7.5	7.0	7.9 - 8.4	8.1	NA	Leaching from natural deposits
Hardness	NA (mg/L)	NA	NA	Weekly/Once in 3yrs.	108 - 156	138	24 - 240	122	NA	Sum of polyvalent cations present in the water, generally magnesium and calcuim. The cations are usually naturally-occuring.
Alkalinity	NA (mg/L)	NA	NA	Weekly/Once in 3yrs.	56 - 86	75	79 - 200	117	NA	Dissolved as water passes through limestone deposits
Calcium	NA (mg/L)	NA	NA	Yearly/Once in 3yrs.	NA	36	8 - 75	38	NA	
Sodium	NA (mg/L)	NA	NA	Yearly/Once in 3yrs.	NA	110	17 - 80	36	NA	Generally naturally-occurring salt present in water
Potassium	NA (mg/L)	NA	NA	Yearly/Once in 3yrs.	NA	3.4	ND - 3.0	1.6	NA	Leaching from natural deposits
Magnesium	NA (mg/L)	NA	NA	Yearly/Once in 3yrs.	NA	14	0.7 - 16	6.8	NA	Dissolved as water passes through magnesium-bearing minerals
Special Testing										
UCMR 3 (Sampled in 2015)					Effluent & Dist. System		Ground Water			
Molybdenum	NA	NA	1.0	Special	2.9 - 4.4	3.4	ND - 2.0	1.6	NA	
Strontium	NA	NA	0.30	Special	320 - 440	391	140 - 510	373	NA	
Vanadium	NL = 50 ug/L	Y	0.20	Special	ND - 22	6.6	7.1 - 31	17	NA	Leaching from natural deposits, steel manufacturing, hazardous waste sites
Chromium (total)	50 µg/L	Y	0.20	Special	ND - 5.8	1.9	1.3 - 6.9	4.0	(100)	Discharge from steel and pulp mills and chrome plating; erosion of natural deposits
Chromium -6	10 µg/L	Y	0.03	Special	0.09 - 5.9	1.9	1.3 - 7.7	4.2	0.02	Discharge from electroplating factories, leather tanneries, wood preservation, chemical synthesis, refractory production, and textile manufacturing facilities; erosion of natural deposits
Chlorate	NA	NA	20	Special	120 - 310	215	ND - 200	101	NA	
Bromochloromethane	NA	NA	0.06	Special	0.086 - 0.28	0.18	NA	ND	NA	

* Wells are sampled once/3yrs except for Fluoride, Chloride, Sulfate, & Nitrate which are sampled quarterly. ** Sampled between 2010 and 2016. Individual sites are sampled once/6yrs or once/9yrs. Range is from individual sample results.
*** Sample collected only when quarterly average of Gross Alpha exceeds 5pCi/L.

Lead And Copper:

The District is required to draw new sample sets of tap samples for Lead and Copper every 3 years and the last samples taken were in the year 2015 (50 samples). The 90th percentile results of none-detected for lead and 0.370 ppm for copper are well within the AL of 15 ppb lead and the AL of 1.3 ppm for copper. If present, elevated levels of lead can cause serious health problems, especially for pregnant women and young children. Lead in drinking water is primarily from materials and components associated with service lines and home plumbing. Palmdale Water District is responsible for providing high quality drinking water, but cannot control the variety of materials used in plumbing components. When your water has been sitting for several hours, you can minimize the potential for lead exposure by flushing your tap for 30 seconds to 2 minutes before using water for drinking or cooking. [Optional: If you do so, you may wish to collect the flushed water and reuse it for another beneficial purpose, such as watering plants.] If you are concerned about lead in your drinking water, you may wish to have your water tested. Information on lead in drinking water, testing methods, and steps you can take to minimize exposure is available from the Safe Drinking Water Hotline (800-426-4791) or at http://www.epa.gov/lead.

Health effects of Lead: Infants and children who drink water containing lead in excess of the action level may experience delays in their physical and mental development. Children may show slight deficits in attention span and learning abilities. Adults who drink this water over many years may develop kidney problems or high blood pressure.

Health effects of Copper: Copper is an essential nutrient, but some people who drink water containing copper in excess of the action level over a relatively short amount of time may experience gastrointestinal distress. Some people who drink water containing copper in excess of the action level over many years may suffer liver or kidney damage. People with Wilson's disease should consult their personal doctor.

DEFINITIONS:

The following definitions of key terms are provided to help you understand the data used in this report.

Maximum Contaminant Level (MCL): The highest level of a contaminant that is allowed in drinking water. Primary MCLs are set as close to the PHGs (or MCLGs) as is economically and technologically feasible. Secondary MCLs are set to protect the odor, taste, and appearance of drinking water.

Maximum Contaminant Level Goal (MCLG): The level of a contaminant in drinking water below which there is no known or expected risk to health. MCLGs are set by the U.S. Environmental Protection Agency (USEPA).

Public Health Goal (PHG): The level of a contaminant in drinking water below which there is no known or expected risk to health. PHGs are set by OEHHA (Office of Environmental Health Hazard Assessment) a division of the California Environmental Protection Agency (CEPA).

Maximum Residual Disinfectant Level (MRDL): The highest level of a disinfectant allowed in drinking water. There is convincing evidence that addition of a disinfectant is necessary for control of microbial contaminants.

Maximum Residual Disinfectant Level Goal (MRDLG): The level of a drinking water disinfectant below which there is no known or expected risk to health. MRDLGs do not reflect the benefits of the use of disinfectants to control microbial contaminants.

Running Annual Average (RAA): The running annual arithmetic average, computed quarterly, of quarterly arithmetic averages of all samples collected.

Detection Limit for purposes of Reporting (DLR): The designated minimum level at or above which any analytical finding of a contaminant in drinking water shall be reported to the Department of Public Health.

Unregulated Contaminant Monitoring (UCMR): Unregulated contaminant monitoring helps USEPA and the California Department of Public Health to determine where certain contaminants occur and whether the contaminants need to be regulated.

Treatment Technique (TT): A required process intended to reduce the level of a contaminant in drinking water.

Regulatory Action Level (AL) or Notification Level (NL): The concentration of a contaminant which, if exceeded, triggers treatment or other requirements that a water system must follow.

Primary Drinking Water Standard (PDWS): MCLs and MRDLs for contaminants that affect health along with their monitoring and reporting requirements and water treatment requirements.

Secondary Drinking Water Standard (SDWS): MCLs for contaminants that affect taste, odor, or appearance of the drinking water. Contaminants with SWDSs do not affect the health at the MCL level.

Counting Error: The 95% confidence level for the radioactivity analysis.

ABBREVIATIONS USED IN 2015 WATER QUALITY DATA CHART:

ND: Not detectable or None detected at testing limit (DLR)

NA: Not Applicable

Nreg: No regulation

< Less Than

> Greater Than

pCi/L: picocuries per liter (a measure of radiation)

DBP: Disinfection By-products

Comparison examples are provided for the following measurements to help you better understand the amount of chemical contaminants detected in the water. This does not mean that the amounts are not significant regarding risk of health effects for specific contaminants.

ppm: parts per million or milligrams per liter (mg/L) = qualitatively, approx.
1 drop in 10 gals.

ppb: parts per billion or micrograms per liter (ug/L) = qualitatively, approx.
1 drop in 10,000 gals.

ppt: parts per trillion or nanograms per liter (ng/L) = qualitatively, approx.
1 drop in 100,000 gals.

EDUCATIONAL INFORMATION AND POSSIBLE DRINKING WATER CONTAMINANTS:

Drinking water, including bottled water, may reasonably be expected to contain at least small amounts of some contaminants. The presence of contaminants does not necessarily indicate that water poses a health risk. More information about contaminants and potential health effects can be obtained by calling the USEPA's Safe Drinking Water Hotline (1-800-426-4791).

Some people may be more vulnerable to contaminants in drinking water than the general population. Immuno-compromised persons such as persons with cancer undergoing chemotherapy, persons who have undergone organ transplants, people with HIV/AIDS or other immune system disorders, some elderly, and infants can be particularly at risk from infections. These people should seek advice about drinking water from their health care providers. USEPA/Centers for Disease Control (CDC) guidelines on appropriate means to lessen the risk of infection by Cryptosporidium and other microbial contaminants are available from the Safe Drinking Water Hotline (1-800-426-4791). PWD tested for cryptosporidium and giardia monthly from January through December in 2016 and results were "none detected."

TOTAL TRIHALOMETHANES (TTHMS): Total Trihalomethanes (TTHMs) are the total of four trihalomethanes of concern in drinking water: chloroform, bromoform, bromodichloromethane, and chlorodibromomethane. In the Primary Standards Disinfection Byproducts section of the Water Quality Chart under Highest LRAA from Distribution System, the highest Locational Running Annual Average (LRAA) for 2016 is 54 µg/L, which is less than and complies with the Federal TTHM MCL of 80 µg/L. The range of monthly sample results from all 8 sampling points in 2016 is 1 – 113 µg/L, indicating that certain sampling points or specific locations within the customer service area have exceeded 80 µg/L. These samples were taken from dedicated sample points within the distribution system and are representative of maximum residence time in the system.

Health effects of Total Trihalomethanes (TTHMs): Some people who drink water containing trihalomethanes in excess of the MCL over many years may experience liver, kidney, or central nervous system problems and may have an increased risk of getting cancer.

TOTAL ORGANIC CARBON (TOC): Total Organic Carbon (TOC) has no health effects. However, TOC provides a medium for the formation of disinfection byproducts. TOC result is based on quarterly RAA of percent removal ratio. Paired samples (one from source and the other from treated water) are collected monthly. The percent removal between source water and treated water is divided by the required monthly TOC percent removal based on certain criteria that all public water systems must follow. The quarterly RAA of these monthly results should be 1.0 or higher. Our quarterly RAA in 2016 ranged from 2.04 to 3.14 and averaged 2.63. Individual TOC sample results for treated water ranged from 0.7 to 1.4 mg/L and averaged 1.1 mg/L.

HEXAVALENT CHROMIUM: In the Primary Standards Inorganic Chemicals section of the chart for Hexavalent Chromium, the treated surface water sample is None Detected (ND). For groundwater samples (22 wells in service), the range of all quarterly sample results is None Detected (ND) to 9.5 µg/L and the average is 4.0 µg/L. The highest Running Annual Average (RAA) for treated surface water and groundwater is None Detected (ND) and 8.5 µg/L, respectively. The State Hexavalent Chromium MCL is 10 µg/L and the DLR is 1 µg/L.

Health effects of Hexavalent Chromium: Some people who drink water containing hexavalent chromium in excess of the MCL over many years may have an increased risk of getting cancer.

FLUORIDE: Fluoride in the treated surface water ranged from 0.12 to 0.21 mg/L and averaged 0.15 mg/L. The groundwater samples ranged from ND to 0.56 mg/L and averaged 0.19 mg/L. The fluoride MCL is 2 mg/L and the DLR is 0.1 mg/L.

Health effects of Fluoride: Some people who drink water containing fluoride in excess of the federal MCL of 4 mg/L over many years may get bone disease, including pain and tenderness of the bones. Children who drink water containing fluoride in excess of the state MCL of 2 mg/L may get mottled teeth.

NITRATE: In the Primary Standards Inorganic Chemicals section of the chart for Nitrate (as Nitrogen), treated surface water sample is None Detected (ND). In the groundwater column, the range of Nitrate (as Nitrogen) is ND to 6.8 mg/L, and the average is 1.3 mg/L. The State Water Resources Control Board requires annual sampling if all results are less than 50% of the MCL. If the result from any one source is greater than 50% of the MCL, then sampling must be done quarterly at that source. The District samples all its wells on a quarterly basis (4 times a year) even when they test below 50% of the MCL. The numbers expressed on the chart are derived from quarterly sampling of all District wells, except those that are out of service.

Health effects of Nitrate: Nitrate in drinking water at levels above 10 mg/L is a health risk for infants of less than six months of age. Such nitrate levels in drinking water can interfere with the capacity of the infant's blood to carry oxygen, resulting in a serious illness; symptoms include shortness of breath and blueness of the skin. Nitrate levels above 10 mg/L may also affect the ability of the blood to carry oxygen in other individuals, such as pregnant women and those with certain specific enzyme deficiencies. If you are caring for an infant, or you are pregnant, you should ask advice from your health care provider. Nitrate levels may rise quickly for short periods of time because of rainfall or agricultural activity.

GROSS ALPHA PARTICLE ACTIVITY: In 2016, 4 out of the 22 wells in service were sampled for Gross Alpha. Well 19 = 5.0 pCi/L, Well 22 = None Detected (ND), Well 26 = None Detected (ND) and Well 29 = 3.2 pCi/L. The remaining water sources will be monitored in the future during this compliance cycle.

Health effects of Gross Alpha Particle Activity: Certain minerals are radioactive and may emit a form of radiation known as alpha radiation. Some people who drink water containing alpha emitters in excess of the MCL over many years may have an increased risk of getting cancer.

URANIUM: Samples for Uranium are collected only when the Gross Alpha particle activity exceeds 5 pCi/L. Since Well 19 was the only well that detected Gross Alpha particle activity equal to or greater than 5 pCi/L, it was the only well that we collected and analyzed uranium in 2016. The uranium result for Well 19 was 1.1 pCi/L. The uranium MCL is 20 pCi/L and the DLR is 1 pCi/L.

Health effects of Uranium: Some people who drink water containing uranium in excess of the MCL over many years may have kidney problems or an increased risk of getting cancer.

THE WATER QUALITY DATA CHART LISTS ALL DRINKING WATER CONTAMINANTS DETECTED DURING THE 2017 CALENDAR YEAR.
The presence of these contaminants in the water does not necessarily indicate the water poses a health risk. PWD tests for many contaminants in addition to those listed in the chart. Test results for these additional contaminants were all "None Detected (ND)" and are not required to be included in the chart. The state allows us to monitor for some contaminants less than once per year because the concentrations of these contaminants do not change frequently. As a result, some of the data, though representative of the water quality, is more than 1 year old. Unless otherwise noted, the data presented in this chart is from testing performed January 1 to December 31, 2017. Unregulated contaminant monitoring helps USEPA and the State Water Resources Control Board determine where certain contaminants occur and whether the contaminants need to be regulated.

Parameter Primary Standards	MCL or MRDL (units)	Meets Standard?	DLR	Sample Frequency* Surface Water/ Groundwater	Treated Surface Water		*Groundwater Sampled in 2016		EPA (MCLG) PHG or [MRDLG]	Typical Source of Contaminant
					Range	Sampled 1/26/2017 or Average Effluent	Range	Average		
Turbidity (Water Clarity)	TT = 1 NTU TT = 95% of monthly samples ≤0.3 NTU	Y	NA	Continuous/Once in 3 yrs.	0.04 - 0.15 100%	0.08 100%	0.06 - 0.62 NA	0.12 NA	NA	Soil Runoff
Turbidity is a measure of the cloudiness of the water. We measure it because it is a good indicator of the effectiveness of our filtration system. Treated Surface Water Range and Average are of Daily Maximum.										
Dist. System Microbiological										
Total Coliform Bacteria (Total Coliform Rule)	For systems that collect less than 40 samples per month: More than 1 positive sample. For systems that collect 40 or more samples per month: No more than 5.0% of monthly samples are positive	Y	NA	Weekly	NA	0%	NA	NA	(0)	Naturally present in the environment
E. coli (Federal Groundwater Rule)	0	Y	NA	Weekly	NA	0	NA	0	(0)	Human and animal fecal waste
Organic Chemicals										
Disinfection By-products										
					Stage 2 D/DBP					
					All Sample Range	Highest LRAA				
TTHMs	80 µg/L	Y	NA	Monthly/NA	0.7 - 88	62	NA	NA	NA	By-product of drinking water disinfection
HAA5	60 µg/L	Y	NA	Quarterly/NA	ND - 12	8.5				
Disinfectant Residual										
					System RAA from Dist. Syst.					
Chlorine Residual	4.0 (mg/L as Cl2)	Y	NA	Weekly/NA	0.20 - 1.87	0.94	NA	NA	[4]	Drinking water disinfectant added for treatment
Disinfectant By-product Precursors										
Control of DBP Precursor (Total Organic Carbon, TOC) - see explanation on the next page	TT = ratio of actual TOC removal to required TOC removal shall be ≥ 1	Y	1	Monthly/NA	2.52 - 3.09	2.79	NA	NA	NA	Various natural and manmade sources
Total Organic Carbon	Reported as mg/L		0.3		0.8 - 1.3	1.0				
Inorganic Chemicals										
Arsenic	10 µg/L	Y	2	Yearly/Once in 3 yrs.	NA	ND	ND - 2.3	ND	0.004	Erosion of natural deposits; runoff from orchards; glass and electronics production wastes
Fluoride	2 mg/L	Y	0.1	Quarterly/Quarterly	ND - 0.14	ND	ND - 0.58	0.18	1	Erosion of natural deposits; water additive that promotes strong teeth; discharge from fertilizer and aluminum factories
Nitrate (as nitrogen)	10 mg/L	Y	0.4	Quarterly/Quarterly	NA	ND	ND - 6.7	1.4	10	Runoff and leaching from fertilizer use; leaching from septic tanks and sewage; erosion of natural deposits
Hexavalent Chromium	10 µg/L	Y	1	Quarterly/Quarterly	NA	ND	ND - 8.5	3.8	0.02	Steel and pulp mill discharges, chrome plating, natural erosion
Radioactivity										
Gross Alpha Activity**	15 pCi/L	Y	3	**See comment below	NA	ND	ND - 5.7	ND	(0)	Erosion of natural deposits
Uranium***	20 pCi/L	Y	1	NA/Quarterly	NA	ND	NA	1.1	0.43	

Tap Monitoring Lead & Copper	Action Level	Meets Standard?	DLR	No. of samples in 2015	90th Percentile	No. sites exceeded AL	No. of Schools requesting lead sampling	EPA (MCLG) PHG or [MRDLG]	Typical Source of Contaminant
Lead	15 µg/L	Y	5	50	ND	NONE	NONE	0.2	Internal corrosion of household water plumbing systems; discharges from industrial manufacturers; erosion of natural deposits
Copper	1.3 mg/L	Y	0.05	50	0.370	NONE	NA	0.3	Internal corrosion of household plumbing systems; erosion of natural deposits; leaching from wood preservatives

Parameter Secondary Standards	MCL or MRDL (units)	Meets Standard?	DLR	Sample Frequency* Surface Water/ Groundwater	Treated Surface Water		*Groundwater Sampled in 2016		EPA (MCLG) PHG or [MRDLG]	Typical Source of Contaminant
					Range	Sampled 1/26/2017 or Average Effluent	Range	Average		
Color	15 units	Y	NA	Weekly/Once in 3 yrs.	NA	ND	NA	ND	NA	Naturally occurring organic materials
Odor-Threshold	3 units	Y	1	Weekly/Once in 3 yrs.	NA	1.0	ND - 1.0	ND	NA	
Chloride	500 mg/L	Y	NA	Quarterly/Quarterly	59 - 140	97	6 - 103	24	NA	Runoff/leaching from natural deposits; seawater influence
Sulfate	500 mg/L	Y	0.5	Quarterly/Quarterly	15 - 58	41	16 - 145	36	NA	Runoff/leaching of natural deposits; industrial wastes
Total Dissolved Solids	1000 mg/L	Y	NA	Yearly/Once in 3 yrs.	NA	430	140 - 550	246	NA	Runoff/leaching of natural deposits
Specific Conductance	1600 µmhos/cm	Y	NA	Yearly/Once in 3 yrs.	NA	680	250 - 900	406	NA	Substances that form ions when in water; seawater influence
Additional Constituents Analyzed										
pH	NA (Units)	NA	NA	Continuous/Once in 3 yrs.	6.7 - 7.6	7.0	7.9 - 8.4	8.1	NA	Leaching from natural deposits
Hardness	NA (mg/L)	NA	NA	Weekly/Once in 3 yrs.	66 - 150	103	24 - 240	122	NA	Sum of polyvalent cations present in the water, generally magnesium and calcium. The cations are usually naturally-occuring.
Alkalinity	NA (mg/L)	NA	NA	Weekly/Once in 3 yrs.	33 - 75	53	79 - 200	117	NA	Dissolved as water passes through limestone deposits
Calcium	NA (mg/L)	NA	NA	Yearly/Once in 3 yrs.	NA	29	8 - 75	38	NA	
Sodium	NA (mg/L)	NA	NA	Yearly/Once in 3 yrs.	NA	79	17 - 80	36	NA	Generally naturally-occurring salt present in water
Potassium	NA (mg/L)	NA	NA	Yearly/Once in 3 yrs.	NA	3.5	ND - 3.0	1.6	NA	Leaching from natural deposits
Magnesium	NA (mg/L)	NA	NA	Yearly/Once in 3 yrs.	NA	14	0.7 - 16	6.8	NA	Dissolved as water passes through magnesium-bearing minerals
Special Testing										
UCMR 3 (Sampled in 2015)					Effluent & Dist. System		Groundwater			Environmental Source
Molybdenum	NA (µg/L)	NA	1.0	Special	2.9 - 4.4	3.4	ND - 2.0	1.6	NA	Naturally-occurring element found in ores and present in plants, animals and bacteria; commonly used form molybdenum trioxide used as a chemical reagent
Strontium	NA (µg/L)	NA	0.30	Special	320 - 440	391	140 - 510	373	NA	Naturally-occurring element; historically, commercial use of strontium has been in the faceplate glass of cathode-ray tube televisions to block x-ray emissions
Vanadium	NL = 50 ug/L	Y	0.20	Special	ND - 22	6.6	7.1 - 31	17	NA	Leaching from natural deposits, steel manufacturing, hazardous waste sites
Chromium (total)	50 µg/L	Y	0.20	Special	ND - 5.8	1.9	1.3 - 6.9	4.0	(100)	Discharge from steel and pulp mills and chrome plating; erosion of natural deposits
Chromium -6	10 µg/L	Y	0.03	Special	0.09 - 5.9	1.9	1.3 - 7.7	4.2	0.02	Discharge from electroplating factories, leather tanneries, wood preservation, chemical synthesis, refractory production, and textile manufacturing facilities; erosion of natural deposits
Chlorate	NA (µg/L)	NA	20	Special	120 - 310	215	ND - 200	101	NA	Agricultural defoliant or desiccant; disinfection byproduct; and used in production of chlorine dioxide
Bromochloromethane	NA (µg/L)	NA	0.06	Special	0.086 - 0.28	0.18	NA	ND	NA	Used as a fire-extinguishing fluid, an explosive suppressant, and as a solvent in the manufacturing of pesticides

* Wells are sampled once/3 yrs. except for Fluoride, Chloride, Sulfate, & Nitrate, which are sampled quarterly. ** Sampled between 2010 and 2017. Individual sites are sampled once/6 yrs. or once/9 yrs. Range is from individual sample results.
*** Sample collected only when quarterly average of Gross Alpha exceeds 5pCi/L.

Lead and Copper:

Palmdale Water District is required to draw new sample sets of tap samples for lead and copper every 3 years. The last samples taken were in 2015 (50 samples). The 90th percentile results of none-detected for lead and 0.370 ppm for copper are well within the AL of 15 ppb lead and the AL of 1.3 ppm for copper. If present, elevated levels of lead can cause serious health problems, especially for pregnant women and young children. Lead in drinking water is primarily from materials and components associated with service lines and home plumbing. PWD is responsible for providing high-quality drinking water, but is unable to control the variety of materials used in plumbing components. When your water has been sitting for several hours, you can minimize the potential for lead exposure by flushing your tap for 30 seconds to 2 minutes before using water for drinking or cooking. [If you do so, you may wish to collect the flushed water and reuse it for another beneficial purpose, such as watering plants.]

If you are concerned about lead in your drinking water, you can have your water tested. Information on lead in drinking water, testing methods, and steps you can take to minimize exposure is available from the Safe Drinking Water Hotline at 1-800-426-4791 or at www.epa.gov/lead.

Health Effects of Lead: Infants and children who drink water containing lead in excess of the action level may experience delays in their physical and mental development. Children may show slight deficits in attention span and learning abilities. Adults who drink this water over many years may develop kidney problems or high blood pressure.

Health Effects of Copper: Copper is an essential nutrient, but some people who drink water containing copper in excess of the action level over a relatively short amount of time may experience gastrointestinal distress. Some people who drink water containing copper in excess of the action level over many years may suffer liver or kidney damage. People with Wilson's disease should consult their personal doctor.

DEFINITIONS:

The following definitions of key terms are provided to help you understand the data used in this report.

Maximum Contaminant Level (MCL): The highest level of a contaminant that is allowed in drinking water. Primary MCLs are set as close to the PHGs (or MCLGs) as is economically and technologically feasible. Secondary MCLs are set to protect the odor, taste, and appearance of drinking water.

Maximum Contaminant Level Goal (MCLG): The level of a contaminant in drinking water below which there is no known or expected risk to health. MCLGs are set by the U.S. Environmental Protection Agency (USEPA).

Public Health Goal (PHG): The level of a contaminant in drinking water below which there is no known or expected risk to health. PHGs are set by OEHHA (Office of Environmental Health Hazard Assessment) a division of the California Environmental Protection Agency (CEPA).

Maximum Residual Disinfectant Level (MRDL): The highest level of a disinfectant allowed in drinking water. There is convincing evidence that addition of a disinfectant is necessary for control of microbial contaminants.

Maximum Residual Disinfectant Level Goal (MRDLG): The level of a drinking water disinfectant below which there is no known or expected risk to health. MRDLGs do not reflect the benefits of the use of disinfectants to control microbial contaminants.

Running Annual Average (RAA): The running annual arithmetic average, computed quarterly, of quarterly arithmetic averages of all samples collected.

Detection Limit for purposes of Reporting (DLR): The designated minimum level at or above which any analytical finding of a contaminant in drinking water shall be reported to the Department of Public Health.

Unregulated Contaminant Monitoring (UCMR): Unregulated contaminant monitoring helps USEPA and the California Department of Public Health to determine where certain contaminants occur and whether the contaminants need to be regulated.

Treatment Technique (TT): A required process intended to reduce the level of a contaminant in drinking water.

Regulatory Action Level (AL) or Notification Level (NL): The concentration of a contaminant which, if exceeded, triggers treatment or other requirements that a water system must follow.

Primary Drinking Water Standard (PDWS): MCLs and MRDLs for contaminants that affect health along with their monitoring and reporting requirements and water treatment requirements.

Secondary Drinking Water Standard (SDWS): MCLs for contaminants that affect taste, odor, or appearance of the drinking water. Contaminants with SDWSs do not affect the health at the MCL level.

Counting Error: The 95% confidence level for the radioactivity analysis.

ABBREVIATIONS USED IN 2017 WATER QUALITY DATA CHART:

ND: Not detectable or None detected at testing limit (DLR)

NA: Not Applicable

Nreg: No regulation

< Less Than

> Greater Than

pCi/L: picocuries per liter (a measure of radiation)

DBP: Disinfection By-products

Comparison examples are provided for the following measurements to help you better understand the amount of chemical contaminants detected in the water. This does not mean that the amounts are not significant regarding risk of health effects for specific contaminants.

ppm: parts per million or milligrams per liter (mg/L) = qualitatively, approximately 1 drop in 10 gals.

ppb: parts per billion or micrograms per liter (µg/L) = qualitatively, approximately 1 drop in 10,000 gals.

ppt: parts per trillion or nanograms per liter (ng/L) = qualitatively, approximately 1 drop in 100,000 gals.

µmhos/cm: micromhos per centimeter (a measure for conductivity)

EDUCATIONAL INFORMATION AND POSSIBLE DRINKING WATER CONTAMINANTS:

Drinking water, including bottled water, may reasonably be expected to contain at least small amounts of some contaminants. The presence of contaminants does not necessarily indicate that water poses a health risk. More information about contaminants and potential health effects can be obtained by calling the USEPA's Safe Drinking Water Hotline 1-800-426-4791. Some people may be more vulnerable to contaminants in drinking water than the general population. Immuno-compromised persons such as persons with cancer undergoing chemotherapy, persons who have undergone organ transplants, people with HIV/AIDS or other immune system disorders, some elderly, and infants can be particularly at risk from infections. These people should seek advice about drinking water from their health care providers. USEPA/Centers for Disease Control (CDC) guidelines on appropriate means to lessen the risk of infection by *Cryptosporidium* and other microbial contaminants are available from the Safe Drinking Water Hotline 1-800-426-4791. PWD tested for *Cryptosporidium* and *Giardia* monthly from January through April in 2017 and results were None Detected (ND).

TOTAL TRIHALOMETHANES (TTHMS): Total Trihalomethanes (TTHMs) are the total of four trihalomethanes of concern in drinking water: chloroform, bromoform, bromodichloromethane, and chlorodibromomethane. In the Primary Standards Disinfection Byproducts section of the Water Quality Chart under highest LRAA from Distribution System, the highest Locational Running Annual Average (LRAA) for 2017 is 62 µg/L, which is less than and complies with the Federal TTHM MCL of 80 µg/L. The range of monthly sample results from all 8 sampling points in 2017 is 0.7 – 88 µg/L, indicating that certain sampling points or specific locations within the customer service area have exceeded 80 µg/L. These samples were taken from dedicated sample points within the distribution system and are representative of maximum residence time in the system.

Health effects of Total Trihalomethanes (TTHMs): Some people who drink water containing trihalomethanes in excess of the MCL over many years may experience liver, kidney, or central nervous system problems and may have an increased risk of getting cancer.

TOTAL ORGANIC CARBON (TOC): Total Organic Carbon (TOC) has no health effects. However, TOC provides a medium for the formation of disinfection byproducts. TOC result is based on quarterly RAA of percent removal ratio. Paired samples (one from source and the other from treated water) are collected monthly. The percent removal between source water and treated water is divided by the required monthly TOC percent removal based on certain criteria that all public water systems must follow. The quarterly RAA of these monthly results should be 1.0 or higher. Our quarterly RAA in 2017 ranged from 2.52 to 3.09 and averaged 2.79. Individual TOC sample results for treated water ranged from 0.8 to 1.3 mg/L and averaged 1.0 mg/L.

FLUORIDE: Fluoride in the treated surface water ranged from ND to 0.14 mg/L and on average None Detected (ND). The groundwater samples ranged from ND to 0.58 mg/L and averaged 0.18 mg/L. The fluoride MCL is 2 mg/L and the DLR is 0.1 mg/L.

Health effects of Fluoride: Some people who drink water containing fluoride in excess of the federal MCL of 4 mg/L over many years may get bone disease, including pain and tenderness of the bones. Children who drink water containing fluoride in excess of the state MCL of 2 mg/L may get mottled teeth.

NITRATE: In the Primary Standards Inorganic Chemicals section of the chart for Nitrate (as Nitrogen), treated surface water sample is None Detected (ND). In the groundwater column, the range of Nitrate (as Nitrogen) is ND to 6.7 mg/L, and the average is 1.4 mg/L. The State Water Resources Control Board requires annual sampling if all results are less than 50% of the MCL. If the result from any one source is greater than 50% of the MCL, then sampling must be done quarterly at that source. PWD samples all its wells on a quarterly basis (4 times a year) even when they test below 50% of the MCL. The numbers expressed on the chart are derived from quarterly sampling of all PWD wells, except those that are out of service.

Health effects of Nitrate: Nitrate in drinking water at levels above 10 mg/L is a health risk for infants of less than six months of age. Such nitrate levels in drinking water can interfere with the capacity of the infant's blood to carry oxygen, resulting in a serious illness with symptoms including shortness of breath and blueness of the skin. Nitrate levels above 10 mg/L may also affect the ability of the blood to carry oxygen in other individuals, such as pregnant women and those with certain specific enzyme deficiencies. If you are caring for an infant or you are pregnant, you should ask advice from your health care provider. Nitrate levels may rise quickly for short periods of time because of rainfall or agricultural activity.

GROSS ALPHA PARTICLE ACTIVITY: In 2016, 4 out of the 22 wells in service were sampled for Gross Alpha. Well 19 = 5.0 pCi/L, Well 22 = None Detected (ND), Well 26 = None Detected (ND) and Well 29 = 3.2 pCi/L. The remaining water sources will be monitored in the future during this compliance cycle.

Health effects of Gross Alpha Particle Activity: Certain minerals are radioactive and may emit a form of radiation known as alpha radiation. Some people who drink water containing alpha emitters in excess of the MCL over many years may have an increased risk of getting cancer.

HEXAVALENT CHROMIUM: In the Primary Standards Inorganic Chemicals section of the chart for Hexavalent Chromium, the treated surface water sample is None Detected (ND). For groundwater samples (22 wells in service), the range of all quarterly sample results is None Detected (ND) to 8.5 µg/L and the average is 3.8 µg/L. The highest Running Annual Average (RAA) for treated surface water and groundwater is None Detected (ND) and 8.1 µg/L, respectively. There is currently no MCL for hexavalent chromium. The previous MCL of 10 µg/L was withdrawn on September 11, 2017.

Health effects of Hexavalent Chromium: Some people who drink water containing hexavalent chromium in excess of the MCL over many years may have an increased risk of getting cancer.

THE WATER QUALITY DATA CHART LISTS ALL DRINKING WATER CONTAMINANTS DETECTED DURING THE 2018 CALENDAR YEAR.
The presence of these contaminants in the water does not necessarily indicate the water poses a health risk. PWD tests for many contaminants in addition to those listed in the chart. Test results for these additional contaminants were all "None Detected" (ND) and are not required to be included in the chart. The state allows us to monitor for some contaminants less than once per year because the concentrations of these contaminants do not change frequently. As a result, some of the data, though representative of the water quality, is more than 1 year old. Unless otherwise noted, the data presented in this chart is from testing performed January 1 to December 31, 2018. Unregulated contaminant monitoring helps USEPA and the State Water Resources Control Board determine where certain contaminants occur and whether the contaminants need to be regulated.

Parameter Primary Standards	MCL or MRDL (units)	Meets Standard?	DLR	Sample Frequency* Surface Water/ Groundwater	Treated Surface Water		*Groundwater Sampled in 2016		EPA (MCLG) PHG or [MRDLG]	Typical Source of Contaminant
					Range	Sampled 2/14/2018 or Average Effluent	Range	Average		
Turbidity (Water Clarity)	TT = 1 NTU TT = 95% of monthly samples ≤0.3 NTU	Y	NA	Continuous/Once in 3 yrs.	0.05 - 0.29 100%	0.10 100%	0.06 - 0.62 NA	0.12 NA	NA	Soil Runoff
Turbidity is a measure of the cloudiness of the water. We measure it because it is a good indicator of the effectiveness of our filtration system. Treated Surface Water Range and Average are of Daily Maximum.										
Dist. System Microbiological										
Total Coliform Bacteria (state Total Coliform Rule)	For systems that collect less than 40 samples per month: more than 1 positive sample. For systems that collect 40 or more samples per month: no more than 5.0% of monthly samples are positive	Y	NA	Weekly	0% - 0.6%	0.06%	NA	NA	(0)	Naturally present in the environment
E. coli (state Total Coliform Rule)	A routine sample and a repeat sample are total coliform positive, and one of these is also *E. coli* positive	Y	NA	Weekly	NA	0%	NA	NA	(0)	Human and animal fecal waste
Fecal Indicator *E. coli* (Federal Groundwater Rule)	0	Y	NA	Triggered by positive TCR sample	NA	0	NA	0	(0)	Human and animal fecal waste
Organic Chemicals										
Disinfection By-products										
					Stage 2 D/DBP					
					All Sample Range	Highest LRAA				
TTHMs (Total Trihalomethanes)	80 µg/L	Y	NA	Monthly/NA	8.0 - 70	54	NA	NA	NA	Byproduct of drinking water disinfection
HAA5 (Sum of 5 Haloacetic Acids)	60 µg/L	Y	NA	Monthly/NA	ND - 9.0	7.7				
Disinfectant Residual										
					System RAA from Dist. Syst.					
Chlorine Residual	4.0 (mg/L as Cl2)	Y	NA	Weekly/NA	0.16 - 1.70	0.88	NA	NA	[4]	Drinking water disinfectant added for treatment
Disinfectant By-product Precursors										
Control of DBP Precursor (Total Organic Carbon, TOC) - see explanation on the next page	TT = ratio of actual TOC removal to required TOC removal shall be ≥ 1	Y	1	Monthly/NA	1.90 - 3.22	2.57	NA	NA	NA	Various natural and manmade sources
Total Organic Carbon	Reported as mg/L		0.3		0.7 - 1.5	1.0				
Inorganic Chemicals										
Arsenic	10 µg/L	Y	2	Yearly/Once in 3 yrs.	NA	ND	ND - 2.3	ND	0.004	Erosion of natural deposits; runoff from orchards; glass and electronics production wastes
Fluoride	2 mg/L	Y	0.1	Quarterly/Quarterly	0.11 - 0.18	0.14	ND - 0.45	0.16	1	Erosion of natural deposits; water additive that promotes strong teeth; discharge from fertilizer and aluminum factories
Nitrate (as nitrogen)	10 mg/L	Y	0.4	Quarterly/Quarterly	NA	ND	ND - 6.4	1.4	10	Runoff and leaching from fertilizer use; leaching from septic tanks and sewage; erosion of natural deposits
Radioactivity										
Gross Alpha Activity**	15 pCi/L	Y	3	**See comment	NA	ND	ND - 5.7	ND	(0)	Erosion of natural deposits
Uranium***	20 pCi/L	Y	1	***See comment	NA	ND	NA	1.1	0.43	

Tap Monitoring Lead & Copper	Action Level	Meets Standard?	DLR	Lead and Copper Rule			Lead Testing in Schools			EPA (MCLG) PHG or [MRDLG]	Typical Source of Contaminant
				No. of samples in 2018	90th Percentile	No. sites exceeded AL	Average	Range	No. of Schools requesting lead sampling in 2018		
Lead	15 µg/L	Y	5	50	ND	NONE	ND	88 sites sampled; 0 sites over AL	29	0.2	Internal corrosion of household water plumbing systems; discharges from industrial manufacturers; erosion of natural deposits
Copper	1.3 mg/L	Y	0.05	50	0.420	NONE	NA	NA	NA	0.3	Internal corrosion of household plumbing systems; erosion of natural deposits; leaching from wood preservatives

Parameter Secondary Standards	Secondary MCL (units)	Meets Standard?	DLR	Sample Frequency* Surface Water/ Groundwater	Treated Surface Water		*Groundwater Sampled in 2016		EPA (MCLG) PHG or [MRDLG]	Typical Source of Contaminant
					Range	Sampled 2/14/2018 or Average Effluent	Range	Average		
Color	15 units	Y	NA	Weekly/Once in 3 yrs.	NA	ND	NA	ND	NA	Naturally occurring organic materials
Odor-Threshold	3 units	Y	1	Weekly/Once in 3 yrs.	NA	1.0	ND - 1.0	ND	NA	
Chloride	500 mg/L	Y	NA	Quarterly/Quarterly	70 - 101	81	6 - 93	25	NA	Runoff/leaching from natural deposits; seawater influence
Iron	300 µg/L	Y	NA	Monthly/Quarterly	NA	ND	ND - 110	ND	NA	Leaching from natural deposits; industrial wastes
Sulfate	500 mg/L	Y	0.5	Quarterly/Quarterly	24 - 37	30	14 - 130	40	NA	Runoff/leaching of natural deposits; industrial wastes
Total Dissolved Solids	1000 mg/L	Y	NA	Yearly/Once in 3 yrs.	NA	230	140 - 550	246	NA	Runoff/leaching of natural deposits
Specific Conductance	1600 µmhos/cm	Y	NA	Yearly/Once in 3 yrs.	NA	430	250 - 900	406	NA	Substances that form ions when in water; seawater influence
Additional Constituents Analyzed										
pH	NA (Units)	NA	NA	Continuous/Once in 3 yrs.	7.0 - 8.1	7.2	7.9 - 8.4	8.1	NA	Leaching from natural deposits
Hardness	NA (mg/L)	NA	NA	Weekly/Once in 3 yrs.	98 - 150	116	24 - 240	122	NA	Sum of polyvalent cations present in the water, generally magnesium and calcium. The cations are usually naturally occuring.
Alkalinity	NA (mg/L)	NA	NA	Weekly/Once in 3 yrs.	54 - 90	71	79 - 200	117	NA	Dissolved as water passes through limestone deposits
Calcium	NA (mg/L)	NA	NA	Yearly/Once in 3 yrs.	NA	23	8 - 75	38	NA	
Sodium	NA (mg/L)	NA	NA	Yearly/Once in 3 yrs.	NA	42	17 - 80	36	NA	Generally naturally occurring salt present in water
Potassium	NA (mg/L)	NA	NA	Yearly/Once in 3 yrs.	NA	2.4	ND - 3.0	1.6	NA	Leaching from natural deposits
Magnesium	NA (mg/L)	NA	NA	Yearly/Once in 3 yrs.	NA	9.4	0.7 - 16	6.8	NA	Dissolved as water passes through magnesium-bearing minerals
Hexavalent Chromium	NA (µg/L)	Y	1	Quarterly/Quarterly	NA	ND	ND - 8.4	3.8	0.02	Steel and pulp mill discharges, chrome plating, natural erosion
Special Testing										
UCMR 4 (Sampled in 2018)					Effluent & Dist. System		Groundwater			Environmental Source
HAA5	NA (µg/L)	NA	NA	Special	2.0 - 8.3	5.4	NA	NA	NA	Byproduct of drinking water disinfection
HAA6Br	NA (µg/L)	NA	NA	Special	2.6 - 16	10	NA	NA	NA	Byproduct of drinking water disinfection
HAA9	NA (µg/L)	NA	NA	Special	3.5 - 18	12	NA	NA	NA	Byproduct of drinking water disinfection
Manganese	50 µg/L	NA	0.40	Special	NA	0.9	ND - 1	ND	NA	Leaching from natural deposits

Unregulated contaminant monitoring helps U.S. EPA and the State Water Resources Control Board to determine where certain contaminants occur and whether the contaminants need to be regulated.

* Wells are sampled once/3 yrs. except for Fluoride, Chloride, Sulfate, & Nitrate, which are sampled quarterly.

** Sampled between 2010 and 2018. Individual sites are sampled once/6 yrs. or once/9 yrs. Range is from individual sample results.

*** Sample collected only when Gross Alpha exceeds 5pCi/L.

Lead and Copper

Palmdale Water District is required to draw new sample sets of tap samples for lead and copper every 3 years. The last samples were taken in 2018 (50 samples). The 90th percentile results of none-detected for lead and 0.420 ppm for copper are well within the AL of 15 ppb lead and the AL of 1.3 ppm for copper. If present, elevated levels of lead can cause serious health problems, especially for pregnant women and young children. Lead in drinking water is primarily from materials and components associated with service lines and home plumbing. PWD is responsible for providing high-quality drinking water, but is unable to control the variety of materials used in plumbing components. When your water has been sitting for several hours, you can minimize the potential for lead exposure by flushing your tap for 30 seconds to 2 minutes before using water for drinking or cooking. [If you do so, you may wish to collect the flushed water and reuse it for another beneficial purpose, such as watering plants.]

If you are concerned about lead in your drinking water, you may wish to have your water tested. Information on lead in drinking water, testing methods, and steps you can take to minimize exposure is available from the Safe Drinking Water Hotline at 1-800-426-4791 or at http://www.epa.gov/lead.

Health Effects of Lead: Infants and children who drink water containing lead in excess of the action level may experience delays in their physical and mental development. Children may show slight deficits in attention span and learning abilities. Adults who drink this water over many years may develop kidney problems or high blood pressure.

Health Effects of Copper: Copper is an essential nutrient, but some people who drink water containing copper in excess of the action level over a relatively short amount of time may experience gastrointestinal distress. Some people who drink water containing copper in excess of the action level over many years may suffer liver or kidney damage. People with Wilson's disease should consult their personal doctor.

DEFINITIONS:

The following definitions of key terms are provided to help you understand the data used in this report.

Maximum Contaminant Level (MCL): The highest level of a contaminant that is allowed in drinking water. Primary MCLs are set as close to the PHGs (or MCLGs) as is economically and technologically feasible. Secondary MCLs are set to protect the odor, taste, and appearance of drinking water.

Maximum Contaminant Level Goal (MCLG): The level of a contaminant in drinking water below which there is no known or expected risk to health. MCLGs are set by the U.S. Environmental Protection Agency (USEPA).

Locational Running Annual Average (LRAA): The running annual arithmetic average, computed quarterly, of quarterly arithmetic averages of samples taken at a particular monitoring location.

Public Health Goal (PHG): The level of a contaminant in drinking water below which there is no known or expected risk to health. PHGs are set by OEHHA (Office of Environmental Health Hazard Assessment), a division of the California Environmental Protection Agency (CEPA).

Maximum Residual Disinfectant Level (MRDL): The highest level of a disinfectant allowed in drinking water. There is convincing evidence that addition of a disinfectant is necessary for control of microbial contaminants.

Maximum Residual Disinfectant Level Goal (MRDLG): The level of a drinking water disinfectant below which there is no known or expected risk to health. MRDLGs do not reflect the benefits of the use of disinfectants to control microbial contaminants.

Running Annual Average (RAA): The running annual arithmetic average, computed quarterly, of quarterly arithmetic averages of all samples collected.

Detection Limit for purposes of Reporting (DLR): The smallest concentration of a contaminant that can be measured and reported. DLRs are set by the DDW (same as MRL, Minimum Reporting Level, set by USEPA).

Unregulated Contaminant Monitoring (UCMR): Unregulated contaminant monitoring helps USEPA and the State Water Resources Control Board to determine where certain contaminants occur and whether the contaminants need to be regulated.

Treatment Technique (TT): A required process intended to reduce the level of a contaminant in drinking water.

Regulatory Action Level (AL): The concentration of a contaminant which, if exceeded, triggers treatment or other requirements that a water system must follow.

Notification Level (NL): State guidelines developed by DDW that address the concentration of a contaminant which, if exceeded, triggers public notification.

Primary Drinking Water Standard (PDWS): MCLs, MRDLs and treatment techniques (TT) for contaminants that affect health, along with their monitoring and reporting requirements.

Secondary Drinking Water Standard (SDWS): MCLs for contaminants that affect taste, odor, or appearance of the drinking water. Contaminants with SDWSs do not affect the health at the MCL level.

ABBREVIATIONS USED IN 2018 WATER QUALITY DATA CHART:

ND: Not detectable or None detected at testing limit (DLR)

NA: Not Applicable

< Less Than

> Greater Than

pCi/L: picocuries per liter (a measure of radiation)

DBP: Disinfection Byproducts

Comparison examples are provided for the following measurements to help you better understand the amount of chemical contaminants detected in the water. This does not mean that the amounts are not significant regarding risk of health effects for specific contaminants.

ppm: parts per million or milligrams per liter (mg/L) = qualitatively, approximately
1 second in 11.5 days

ppb: parts per billion or micrograms per liter (µg/L) = qualitatively, approximately
1 second in nearly 32 years

ppt: parts per trillion or nanograms per liter (ng/L) = qualitatively, approximately
1 second in nearly 32,000 years

µmhos/cm: micromhos per centimeter (a measure for conductivity)

EDUCATIONAL INFORMATION AND POSSIBLE DRINKING WATER CONTAMINANTS:

Drinking water, including bottled water, may reasonably be expected to contain at least small amounts of some contaminants. The presence of contaminants does not necessarily indicate the water poses a health risk. More information about contaminants and potential health effects can be obtained by calling the USEPA's Safe Drinking Water Hotline 1-800-426-4791. Some people may be more vulnerable to contaminants in drinking water than the general population. Immuno-compromised persons such as persons with cancer undergoing chemotherapy, persons who have undergone organ transplants, people with HIV/AIDS or other immune system disorders, some elderly, and infants can be particularly at risk from infections. These people should seek advice about drinking water from their health care providers. USEPA/Centers for Disease Control (CDC) guidelines on appropriate means to lessen the risk of infection by *Cryptosporidium* and other microbial contaminants are available from the Safe Drinking Water Hotline 1-800-426-4791.

TOTAL TRIHALOMETHANES (TTHMs): Total Trihalomethanes (TTHMs) are the total of four trihalomethanes of concern in drinking water: chloroform, bromoform, bromodichloromethane, and chlorodibromomethane. In the Primary Standards Disinfection Byproducts section of the Water Quality Chart under highest LRAA from Distribution System, the highest Locational Running Annual Average (LRAA) for 2018 is 54 µg/L, which is less than and complies with the Federal TTHM MCL of 80 µg/L. The range of monthly sample results from all 8 sampling points in 2018 is 8.0 – 70 µg/L. These samples were taken from dedicated sample points within the distribution system and are representative of maximum residence time in the system.

Health effects of Total Trihalomethanes (TTHMs): Some people who drink water containing trihalomethanes in excess of the MCL over many years may experience liver, kidney, or central nervous system problems and may have an increased risk of getting cancer.

TOTAL ORGANIC CARBON (TOC): Total Organic Carbon (TOC) has no health effects. However, TOC provides a medium for the formation of disinfection byproducts. These byproducts include trihalomethanes (TTHMs) and haloacetic acids (HAAs). TOC result is based on quarterly RAA of percent removal ratio. The percent removal between source water and treated water is divided by the required monthly TOC percent removal based on certain criteria that all public water systems must follow. The quarterly RAA of these monthly results should be 1.0 or higher. Our quarterly RAA in 2018 ranged from 1.90 to 3.22 and averaged 2.57. Individual TOC sample results for treated water ranged from 0.7 to 1.5 mg/L and averaged 1.0 mg/L.

FLUORIDE: Fluoride in the treated surface water ranged from 0.11 to 0.18 mg/L and averaged 0.14 mg/L. The groundwater samples ranged from ND to 0.45 mg/L and averaged 0.16 mg/L. The fluoride MCL is 2 mg/L and the DLR is 0.1 mg/L.

Health effects of Fluoride: Some people who drink water containing fluoride in excess of the federal MCL of 4 mg/L over many years may get bone disease, including pain and tenderness of the bones. Children who drink water containing fluoride in excess of the state MCL of 2 mg/L may get mottled teeth.

NITRATE: In the Primary Standards Inorganic Chemicals section of the chart for Nitrate (as Nitrogen), treated surface water sample is None Detected (ND). In the groundwater column, the range of Nitrate (as Nitrogen) is ND to 6.4 mg/L, and the average is 1.4 mg/L. The State Water Resource Control Board requires annual sampling if all results are less than 50% of the MCL. If the result from any one source is greater than 50% of the MCL, then sampling must be done quarterly at that source. PWD samples all its wells on a quarterly basis (4 times a year) even when they test below 50% of the MCL. The numbers expressed on the chart are derived from quarterly sampling of all PWD wells, except those that are out of service.

Health effects of Nitrate: Nitrate in drinking water at levels above 10 mg/L is a health risk for infants of less than six months of age. Such nitrate levels in drinking water can interfere with the capacity of the infant's blood to carry oxygen, resulting in a serious illness with symptoms including shortness of breath and blueness of the skin. Nitrate levels above 10 mg/L may also affect the ability of the blood to carry oxygen in other individuals, such as pregnant women and those with certain specific enzyme deficiencies. If you are caring for an infant or you are pregnant, you should ask advice from your health care provider. Nitrate levels may rise quickly for short periods of time because of rainfall or agricultural activity.

GROSS ALPHA PARTICLE ACTIVITY: Between 2010 - 2018, 23 wells have been sampled for Gross Alpha. Results ranged from ND - 5.7 pCi/L and averaged ND. In 2018, Well 33 was the only well sampled for Gross Alpha. Well 33 = None Detected (ND). The remaining water sources will be monitored in the future during this compliance cycle.

Health effects of Gross Alpha Particle Activity: Certain minerals are radioactive and may emit a form of radiation known as alpha radiation. Some people who drink water containing alpha emitters in excess of the MCL over many years may have an increased risk of getting cancer.

ATTACHMENT NO. 6

GLOSSARY OF TERMS AND ABBREVIATIONS

ACWA:	Association of California Water Agencies
BAT:	Best Available Technology to achieve compliance with an MCL
DDW:	Division of Drinking Water
DLR:	Detection Limit for Reporting Purposes; set by SWRCB
MCL:	Maximum Contaminant Level; set by SWRCB and USEPA
MCLG:	Maximum Contaminant Level Goal; set by USEPA
MGD:	Million Gallons per Day
OEHHA:	Office of Environmental Health Hazard Assessment (State of California)
PHG:	Public Health Goal; set by OEHHA
SWRCB:	State Water Resources Control Board
USEPA:	United States Environmental Protection Agency
mg/L:	milligrams per liter or parts per million
pCi/L:	picocuries per liter
µg/L:	micrograms per liter or parts per billion

PALMDALE WATER DISTRICT

A CENTURY OF SERVICE

Consumer Confidence Report

Amanda Thompson

Water Quality and Regulatory Affairs Supervisor

July 2019

Background

The California Safe Drinking Water Act of 1996

- Requires PWSs to provide a brief annual water quality report to customers
- Report due by July 1st of each year

Must include:

- Information on source water
- Levels of any detected contaminants
- Compliance with drinking water regulations

Water Quality Data Considered

- CCRs are based on all regulatory water quality data collected during, or prior to, the previous calendar year (e.g. 2018)

- Only includes contaminants that are detected at or above its detection level for purposes of reporting (DLR)

2018 Consumer Confidence Report

- 100% Compliance for all regulatory water quality data
- Electronic copies of the CCR are posted:

  English:

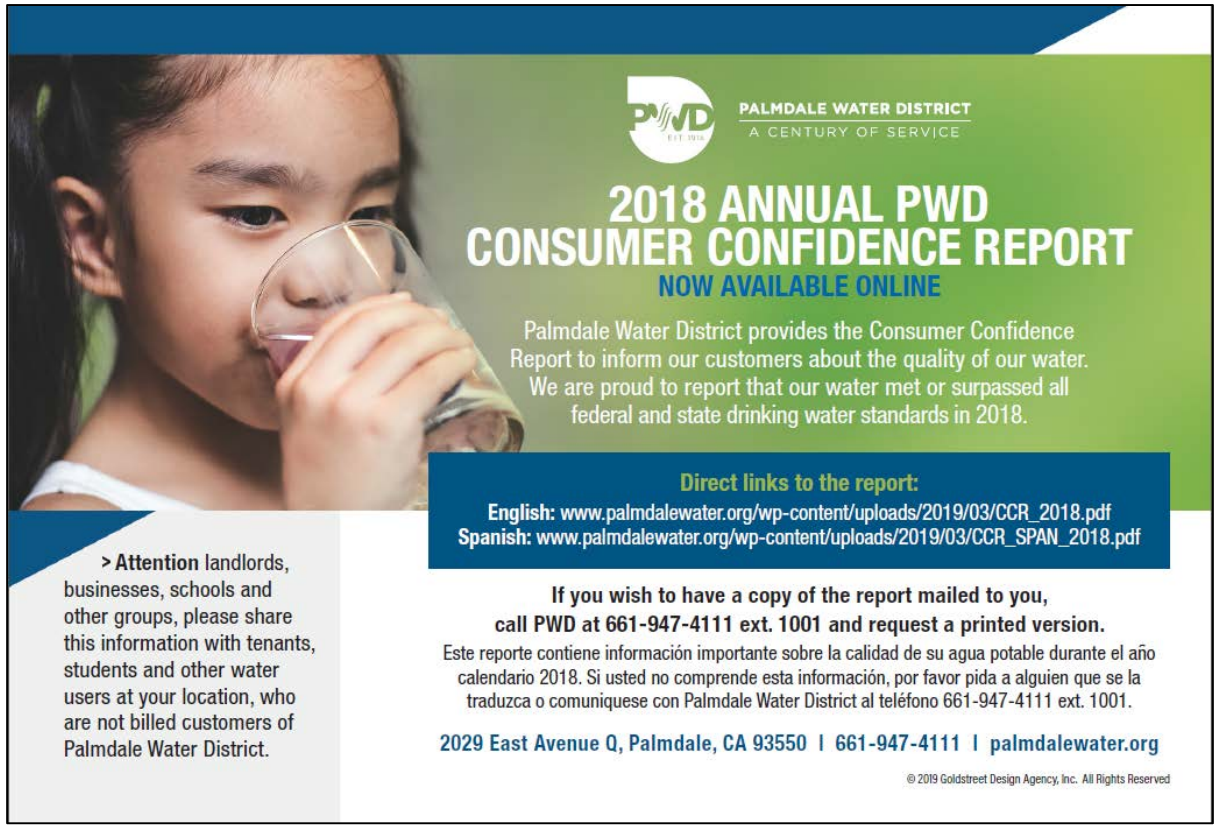
  www.palmdalewater.org/wp-content/uploads/2019/03/CCR_2018.pdf

  Spanish:

  www.palmdalewater.org/wp-content/uploads/2019/03/CCR_SPAN_2018.pdf

- April 26, 2019: Postcards were sent out to all consumers (property owners, tenants, business owners, etc.)

2018 Consumer Confidence Report



PALMDALE WATER DISTRICT
A CENTURY OF SERVICE

PALMDALE WATER DISTRICT
A CENTURY OF SERVICE

Public Health Goal Report

Amanda Thompson
Water Quality and Regulatory Affairs Supervisor
July 2019

Background

The California Safe Drinking Water Act of 1996

- Required the establishment of Public Health Goals (PHGs) for drinking water contaminants
- PHGs are established by the Office of Environmental Health Hazard Assessment (OEHHA)

Health and Safety Code Section 116470

- Requires a PHG report every three (3) years
- In addition to the annual Water Quality Report (aka Consumer Confidence Report)

Public Notice

State law requires a Public Hearing so that interested individuals can provide the District with comments on the Public Health Goal report.

Palmdale Water District Notice of Public Hearing published twice in the Antelope Valley Press:

- June 22, 2019
- July 7, 2019

What are Public Health Goals?

"…estimates the level of the chemical in drinking water that would pose no significant health risk to individuals, including sensitive populations, ***consuming the water on a daily basis over a lifetime***. PHGs represent health-protective goals based solely on public health considerations and are developed based on the best available data in the scientific literature."

What Public Health Goals Are Not

- **NOT** regulatory Maximum Contaminant Levels (MCL)
  - However, they are the scientific basis for establishing the maximum contaminant levels
- **NOT** enforceable under the Safe Drinking Water Act
- **NOT** contaminant levels requiring any further action

Constituents Above PHG

	PHG (MCLG)	MCL	Max Result
Aluminum	600 µg/L	1,000 µg/L	690 µg/L
Arsenic	0.004 µg/L	10 µg/L	3.9 µg/L
Copper	0.30 mg/L	1.3 mg/L	0.42 mg/L
Gross Alpha	(0 pCi/L)	15 pCi/L	5.7 pCi/L
Gross Beta	(0 pCi/L)	50 pCi/L	7.8 pCi/L
Uranium	0.43 pCi/L	20 pCi/L	1.1 pCi/L

Total Compliance

- Palmdale Water District has been 100% in compliance with all primary drinking water standards during the years 2016 – 2018.
- Palmdale Water District continues to produce high quality drinking water which is in compliance for the first half of 2019.

QUESTIONS?

PALMDALE WATER DISTRICT NOTICE OF PUBLIC HEARING

July 22, 2019, 6:00 p.m.
Palmdale Water District Boardroom
2029 East Avenue Q, Palmdale, CA

Notice is hereby given that the Board of Directors of the Palmdale Water District will hold a public hearing at 6:00 p.m. on July 22, 2019 in the Board Room of the District at 2029 East Avenue Q, Palmdale, California to consider the report on Palmdale Water District's water quality relative to Public Health Goals.

State law requires this Public Hearing so that interested individuals can provide the District with comments on the Public Health Goals report. Customers who wish to comment on the report can either attend this meeting or forward written remarks to the Palmdale Water District General Manager, 2029 East Avenue Q, Palmdale, CA 93550 prior to the hearing. A copy of the Public Health Goals report is available for inspection at Palmdale Water District, 2029 East Avenue Q, Palmdale, CA 93550.

Dated: June 13, 2019 Adam Ly, Assistant General Manager

Publish: June 22, 2019 and July 7, 2019

PALMDALE WATER DISTRICT

BOARD MEMORANDUM

DATE:	July 10, 2019	**July 22, 2019**
TO:	Board of Directors	**Board Meeting**
FROM:	Michael Williams, Finance Manager/CFO	
VIA:	Mr. Dennis LaMoreaux, General Manager	
RE:	***AGENDA ITEM 7.3 – PRESENTATION, CONSIDERATION AND POSSIBLE ACTION ON RECEIVING AND FILING OF 2018 ANNUAL FINANCIAL REPORT***	

Recommendation:

Staff recommends the Board of Directors receive and file the annual basic financial statements with independent auditors' report for year ended December 31, 2018. The Financial Health and Stability Committee will consider the report at their July 17, 2019 meeting.

Financial Highlights:

- In 2018, the District's net position increased 0.83% or $790,694 from the prior year's net position of $94,917,603 to $95,708,297 as a result of this year's operations due to a change in net position from operations of ($1,524,354) and a $2,315,048 prior period adjustment for the implementation of GASB No. 75.

- In 2018, the District's operating revenues increased by 5.03% or $1,190,983 from $23,693,095 to $24,884,078 from prior year primarily due to an increase in water rates – commodity charge of $579,682 and monthly meter service charge of $584,268.

- In 2018, the District's operating expenses before overhead absorption and depreciation expense increased by 6.00%, or $1,382,330, from $23,053,505 to $24,435,835 from the prior year primarily due to an increase in operations and production costs along with an increase in facilities expense.

- The District's cash flows for the years have been categorized into one of the following activities: operating, noncapital financing, capital and related financing, or investing. For 2018, the total of these categories represents an increase in cash and cash equivalents of $11,601,065, which is added to the beginning cash and cash equivalents of $3,784,789, to arrive at ending cash and cash equivalents of $15,385,854.

Conditions Affecting Current Financial Position:

- The District continued to see a slight rebound trend of water usage for 2018. This signaled District customers continue to change their water habits after being required to meet the mandatory drought restrictions in 2016.

- Billed water consumption for the year ended December 31, 2018 was at 16,769-acre feet compared to 16,176-acre feet for the year ended December 31, 2017.

- The District saw a decrease in developers paying capital improvement fees for new development. Total funds received for the year ended December 31, 2018 were $106,947 compared to $1,021,406 for the year ended December 31, 2017.

- The District's assessed valuation has increased to $1.81 billion for FY 2017/2018 from $1.72 billion for FY 20106/2017.

- The District received $2.032 million in ad valorum property tax revenue for 2018.

- The District received $403,992 in successor agency component property taxes for 2018.

Strategic Plan Initiative/Mission Statement:

This item is under Strategic Initiative No. 4 – Financial Health and Stability
This item directly relates to the District's Mission Statement.

Budget:

This item has no budget impact

Supporting Documents:

- 2018 Annual Financial Report prepared by Nigro & Nigro

PALMDALE WATER DISTRICT

ANNUAL FINANCIAL REPORT

For the Years Ended
December 31, 2018 and 2017

PALMDALE WATER DISTRICT
For the Years Ended December 31, 2018 and 2017
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SUPPLEMENTARY INFORMATION

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Financial Section

INDEPENDENT AUDITORS' REPORT

Board of Directors
Palmdale Water District
Palmdale, California

Report on the Financial Statements

We have audited the accompanying basic financial statements of Palmdale Water District, which comprise the balance sheets as of December 31, 2018 and 2017, and the related statements of revenue, expenses, and changes in net position, and cash flows for the years then ended, and the related notes to the financial statements.

Management's Responsibility for the Financial Statements

Management is responsible for the preparation and fair presentation of these financial statements in accordance with accounting principles generally accepted in the United States of America; this includes the design, implementation, and maintenance of internal control relevant to the preparation and fair presentation of financial statements that are free from material misstatement, whether due to fraud or error.

Auditors' Responsibility

Our responsibility is to express an opinion on these financial statements based on our audits. We conducted our audit in accordance with auditing standards generally accepted in the United States of America and the standards applicable to financial audits contained in *Government Auditing Standards*, issued by the Comptroller General of the United States. Those standards require that we plan and perform the audit to obtain reasonable assurance about whether the financial statements are free from material misstatement.

An audit involves performing procedures to obtain audit evidence about the amounts and disclosures in the financial statements. The procedures selected depend on the auditor's judgment, including the assessment of the risks of material misstatement of the financial statements, whether due to fraud or error. In making those risk assessments, the auditor considers internal control relevant to the entity's preparation and fair presentation of the financial statements in order to design audit procedures that are appropriate in the circumstances, but not for the purpose of expressing an opinion on the effectiveness of the entity's internal control. Accordingly, we express no such opinion. An audit also includes evaluating the appropriateness of accounting policies used and the reasonableness of significant accounting estimates made by management, as well as evaluating the overall presentation of the financial statements.

We believe that the audit evidence we have obtained is sufficient and appropriate to provide a basis for our audit opinions.

Opinion

In our opinion, the December 31, 2018 and 2017 basic financial statements referred to above present fairly, in all material respects, the financial position of Palmdale Water District as of December 31, 2018 and 2017, and the respective changes in financial position and its cash flows for the years then ended in accordance with accounting principles generally accepted in the United States of America.

Jeff Nigro, CPA, CFE | Elizabeth Nigro, CPA | Peter Glenn, CPA | Paul J. Kaymark, CPA | Michael Klein, CPA, CMA, EA

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Other Matters

Required Supplementary Information

Accounting principles generally accepted in the United States of America require that the management's discussion and analysis information on pages 3 through 10, schedule of proportionate share of the net pension liability on page 50, schedule of pension contributions on page 51, schedule of changes in the District's total OPEB liability and related ratios on page 52, and schedule of OPEB contributions on page 53 be presented to supplement the basic financial statements. Such information, although not a part of the basic financial statements, is required by the Governmental Accounting Standards Board, who considers it to be an essential part of financial reporting for placing the basic financial statements in an appropriate operational, economic, or historical context. We have applied certain limited procedures to the required supplementary information in accordance with auditing standards generally accepted in the United States of America, which consisted of inquiries of management about the methods of preparing the information and comparing the information for consistency with management's responses to our inquiries, the basic financial statements, and other knowledge we obtained during our audit of the basic financial statements. We do not express an opinion or provide any assurance on the information because the limited procedures do not provide us with sufficient evidence to express an opinion or provide any assurance.

Other Information

Our audit was conducted for the purpose of forming opinions on the financial statements that collectively comprise the District's basic financial statements. The supplementary information is presented for purposes of additional analysis and is not a required part of the basic financial statements. The supplementary information on page 55 is the responsibility of management and was derived from and relate directly to the underlying accounting and other records used to prepare the basic financial statements. Such information has been subjected to the auditing procedures applied in the audit of the basic financial statements and certain additional procedures, including comparing and reconciling such information directly to the underlying accounting and other records used to prepare the basic financial statements or to the basic financial statements themselves, and other additional procedures in accordance with auditing standards generally accepted in the United States of America. In our opinion, the information is fairly stated in all material respects in relation to the basic financial statements as a whole.

Other Reporting Required by *Government Auditing Standards*

In accordance with *Government Auditing Standards,* we have also issued a separate report dated June 27, 2019, on our consideration of the District's internal control over financial reporting and on our tests of its compliance with certain provisions of laws, regulations, contracts, and grant agreements and other matters. The purpose of that report is to describe the scope of our testing of internal control over financial reporting and compliance and the results of that testing, and not to provide an opinion on internal control over financial reporting or on compliance. That report is an integral part of an audit performed in accordance with *Government Auditing Standards* in considering the District's internal control over financial reporting and compliance.

Nigro & Nigro, PC

Murrieta, California
June 27, 2019

Management's Discussion and Analysis (MD&A) offers readers of Palmdale Water District's financial statements a narrative overview of the District's financial activities for the years ended December 31, 2018 and 2017. This MD&A presents financial highlights, an overview of the accompanying financial statements, an analysis of net position and results of operations, a current-to prior year analysis, a discussion on restrictions, commitments and limitations, and a discussion of significant activity involving capital assets and long-term debt. Please read in conjunction with the financial statements, which follow this section.

FINANCIAL HIGHLIGHTS

- In 2018, the District's net position increased 0.83% or $790,694 from the prior year's net position of $94,917,603 to $95,708,297, as a result of this year's operations due to a change in net position from operations of ($1,524,354) and a $2,315,048 prior period adjustment for the implementation of GASB No. 75.

- In 2017, the District's net position decreased (1.15%) or ($1,100,559) from the prior year's net position of $96,018,162 to $94,917,603, as a result of this year's operations.

- In 2018, the District's operating revenues increased by 5.03% or $1,190,983 from $23,693,095 to $24,884,078, from the prior year, primarily due to an increase in water sales – commodity charge of $579,682 and monthly meter service charge of $584,268.

- In 2017, the District's operating revenues increased by 4.9% or $1,106,294 from $22,586,801 to $23,693,095, from the prior year, primarily due to an increase in water sales – commodity charge of $286,110 and monthly meter service charge of $533,324.

- In 2018, the District's operating expenses before overhead absorption and depreciation expense increased by 6.00% or $1,382,330 from $23,053,505 to $24,435,835, from the prior year, primarily due to an increase in operations and production costs along with an increase in facilities expense.

- In 2017, the District's operating expenses before overhead absorption and depreciation expense increased by 1.54% or $349,196 from $22,704,309 to $23,053,505, from the prior year, primarily due to an increase in source of supply water purchases as a result of the increase in water sales.

OVERVIEW OF THE FINANCIAL STATEMENTS

This discussion and analysis serves as an introduction to the District's financial statements. The District's basic financial statements reflect the combined results of the Operating and Capital Programs and include four components: (1) Balance Sheet; (2) Statement of Revenues, Expenses, and Changes in Net Position; (3) Statement of Cash Flows; and (4) Notes to the Financial Statements.

The financial statements accompanying this MD&A present the net position, results of operations, and changes in cash flow during the years ending December 31, 2018 and 2017. These financial statements have been prepared using the accrual basis of accounting, which is similar to the accounting basis used by for-profit entities. Each financial statement is identified and defined in this section, and analyzed in subsequent sections of this MD&A.

REQUIRED FINANCIAL STATEMENTS

Balance Sheets

The Balance Sheet presents information on the District's assets and deferred outflows of resources, and liabilities and deferred inflows of resources, with the difference between the two reported as net position. Over time, increases or decreases in net position may serve as a useful indicator of whether the financial position of the District is improving or deteriorating. However, other factors such as changes in economic conditions, population growth, zoning, and new or changed legislation or regulations also need to be considered when establishing financial position. Assets and deferred outflows of resources exceed liabilities and deferred inflow of resources, resulting in a net position of $95,708,297 and $94,917,603 as of December 31, 2018 and 2017, respectively.

Statement of Revenues, Expenses, and Changes in Net Position

The Statement of Revenues, Expenses, and Changes in Net Position presents information showing how the District's net position changed during the year. All of the year's revenues and expenses are accounted for in the Statement of Revenues, Expenses, and Changes in Net Position. This statement measures the results of the District's operations for the year and can be used to determine if the District has successfully recovered all of its costs through user fees and other charges. Operating revenues and expenses are related to the District's core activities. Non-operating revenues and expenses are not directly related to the core activities of the District (e.g. interest income, interest expense, property taxes, gain or loss on sale of assets). For the year ended December 31, 2018, net position from operations decreased $1.5 million along with a gain of $2.3 million from a prior period adjustment for the implementation of GASB No. 75. Also, for the year ended December 31, 2017, net position decreased by $1.1 million.

Statement of Cash Flows

The Statement of Cash Flows presents information regarding the District's use of cash during the year. It reports cash receipts, cash payments, and net changes in cash resulting from operations, financing and investing activities. The Statement of Cash Flows provides answers to such questions as: Where did cash come from? What was cash used for? What was the change in the cash balance during the reporting period?

District cash flows for the years have been categorized into one of the following activities: operating, noncapital financing, capital and related financing, or investing. For 2018, the total of these categories represents an increase in cash and cash equivalents of $11,601,065, which is added to the beginning cash and cash equivalents of $3,784,789, to arrive at ending cash and cash equivalents of $15,385,854. For 2017, the total of these categories represents a decrease in cash and cash equivalents of $1,043,260, which is subtracted from beginning cash and cash equivalents of $4,827,946, to arrive at ending cash and cash equivalents of $3,784,789. Cash equivalents managed directly by the District consist of investments in the California Local Agency Investment Fund (LAIF) and money-market funds.

FINANCIAL ANALYSIS AND CONDENSED FINANCIAL INFORMATION

Analysis of Net Position

Table A-1: Condensed Balance Sheets

	Balance, December 31, 2018	Balance, December 31, 2017	Change	Balance, December 31, 2016	Change
Assets:					
Current assets	$ 19,590,071	$ 22,153,999	$ (2,563,928)	$ 21,288,561	$ 865,438
Non-current assets	13,374,737	1,371,867	12,002,870	1,679,251	(307,384)
Capital assets, net	155,765,727	153,742,324	2,023,403	154,023,911	(281,587)
Total assets	188,730,535	177,268,190	11,462,345	176,991,723	276,467
Deferred outflows of resources	5,530,101	5,158,974	371,127	4,724,093	434,881
Total assets and deferred outflows	$ 194,260,636	$ 182,427,164	$ 11,833,472	$ 181,715,816	$ 711,348
Liabilities:					
Current liabilities	8,225,820	8,077,898	147,922	7,707,996	369,902
Non-current liabilities	86,440,682	75,438,581	11,002,101	74,031,763	1,406,818
Total liabilities	94,666,502	83,516,479	11,150,023	81,739,759	1,776,720
Deferred inflows of resources	3,885,837	3,993,082	(107,245)	3,957,895	35,187
Net position:					
Net investment in capital assets	105,089,394	103,487,203	1,602,191	103,339,383	147,820
Restricted	1,668,290	1,371,867	296,423	1,275,331	96,536
Unrestricted	(11,049,387)	(9,941,467)	(1,107,920)	(8,596,552)	(1,344,915)
Total net position	95,708,297	94,917,603	790,694	96,018,162	(1,100,559)
Total liabilities, deferred inflows and net position	$ 194,260,636	$ 182,427,164	$ 11,833,472	$ 181,715,816	$ 711,348

The condensed statement above presents a summary of the District's statement of net position.

The District's Net Position as of December 31, 2018 totaled $95,708,297 compared with $94,917,603 as of December 31, 2017, an increase of 0.83%.

The District's Net Position as of December 31, 2017 totaled $94,917,603 compared with $96,018,162 as of December 31, 2017, a decrease of (1.15%).

Net position is accumulated from revenues, expenses, and contributed capital combined with the beginning balance of net position as presented in the Statement of Revenues, Expenses, and Changes in Net Position.

FINANCIAL ANALYSIS AND CONDENSED FINANCIAL INFORMATION (continued)

Analysis of Revenues and Expenses

Table A-2: Condensed Statements of Revenues, Expenses, and Changes in Net Position

	Balance, December 31, 2018	Balance, December 31, 2017	Change	Balance, December 31, 2016	Change
Operating revenues	$ 24,884,078	$ 23,693,095	$ 1,190,983	$ 22,586,801	$ 1,106,294
Operating expenses	(24,435,835)	(23,053,505)	(1,382,330)	(22,704,309)	(349,196)
Operating income before overhead absorption	448,243	639,590	(191,347)	(117,508)	757,098
Overhead absorption	103,353	46,276	57,077	152,890	(106,614)
Operating income before depreciation	551,596	685,866	(134,270)	35,382	650,484
Depreciation expense	(5,353,052)	(6,113,751)	760,699	(5,599,740)	(514,011)
Operating (loss) after depreciation	(4,801,456)	(5,427,885)	626,429	(5,564,358)	136,473
Non-operating revenues(expenses), net	3,122,489	3,195,252	(72,763)	3,441,106	(245,854)
Net loss before capital contributions	(1,678,967)	(2,232,633)	553,666	(2,123,252)	(109,381)
Capital contributions	154,613	1,132,074	(977,461)	541,662	590,412
Change in net position	(1,524,354)	(1,100,559)	(423,795)	(1,581,590)	481,031
Net position:					
Beginning of year	94,917,603	96,018,162	(1,100,559)	96,645,100	(626,938)
Prior period adjustment	2,315,048	-	2,315,048	954,652	(954,652)
End of year	$ 95,708,297	$ 94,917,603	$ 790,694	$ 96,018,162	$ (1,100,559)

The statement of revenues, expenses and changes in net position shows how the District's net position changed during the fiscal years. In the case of the District, the District's net position decreased from operations by ($1,524,354), ($1,100,599), and ($1,581,590) for the years ended December 31, 2018, 2017, and 2016 respectively.

FINANCIAL ANALYSIS AND CONDENSED FINANCIAL INFORMATION (continued)

Total Revenues

	Balance, December 31, 2018	Balance, December 31, 2017	Increase (Decrease)	Balance, December 31, 2016	Increase (Decrease)
Operating revenues:					
Water sales – commodity charge	$ 9,062,634	$ 8,482,952	$ 579,682	$ 8,196,842	$ 286,110
Water sales – wholesale	496,975	438,255	58,720	229,052	209,203
Monthly meter service charge	13,294,482	12,710,214	584,268	12,176,890	533,324
Water quality fees	803,306	845,526	(42,220)	861,502	(15,976)
Elevation fees	378,380	365,618	12,762	349,673	15,945
Other charges for services	848,301	850,530	(2,229)	772,842	77,688
Total operating revenues	24,884,078	23,693,095	1,190,983	22,586,801	1,106,294
Non-operating:					
Property taxes – ad valorum	2,032,216	1,665,812	366,404	1,665,002	810
Property tax assessment for State Water Project	4,811,735	5,102,773	(291,038)	5,168,663	(65,890)
Successor agency component of property taxes	403,992	623,525	(219,533)	524,470	99,055
Rental revenue – cellular towers	44,754	63,716	(18,962)	120,710	(56,994)
Investment earnings	292,316	56,054	236,262	42,729	13,325
Change in investment – PRWA	296,423	96,536	199,887	90,756	5,780
Legal and insurance refunds/settlements	132,256	11,812	120,444	-	11,812
Department of Water Resources – FCR	266,877	266,638	239	285,255	(18,617)
Other non-operating revenues	203,082	84,502	118,580	117,632	(33,130)
Total non-operating	8,483,651	7,971,368	512,283	8,015,217	(43,849)
Total revenues	$ 33,367,729	$ 31,664,463	$ 1,703,266	$ 30,602,018	$ 1,062,445

In 2018, the District's operating revenues increased by 5.03% or $1,190,983 from $23,693,095 to $24,884,078, from the prior year, primarily due to an increase in water sales – commodity charge of $579,682 and monthly meter service charge of $584,268.

In 2017, the District's operating revenues increased by 4.9% or $1,106,294 from $22,586,801 to $23,693,095, from the prior year, primarily due to an increase in water sales – commodity charge of $286,110 and monthly meter service charge of $533,324.

FINANCIAL ANALYSIS AND CONDENSED FINANCIAL INFORMATION (continued)

Total Expenses

	Balance, December 31, 2018	Balance, December 31, 2017	Increase (Decrease)	Balance, December 31, 2016	Increase (Decrease)
Operating expenses:					
Source of supply – water purchases	$ 2,799,849	$ 3,090,801	$ (290,952)	$ 2,464,905	$ 625,896
Operations and production	3,698,309	3,177,431	520,878	3,019,029	158,402
Facilities	7,355,368	6,580,697	774,671	7,347,469	(766,772)
Engineering	1,897,684	1,632,692	264,992	1,523,294	109,398
Water conservation	356,914	343,007	13,907	347,909	(4,902)
Administration	5,436,345	5,280,134	156,211	4,738,232	541,902
Finance and customer care	2,891,366	2,948,743	(57,377)	3,263,471	(314,728)
Operating expenses before overhead absorption	24,435,835	23,053,505	1,382,330	22,704,309	349,196
Overhead absorption	(103,353)	(46,276)	(57,077)	(152,890)	106,614
Operating expenses before depreciation	24,332,482	23,007,229	1,325,253	22,551,419	455,810
Depreciation	5,353,052	6,113,751	(760,699)	5,599,740	514,011
Total operating expenses	29,685,534	29,120,980	564,554	28,151,159	969,821
Non-operating expenses:					
Cost of debt issuance	308,867	-	308,867	-	-
State Water Project amortization expense	2,646,401	2,600,856	45,545	2,362,788	238,068
Interest expense – long-term debt	2,405,894	2,175,260	230,634	2,211,323	(36,063)
Total non-operating	5,361,162	4,776,116	585,046	4,574,111	202,005
Total expenses	$ 35,046,696	$ 33,897,096	$ 1,149,600	$ 32,725,270	$ 1,171,826

In 2018, the District's operating expenses before overhead absorption and depreciation expense increased by 6.00% or $1,382,330 from $23,053,505 to $24,435,835, from the prior year, primarily due to an increase in operations and production costs along with an increase in facilities expense.

In 2017, the District's operating expenses before overhead absorption and depreciation expense increased by 1.54% or $349,196 from $22,704,309 to $23,053,505, from the prior year, primarily due to an increase in source of supply water purchases as a result of the increase in water sales.

CAPITAL ASSETS

At the end of 2018, 2017 and 2016, the District's investment in capital assets was $155,765,727, $153,720,464, and $154,023,911 net of accumulated depreciation respectively. Capital asset additions during the years ended December 31, 2018 and 2017 were $5,424,247 and $3,350,357 for various projects and equipment. (More detailed information about capital assets can be found in Note 5 to the financial statements). Total depreciation expense for the year exceeded $5.3 million and $6.1 million as of December 31, 2018 and 2017, respectively.

Table A-5: Capital Assets at Year End, Net of Depreciation

Capital assets:	Balance, December 31, 2018	Balance, December 31, 2017	Balance, December 31, 2016
Non-depreciable assets	$ 12,562,526	$ 7,996,662	$ 8,208,610
Depreciable assets	308,204,404	302,972,181	295,153,330
Accumulated depreciation	(165,001,203)	(157,226,519)	(149,338,029)
Total capital assets, net	$ 155,765,727	$ 153,742,324	$ 154,023,911

LONG-TERM DEBT

At year-end the District had $64.5 million in capital leases, loan payables, and revenue bonds payables – an increase(decrease) of $11,970,967 and ($990,019) in 2018 and 2017 respectively – as shown in Table A-6. (More detailed information about the District's long-term liabilities is presented in Note 7 to the financial statements).

Table A-6: Outstanding Long-Term Debt at Year-End

Long-term debt:	Balance, December 31, 2018	Balance, December 31, 2017	Balance, December 31, 2016
Capital leases payable	$ 592,917	$ 769,848	$ 47,286
Loan payable – 2012	6,315,204	7,462,288	8,577,741
Revenue bonds payable, net – 2013	43,732,681	44,344,809	44,941,937
Revenue bonds payable, net – 2018	13,907,110	-	-
Total	$ 64,547,912	$ 52,576,945	$ 53,566,964

CONDITIONS AFFECTING CURRENT FINANICAL POSITION

- The District continued to see a slight rebound trend of water usage for 2018. This signaled District customers continue to change their water habits after being required to meet the mandatory drought restrictions in 2016.

- Billed water consumption for the year ended December 31, 2018 was at 16,769-acre feet compared to 16,176-acre feet for the year ended December 31, 2017.

- The District saw a decrease in developers paying capital improvement fees for new development. Total funds received for the year ended December 31, 2018 were $106,947 compared to $1,021,406 for the year ended December 31, 2016.

- The District's assessed valuation has increased to $1.81 billion for FY 2017/2018 from $1.72 billion for FY 2016/2017.

- The District received $2.032 million in ad valorum property tax revenue for 2018.

- The District received $403,992 thousand in successor agency component property taxes for 2018.

CONTACTING THE DISTRICT'S FINANCIAL MANAGEMENT

This financial report is designed to provide the District's ratepayer, and creditors with a general overview of the District's finances and to demonstrate the District's accountability for the funds it receives and the stewardship of the facilities it owns and operates. If you have questions about this report or need additional information, please contact Palmdale Water District, Finance Department, 2029 East Avenue Q, Palmdale, California 93550 or (661) 947-4111.

PALMDALE WATER DISTRICT

Balance Sheets

December 31, 2018 and 2017

ASSETS	2018	2017
Current assets:		
Cash and cash equivalents (Note 2)	$ 3,679,407	$ 3,784,789
Investments (Note 2)	8,105,601	10,542,238
Accrued interest receivable	34,079	37,582
Accounts receivable – water sales and services, net (Note 3)	1,783,819	1,759,209
Accounts receivable – property taxes and assessments	4,353,483	4,628,764
Accounts receivable – other	15,227	18,508
Materials and supplies inventory	1,022,601	815,095
Prepaid expenses	595,854	567,814
Total current assets	19,590,071	22,153,999
Non-current assets:		
Restricted – cash and cash equivalents (Note 2)	11,706,447	-
Investment in Palmdale Recycled Water Authority (Note 4)	1,668,290	1,371,867
Capital assets – not being depreciated (Note 5)	12,562,526	7,996,662
Capital assets – being depreciated, net (Note 5)	143,203,201	145,745,662
Total non-current assets	169,140,464	155,114,191
Total assets	188,730,535	177,268,190
DEFERRED OUTFLOWS OF RESOURCES		
Deferred amount on debt defeasance, net (Note 7)	2,165,132	2,321,824
Deferred amounts related to net OPEB obligation (Note 8)	923,382	-
Deferred amounts related to net pension liability (Note 9)	2,441,587	2,837,150
Total deferred outflows of resources	5,530,101	5,158,974
Total assets and deferred outflows of resources	$ 194,260,636	$ 182,427,164

PALMDALE WATER DISTRICT
Balance Sheets (continued)
December 31, 2018 and 2017

LIABILITIES	2018	2017
Current liabilities:		
Accounts payable and accrued expenses	$ 1,007,528	$ 1,136,962
Customer deposits for water service	2,942,630	2,872,519
Construction and developer deposits	1,638,385	1,625,816
Accrued interest payable	648,625	518,114
Long-term liabilities – due within one year:		
Compensated absences (Note 6)	118,457	108,258
Capital lease payable (Note 7)	163,600	159,145
Loan payable (Note 7)	1,186,595	1,147,084
Revenue bonds payable (Note 7)	520,000	510,000
Total current liabilities	8,225,820	8,077,898
Non-current liabilities:		
Long-term liabilities – due in more than one year:		
Compensated absences (Note 6)	355,371	324,774
Capital lease payable (Note 7)	429,317	610,703
Loan payable (Note 7)	5,128,609	6,315,204
Revenue bonds payable, net (Note 7)	57,119,791	43,834,809
Net other post-employment benefits obligation (Note 8)	13,598,136	14,271,430
Net pension liability (Note 9)	9,809,458	10,081,661
Total non-current liabilities	86,440,682	75,438,581
Total liabilities	94,666,502	83,516,479
DEFERRED INFLOWS OF RESOURCES		
Unearned property taxes and assessments	3,300,000	3,500,000
Deferred amounts related to net pension liability (Note 9)	585,837	493,082
Total deferred inflows of resources	3,885,837	3,993,082
NET POSITION		
Net investment in capital assets	105,089,394	103,487,203
Restricted – Palmdale Recycled Water Authority (Note 4)	1,668,290	1,371,867
Unrestricted (Deficit) (Note 10)	(11,049,387)	(9,941,467)
Total net position	95,708,297	94,917,603
Total liabilities, deferred inflows of resources and net position	$ 194,260,636	$ 182,427,164

PALMDALE WATER DISTRICT

Statements of Revenues, Expenses and Changes in Net Position
For the Years Ended December 31, 2018 and 2017

	2018	2017
Operating revenues:		
Water sales – commodity charge	$ 9,062,634	$ 8,482,952
Water sales – wholesale	496,975	438,255
Monthly meter service charge	13,294,482	12,710,214
Water quality fees	803,306	845,526
Elevation fees	378,380	365,618
Other charges for services	848,301	850,530
Total operating revenues	24,884,078	23,693,095
Operating expenses:		
Source of supply – water purchases	2,799,849	3,090,801
Operations and production	3,698,309	3,177,431
Facilities	7,355,368	6,580,697
Engineering	1,897,684	1,632,692
Water conservation	356,914	343,007
Administration	5,436,345	5,280,134
Finance and customer care	2,891,366	2,948,743
Total operating expenses	24,435,835	23,053,505
Operating income before overhead absorption	448,243	639,590
Overhead absorption	103,353	46,276
Operating income before depreciation expense	551,596	685,866
Depreciation expense	(5,353,052)	(6,113,751)
Operating (loss)	(4,801,456)	(5,427,885)
Non-operating revenues(expenses):		
Property taxes – ad valorem	2,032,216	1,665,812
Property tax assessment for State Water Project	4,811,735	5,102,773
Successor agency component of property taxes	403,992	623,525
Rental revenue – cellular towers	44,754	63,716
Investment earnings	292,316	56,054
Changes in investment – Palmdale Recycled Water Authority (Note 4)	296,423	96,536
Legal and insurance refunds/settlements	132,256	11,812
Department of Water Resources – fixed charge recovery	266,877	266,638
Other non-operating revenues	203,082	84,502
Cost of debt issuance (Note 7)	(308,867)	-
State Water Project amortization expense	(2,646,401)	(2,600,856)
Interest expense – long-term debt	(2,405,894)	(2,175,260)
Total non-operating revenue(expense), net	3,122,489	3,195,252
Net (loss) before capital contributions	(1,678,967)	(2,232,633)
Capital contributions:		
Capital improvement fees	106,947	1,021,406
Federal and state capital grants	47,666	110,668
Total capital contributions	154,613	1,132,074
Change in net position	(1,524,354)	(1,100,559)
Net position:		
Beginning of year, as previously reported	94,917,603	96,018,162
Prior period adjustment (Note 11)	2,315,048	-
End of year	$ 95,708,297	$ 94,917,603

The notes to financial statements are an integral part of this statement.

PALMDALE WATER DISTRICT

Statements of Cash Flows

For the Year Ended December 31, 2018

	2018	2017
Cash flows from operating activities:		
Cash receipts from water sales and services	$ 24,942,148	$ 23,775,146
Cash receipts from others	650,250	501,184
Cash paid to employees for salaries and wages	(7,462,928)	(7,411,999)
Cash paid to vendors and suppliers for materials and services	(16,362,605)	(13,081,698)
Net cash provided by operating activities	1,766,865	3,782,633
Cash flows from non-capital financing activities:		
Proceeds from property taxes	2,511,489	2,411,482
Proceeds from property tax assessment for State Water Project	4,811,735	5,102,773
Acquisition of State Water Project participation rights	(4,598,609)	(4,497,112)
Net cash provided by non-capital financing activities	2,724,615	3,017,143
Cash flows from capital and related financing activities:		
Acquisition and construction of capital assets	(5,424,247)	(3,350,357)
Proceeds from capital improvement fees and capital grants	154,613	1,132,074
Proceeds from issuance of revenue bonds	13,925,632	-
Cost of debt issuance	(308,867)	-
Principal paid on long-term debt	(1,816,229)	(1,717,891)
Interest paid on long-term debt	(2,153,773)	(1,932,632)
Net cash provided by (used in) capital and related financing activities	4,377,129	(5,868,806)
Cash flows from investing activities:		
Purchase of investments	(2,154,751)	(3,847,037)
Sales of investments	4,588,458	1,734,522
Investment earnings	298,749	138,388
Net cash provided by (used in) investing activities	2,732,456	(1,974,127)
Net increase (decrease) in cash and cash equivalents	11,601,065	(1,043,157)
Cash and cash equivalents:		
Beginning of year	3,784,789	4,827,946
End of year	$ 15,385,854	$ 3,784,789
Reconciliation of cash and cash equivalents to the statement of net position:		
Cash and cash equivalents	$ 3,679,407	$ 3,784,789
Restricted assets – cash and cash equivalents	11,706,447	-
Total cash and cash equivalents	$ 15,385,854	$ 3,784,789

PALMDALE WATER DISTRICT
Statements of Cash Flows (continued)
For the Year Ended December 31, 2018

	2018	2017
Reconciliation of operating (loss) to net cash provided by operating activities:		
Operating (loss)	$ (4,801,456)	$ (5,427,885)
Adjustments to reconcile operating (loss) to net cash provided by operating activities:		
Depreciation	5,353,052	6,113,751
Overhead absorption	(103,353)	(46,276)
Rental revenue – cellular towers	44,754	63,716
Legal and insurance refunds/settlements	132,256	11,812
Department of Water Resources – fixed charge recovery	266,877	266,638
Other non-operating revenues	203,082	84,502
Change in assets – (increase)decrease:		
Accounts receivable – water sales and services, net	(24,610)	178,105
Accounts receivable – other	3,281	74,516
Materials and supplies inventory	(207,506)	95,453
Prepaid expenses	(28,041)	145,540
Change in deferred outflows of resources – (increase)decrease		
Deferred amounts related to net OPEB obligation	(923,382)	-
Deferred amounts related to net pension liability	395,563	(591,573)
Change in liabilities – increase(decrease):		
Accounts payable and accrued expenses	(129,434)	321,409
Customer deposits for water service	70,111	(95,853)
Construction and developer deposits	12,569	(201)
Compensated absences	40,796	(6,136)
Net other post-employment benefits obligation	1,641,754	1,163,756
Net pension liability	(272,203)	1,396,172
Change in deferred inflows of resources – increase(decrease)		
Deferred amounts related to net pension liability	92,755	35,187
Total adjustments	6,568,321	9,210,518
Net cash provided by operating activities	$ 1,766,865	$ 3,782,633
Non-cash investing, capital and financing transactions:		
Change in fair-value of investments	$ (2,930)	$ (90,252)
Amortization of deferred amount on debt defeasance	$ (156,692)	$ (156,692)
Amortization of net premium(discount) on revenue bonds	$ 120,650	$ 102,128
Changes in investment – Palmdale Recycled Water Authority	$ 296,423	$ 96,536

NOTE 1 – DESCRIPTION OF ORGANIZATION AND SIGNIFICANT ACCOUNTING POLICIES

A. Description of Organization

The Palmdale Water District (District) was formed as an Irrigation District under Division 11 of the California Water Code in 1918. The District provides potable water service to a portion of the City of Palmdale, California, and surrounding unincorporated areas of the County of Los Angeles. The District is operated under the direction of a five-member board of directors. The board members are elected by the public for staggered four-year terms.

B. Reporting Entity

A reporting entity is comprised of the primary government, component units, and other organizations that are included to ensure the financial statements are not misleading. The primary government of the District consists of all funds, departments, and agencies that are not legally separate from the District. For Palmdale Water District, this includes general operations, security, and wastewater treatment of the District.

The criteria used in determining the scope of the financial reporting entity is based on the provisions of Governmental Accounting Standards Board Statement No. 61, *The Financial Reporting Entity* (GASB Statement No. 61). The District is the primary governmental unit based on the foundation of a separately elected governing board that is elected by the citizens in a general popular election. Component units are legally separate organizations for which the elected officials of the primary government are financially accountable. The District is financially accountable if it appoints a voting majority of the organization's governing body and: 1) It is able to impose its will on that organization, or 2) There is a potential for the organization to provide specific financial benefits to, or impose specific financial burdens on, the primary government.

The Palmdale Water District Public Facilities Corporation (Corporation) was organized on August 22, 1991, pursuant to the Nonprofit Public Benefit Corporation Law of the State of California, solely for the purpose of acquiring and or constructing various public facilities and providing financial assistance to the District. Accordingly, this component unit is blended within the financial statements of the District.

The Palmdale Water District Public Financing Authority (Authority) was organized on April 10, 2013, pursuant to a Joint Exercise of Powers Agreement by and between the Palmdale Water District and the California Municipal Finance Authority, solely for the purpose of providing financing for District capital improvements. Accordingly, this component unit is blended within the financial statements of the District.

C. Basis of Presentation, Basis of Accounting

The Financial Statements (i.e., the balance sheet, the statement of revenues, expenses and change in net position, and statement of cash flows) report information on all of the activities of the primary government. The District accounts for its operations (a) that are financed and operated in a manner similar to private business enterprises – where the intent of the governing body is that the costs (expenses, including depreciation) of providing goods or services to the general public on a continuing basis be financed or recovered primarily through user charges; or (b) where the governing body has decided that periodic determination of revenues earned, expenses incurred, and/or net income is appropriate for capital maintenance, public policy, management control, accountability or other purposes.

The Financial Statements are reported using the *"economic resources"* measurement focus and the accrual basis of accounting. Revenues are recorded when earned and expenses are recorded when a liability is incurred, regardless of the timing of related cash flows. Grants and similar items are recognized as revenue as all eligibility requirements have been met. Interest associated with the current fiscal period is considered to be susceptible to accrual and so has been recognized as revenue of the current fiscal period.

NOTE 1 – DESCRIPTION OF ORGANIZATION AND SIGNIFICANT ACCOUNTING POLICIES (continued)

C. Basis of Presentation, Basis of Accounting (continued)

In accordance with GASB Statement No. 63, *Financial Reporting of Deferred Outflows of Resources, Deferred Inflows of Resources, and Net Position,* the Statement of Net Position reports separate sections for Deferred Outflows of Resources, and Deferred Inflows of Resources, when applicable.

Deferred Outflows of Resources represent outflows of resources (consumption of net position) that apply to future periods and that, therefore, will not be recognized as an expense until that time.

Deferred Inflows of Resources represent inflows of resources (acquisition of net position) that apply to future periods and that, therefore, are not recognized as a revenue until that time.

Operating revenues are those revenues that are generated from the primary operations of the District. The District reports a measure of operations by presenting the change in net position from operations as *operating income* in the statement of revenues, expenses, and changes in net position. Operating activities are defined by the District as all activities other than financing and investing activities (interest expense and investment income), grants and subsidies, and other infrequently occurring transactions of a non-operating nature. Operating expenses are those expenses that are essential to the primary operations of the District. All other expenses are reported as non-operating expenses.

D. Assets, Deferred Outflows of Resources, Liabilities, Deferred Inflows of Resources, and Net Position

1. Cash and Cash Equivalents

For purposes of the statement of cash flows, the District considers all highly liquid investments with a maturity of three months or less, when purchased, to be cash equivalents. Cash deposits are reported at the carrying amount, which reasonably estimates fair value.

2. Investments

Investments are reported at fair value except for short-term investments, which are reported at cost, which approximates fair value. Cash deposits are reported at carrying amount, which reasonably estimates fair value. Investments in governmental investment pools are reported at fair value based on the fair value per share of the pool's underlying portfolio.

In accordance with fair value measurements, the District categorizes its assets and liabilities measured at fair value into a three-level hierarchy based on the priority of the inputs to the valuation technique used to determine fair value. The fair value hierarchy gives the highest priority to quoted prices in active markets for identical assets or liabilities (Level 1) and the lowest priority to unobservable inputs (Level 3). If the inputs used in the determination of the fair value measurement fall within different levels of the hierarchy, the categorization is based on the lowest level input that is significant to the fair value measurement. Financial assets and liabilities recorded on the balance sheet are categorized based on the inputs to the valuation techniques as follows:

Level 1 – Inputs that reflect unadjusted quoted prices in active markets for identical investments, such as stocks, corporate and government bonds. The District has the ability to access the holding and quoted prices as of the measurement date.

Level 2 – Inputs, other than quoted prices, that are observable for the asset or liability either directly or indirectly, including inputs from markets that are not considered to be active.

Level 3 – Inputs that are unobservable. Unobservable inputs reflect the District's own assumptions about the factors market participants would use in pricing an investment, and is based on the best information available in the circumstances.

NOTE 1 – DESCRIPTION OF ORGANIZATION AND SIGNIFICANT ACCOUNTING POLICIES (continued)

D. Assets, Deferred Outflows of Resources, Liabilities, Deferred Inflows of Resources, and Net Position (continued)

3. Allowance for Doubtful Accounts
The District extends credit to customers in the normal course of operations. When management deems customer accounts uncollectible, the District uses the allowance method for the reservation and write-off of those accounts.

4. Prepaids
Certain payments of vendors reflect costs applicable to future accounting periods and are recorded as prepaid items.

5. Materials and Supplies Inventory
Materials and supplies consist primarily of water meters, pipe, and pipefittings for construction and repair to the District's water transmission and distribution system. Materials and supplies are valued at cost using a weighted average method. Materials and supplies are charged to expense at the time that individual items are consumed.

6. Capital Assets
Capital assets are stated at cost or at their estimated fair value at date of donation. It is the District's policy to capitalize assets costing over $5,000. The provision for depreciation is computed using the straight-line method over the estimated service lives of the capital assets. Estimated service lives for the District's classes of assets are as follows:

Description	Estimated Lives
Capital Equipment	10 Years
Furniture	7-10 Years
Vehicles	5-10 Years
Small Equipment	3-5 Years

7. State Water Project – Participation Rights
The District participates in the State Water Project (the Project) entitling it to certain participation rights. The District's participation in the Project is through payments to the California Department of Water Resources from tax assessments collected from within the District's service area. Monies used for the construction of capital assets, such as pipelines, pumping facilities, storage facilities, etc., are recorded as participation rights and amortized over the life of the agreements. Certain projects also require payments for on-going maintenance; those payments are charged to expense as incurred.

8. Customer Deposits for Water Service
Based on a customer's credit, the District may require a deposit deemed reasonable by the District. These deposits are held to pay off close out bills or to cover delinquent payments.

9. Compensated Absences
The liability for compensated absences reported on the balance sheet consists of unpaid, accumulated annual and vacation leave balances. The liability has been calculated using the vesting method, in which leave amounts for both employees who currently are eligible to receive termination payments and other employees who are expected to become eligible in the future to receive such payments upon termination are included.

NOTE 1 – DESCRIPTION OF ORGANIZATION AND SIGNIFICANT ACCOUNTING POLICIES (continued)

D. Assets, Deferred Outflows of Resources, Liabilities, Deferred Inflows of Resources, and Net Position (continued)

10. Pensions

For purposes of measuring the net pension liability and deferred outflows/inflows of resources related to pensions, and pension expense, information about the fiduciary net position of the District's California Public Employees' Retirement System (CalPERS) plans and addition to/deductions from the Plans' fiduciary net position have been determined on the same basis as they are reported by CalPERS. For this purpose, benefit payments (including refunds of employee contributions) are recognized when due and payable in accordance with the benefit terms. Investments are reported at fair value.

CalPERS	June 30, 2018	June 30, 2017
Valuation Date	June 30, 2017	June 30, 2016
Measurement Date	June 30, 2018	June 30, 2017
Measurement Period	July 1, 2016 to June 30, 2017	July 1, 2015 to June 30, 2016

Gains and losses related to changes in total pension liability and fiduciary net position are recognized in pension expense systematically over time. The first amortized amounts are recognized in pension expense for the year the gain or loss occurs. The remaining amounts are categorized as deferred outflows and deferred inflows of resources related to pensions and are to be recognized in future pension expense. The amortization period differs depending on the source of the gain or loss. The difference between projected and actual earnings is amortized straight-line over 5 years. All other amounts are amortized straight-line over the average expected remaining service lives of all members that are provided with benefits (active, inactive, and retired) as of the beginning of the measurement period.

11. Net Position

Net position is classified into three components: net investment in capital assets; restricted; and unrestricted. These classifications are defined as follows:

- **Net investment in capital assets** - This component of net position consists of capital assets, including restricted capital assets, net of accumulated depreciation and reduced by the outstanding balances of any bonds, mortgages, notes, or other borrowings that are attributable to the acquisition, construction, or improvement of those assets. If there are significant unspent related debt proceeds at year-end, the portion of the debt attributable to the unspent proceeds are not included in the calculation of net investment in capital assets. Rather, that portion of the debt is included in the same net position component as the unspent proceeds.

- **Restricted** - This component of net position consists of constraints placed on net position use through external constraints imposed by creditors (such as through debt covenants), grantors, contributors, or laws or regulations of other governments or constraints imposed by law through constitutional provisions or enabling legislation.

- **Unrestricted** - This component of net position consists of net position that does not meet the definition of "net investment in capital assets" or "restricted".

When both restricted and unrestricted resources are available for use, it is the District's policy to use restricted resources first, then unrestricted resources as they are needed.

NOTE 1 – DESCRIPTION OF ORGANIZATION AND SIGNIFICANT ACCOUNTING POLICIES (continued)

E. Property Taxes

Property tax in California is levied in accordance with Article XIIIA of the State Constitution at one percent of county-wide assessed valuations. This one percent is allocated pursuant to state law to the appropriate units of local government. Tax levies are limited to 1% of full market value which results in a tax rate of $1.00 per $100 assessed valuation, under the provisions of Proposition 13. The County of Los Angeles bills and collects property taxes on behalf of the District. The County's tax year is July 1, to December 31. Property taxes attach as a lien on property on January 1. Taxes are levied on July 1 and are payable in two equal installments on November 1 and March 1, and become delinquent after December 10, and April 10.

F. Water Sales

Most water sales are billed on a monthly cyclical basis. Estimated unbilled water revenue through year-end has been accrued.

G. Capital Improvement Fees

Capital improvement fees represent cash and capital asset additions contributed to the District by property owners, granting agencies or real estate developers desiring services that required capital expenditures or capacity commitment.

H. Use of Estimates

The preparation of financial statements in conformity with generally accepted accounting principles requires management to make estimates and assumptions that affect the reported amounts of assets and liabilities and disclosure of contingent assets and liabilities at the date of the financial statements and the reported amounts of revenues and expenditures during the reported period. Actual results could differ from those estimates.

I. Reclassifications

Certain amounts presented in the prior year financial statements have been reclassified in order to be consistent with the current year's presentation.

J. New GASB Pronouncements

During the 2018 year, the following GASB Pronouncements were implemented:

1. **Statement No. 75, *Accounting and Financial Reporting for Postemployment Benefits Other Than Pensions***

   In June 2015, the GASB issued Statement No. 75, *Accounting and Financial Reporting for Postemployment Benefits Other Than Pensions*. The primary objective of this Statement is to improve accounting and financial reporting by state and local governments for postemployment benefits other than pensions (other postemployment benefits, or OPEB). It also improves information provided by state and local governmental employers about financial support for OPEB that is provided by other entities. This Statement results from a comprehensive review of the effectiveness of existing standards of accounting and financial reporting for all postemployment benefits (pensions and OPEB) with regard to providing decision-useful information, supporting assessments of accountability and inter-period equity, and creating additional transparency.

   This Statement replaces the requirements of Statements No. 45, *Accounting and Financial Reporting by Employers for Postemployment Benefits Other Than Pensions*, as amended, and No. 57, *OPEB Measurements by Agent Employers and Agent Multiple-Employer Plans*, for OPEB. Statement No. 74, *Financial Reporting for Postemployment Benefit Plans Other Than Pension Plans*, establishes new accounting and financial reporting requirements for OPEB plans.

NOTE 2 – CASH AND INVESTMENTS

Cash and investments were classified in the accompanying financial statements as follows:

Description	Balance, December 31, 2018	Balance, December 31, 2017
Cash and cash equivalents	$ 3,679,407	$ 3,784,789
Investments	8,105,601	10,542,238
Restricted – cash and cash equivalents	11,706,447	-
Total	$ 23,491,455	$ 14,327,027

Cash and investments consisted of the following:

Description	Balance, December 31, 2018	Balance, December 31, 2017
Cash on hand	$ 5,700	$ 5,700
Demand deposits held with financial institutions	764,750	438,359
Local Agency Investment Fund (LAIF)	12,130	11,927
Money-market funds	2,896,827	3,213,651
Money-market funds – restricted	11,706,447	-
Investments	8,105,601	10,542,238
Total	$ 23,491,455	$ 14,211,875

The table below identifies the investment types that are authorized by the California Government Code and the District's investment policy. The table also identifies certain provisions of the District's investment policy that address interest rate risk and concentration of credit risk. This table does not address investments of debt proceeds held by bond trustee that are governed by the provisions of debt agreements rather than the general provisions of the California Government Code or the District's investment policy.

Authorized Investment Type	Maximum Maturity	Maximum Percentage of Portfolio	Maximum Investment in One Issuer
U.S. Treasury obligations	5-years	None	None
District issued bonds	5-years	None	None
Government sponsored agency securities	5-years	None	None
Certificates-of-deposit	5-years	35%	None
Money-market funds	N/A	None	None
California Local Agency Investment Fund (LAIF)	N/A	None	None

NOTE 2 – CASH AND INVESTMENTS (continued)

Investments Authorized by Debt Agreements
Investment of debt proceeds held by bond trustees are governed by provisions of the debt agreements, rather than the general provisions of the California Government Code or the District's investment policy. The table below identifies the investment types that are authorized for investments held by bond trustee. The table also identifies certain provisions if these debt agreements that address interest rate risk, credit risk, and concentration of credit risk.

Authorized Investment Type	Maximum Maturity	Maximum Percentage of Portfolio	Maximum Investment in One Issuer
Investment contracts	None	None	None
Money-market funds	N/A	None	None

Demand Deposits with Financial Institutions
At December 31, 2018 and 2017, the carrying amount of the District's demand deposits were $764,750 and $438,359, respectively, and the financial institution's balance were $742,338 and $1,232,012, respectively. The net difference represents outstanding checks, deposits-in-transit and/or other reconciling items between the financial institution's balance and the District's balance for each year.

Custodial Credit Risk – Deposits
Custodial credit risk is the risk that in the event of a bank failure, the Authority's deposits may not be returned to it. The District does not have a policy for custodial credit risk for deposits. Cash balances held in banks are insured up to $250,000 by the Federal Depository Insurance Corporation (FDIC) and are collateralized by the respective financial institutions. In addition, the California Government Code requires that a financial institution secure deposits made by State or local governmental units by pledging securities in an undivided collateral pool held by a depository regulated under State law (unless so waived by the governmental unit). The market value of the pledged securities in the collateral pool must equal at least 110 percent of the total amount deposited by the public agencies. California law also allows financial institutions to secure public deposits by pledging first trust deed mortgage notes having a value of 150 percent of the secured public deposits and letters of credit issued by the Federal Home Loan Bank of San Francisco having a value of 105 percent of the secured deposits.

Money-Market Funds
Money-market funds are an investment whose objective is to earn modest investment earnings while maintaining a net asset value (NAV) of $1 per share (which is the funds main goal – preservation of principal). A money-market fund's portfolio is typically comprised of short-term, or less than one year, securities representing high-quality, liquid debt and monetary instruments with minimal credit risk. Money-market funds are Level 1 investments (with quoted prices in active markets for identical assets) that are Not Rated under the current credit risk ratings format. For financial reporting purposes, the District considers money-market funds a cash equivalent due to their highly liquid nature and NAV of $1 per share. As of December 31, 2018, the District held $2,896,827 in unrestricted money-market funds and $11,706,447 in restricted money-market funds. As of December 31, 2017, the District held $3,213,651 in unrestricted money-market funds.

NOTE 2 – CASH AND INVESTMENTS (continued)

Local Agency Investment Fund (LAIF)

The California State Treasurer, through the Pooled Money Investment Account (PMIA), invests taxpayers' money to manage the State's cash flow and strengthen the financial security of local governmental entities. PMIA policy sets as primary investment objectives safety, liquidity and yield. Through the PMIA, the Investment Division manages the Local Agency Investment Fund (LAIF). The LAIF allows cities, counties and special districts to place money in a major portfolio and, at no additional costs to taxpayers, use the expertise of Investment Division staff. Participating agencies can withdraw their funds from the LAIF at any time as LAIF is highly liquid and carries a dollar-in dollar-out amortized cost methodology.

The District is a voluntary participant in LAIF. The fair value of the District's investment in this pool is reported at an amount based upon the District's pro-rata share of the fair value provided by LAIF for the entire LAIF portfolio (in relation to the amortized cost of the of that portfolio). The balance available for withdrawal is based on the accounting records maintained by LAIF. LAIF is not categorized under the fair value hierarchy established by GAAP as it is held at an amortized cost basis and it is Not Rated under the current credit risk ratings format. For financial reporting purposes, the District considers LAIF a cash equivalent due to its highly liquid nature and dollar-in dollar-out amortized cost methodology. As of December 31, 2018, and 2017, the District held $12,130 and $11,927 in LAIF, respectively.

The investment policy of the District limits the amount that can be invested in an external investment pool (LAIF). A maximum limit has been set at $500,000 that can be invested in LAIF at any point in time.

Investments

Investment maturities and credit ratings as of December 31, 2018, consisted of the following:

Type of Investments	Measurement Input	Credit Rating	Fair Value	Maturity		
				12 Months or Less	13 to 24 Months	25 to 60 Months
U.S. Treasury notes	Level 1	Exempt	$ 4,846,128	$ 4,846,128	-	-
Certificates-of-deposit	Level 2	Not Rated	3,259,473	2,314,095	784,714	160,664
Total investments			$ 8,105,601	$ 7,160,223	$ 784,714	$ 160,664

Investment maturities and credit ratings as of December 31, 2017, consisted of the following:

Type of Investments	Measurement Input	Credit Rating	Fair Value	Maturity		
				12 Months or Less	13 to 24 Months	25 to 60 Months
U.S. Treasury notes	Level 1	Exempt	$ 6,836,426	$ 1,993,210	$ 4,843,216	-
Certificates-of-deposit	Level 2	Not Rated	3,705,812	1,599,319	1,393,836	712,657
Total investments			$ 10,542,238	$ 3,592,529	$ 6,237,052	$ 712,657

Investments – Interest Rate Risk

Interest rate risk is the risk that changes in market interest rates will adversely affect the fair value of an investment. Generally, the longer the maturity of an investment the greater the sensitivity of its fair value to changes in market interest rates. The District's investment policy limits investment purchases to investments with a term not to exceed five-years. The District's did not hold any investments that are highly sensitive to interest rate fluctuations (to a greater degree than already indicated in the information provided above).

NOTE 2 – CASH AND INVESTMENTS (continued)

Investments – Credit Risk
The District's investment policy limits investment choices to investment securities allowed by the California Government Code. At December 31, 2018, all investments represented investment securities which were issued, registered and held by the District's agent in the District's name.

Investments – Concentration of Credit Risk
The District does not place limits on the amount it may invest in any one issuer. At December 31, 2018 and 2017, the District had the following investments that represented more than five percent of the Authority's net investment balance.

Investments greater than 5% for the year ended December 31, 2018, were as follows:

Investments with Maturity Dates	Fair Value	Percentage of Investments
U.S. Treasury note - February 15, 2019	$ 1,500,630	18.51%
U.S. Treasury note - February 28, 2019	998,570	12.32%
U.S. Treasury note - March 15, 2019	1,354,198	16.71%
U.S. Treasury note - December 31, 2019	992,730	12.25%
Total	$ 4,846,128	59.79%

Investments greater than 5% for the year ended December 31, 2017, were as follows:

Investments with Maturity Dates	Fair Value	Percentage of Investments
U.S. Treasury note - June 15, 2018	$ 998,440	9.47%
U.S. Treasury note - December 15, 2018	994,770	9.44%
U.S. Treasury note - February 15, 2019	1,514,940	14.37%
U.S. Treasury note - February 15, 2019	987,890	9.37%
U.S. Treasury note - February 28, 2019	996,020	9.45%
U.S. Treasury note - March 15, 2019	1,344,366	12.75%
Total	$ 6,836,426	64.85%

NOTE 3 – ACCOUNTS RECEIVABLE – WATER SALES AND SERVICES, NET

The balances consisted of the following;

Description	Balance, December 31, 2018	Balance, December 31, 2017
Accounts receivable – water sales and services	$ 1,847,954	$ 1,912,877
Allowance for doubtful accounts	(64,135)	(153,668)
Accounts receivable – water sales and services, net	$ 1,783,819	$ 1,759,209

NOTE 4 – INVESTMENT IN PALMDALE RECYCLED WATER AUTHORITY

The Palmdale Recycled Water Authority (the Authority) was formed under a Joint Exercise of Powers Authority on September 26, 2012, pursuant to Section(s) 6506 and 6507 of the Exercise of Powers Act, codified by California Government Code section(s) 6500, which authorizes public agencies by agreement to exercise jointly any power common to the contracting parties. The Authority was formed between the City of Palmdale, a California Charter City (the City) and Palmdale Water District, an Irrigation District under Division 11 of the California Water Code (the District). The Authority is an independent public agency separate from its Members.

The purpose of the Authority is to establish an independent public agency to study, promote, develop, distribute, construct, install, finance, use and manage recycled water resources created by the Los Angeles County Sanitation District Nos. 14 and 20 for any and all reasonable and beneficial uses, including irrigation and recharge, and to finance the acquisition and construction or installation of recycled water facilities, recharge facilities and irrigation systems.

The governing body of the Authority is a Board of Directors, which consists of five directors. The governing body of each Member appoints and designates in writing two Directors who are authorized to act for and on behalf of the Member on matters within the powers of the Authority. The person(s) appointed and designated as Director(s) are member(s) of the Member's governing board. The fifth director is appointed jointly by both Members.

The Members share in the revenues and expenses of the Authority on a 50/50 pro-rata share basis. Therefore, the District accounts for its investment in the Authority as an equity interest on the statement of net position.

For 2018, the District reports its equity interest as of the date of the last audited financial statements of the Authority as of December 31, 2018, which was audited by our firm, whose report dated June 25, 2019 expressed an unmodified opinion on those financial statements.

For 2017, the District reports its equity interest as of the date of the last audited financial statements of the Authority as of December 31, 2017, which was audited by other auditors, whose report dated August 7, 2018 expressed an unmodified opinion on those financial statements.

NOTE 4 – INVESTMENT IN PALMDALE RECYCLED WATER AUTHORITY (continued)

The following is the condensed financial statement of the Authority for the year ended December 31, 2018:

Palmdale Recycled Water Authority
Condensed Balance Sheet
December 31, 2018

	Audited Total	City of Palmdale 50% Share	District 50% Share
Assets:			
Total assets	$ 3,365,314	$ 1,682,657	$ 1,682,657
Liabilities:			
Total liabilities	28,735	14,368	14,367
Net position:			
Total net position	3,336,579	1,668,289	1,668,290
Total liabilities and net position	$ 3,365,314	$ 1,682,657	$ 1,682,657

Palmdale Recycled Water Authority
Condensed Statement of Revenues, Expenses and Changes in Net Position
For the Year Ended December 31, 2018

	Audited Total	City of Palmdale 50% Share	District 50% Share
Operating revenues:			
Total operating revenues	$ 675,963	$ 337,981	$ 337,982
Operating expenses:			
Total operating expenses	87,662	43,831	43,831
Operating income	588,301	294,150	294,151
Non-operating revenues:			
Total non-operating revenue	4,543	2,271	2,272
Change in net position	592,844	296,421	296,423
Net position:			
Beginning of year	2,743,735	1,371,868	1,371,867
End of year	$ 3,336,579	$ 1,668,289	$ 1,668,290

Palmdale Recycled Water Authority
Condensed Statement of Cash Flows
For the Year Ended December 31, 2018

	Audited Total	City of Palmdale 50% Share	District 50% Share
Cash flows from operating activities:			
Net cash provided by operating activities	$ 623,946	$ 311,973	$ 311,973
Cash flows from investing activities:			
Net cash provided by investing activities	(893,983)	(446,992)	(446,991)
Net increase in cash and cash equivalents	(270,037)	(135,019)	(135,018)
Cash and cash equivalents:			
Beginning of year	926,807	463,404	463,403
End of year	$ 656,770	$ 328,385	$ 328,385
Reconciliation of operating income to net cash provided by operating activities:			
Operating income	$ 588,301	$ 294,151	$ 294,150
Depreciation	53,407	26,704	26,703
Change in assets	(4,365)	(2,183)	(2,182)
Change in liabilities	(13,397)	(6,699)	(6,698)
Net cash provided by operating activities	$ 623,946	$ 311,973	$ 311,973

NOTE 4 – INVESTMENT IN PALMDALE RECYCLED WATER AUTHORITY (continued)

The following is the condensed financial statement of the Authority for the year ended December 31, 2017:

Palmdale Recycled Water Authority
Condensed Balance Sheet
December 31, 2017

	Audited Total	City of Palmdale 50% Share	District 50% Share
Assets:			
Total assets	$ 2,785,867	$ 1,392,934	$ 1,392,933
Liabilities:			
Total liabilities	42,132	21,066	21,066
Net position:			
Total net position	2,743,735	1,371,868	1,371,867
Total liabilities and net position	$ 2,785,867	$ 1,392,934	$ 1,392,933

Palmdale Recycled Water Authority
Condensed Statement of Revenues, Expenses and Changes in Net Position
For the Year Ended December 31, 2017

	Audited Total	City of Palmdale 50% Share	District 50% Share
Operating revenues:			
Total operating revenues	$ 251,560	$ 125,780	$ 125,780
Operating expenses:			
Total operating expenses	115,736	57,868	57,868
Operating income	135,824	67,912	67,912
Non-operating revenues:			
Total non-operating revenue	57,249	28,625	28,624
Change in net position	193,073	96,537	96,536
Net position:			
Beginning of year	2,550,662	1,275,331	1,275,331
End of year	$ 2,743,735	$ 1,371,868	$ 1,371,867

Palmdale Recycled Water Authority
Condensed Statement of Cash Flows
For the Year Ended December 31, 2017

	Audited Total	City of Palmdale 50% Share	District 50% Share
Cash flows from operating activities:			
Net cash provided by operating activities	$ 152,018	$ 76,009	$ 76,009
Cash flows from other activities:			
Net cash provided by other activities	57,249	28,625	28,624
Net increase in cash and cash equivalents	209,267	104,634	104,633
Cash and cash equivalents:			
Beginning of year	717,540	358,770	358,770
End of year	$ 926,807	$ 463,404	$ 463,403
Reconciliation of operating income to net cash provided by operating activities:			
Operating income	$ 135,824	$ 67,912	$ 67,912
Depreciation	53,407	26,703	26,704
Change in assets	3,251	1,626	1,625
Change in liabilities	(40,464)	(20,232)	(20,232)
Net cash provided by operating activities	$ 152,018	$ 76,009	$ 76,009

NOTE 5 – CAPITAL ASSETS AND DEPRECIATION

Capital asset activity for the year ended December 31, 2018, was as follows:

Description	Balance, January 1, 2018	Additions	Deletions/ Transfers	Balance, December 31, 2018
Non-depreciable assets:				
Land and land rights	$ 1,784,357	-	-	$ 1,784,357
Construction-in-process	6,212,305	5,383,101	(817,237)	10,778,169
Total non-depreciable assets	7,996,662	5,383,101	(817,237)	12,562,526
Depreciable assets:				
Buildings, wells and distribution system	215,384,643	731,780	-	216,116,423
SWP – participation rights	75,981,778	4,598,609	-	80,580,387
Machinery and equipment	11,605,760	126,603	(224,769)	11,507,594
Total depreciable assets	302,972,181	5,456,992	(224,769)	308,204,404
Accumulated depreciation:				
Buildings, wells and distribution system	(117,820,520)	(4,856,911)	-	(122,677,431)
SWP – participation rights	(29,119,145)	(2,646,401)	-	(31,765,546)
Machinery and equipment	(10,286,854)	(496,141)	224,769	(10,558,226)
Total accumulated depreciation	(157,226,519)	(7,999,453)	224,769	(165,001,203)
Total depreciable assets, net	145,745,662	(2,542,461)	-	143,203,201
Total capital assets, net	$ 153,742,324	$ 2,840,640	$ (817,237)	$ 155,765,727

Capital asset activity for the year ended December 31, 2017, was as follows:

Description	Balance, January 1, 2017	Additions	Deletions/ Transfers	Balance, December 31, 2017
Non-depreciable assets:				
Land and land rights	$ 1,784,357	-	-	$ 1,784,357
Construction-in-process	6,424,253	2,636,767	(2,848,715)	6,212,305
Total non-depreciable assets	8,208,610	2,636,767	(2,848,715)	7,996,662
Depreciable assets:				
Buildings, wells and distribution system	212,937,794	3,032,400	(585,551)	215,384,643
SWP – participation rights	71,484,666	4,497,112	-	75,981,778
Machinery and equipment	10,730,870	1,115,456	(240,566)	11,605,760
Total depreciable assets	295,153,330	8,644,968	(826,117)	302,972,181
Accumulated depreciation:				
Buildings, wells and distribution system	(112,826,930)	(5,579,141)	585,551	(117,820,520)
SWP – participation rights	(26,518,289)	(2,600,856)	-	(29,119,145)
Machinery and equipment	(9,992,810)	(534,610)	240,566	(10,286,854)
Total accumulated depreciation	(149,338,029)	(8,714,607)	826,117	(157,226,519)
Total depreciable assets, net	145,815,301	(69,639)	-	145,745,662
Total capital assets, net	$ 154,023,911	$ 2,567,128	$ (2,848,715)	$ 153,742,324

NOTE 5 – CAPITAL ASSETS AND DEPRECIATION (continued)

Construction-In-Process
The balance consists of the following projects:

Project Description	Balance December 31, 2016	Balance December 31, 2017	Balance December 31, 2018
Sediment removal - Littlerock Dam	$ 1,807,482	$ 2,222,266	$ 3,026,034
Littlerock Creek Groundwater Recharge Project	2,274,315	3,074,489	3,636,800
Grade control structure – Littlerock Dam	-	-	1,726,769
Meter Exchange Project	-	-	487,830
Spec 1703-ML Replacement 13th St E/Avenue R	-	-	229,174
Upper Armagosa Creek project	129,215	136,561	156,776
45th St Tank Site - Altitude Valve Replacement	-	-	123,584
Salt Silo Water Treatment Plant	-	-	106,679
Well 29 - Rehabilitation	-	-	105,783
Clearwell - Booster #2 Replacement	-	119,224	-
Tierra Subida Ave. waterline replacement	447,920	-	-
El Camino Dr. - mainline replacement	385,798	-	-
Well 15 - inspection and replacement	197,014	-	-
Various other minor projects <$100,000	1,182,509	659,765	1,178,740
Total construction-in-process	$ 6,424,253	$ 6,212,305	$ 10,778,169

State Water Project – Participation Rights
In 1963, the District contracted with the State of California (the State) for 1,620 acre-feet per year of water from the State Water Project (SWP). In subsequent years, the annual entitlement increased to 21,300 acre-feet. The SWP distributes water from Northern California to Southern California through a system of reservoirs, canals, pumps stations, and power generation facilities.

The District is one of many participants contracting with the State of California Department of Water Resources (DWR) for a system to provide water throughout California. Under the terms of the State Water Contract, as amended, the District is obligated to pay allocable portions of the cost of construction of the system and ongoing operations and maintenance costs through at least the year 2035, regardless of the quantities of water available from the project. The District and the other contractors may also be responsible to the State for certain obligations by any contractor who defaults on its payments to the State.

Management's present intention is to exercise the District's option to extend the contractual period to at least 2052, under substantially comparable terms. This corresponds to an estimated 80-year service life for the original facilities. The State is obligated to provide specific quantities of water throughout the life of the contract, subject to certain conditions.

In addition to system on-aqueduct power facilities, the State has, either on their own or through joint ventures financed certain off-aqueduct power facilities (OAPF). The power generated is utilized by the system for water transportation and distribution purposes. Power generated in excess of system needs is marked to various utilities and California's power market.

The District is entitled to a proportionate share of the revenues resulting from sales of excess power. The District and the other water providers are responsible for repaying the capital and operating costs of the OAPF regardless of the amount of power generated.

The District capitalizes its share of system construction costs as participation rights in the State water facilities when such costs are billed by the DWR. Unamortized participation rights essentially represent a prepayment for future water deliveries through the State system. The District's share of system operations and maintenance costs is charged to expenses as incurred.

NOTE 5 – CAPITAL ASSETS AND DEPRECIATION (continued)

The District amortizes a portion of capitalized participation rights each year using a formula that considers the total estimated cost of the project, estimated useful life and estimated production capacity of the assets based upon information provided by the State of California. The participation rights have been included with the District's capital assets as shown in the schedule of changes in capital assets.

NOTE 6 – COMPENSATED ABSENCES

Summary changes to compensated absences balances for the year ended December 31, 2018, were as follows:

Balance, January 1, 2018	Additions	Deletions	Balance, December 31, 2018	Due Within One Year	Due in More Than One Year
$ 433,032	$ 578,137	$ (537,341)	$ 473,828	$ 118,457	$ 355,371

Summary changes to compensated absences balances for the year ended December 31, 2017, were as follows:

Balance, January 1, 2017	Additions	Deletions	Balance, December 31, 2017	Due Within One Year	Due in More Than One Year
$ 439,168	$ 498,806	$ (504,942)	$ 433,032	$ 108,258	$ 324,774

NOTE 7 – LONG-TERM DEBT

Changes in long-term debt for the year ended December 31, 2018, were as follows:

Long-Term Debt	Balance, January 1, 2018	Additions/ Adjustments	Payments/ Amortization	Balance, December 31, 2018	Current Portion	Non-Current Portion
Capital lease payable – 2017	$ 769,848	$ (17,786)	$ (159,145)	$ 592,917	$ 163,600	$ 429,317
Loan payable – 2012	7,462,288	-	(1,147,084)	6,315,204	1,186,595	5,128,609
Revenue bonds payable – 2013	41,715,000	-	(510,000)	41,205,000	520,000	40,685,000
Revenue bonds payable – discount	(110,744)	-	4,301	(106,443)	-	(106,443)
Revenue bonds payable – premium	2,740,553	-	(106,429)	2,634,124	-	2,634,124
Revenue bonds payable, net – 2013	44,344,809	-	(612,128)	43,732,681	520,000	43,212,681
Revenue bonds payable - 2018	-	12,805,000	-	12,805,000	-	12,805,000
Revenue bonds payable - premium	-	1,120,632	(18,522)	1,102,110	-	1,102,110
Revenue bonds payable, net - 2018	-	13,925,632	(18,522)	13,907,110	-	13,907,110
Total long-term debt	$ 52,576,945	$ 13,907,846	$ (1,936,879)	$ 64,547,912	$ 1,870,195	$ 62,677,717

Changes in long-term debt for the year ended December 31, 2017, were as follows:

Long-Term Debt	Balance, January 1, 2017	Additions/ Adjustments	Payments/ Amortization	Balance, December 31, 2017	Current Portion	Non-Current Portion
Capital lease payable – 2013	$ 47,286	$ -	$ (47,286)	$ -	$ -	$ -
Capital lease payable – 2017	-	830,000	(60,152)	769,848	159,145	610,703
Loan payable – 2012	8,577,741	-	(1,115,453)	7,462,288	1,147,084	6,315,204
Revenue bonds payable – 2013	42,210,000	-	(495,000)	41,715,000	510,000	41,205,000
Revenue bonds payable – discount	(115,045)	-	4,301	(110,744)	-	(110,744)
Revenue bonds payable – premium	2,846,982	-	(106,429)	2,740,553	-	2,740,553
Revenue bonds payable, net – 2013	44,941,937	-	(597,128)	44,344,809	510,000	43,834,809
Total long-term debt	$ 53,566,964	$ 830,000	$ (1,820,019)	$ 52,576,945	$ 1,816,229	$ 50,150,013

NOTE 7 – LONG-TERM DEBT (continued)

A. Capital Lease Payable – 2017

On January 18, 2018, the District entered into an $830,000 installment purchase agreement in order to acquire, construct, equip, and furnish certain improvements to its facilities. Capital lease payments consisting of principal and interest in the amount of $89,476.70 are due every six months beginning in July, 2018 until January, 2022 at an annual interest rate of 2.78%.

Annual debt service requirements for the capital lease payable are as follows:

Year	Principal	Interest	Total
2019	$ 163,600	$ 15,354	$ 178,954
2020	168,179	10,774	178,953
2021	172,886	6,067	178,953
2022	88,252	1,225	89,477
Total	592,917	$ 33,420	$ 626,337
Less: current	(163,600)		
Total non-current	$ 429,317		

B. Loan Payable – 2012

In November 2012, the District issued $12,765,208 in a private-placement Loan Payable-2012, with maturities from 2013 through 2023 and an interest rate of 3.10%. The net proceeds of the issuance were used to advance refund (an in-substance defeasance) $12,505,000 of aggregate principal amount of the District's COPs-1998 with an average interest rate of 4.73%.

The initial escrow deposit was used to purchase government sponsored agency obligation securities. These securities were deposited in an irrevocable trust with an escrow agent to provide for all future debt service payments on the COPs-1998.

The advance refunding resulted in a difference between the reacquisition price and the net carrying value amount of the old debt of $846,845. This difference is being amortized through 2023 (the life of the debt) using the straight-line method as a deferred loss on debt defeasance. The District completed the advance refunding to reduce its total debt service payments over the next 11 years by approximately $1.293 million and to obtain an economic gain (the difference between the present values of the old and new debt service payments) of approximately $1.154 million.

Annual debt service requirements for the refunding certificates of participation are as follows:

Year	Principal	Interest	Total
2019	$ 1,186,595	$ 186,646	$ 1,373,241
2020	1,224,583	149,569	1,374,152
2021	1,261,008	111,327	1,372,335
2022	1,300,396	71,933	1,372,329
2023	1,342,622	31,296	1,373,918
Total	6,315,204	$ 550,771	$ 6,865,975
Less: current	(1,186,595)		
Total non-current	$ 5,128,609		

NOTE 7 – LONG-TERM DEBT (continued)

C. Revenue Bonds Payable

Certificates of Participation – 2004
In August 2004, the District issued $38,285,000 of Certificates of Participation-2004 (COPs-2004), with maturities from 2008 through 2034 and an average interest rate of 4.90%. The net proceeds are to be used to finance the acquisition, construction, and improvement of certain water facilities and to pay issuance costs of the debt. Issuance of the COPs-2004 resulted in a premium of $328,767 which was being amortized over the life of the issue using the straight-line method. In 2013, the District advance refunded the remaining $35,560,000 of the COPs-2004 into the revenue bonds payable issuance.

Revenue Bonds Payable – 2013
The Palmdale Water District Public Financing Authority (Authority) issued $44,350,000 in Revenue Bonds Payable-2013 (Bonds-2013) with maturities from 2013 through 2043 with an interest rate range between 2.00% and 5.00% pursuant to an Indenture of Trust, dated as of May 1, 2013, by and between the Authority and The Bank of New York Mellon Trust Company, N.A., as trustee. The Bonds-2013 were issued: (i) to prepay the District's outstanding Certificates of Participation-2004; (ii) to finance certain improvements to the District's Water System; (iii) to purchase a municipal bond insurance policy to guarantee payment of the principal of and interest on the Bonds-2013; (iv) to purchase a municipal bond debt service reserve insurance policy for deposit in the Reserve Fund; and (v) to pay the costs of issuing the Bonds-2013. The refunding resulted in a premium on the issuance of $3,228,354 and a discount of ($130,456) which are being amortized over the remaining debt service years. Principal and interest payments are due in April and October of each year.

The advance refunding resulted in a difference between the reacquisition price and the net carrying value amount of the old debt of $2,278,663. This difference is being amortized through 2043 (the life of the debt) using the straight-line method as a deferred amount on debt defeasance.

Annual debt service requirements for the revenue bonds payable are as follows:

Year	Principal	Interest	Total
2019	$ 520,000	$ 1,825,825	$ 2,345,825
2020	535,000	1,810,225	2,345,225
2021	565,000	1,783,475	2,348,475
2022	595,000	1,755,225	2,350,225
2023	620,000	1,725,475	2,345,475
2024-2028	11,675,000	7,584,725	19,259,725
2029-2033	14,550,000	4,714,600	19,264,600
2034-2038	6,865,000	1,723,950	8,588,950
2039-2043	5,280,000	650,000	5,930,000
Total	41,205,000	$ 23,573,500	$ 64,778,500
Less: current	(520,000)		
Total non-current	$ 40,685,000		

NOTE 7 – LONG-TERM DEBT (continued)

C. Revenue Bonds Payable (continued)

Deferred Amount on Debt Defeasance, Net

Changes in the deferred amount on long-term debt defeasance, net for the year ended December 31, 2018, was as follows:

Description	Balance, January 1, 2018	Additions	Amortization	Balance, December 31, 2018
Deferred amount on debt defeasance, net	$ 2,321,824	$ -	$ (156,692)	$ 2,165,132

Changes in the deferred amount on long-term debt defeasance, net for the year ended December 31, 2017, was as follows:

Description	Balance, January 1, 2017	Additions	Amortization	Balance, December 31, 2017
Deferred amount on debt defeasance, net	$ 2,478,516	$ -	$ (156,692)	$ 2,321,824

Revenue Bonds Payable – 2018

The Palmdale Water District Public Financing Authority (Authority) issued $12,805,000 in Water Revenue Bonds, Series 2018A (2018A Bonds) with maturities from 2022 through 2048 with an interest rate range between 3.125% and 5.00% pursuant to an Indenture of Trust, dated as of June 1, 2018, by and between the Authority and The Bank of New York Mellon Trust Company, N.A., as trustee. The 2018A Bonds are being issued: (i) to finance certain improvements to the District's water system, including Littlerock Dam; (ii) to purchase a municipal bond insurance policy to guarantee payment of the principal of and interest on the 2018A Bonds; (iii) to purchase a municipal bond debt service reserve insurance policy for deposit in the Reserve Fund; and (iv) to pay the costs of issuing the 2018A Bonds. Interest due on the 2018A Bonds is payable semiannually on April 1 and October 1 of each year, commencing October 1, 2018, while principal payments are payable on October 1 of each year, commencing October 1, 2022. The 2018A Bond issuance resulted in a $1,120,632 premium which is being amortized over the remaining debt service years. Cost of the debt issuance was $308,867 which was expensed in the year of issuance.

Annual debt service requirements for the revenue bonds payable are as follows:

Year	Principal	Interest	Total
2019	$ -	$ 568,894	$ 568,894
2020	-	568,893	568,893
2021	-	568,894	568,894
2022	250,000	568,893	818,893
2023	265,000	556,394	821,394
2024-2028	1,525,000	2,583,970	4,108,970
2029-2033	1,940,000	2,162,969	4,102,969
2034-2038	2,350,000	1,751,200	4,101,200
2039-2043	2,865,000	1,236,000	4,101,000
2039-2043	3,610,000	489,875	4,099,875
Total	12,805,000	$ 11,055,982	$ 23,860,982
Less: current	-		
Total non-current	$ 12,805,000		

NOTE 8 – NET OTHER POSTEMPLOYMENT BENEFITS (OPEB) OBLIGATION

Summary

The following balances on the balance sheet will be addressed in this footnote as follows:

Description	2018	2017*
OPEB related deferred outflows	$ 923,382	$ -
Net other post-employment benefits obligation	13,598,136	14,271,430

* The December 31, 2017 net other post-employment benefits balance of $14,271,430 was calculated under GASB Statement No. 45. As the provisions for GASB Statement No. 45 were replaced with GASB Statement No. 75 in the following footnote, the District is not presenting the footnote information regarding the actuarial methods and assumptions used to calculate the December 31, 2017 net other post-employment benefits balance of $14,271,430 in the following footnote. See the District's December 31, 2017 annual financial statement for that information.

Plan Description - Eligibility

The District administers its post-employment benefits plan, a single-employer defined benefit plan (the Plan). The following requirements must be satisfied in order to be eligible for post-employment medical, dental, and vision benefits: (1) Attainment of age 55, and 20 years for full-time service, and (2) retirement from the District (the District must be the last employer prior to retirement).

Plan Description - Benefits

The District offers post-employment medical, dental, and vision benefits to retired employees who satisfy the eligibility rules. Spouses and surviving spouses are also eligible to receive benefits. Retirees may enroll in any plan available through the ACWA-JPIA medical, dental, and vision programs. The contribution requirements of plan members and the District are established and may be amended by the Board of Directors. The following is a description of the current retiree benefit plan:

	Partcipants
Benefit types provided	Medical, dental and vision
Durantion of benefits	Lifetime
Required service	CalPERS Retirement and 20 years service
Minimum age	55 years and CalPERS Retirement from District
Dependent coverage	Spouse and dependent up to cap
District contribution	Maximum up to $1,850 cap
District cap on coverage	$1,850

Employees covered by benefit terms

At December 31, 2018, the following employees were covered by the benefit terms:

Plan Members	Covered Participants
Active members	82
Inactives entitled to but not yet receiving benefits	-
Inactives currently receiving benefits	16
Total plan members	98

NOTE 8 – NET OTHER POSTEMPLOYMENT BENEFITS (OPEB) OBLIGATION (continued)

A. Total OPEB Liability

The District's total OPEB liability of $13,598,136 as of December 31, 2018 was measured as of December 31, 2017 (Measurement Date), and was determined by an actuarial valuation as of that date.

Actuarial assumptions and other inputs

The total OPEB liability in the December 31, 2017 (Measurement Date) actuarial valuation was determined using the following actuarial assumptions and other inputs, applied to all periods included in the measurement, unless otherwise specified:

Discount Rate	3.44%
Inflation	2.75%
Salary Increases	3.0% per annum, in aggregate
Investment Rate of Return	3.44%
Mortality Rate	CalPERS Membership Data
Pre-Retirement Turnover	CalPERS Membership Data
Healthcare Trend Rate	Non-Medicare 7.5% to Medicare 6.5%

Mortality, Retirement & Turnover Assumptions

The mortality assumptions are based on the 1997-2015 Experience Study for CalPERS Active and Retiree Mortality for Miscellaneous and Safety Employees table created by CalPERS.

Discount Rate

The discount rate used to measure the total OPEB liability was 3.44 percent. The projection of cash flows used to determine the discount rate assumed that contributions would be sufficient to fully fund the obligation over a period not to exceed 30 years. The Bond Buyer 20 Bond Index was used.

B. Changes in the Total OPEB Liability

The following table is based on the roll-forward of the December 31, 2017 (measurement Date) actuarial valuation:

	Total OPEB Liability
Balance at January 1, 2018	$ 12,239,902
Changes for the year:	
Service cost	471,435
Interest	475,129
Assumption changes	695,190
Benefit payments	(283,520)
Net changes	1,358,234
Balance at December 31, 2018	$ 13,598,136

NOTE 8 – NET OTHER POSTEMPLOYMENT BENEFITS (OPEB) OBLIGATION (continued)

B. Changes in the Total OPEB Liability (continued)

Sensitivity of the total OPEB liability to changes in the discount rate
The following presents the total OPEB liability of the District, as well as what the District's total OPEB liability would be if it were calculated using a discount rate that is one percentage-point lower or one percentage-point higher than the current discount rate:

1% Decrease 2.44%	Discount Rate 3.44%	1% Increase 4.44%
$ 15,969,365	$ 13,598,136	$ 11,688,801

Sensitivity of the total OPEB liability to changes in the healthcare cost trend rates
The following presents the total OPEB liability of the District, as well as what the District's total OPEB liability would be if it were calculated using healthcare cost trend rates that are one percentage-point lower or one percentage-point higher than the current healthcare cost trend rates:

1% Decrease	Healthcare Cost Current Trend	1% Increase
$ 11,529,398	$ 13,598,136	$ 16,247,589

C. OPEB Expense and Deferred Outflows of Resources and Deferred Inflows of Resources Related to OPEB
For the year ended December 31, 2018, the District recognized OPEB expense/(credit) of $1,025,563.

At December 31, 2018, the District reported $923,382 of deferred outflows/(inflows) of resources for related to the net OPEB obligation as follows:

Description	Deferred Outflows of Resources	Deferred Inflows of Resources
District contributions subsequent to the measurement date of the net OPEB liability	$ 307,191	$ -
Changes in assumptions	616,191	-
Total	$ 923,382	$ -

At December 31, 2018, the District reported $307,191 of deferred outflows of resources for employer contributions made subsequent to the measurement date which will be used to reduce the net OPEB liability balance in the coming year. Amortization of the remaining deferred outflows/(inflows) of resources related to the net OPEB obligation is as follows:

Year Ended June 30:	Amount
2019	$ 78,999
2020	78,999
2021	78,999
2022	78,999
2023	78,999
Thereafter	221,196
Total	$ 616,191

NOTE 9 – PENSION PLAN

Summary

The following balances on the balance sheet will be addressed in this footnote as follows:

Description	2018	2017
Pension related deferred outflows	$ 2,441,587	$ 2,837,150
Net pension liability	9,809,458	10,081,661
Pension related deferred inflows	585,837	493,082

Qualified employees are covered under a multiple-employer defined benefit pension plan maintained by agencies of the State of California known as the California Public Employees' Retirement System (CalPERS), or "The Plan".

The net pension liability balances have a Measurement Date of June 30, 2018 and June 30, 2017, respectively, which are rolled-forward for the District's fiscal years ended December 31, 2018 and December 31, 2017.

Pension Related Debt – CalPERS Side-Fund

As of June 30, 2003, CalPERS implemented risk-pooling for the District's agent multiple-employer public employee defined benefit pension plan. As a result, the District's defined benefit pension plan with CalPERS converted from an agent multiple-employer plan to a cost sharing multiple-employer plan. This change in the type of the plan created the CalPERS Side-Fund, which CalPERS financed at a 7.75% interest rate. CalPERS actuarially calculated the amount needed to bring the District into the cost sharing multiple-employer plan on an equal basis with other governmental agencies that had less than 100 active and retired employees combined. The reason that CalPERS switched these governmental agencies into the cost sharing multiple-employer plan was to smooth the annual costs related to the pension benefit over a longer period of time resulting in a lower cost of service to the governmental agencies.

A portion of the District's annual required contributions to CalPERS are actuarially determined and shared by all governmental agencies within the cost sharing risk pool. Also, the District is required to make annual payments to pay-down the CalPERS Side-Fund, as well. The responsibility for paying-down the District's CalPERS Side-Fund is specific to the District and is not shared by all governmental agencies within the cost sharing risk pool. Therefore, the Side Fund falls under the definition of pension-related debt and recorded as liability on the District's financial statements.

Annual payments on the CalPERS Side-Fund represent principal and interest payments on the pension-related debt. Debt principal and interest expense is blended into the CalPERS pension benefit rate by individual class of District employee and repaid to CalPERS each payroll period throughout the fiscal year.

In the District's June 30, 2017 CalPERS Actuarial Valuation for its multi-agency cost-sharing pension plan, the CalPERS Chief Actuary provided the District with a "Fresh Start", in which, CalPERS combined the District's multiple-year amortization bases for the District's Miscellaneous Classic pension plan into a revised 20-year single-base amortization period. In doing so, CalPERS has combined the District's Pension Related Debt – CalPERS Side-Fund liability into the District's net pension liability for future amortization purposes. Therefore, the District has reclassed the District's Pension Related Debt – CalPERS Side-Fund of $816,046 as of December 31, 2017 into the District's net pension liability for financial reporting purposes as the stand-alone liability has been combined by CalPERS.

NOTE 9 – PENSION PLAN (continued)

A. General Information about the Pension Plan

The Plan

The District has engaged with CalPERS to administer the following pension plans for its employees (members):

	Miscellaneous Plans	
	Classic Tier 1	PEPRA Tier 2
Hire date	Prior to January 1, 2013	On or after January 1, 2013
Benefit formula	2.0% @ 55	2.0% @ 62
Benefit vesting schedule	5-years of service	5-years of service
Benefits payments	monthly for life	monthly for life
Retirement age	50 - 67 & up	52 - 67 & up
Monthly benefits, as a % of eligible compensation	1.426% to 2.418%	1.0% to 2.5%
Required member contribution rates	6.896%	6.250%
Required employer contribution rates – FY 2018	8.921%	6.533%
Required employer contribution rates – FY 2017	8.880%	6.555%

Plan Description, Benefits Provided and Employees Covered

The Plan is a cost-sharing multiple-employer defined benefit pension plan administered by the California Public Employees' Retirement System (CalPERS). The District contributes to the miscellaneous risk pool within the Plan. A full description of the pension plan benefit provisions, assumptions for funding purposes but not accounting purposes, and membership information is listed in the June 30, 2017 Annual Actuarial Valuation Report. This report is a publicly available valuation report that can be obtained at CalPERS website under Forms and Publications.

The California Public Employees' Pension Reform Act (PEPRA), which took effect in January 2013, changes the way CalPERS retirement benefits are applied, and places compensation limits on members. As a result of these changes since PEPRA's adoption in January 2013, the District now has two unique CalPERS plans to which it makes contributions within the miscellaneous risk pool: the "classic" plan, which includes covered employees who have established membership in a CalPERS plan prior to January 2013, as well as the "PEPRA/new" plan, which includes covered employees who have established membership in a CalPERS plan after January 2013. Each plan or membership contains unique benefits levels, which are enumerated in the June 30, 2017 Annual Actuarial Valuation Reports.

At June 30, 2018, the following members were covered by the benefit terms:

	Miscellaneous Plans		
Plan Members	Classic Tier 1	PEPRA Tier 2	Total
Active members	65	17	82
Transferred and terminated members	41	2	43
Retired members and beneficiaries	52	-	52
Total plan members	158	19	177

NOTE 9 – PENSION PLAN (continued)

A. General Information about the Pension Plan (continued)

Plan Description, Benefits Provided and Employees Covered (continued)
At June 30, 2017, the following members were covered by the benefit terms:

	Miscellaneous Plans		
Plan Members	Classic Tier 1	PEPRA Tier 2	Total
Active members	72	12	84
Transferred and terminated members	45	1	46
Retired members and beneficiaries	43	-	43
Total plan members	160	13	173

Contribution Description
Section 20814(c) of the California Public Employees' Retirement Law (PERL) requires that the employer contribution rates for all public employers be determined on an annual basis by the actuary and shall be effective on the July 1 following notice of a change in the rate. The total plan contributions are determined through the CalPERS annual actuarial valuation process. For public agency cost-sharing plans covered by either the Miscellaneous or Safety risk pools, the Plan's actuarially determined rate is based on the estimated amount necessary to pay the Plan's allocated share of the risk pool's costs of benefits earned by employees during the year, and any unfunded accrued liability. The employer is required to contribute the difference between the actuarially determined rate and the contribution rate of employees.

Contributions for the year ended December 31, 2018, (Measurement Date June 30, 2018) were as follows:

Contribution Type		Total
Contributions – employer	$	1,251,195
Contributions – members		450,430
Total contributions	$	1,701,625

Contributions for the year ended December 31, 2017, (Measurement Date June 30, 2017) were as follows:

Contribution Type		Total
Contributions – employer	$	1,026,759
Contributions – members		369,633
Total contributions	$	1,396,392

Employer contributions rates may change if plan contracts are amended. It is the responsibility of the employer to make necessary accounting adjustments to reflect the impact due to any Employer Paid Member Contributions or situations where members are paying a portion of the employer contribution.

For the years ended December 31, 2018 and 2017, the contributions recognized as part of pension expense for the Plan were $1,251,195 and $1,026,759.

NOTE 9 – PENSION PLAN (continued)

B. Pension Liabilities, Pension Expenses, and Deferred Outflows/Inflows of Resources Related to Pensions (continued)

Proportionate Share of Net Pension Liability and Pension Expense
The following table shows the plan's proportionate share of the risk pool collective net pension liability over the measurement period:

Changes in the net pension liability for the year ended December 31, 2018, were as follows:

Plan Type and Balance Descriptions	Plan Total Pension Liability	Plan Fiduciary Net Position	Change in Plan Net Pension Liability
CalPERS – Miscellaneous Plan:			
Balance as of June 30, 2017 (Measurement Date)	$ 39,818,738	$ 29,737,077	$ 10,081,661
Balance as of June 30, 2018 (Measurement Date)	$ 42,065,728	$ 32,256,270	$ 9,809,458
Change in Plan Net Pension Liability	$ 2,246,990	$ 2,519,193	$ (272,203)

Changes in the net pension liability for the year ended December 31, 2017, were as follows:

Plan Type and Balance Descriptions	Plan Total Pension Liability	Plan Fiduciary Net Position	Change in Plan Net Pension Liability
CalPERS – Miscellaneous Plan:			
Balance as of June 30, 2016 (Measurement Date)	$ 35,580,180	$ 26,894,691	$ 8,685,489
Balance as of June 30, 2017 (Measurement Date)	$ 39,818,738	$ 29,737,077	$ 10,081,661
Change in Plan Net Pension Liability	$ 4,238,558	$ 2,842,386	$ 1,396,172

For the year ended December 31, 2018 and 2017 pension expense was $969,297 and $1,828,199, respectively.

The following is the approach established by the plan actuary to allocate the net pension liability and pension expense to the individual employers within the risk pool.

(1) In determining a cost-sharing plan's proportionate share, total amounts of liabilities and assets are first calculated for the risk pool as a whole on the valuation dates (June 30, 2017 and 2016). The risk pool's fiduciary net position ("FNP") subtracted from its total pension liability (TPL) determines the net pension liability (NPL) at the valuation date.

(2) Using standard actuarial roll forward methods, the risk pool TPL is then computed at the measurement date (June 30, 2018 and 2017). Risk pool FNP at the measurement date is then subtracted from this number to compute the NPL for the risk pool at the measurement date. For purposes of FNP in this step and any later reference thereto, the risk pool's FNP at the measurement date denotes the aggregate risk pool's FNP at June 30, 2018 and 2017 less the sum of all additional side fund (or unfunded liability) contributions made by all employers during the measurement period (FY 2017-2018 and FY 2016-2017).

(3) The individual plan's TPL, FNP and NPL are also calculated at the valuation date.

NOTE 9 – PENSION PLAN (continued)

B. Pension Liabilities, Pension Expenses, and Deferred Outflows/Inflows of Resources Related to Pensions (continued)

Proportionate Share of Net Pension Liability and Pension Expense (continued)

(4) Two ratios are created by dividing the plan's individual TPL and FNP as of the valuation date from (3) by the amounts in step (1), the risk pool's total TPL and FNP, respectively.

(5) The plan's TPL as of the Measurement Date is equal to the risk pool TPL generated in (2) multiplied by the TPL ratio generated in (4). The plan's FNP as of the Measurement Date is equal to the FNP generated in (2) multiplied by the FNP ratio generated in (4) plus any additional side fund (or unfunded liability) contributions made by the employer on behalf of the plan during the measurement period.

(6) The plan's NPL at the Measurement Date is the difference between the TPL and FNP calculated in (5).

As of December 31, 2018 and 2017, the District reported a net pension liability for its proportionate share of the net pension liability of the Plan of $9,809,458 and $10,081,661, respectively.

The District's net pension liability for the Plan is measured as the proportionate share of the net pension liability. The net pension liability of the Plan is measured as of December 31, 2017 and 2016, and the total pension liability for the Plan used to calculate the net pension liability was determined by an actuarial valuation as of December 31, 2016 and 2015 rolled forward to December 31, 2017 and 2016 using standard update procedures. The District's proportion of the net pension liability was based on a projection of the District's long-term share of contributions to the pension plan relative to the projected contributions of all participating employers, actuarially determined.

The District's proportionate share of the net pension liability for the June 30, 2018, measurement date was as follows:

	Percentage Share of Risk Pool		
	Fiscal Year Ending December 31, 2018	Fiscal Year Ending December 31, 2017	Change Increase/ (Decrease)
Measurement Date	June 30, 2018	June 30, 2017	
Percentage of Risk Pool Net Pension Liability	0.26029%	0.25575%	0.00454%
Percentage of Plan (PERF C) Net Pension Liability	0.10180%	0.10166%	0.00014%

The District's proportionate share of the net pension liability for the June 30, 2017, measurement date was as follows:

	Percentage Share of Risk Pool		
	Fiscal Year Ending December 31, 2017	Fiscal Year Ending December 31, 2016	Change Increase/ (Decrease)
Measurement Date	June 30, 2017	June 30, 2016	
Percentage of Risk Pool Net Pension Liability	0.25575%	0.25002%	0.00573%
Percentage of Plan (PERF C) Net Pension Liability	0.10166%	0.10037%	0.00128%

NOTE 9 – PENSION PLAN (continued)

B. Pension Liabilities, Pension Expenses, and Deferred Outflows/Inflows of Resources Related to Pensions (continued)

The total amount of $700,625 reported as deferred outflows of resources related to contributions subsequent to the measurement date will be recognized as a reduction of the net pension liability in the year ended December 31, 2018. At December 31, 2018, the District reported deferred outflows of resources and deferred inflows of resources related to pensions from the following sources:

Account Description	Deferred Outflows of Resources	Deferred (Inflows) of Resources
Pension contributions made after the measurement date	$ 700,625	$ -
Difference between actual and proportionate share of employer contributions	-	(183,684)
Adjustment due to differences in proportions	197,788	-
Differences between expected and actual experience	376,372	(128,077)
Differences between projected and actual earnings on pension plan investments	48,495	-
Changes in assumptions	1,118,307	(274,076)
Total Deferred Outflows/(Inflows) of Resources	$ 2,441,587	$ (585,837)

The total amount of $502,091 reported as deferred outflows of resources related to contributions subsequent to the measurement date was recognized as a reduction of the net pension liability in the year ended December 31, 2018. At December 31, 2017, the District reported deferred outflows of resources and deferred inflows of resources related to pensions from the following sources:

Account Description	Deferred Outflows of Resources	Deferred (Inflows) of Resources
Pension contributions made after the measurement date	$ 502,091	$ -
Difference between actual and proportionate share of employer contributions	-	(174,531)
Adjustment due to differences in proportions	284,344	-
Differences between expected and actual experience	13,391	(191,856)
Differences between projected and actual earnings on pension plan investments	375,774	-
Changes in assumptions	1,661,550	(126,695)
Total Deferred Outflows/(Inflows) of Resources	$ 2,837,150	$ (493,082)

NOTE 9 – PENSION PLAN (continued)

B. Pension Liabilities, Pension Expenses, and Deferred Outflows/Inflows of Resources Related to Pensions (continued)

Other remaining amounts reported as deferred outflows of resources and deferred inflows of resources related to pensions for the year ended December 31, 2018, will be amortized to pension expense in future periods as follows:

Amortization Period Fiscal Year Ended December 31	Deferred Outflows/(Inflows) of Resources
2019	$ 987,521
2020	568,084
2021	(312,250)
2022	(88,230)
2023	-
Total	$ 1,155,125

Other remaining amounts reported as deferred outflows of resources and deferred inflows of resources related to pensions for the year ended December 31, 2017, will be amortized to pension expense in future periods as follows:

Amortization Period Fiscal Year Ended December 31	Deferred Outflows/(Inflows) of Resources
2018	$ 435,685
2019	1,012,387
2020	617,008
2021	(223,103)
2022	-
Total	$ 1,841,977

Actuarial Methods and Assumptions Used to Determine Total Pension Liability
For the measurement period ending June 30, 2018 and 2017 (the measurement date), the total pension liability was determined by rolling forward the June 30, 2017 and 2016, total pension liability. The December 31, 2018 and 2017, total pension liability was based on the following actuarial methods and assumptions:

Actuarial Cost Method	Entry age normal
Actuarial Assumptions:	
Discount Rate	7.15%
Inflation	2.75%
Salary Increases	Varies by Entry Age and Service
Mortality Rate Table	Derived using CalPERS' Membership Data
Post Retirement Benefit Increase	Contract COLA up to 2.75% until Purchasing Power Protection Allowance Floor on Purchasing Power applies, 2.75% thereafter

NOTE 9 – PENSION PLAN (continued)

B. Pension Liabilities, Pension Expenses, and Deferred Outflows/Inflows of Resources Related to Pensions (continued)

Discount Rate

The discount rate used to measure the total pension liability for PERF B was 7.65%. A projection of expected benefit payments and contributions was performed to determine if the assets would run out. The test revealed the assets would not run out. Therefore, the long-term expected rate of return on pension plan investments was applied to all periods of projected benefit payments to determine the total pension liability for PERF B. The results of the crossover testing for the Plan are presented in a detailed report that can be obtained on CalPERS' website.

The long-term expected rate of return on pension plan investments was determined using a building-block method in which best estimate ranges of expected future real rates of return (expected returns, net of pension plan investment expense and inflation) are developed for each major asset class.

The table below reflects long-term expected real rate of return by asset class. The rate of return was calculated using the capital market assumptions applied to determine the discount rate and asset allocation. These geometric rates of return are net of administrative expenses.

Investment Type	Assumed Allocation	Real Return Years 1 - 10[1]	Real Return Years 11+[2]
Global Equity	50%	4.80%	5.98%
Global Fixed Income	28%	1.00%	2.62%
Inflation Assets	0%	0.77%	1.81%
Private Equity	8%	6.30%	7.23%
Real Assets	13%	3.75%	4.93%
Liquidity	1%	0.00%	-0.92%
	100%		

[1] An expected inflation rate-of-return of 2.5% is used for years 1-10.
[2] An expected inflation rate-of-return of 3.0% is used for years 11+.

NOTE 9 – PENSION PLAN (continued)

B. Pension Liabilities, Pension Expenses, and Deferred Outflows/Inflows of Resources Related to Pensions (continued)

Sensitivity of the Net Pension Liability to Changes in the Discount Rate

The following presents the net pension liability/(asset) of the Plan as of the measurement date, calculated using the discount rate of 7.15%, as well as what the net pension liability/(asset) would be if it were calculated using a discount rate that is 1 percentage-point lower (6.15%) or 1 percentage-point higher (8.15%) than the current rate:

Changes in the discount rate for the year ended June 30, 2018, was as follows:

	Plan's Net Pension Liability/(Asset)		
Plan Type	Discount Rate - 1% 6.15%	Current Discount Rate 7.15%	Discount Rate + 1% 8.15%
CalPERS – Miscellaneous Plan	$ 15,499,739	$ 9,809,458	$ 5,112,225

Changes in the discount rate for the year ended June 30, 2017, was as follows:

	Plan's Net Pension Liability/(Asset)		
Plan Type	Discount Rate - 1% 6.15%	Current Discount Rate 7.15%	Discount Rate + 1% 8.15%
CalPERS – Miscellaneous Plan	$ 15,558,604	$ 10,081,661	$ 5,545,557

Pension Plan Fiduciary Net Position

Detailed information about the pension plan's fiduciary net position is available in the separately issued CalPERS financial report and can be obtained from CalPERS' website under Forms and Publications.

C. Payable to the Pension Plans

At December 31, 2018 and 2017, the District reported no payables for outstanding contributions to the CalPERS pension plan required for the year ended December 31, 2018 and 2017.

NOTE 10 – UNRESTRICTED (DEFICIT) NET POSITION

As of December 31, 2018 and 2017, the District has an unrestricted net position deficit of ($11,049,387) and ($9,941,467). Due to the nature of the deficit from the implementation of GASB Statements No. 68 & 75 in the past fiscal years, the District will continue to make its actuarial determined contributions to CalPERS and annually review its outstanding net pension and net OPEB obligations funding requirements for future periods to reduce its deficit position.

NOTE 11 – PRIOR PERIOD ADJUSTMENT

The District's beginning net position has been restated by $2,315,048 for the implementation of GASB Statement No. 75 as follows:

Description	Balance
Net position as of January 1, 2018 – as previously reported	$ 94,917,603
GASB Statement No. 75 restatement for:	
Net other post-employment benefits obligation	2,315,048
Net position as of January 1, 2018 – as restated	$ 97,232,651

NOTE 12 – RISK MANAGEMENT

The District is exposed to various risks of loss related to torts; theft of, damage to, and destruction of assets; errors and omissions; injuries to employees; and natural disasters. The District is a member of the Association of California Water Agencies/Joint Powers Insurance Authority (ACWA/JPIA), an intergovernmental risk sharing joint powers authority created to provide self-insurance programs for California water agencies. The purpose of the ACWA/JPIA is to arrange and administer programs of self-insured losses and to purchase the appropriate amount of insurance coverage. At December 31, 2018 and 2017, the District participated in the self-insured liability, property, and worker's compensation insurance programs provided by ACWA/JPIA through AON Risk Insurance Services West, Inc. as follows:

General and Auto Liability
Each member limits of $60 million per occurrence for auto and general liability coverage. The program protects the member agencies against third-party claims for bodily injury and property damage. The following coverages are also included:

- Personal Injury
- Errors and Omissions
- Products Hazard
- Inverse Condemnation
- Employment Practices
- Broadened Pollution
- Failure to Supply Water
- Care, Custody, & Control

Property
Each member Special Form Property Coverage including coverage for buildings, personal property, fixed equipment, mobile equipment, and licensed vehicles. Member agencies have various deductible selections. Boiler and Machinery Coverage is also included.

NOTE 12 – RISK MANAGEMENT (continued)

The following is an overview of the program:

- Real Property, Fixed Equipment, Personal Property at replacement cost
- Crime Coverage – up to $100,000 Public Employee Dishonesty and Computer Fraud
- Terrorism Coverage – up to $100 million per occurrence for property damage caused by an act declared to involve terrorism
- $10 million Accounts Receivables for the amount of accounts uncollectible due to a covered loss
- $100,000 Catastrophic coverage for vehicles

Workers' Compensation
Each member is covered for bodily injury by accident, $2 million each accident, or bodily injury by disease, $2 million each employee, including death, of employee arising out of and in the course of employment.

In addition, the District since August 2014 continued a separate policy with underwriters at Landmark American Insurance Company for commercial earthquake/business income interruption insurance. This insurance was purchased to safeguard the District in case of a major earthquake until disaster relief funds are made available by state and federal agencies. This policy has provisions as follows:

- The loss limit is $9,284,980 per occurrence and in the annual aggregate.
- Deductible is 5% of values per unit of insurance subject to $25,000 minimum per occurrence.
- Coverage for 2029 East Avenue Q location is $2.891 million building limit and $393,120 contents, including $6 million business income.

Settled claims have not exceeded any of the coverage amounts in any of the last three fiscal years and there were no reductions in the District's insurance coverage during the years ending December 31, 2018, 2017, and 2016. Liabilities are recorded when it is probable that a loss has been incurred and the amount of the loss can be reasonably estimated net of the respective insurance coverage. Liabilities include an amount for claims that have been incurred but not reported (IBNR). There were no IBNR claims payable as of December 31, 2018, 2017, and 2016.

NOTE 13 – DEFERRED COMPENSATION SAVINGS PLAN

For the benefit of its employees, the District participates in a 457 Deferred Compensation Program. The purpose of this Program is to provide deferred compensation for public employees that elect to participate in the Program. Generally, eligible employees may defer receipt of a portion of their salary until termination, retirement, death, or unforeseeable emergency. Until the funds are paid or otherwise made available to the employee, the employee is not obligated to report the deferred salary for income tax purposes.

Federal law requires deferred compensation assets to be held in trust for the exclusive benefit of the participants. Accordingly, the District is in compliance with this legislation. Therefore, these assets are not the legal property of the District, and are not subject to claims of the District's general creditors.

The District has implemented GASB Statement No. 32, *Accounting and Financial Reporting for Internal Revenue Code Section 457 Deferred Compensation Plans.* Since the District has little administrative involvement and does not perform the investing function for this plan, the assets and related liabilities are not shown on the accompanying financial statements.

NOTE 14 – COMMITMENTS AND CONTINGENCIES

State Water Contract

Estimates of the District's share of the project fixed costs of the State Water Project (SWP) are provided annually by the State. The estimates are subject to future increases or decreases resulting from changes in planned facilities, refinements in cost estimates, and inflation. During the next five years, payments under the State Water Contract, exclusive of variable power costs, are currently estimated by the State to be as follows:

Fiscal Year	Amount
2019	$6,600,773
2020	6,356,131
2021	6,331,737
2022	6,766,529
2023	6,842,821

As of December 31, 2018, the District has expended approximately $114,100,340 since the District started participating in the State Water Contract.

According to the State's latest estimates, the District's long-term obligations under the contract, for capital and minimum operations and maintenance costs, including interest to the year 2035, are as follows:

Type of Long-Term Obligation	Amount
State Water Project Contract:	
Transportation facilities	$83,865,201
Delta water charges	25,373,877
Off-aqueduct power facilities	78,348
Revenue bond surcharge	6,244,451
Total	$115,561,877

Bay/Delta Regulatory and Planning Activities

The State Water Resources Control Board (State Board) is the agency responsible for setting water quality standards and administering water rights throughout California. Decisions of the State Board can affect the availability of water to the District and other water users by means of public proceedings leading to regulations and decisions. In 1995, the State Board adopted a Water Quality Control Plan establishing water quality standards and flow improvements in the Bay/Delta watershed. In August 2000, the California Federal (CALFED) Bay/Delta Program Record of Decision (the Decision) was approved with mandates to improve water quality, enhance water supply reliability, augment ecosystem restoration, and assure long-term protection for Delta levees. During its first three years, CALFED has invested more than $2.0 billion in hundreds of local and regional projects to meet these program goals. In May 2004, a Delta Improvement Package was proposed to facilitate implementation of the Decision. Funding is expected to be provided by state and federal appropriations and contributions from local users, including the District. CALFED's objective is to allocate project costs based on beneficiaries pay policy, that is new costs commensurate with benefits received. At this time, the exact allocation of costs between the federal, state, and local users has not been determined, and therefore, the District cannot estimate the extent of timing of its contributions at this time.

NOTE 14 – COMMITMENTS AND CONTINGENCIES (continued)

Construction Contracts
The District has a variety of agreements with private parties relating to the installation, improvement, or modification of water facilities and distribution systems within its service area. The financing of such construction contracts is being provided primarily from the District's replacement reserves and advances for construction.

The District has committed to approximately $10,100,562 to complete the open construction contracts as of December 31, 2018. These include the following:

Project Description	Cost of Project to Date	Estimated Costs to Complete	Total Expected Project Cost
Sediment removal – Littlerock Dam	$3,026,034	$1,002,699	$ 4,028,733
Grade control structure – Littlerock Dam	1,726,769	7,774,039	9,500,808
Littlerock Creek Groundwater Recharge Project	3,636,800	230,600	3,867,400
Upper Armagosa Creek project	156,776	1,093,224	1,250,000
Total	$ 8,546,379	$ 10,100,562	$ 18,646,941

Other Litigation
In the ordinary course of operations, the District is subject to claims and litigation from outside parties. Nevertheless, after consultation with legal counsel, the District believes that these actions, when finally concluded and determined are not likely to have a material adverse effect on the District's financial position, results of operations, or cash flows.

Required Supplementary Information

PALMDALE WATER DISTRICT

Schedule of Proportionate Share of the Net Pension Liability
For the Year Ended December 31, 2018 and 2017

Last Ten Fiscal Years*

California Public Employees' Retirement System (CalPERS) Miscellaneous Plan

Measurement Date:	**June 30, 2018**	**June 30, 2017**	**June 30, 2016**	**June 30, 2015**
District's proportion of the net pension liability	0.10180%	0.10166%	0.10037%	0.09802%
District's proportionate share of the net pension liability	$ 9,809,458	$ 10,081,661	$ 8,685,489	$ 6,727,907
District's covered-employee payroll	$ 6,735,592	$ 6,482,822	$ 6,778,010	$ 6,377,315
District's proportionate share of the net pension liability as a percentage of covered-employee payroll	145.64%	155.51%	128.14%	105.50%
Plan's fiduciary net position as a percentage of the plan's total pension liability	75.26%	73.31%	74.06%	78.40%

** This schedule is required to show information for ten years; however, until a full ten year trend is compiled, information is presented for those years for which information is available.*

PALMDALE WATER DISTRICT
Schedule of Pension Contributions
For the Year Ended December 31, 2018 and 2017

Last Ten Fiscal Years*

California Public Employees' Retirement System (CalPERS) Miscellaneous Plan

Contributions for the years ending	**2018**	**2017**	**2016**	**2015**	**2014**
Actuarially required contribution	1,251,195	1,026,759	$ 914,747	$ 819,205	$ 805,370
Contributions in relation to the contractually required contribution	(1,251,195)	(1,026,759)	(914,747)	(819,205)	(805,370)
Contribution deficiency (excess)	$ -	$ -	$ -	$ -	$ -
District's Covered-Employee Payroll	6,735,592	6,482,822	$ 6,589,909	$ 6,497,710	$ 5,907,552
Contributions as a Percentage of Covered-Employee Payroll	18.58%	15.84%	13.88%	12.610%	13.630%

** This schedule is required to show information for ten years; however, until a full ten year trend is compiled, information is presented for those years for which information is available.*

[1] Employers are assumed to make contributions equal to the actuarially determined contributions. However, some employers may choose to make additional contributions towards their side-fund or their unfunded liability. Employer contributions for such plan exceed the actuarial determined contributions. CalPERS has determined that employer obligations referred to as *side-funds* are not considered separately financed specific liabilities.

[2] Covered-Employee Payroll represented above is based on pensionable earnings provided by the employer. However, GASB No. 68 defines covered-employee payroll as the total payroll of employees that are provided pensions through the pension plan. Accordingly, if pensionable earnings are different than total earnings for covered-employees, the employer should display in the disclosure footnotes the payroll based on total earnings for the covered group and recalculate the required payroll-related ratios.

Notes to the Schedule:

Change in Benefit Terms: The figures above do not include any liability impact that may have resulted from plan changes which occurred after June 30, 2013 as they have minimal cost impact. This applies for voluntary benefit changes as well as any offers of Two Years Additional Service Credit (a.k.a. Golden Handshakes)

PALMDALE WATER DISTRICT

Schedule of Changes in the District's Total OPEB Liability and Related Ratios
For the Year Ended December 31, 2018 and 2017

Last Ten Fiscal Years*

	2018
Total OPEB liability	
Service cost	$ 471,435
Interest	475,129
Assumptions changes	695,190
Benefit payments	(283,520)
Net change in total OPEB liability	1,358,234
Total OPEB liability - beginning	12,239,902
Total OPEB liability - ending	$ 13,598,136
Covered-employee payroll	$ 7,459,193
Total OPEB liability as a percentage of covered-employee payroll	182.30%

Notes to Schedule:
** This schedule is required to show information for ten years; however, until a full ten year trend is compiled, information is presented for those years for which information is available.*

PALMDALE WATER DISTRICT
Schedule of OPEB Contributions
For the Year Ended December 31, 2018 and 2017

Last Ten Fiscal Years*

Measurement Date:	**2018**
Actuarially Determined Contribution	$ 283,520
Actual Employer Contribution	(283,520)
Contribution Deficiency (Excess)	$ -
District's covered-employee payroll	$ 7,459,193
Contributions as a percentage of covered payroll	3.80%

** This schedule is required to show information for ten years; however, until a full ten year trend is compiled, information is presented for those years for which information is available.*

NOTE 1 – PURPOSE OF SCHEDULES

Schedule of Proportionate Share of the Net Pension Liability
This schedule is required by GASB Statement No. 68 and is required for all employers in a cost-sharing pension plan. The schedule reports the following information:

- The proportion (percentage) of the collective net pension liability (similar to the note disclosure)
- The proportionate share (amount) of the collective net pension liability
- The employer's covered-employee payroll
- The proportionate share (amount) of the collective net pension liability as a percentage of the employer's covered-employee payroll
- The pension plan's fiduciary net position as a percentage of the total pension liability

Schedule of Pension Contributions
This schedule is required by GASB Statement No. 68 and is required for all employers in a cost-sharing pension plan. The schedule reports the following information:

- If an employer's contributions to the plan are actuarially determined or based on statutory or contractual requirements: the employer's actuarially determined contribution to the pension plan (or, if applicable, its statutorily or contractually required contribution), the employer's actual contributions, the difference between the actual and actuarially determined contributions (or statutorily or contractually required), and a ratio of the actual contributions divided by covered-employee payroll.

Schedule of Changes in the District's Total OPEB Liability and Related Ratios
This schedule is required by GASB Statement No. 75 and is required for all employers in a cost-sharing OPEB plan. The schedule reports the following information:

- The employer's proportion (percentage) of the collective net OPEB liability
- The employer's proportionate share (amount) of the collective net OPEB liability
- The employer's covered-employee payroll
- The employer's proportionate share (amount) of the collective net OPEB liability as a percentage of the employer's covered-employee payroll
- The OPEB plan's fiduciary net position as a percentage of the total OPEB liability.

Schedule of OPEB Contributions
This schedule is required by GASB Statement No. 75 and is required for all employers in a cost-sharing OPEB plan. If the contribution requirements of the employer are statutorily or contractually established then the schedule reports the following information:

- The statutorily or contractually required employer contribution. For purposes of this schedule, statutorily or contractually required contributions should exclude amounts, if any, associated with payables to the OPEB plan that arose in a prior fiscal year and those associated with separately financed specific liabilities of the individual employer to the OPEB plan.
- The amount of contributions recognized by the OPEB plan in relation to the statutorily or contractually required employer contribution. For purposes of this schedule, contributions should exclude amounts resulting from contributions recognized by the OPEB plan as noncurrent receivables.
- The difference between the statutorily or contractually required employer contribution and the amount of contributions recognized by the OPEB plan in relation to the statutorily or contractually required employer contribution.
- The employer's covered-employee payroll.
- The amount of contributions recognized by the OPEB plan in relation to the statutorily or contractually required employer contribution as a percentage of the employer's covered-employee payroll.

Supplementary Information

PALMDALE WATER DISTRICT
Schedules of Debt Service Net Revenues Coverage
For the Year Ended December 31, 2018 and 2017

Total revenues:	**2018**	**2017**
Operating revenues	$ 24,884,078	$ 23,693,095
Non-operating revenues	8,483,651	7,971,368
Capital contributions – capital improvement fees and grants	154,613	1,132,074
Total revenues	33,522,342	32,796,537
Total expenses:		
Operating expenses before depreciation expense	24,435,835	23,053,505
Non-operating expenses	5,361,162	4,776,116
Less debt service items:		
Interest expense – long-term debt	(2,405,894)	(2,175,260)
Total non-operating expenses adjusted for debt service items	2,955,268	2,600,856
	27,391,103	25,654,361
Net revenues available for debt service	$ 6,131,239	$ 7,142,176
Debt service for the fiscal year	$ 3,970,002	$ 3,650,523
Debt service net revenues coverage ratio	154%	196%

Other Independent Auditors' Report

INDEPENDENT AUDITORS' REPORT ON INTERNAL CONTROL OVER FINANCIAL REPORTING AND ON COMPLIANCE AND OTHER MATTERS BASED ON AN AUDIT OF FINANCIAL STATEMENTS PERFORMED IN ACCORDANCE WITH *GOVERNMENT AUDITING STANDARDS*

Board of Directors
Palmdale Water District
Palmdale, California

We have audited, in accordance with the auditing standards generally accepted in the United States of America and the standards applicable to financial audits contained in *Government Auditing Standards* issued by the Comptroller General of the United States, the financial statements of Palmdale Water District as of and for the year ended December 31, 2018, and the related notes to the financial statements, which collectively comprise Palmdale Water District's basic financial statements, and have issued our report thereon dated June 27, 2019.

Internal Control Over Financial Reporting
In planning and performing our audit of the financial statements, we considered Palmdale Water District's internal control over financial reporting (internal control) to determine the audit procedures that are appropriate in the circumstances for the purpose of expressing our opinions on the financial statements, but not for the purpose of expressing an opinion on the effectiveness of the Palmdale Water District's internal control. Accordingly, we do not express an opinion on the effectiveness of the Palmdale Water District's internal control.

A *deficiency in internal control* exists when the design or operation of a control does not allow management or employees, in the normal course of performing their assigned functions, to prevent, or detect and correct misstatements on a timely basis. A *material weakness* is a deficiency, or a combination of deficiencies, in internal control such that there is a reasonable possibility that a material misstatement of the District's financial statements will not be prevented, or detected and corrected on a timely basis. A *significant deficiency* is a deficiency, or a combination of deficiencies, in internal control that is less severe than a material weakness, yet important enough to merit attention by those charged with governance.

Our consideration of internal control was for the limited purpose described in the first paragraph of this section and was not designed to identify all deficiencies in internal control that might be material weaknesses or significant deficiencies. Given these limitations, during our audit we did not identify any deficiencies in internal control that we consider to be material weaknesses. However, material weaknesses may exist that have not been identified.

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Compliance and Other Matters

As part of obtaining reasonable assurance about whether Palmdale Water District's financial statements are free of material misstatement, we performed tests of its compliance with certain provisions of laws, regulations, contracts, and grant agreements, noncompliance with which could have a direct and material effect on the determination of financial statement amounts. However, providing an opinion on compliance with those provisions was not an objective of our audit, and accordingly, we do not express such an opinion. The results of our tests disclosed no instances of noncompliance or other matters that are required to be reported under *Government Auditing Standards*.

Purpose of this Report

The purpose of this report is solely to describe the scope of our testing of internal control and compliance and the results of that testing, and not to provide an opinion on the effectiveness of the District's internal control or on compliance. This report is an integral part of an audit performed in accordance with *Government Auditing Standards* in considering the District's internal control and compliance. Accordingly, this communication is not suitable for any other purpose.

Nigro & Nigro, PC

Murrieta, California
June 27, 2019

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 17, 2019	**July 22, 2019**
TO:	Board of Directors	**Board Meeting**
FROM:	Jennifer Emery, Human Resources Director	
VIA:	Mr. Dennis D. LaMoreaux, General Manager	
RE:	***AGENDA ITEM NO. 7.4 – CONSIDERATION AND POSSIBLE ACTION ON ADOPTION OF RESOLUTION NO. 19-11 BEING A RESOLUTION OF THE BOARD OF DIRECTORS OF THE PALMDALE WATER DISTRICT DESIGNATING THE SUBRECIPIENT'S AGENT FOR THE HAZARD MITIGATION GRANT PROGRAM AND PRE-DISASTER MITIGATION PROGRAM. (HUMAN RESOURCES DIRECTOR EMERY – NO BUDGET IMPACT)***	

Recommendation:
Staff recommends that the Board approve Resolution No. 19-11 for the Hazard Mitigation Grant Program.

Alternative Options:
The alternative is to either not have a Hazard Mitigation Program or to pay for the program without applying for a grant.

Impact of Taking No Action:
The impact of not signing the Resolution is that the District will not be eligible for grant funds to update our mitigation plan. Without an approved mitigation plan, the District would be unable to apply for mitigation grants which come available from time to time as funding is made available by FEMA.

Background:
The District had a Hazard Mitigation Plan approved in 2010, but this plan has expired. Hazard Mitigation Plans expire every five years. The District would utilize the grant money to hire a consultant to assist with the process. The District is required to contribute 25% matching funds which can consist of staff labor.

Strategic Plan Initiative/Mission Statement:

This work is part of Strategic Plan Initiative No. 2 – Organizational Excellence.
This item directly relates to the District's Mission Statement.

Budget:
Any awarded grant and matching requirements would fall within the 2020 budget.

Supporting Documents:

- Resolution No. 19-11 for the Hazard Mitigation Grant Program

Resolution No. 19-11

STATE OF CALIFORNIA
CALIFORNIA GOVERNOR'S OFFICE OF EMERGENCY SERVICES
CAL OES 130

Cal OES ID No: _____

DESIGNATION OF SUBRECIPIENT'S AGENT RESOLUTION
Hazard Mitigation Grant Program and Pre-Disaster Mitigation Program

BE IT RESOLVED BY THE Board of Directors (Governing Body) OF THE Palmdale Water District (Name of Applicant)

THAT Human Resources Director (Title of Authorized Agent), OR

CFO/Finance Manager (Title of Authorized Agent), OR

Assistant General Manager (Title of Authorized Agent)

is hereby authorized to execute for and on behalf of the Palmdale Water District (Name of Subrecipient), a public entity established under the laws of the State of California, this application and to file it with the California Governor's Office of Emergency Service. for the purpose of obtaining certain federal financial assistance under Public Law 93-288 as amended by the Robert T. Stafford Disaster Relief and Emergency Assistance Act of 1988, and/or state financial assistance under the California Disaster Assistance Act.

THAT the Palmdale Water District (Name of Subrecipient), a public entity established under the laws of the State of California, hereby authorizes its agent(s) to provide to the California Governor's Office of Emergency Service for all matters pertaining to such state disaster assistance the assurances and agreements required.

Please check the appropriate box below:

☐ This is a universal resolution and is effective for all open and futures Disasters/Grants up to three (3) years following the date of approval below.

☑ This is a Disaster/Grant specific resolution and is effective for only Disaster/Grant name/number(s) DR-4077

Passed and approved this 22 day of July, 20 19

Vincent Dino, President, Board of Directors
(Name and Title of Governing Body Representative)

Kathy Mac Laren, Vice President, Board of Directors
(Name and Title of Governing Body Representative)

Don Wilson, Secretary, Board of Directors
(Name and Title of Governing Body Representative)

CERTIFICATION

I, Don Wilson (Name), duly appointed and Board Secretary (Title) of

Palmdale Water District (Name of Applicant), do hereby certify that the above is a true and correct copy of a

Resolution passed and approved by the Board of Directors (Governing Body) of the Palmdale Water District (Name of Applicant)

on the 22nd day of July, 20 19

_____ (Signature)

Secretary, Board of Directors (Title)

AGENDA ITEM NO. 7.5

Hotel and Travel Accommodations

Event Name/Date:

Women in Water Inland Empire Breakfast/July 24, 2019

CONTACT INFORMATION

First Name | Last Name | Date

ACCOMMODATION INFORMATION

Rooms and rates are subject to availability. Complete and submit this form as soon as possible to guarantee a room at the host hotel. In the event that the host hotel is booked, every effort will be made to secure a room at the closet hotel within comparable rates to the event discounted rate.

Arrival Date | Departure Date | No. of guests | Room Type

Do you require a smoking room?

○ Yes ○ No

Do you need transportation from the airport to the hotel?

○ Yes ○ No

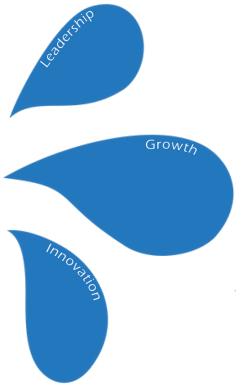
Flight Number | Time

ADDITIONAL INFORMATION/REQUESTS

Staff Representative

YOU ARE INVITED TO

WOMEN IN WATER



INLAND EMPIRE

BREAKFAST

JULY 24.2019

8 A.M. FRONTIER PROJECT
10435 ASHFORD STREET
RANCHO CUCAMONGA, CA 91730

Join us as Acquanetta Warren, Mayor of the City of Fontana, shares her story about her journey from colleague to dignitary.

Please RSVP to Cindy Cisneros at cindyc@cvwdwater.com

Women in Water-IE is a dynamic collaboration of professional women dedicated to the stewardship of water within our Inland Empire communities through leadership, growth and innovation.

Hotel and Travel
Accommodations

Event Name/Date:

34th Annual WateReuse Symposium/September 8 - 11, 2019

CONTACT INFORMATION

First Name | Last Name | Date

ACCOMMODATION INFORMATION

Rooms and rates are subject to availability. Complete and submit this form as soon as possible to guarantee a room at the host hotel. In the event that the host hotel is booked, every effort will be made to secure a room at the closet hotel within comparable rates to the event discounted rate.

Arrival Date | Departure Date | No. of guests | Room Type

Do you require a smoking room?

○ Yes ○ No

Do you need transportation from the airport to the hotel?

○ Yes ○ No

Flight Number | Time

ADDITIONAL INFORMATION/REQUESTS

Staff Representative

34th Annual WateReuse Symposium

When: September 8, 2019 @ 8:00 am – September 11, 2019 @ 12:00 pm
Where: Marriott Marquis San Diego Marina, San Diego

The **34th Annual WateReuse Symposium** is your one stop for all things water reuse. Whether you are new to reuse or an experienced veteran, a robust collection of concurrent sessions covering key policy, technology, operational, and research issues allows you to customize a unique Symposium experience. Plenary sessions explore the broader policy and planning issues that will shape the future.

This year's theme is "Collaborate to Innovate." We will showcase recycled water collaborations among utilities, farmers, and industry; regulators working together at both the state and federal level; sustainability; public/private partnerships; and, for the first time, the latest in reuse research led by the **Water Research Foundation**. The Annual WateReuse Symposium is the nation's premier conference on water recycling – attracting water professionals from around the nation for knowledge-sharing, networking, and fun!


Peter Annin

Keynote: From Water Diversion to Water Reuse: Tackling Scarcity in the 21st Century

Join us on Monday, September 9 at 8 a.m. for the Opening General Session featuring a keynote presentation by Peter Annin. Peter is the director of the Mary Griggs Burke Center for Freshwater Innovation and the author of *The Great Lakes Water Wars*, the definitive work on the Great Lakes water diversion controversy. Before coming to Northland College in 2015, Peter served as a reporter at Newsweek, the associate director of the Institute for Journalism and Natural Resources, and the managing director of the University of Notre Dame's Environmental Change Initiative.

 Dave Ross

National Water Reuse Action Plan Rollout

EPA is coordinating with the water sector and other federal agencies to facilitate the development of a **National Water Reuse Action Plan** to ensure the effective use of the nation's water. A draft plan will be released for public review during the 34th Annual WateReuse Symposium. EPA Assistant Administrator for the Office of Water, Dave Ross, will join us during Tuesday's luncheon to discuss.

Registration

Register for the 34th Annual WateReuse Symposium by **June 21, 2019** to take advantage of the Early Bird Registration discounts. Online registration closes August 23, 2019. If you have registration questions, please contact **Alicia Rutherford**.

Registration Rates

	Early Bird Ends June 21	**Regular** Ends August 23	**Onsite**
Utility/Regulatory Agency/Nonprofit			
Member (requires login)	$700	$775	$870
Non-Member	$775	$850	$945
Speaker	$575	$650	$745
One Day Only	$450	$450	$545
Business			
Member (requires login)	$825	$900	$995
Non-Member	$925	$1,000	$1,095
Speaker	$700	$775	$870
One Day Only	$500	$500	$595
Students (student ID required)			
Full Conference	$150	$200	$250
One Day Only	$85	$85	$100

Member Discounts

Login to the WateReuse website is required for member discounts. Member discounts are available to all employees of member organizations. To check to see if your agency or company is a member, **click here**. If you don't have a username and password, you may **create an account**. For questions about **membership** or for login assistance, please email membership@watereuse.org.

Pay by Check

To pay by check or submit a purchase order, please complete the **online registration form** and mail payment to WateReuse Association, 1199 North Fairfax Street, Suite 900, Alexandria, VA 22314. Payment must be received by August 23, 2019.

Cancellation and Transfer Policy

All cancellation and transfer requests must be submitted in writing by August 23, 2019. A $75 administrative fee will be deducted from refunds on cancellations. There is no fee to transfer a registration prior to August 23, 2019. Refunds are not given for no-shows. E-mail cancellation or substitution requests to **Alicia Rutherford.**

Hotel and Travel

The 34th Annual WateReuse Symposium will be held at the **Marriot Marquis San Diego Marina**, situated on the waterfront and within walking distance to the best of downtown including City Walk, the Gaslamp Quarter, Seaport Village and Petco Park. **Note:** Hotel rooms at the Marriott Marquis San Diego Marina have **sold out** within our discounted room block. We have acquired discounted room blocks in the following hotels:

Embassy Suites by Hilton San Diego Bay Downtown
601 Pacific Highway | San Diego, CA 92101
1-800-362-2779 (mention WateReuse Association block)
Distance: 0.4 mile
Discounted Room Rate: $302 per night plus tax (September 8, 9, 10)
Deadline: August 17, 2019

Book Embassy Suites

Pendry San Diego
550 J Street | San Diego, CA 29101
1-619-738-7000 (mention WateReuse Association)
Distance: 0.3 mile
Discounted Room Rate: $309 per night plus tax (September 8, 9, 10)
Deadline: August 9, 2019

Book the Pendry

Hotel Indigo San Diego Gaslamp Quarter
509 9th Avenue | San Diego, CA
1-866-384-3015 (reserve with code WRU)
Distance: 0.6 mile
Discounted Room Rate: $299 per night plus tax (September 8, 9, 10)
Deadline: August 9, 2019

Book Hotel Indigo

Please check back for updates on the discounted room blocks. You may contact **Alicia Rutherford** with questions.

The following area hotels may also have room availability:

The Sophia Hotel
150 West Broadway
San Diego, CA 92101
800-826-0009

Hard Rock Hotel San Diego
207 Fifth Avenue
San Diego, CA 92101
866-751-7625

Hotel del Coronado, Curio Collection by Hilton
1500 Orange Avenue
Coronado, CA 92118
800-468-3533

Kimpton Solamar Hotel
435 Sixth Avenue
San Diego, CA 92101
877-230-0300

The Guild Hotel, San Diego, a Tribute Portfolio Hotel
500 West Broadway
San Diego, CA 92101
619-795-6000

Symposium Schedule

The 34th Annual WateReuse Symposium is your one stop for all things water reuse. Whether you are new to reuse or an experienced veteran, a robust collection of concurrent sessions covering key policy, technology, operational, and research issues allows you to customize a unique Symposium experience. Plenary sessions explore the broader policy and planning issues that will shape the future. Arrive early to participate in tours of innovative water recycling facilities and make plans to network at evening events.

Facility Tours

Begin your experience at the 34th Annual WateReuse Symposium with tours of some of the most innovative projects in southern California. Tours depart from the hotel lobby. Space is limited so **register today.**

Carlsbad Desalination Plant

Sunday, September 8 | 9 am – 1 pm
Fee: $50 (Includes Lunch)

For more than 50 years, large-scale seawater desalination was just a dream in San Diego County. Today, the region is the hub of the nation's growing desalination industry and home to the nation's largest seawater desalination project. The **Claude "Bud" Lewis Carlsbad Desalination Plant**, which began operating in 2015, is the result of a public/private partnership between Poseidon Water and San Diego County Water Authority.

The Carlsbad plant uses reverse osmosis membrane technology to produce enough water to meet approximately 10 percent of the region's water needs as a core supply of water regardless of weather conditions. You will have the opportunity to observe the state of the art process of turning water from the Pacific Ocean into high quality drinking water that is now serving nearly a half a million San Diegans.

Pure Water San Diego and Padre Dam Municipal Water District

Sunday, September 8 | 9 am – 5:15 pm
Fee: $75 (includes lunch)

Pure Water San Diego is the City of San Diego's phased, multi-year program that will provide one-third of San Diego's water supply locally by 2035. Phase 1 includes several projects that will clean recycled water to produce 30 million gallons per day of high-quality purified water starting in 2023, reducing the City of San Diego's dependence on imported water. The city conducted a demonstration project (2009-2013) that confirmed the purified water meets all federal and state drinking water standards. By 2035, San Diego will produce 83 million gallons of purified water every day.


Reverse osmosis units at Pure Water San Diego.

Padre Dam Municipal Water District has been a leader in water recycling for more than 50 years. The **Ray Stoyer Water Recycling Facility** was expanded to 2 million gallons per day to provide water for Santee Lakes and for non-potable reuse in portions of the community. The recycled water meets Title 22 standards and is approved for full body contact recreation and accidental ingestion.

The **Advance Water Purification** demonstration facility is right next door. The program will create a new, local, sustainable and drought proof drinking water supply using state-of-the-art technology to purify recycled water. The purified water produced at the demonstration facility is tested daily to ensure it meets the public health objectives.

Program Overview

Sunday, September 8

Facility Tours

- **Carlsbad Desalination Plant Tour**, 9 am – 1 pm ($50)
- **San Diego Pure Water and Padre Dam Municipal Water District Tours**, 9 am – 5:15 pm ($75)

Sunday, Session 1 (1:30 pm – 3:00 pm)

Concurrent Sessions

- WateReuse Bootcamp, Part 1
- Certifications, Small Systems, and Planning | **Track 1: Operator Tips**
- Creative Management | **Track 2: Compounds of Emerging Concern**
- UV AOP | **Track 3: Techniques and Technologies for Meeting Potable Reuse Challenges**

Networking Break (3:00 – 3:30 pm)

Sponsored by Jacobs

Sunday, Session 2 (3:30 pm – 5:00 pm)

Concurrent Sessions

- WateReuse Bootcamp, Part 2
- Reverse Osmosis and Concentrate Management | **Track 1: Operator Tips**
- Resolving Challenges | **Track 2: Compounds of Emerging Concern**
- Three Challenges Understood | **Track 3: Techniques and Technologies for Meeting Potable Reuse Challenges**

Welcome Reception (5:30 pm – 7:00 pm)

- **Sponsored by Eastern Municipal Water District, San Diego County Water Authority, Irvine Ranch Water District, Valley Water, Rowland Water District**

Monday, September 9

Networking Breakfast (7:00 am – 8:00 am)

- **Sponsored by HDR**

Opening General Session (8:00 am – 10:00 am)

Sponsored by **Alexandria Renew**, **Clean Water Services, El Paso Water**, and **JEA**

- **Welcome Remarks:** Paul Jones, WateReuse President and the Honorable Kevin Faulconer, San Diego Mayor
- **Keynote Presentation:** Peter Annin, From Water Diversion to Water Reuse: Tackling Scarcity in the 21st Century
- **Panel Discussion:** Making the Pitch: How to Talk to Elected Officials and Potential Industry Customers about the Value of Water Recycling
    - *Paul Jones* (Moderator), General Manager, Eastern Municipal Water District
    - *Gloria Gray*, Chairwoman, Board of Directors, Metropolitan Water District of Southern California, and Vice President, Board of Directors, West Basin Municipal Water District
    - Ted Henifin, General Manager, Hampton Roads Sanitation District
    - *Dr. Kristina Mena,* Associate Professor, The University of Texas Health Science Center
    - *Roy Rogers*, Commissioner, Washington County

Networking Break (10:00 am - 10:30 am)

Sponsored by Hazen and Sawyer

Monday, Session 1 (10:30 am – 12:00 pm)

Concurrent Sessions

- In 2050: Technology, Regulations, and Utility Planning for the Future | **Track 1: Sustainability, Resiliency and Water Reuse**
- Growing Reuse in Agriculture | **Track 2: Reuse for Industrial, Commercial and Agricultural Processes**
- Path to Pure Water San Diego: California's First Surface Water Augmentation Project | **Track 3: Potable Reuse: Innovative Strategies**
- Research to Ensure Sound Regulations: CA Water Board Partners with Water Research Foundation | **Track 4: Hot Topics in Water Reuse Research**
- EPA Federal Funding and Program Management **| Track 5: Effective Governance, Policy & Financing for Water Reuse**
- Reuse Considerations in Asia, Australia, and Africa | **Track 6: Making the Case for Water Reuse**
- Congressional Engagement Can Lead to Success | **Track 7: Essential Considerations**

Monday Luncheon (12:00 pm – 1:30 pm)

Sponsored by **Black & Veatch**

- Annual Awards for Excellence Presentation

- WateReuse Association Business Meeting

Monday, Session 2 (1:45 pm – 3:15 pm)

Concurrent Sessions

- Innovative Campus-Scale Solutions for Watershed Health| **Track 1: Sustainability, Resiliency and Water Reuse**
- Management of Produced Water from Oil and Gas Exploration: Regulatory and Technology Overview Informed by Successes in the Field | **Track 2: Reuse for Industrial, Commercial and Agricultural Processes**
- Effective Technologies for Potable Reuse | **Track 3: Potable Reuse: Innovative Strategies**
- Prions, Antibiotic Resistance, and Viruses – New Age Challenges | **Track 4: Hot Topics in Water Reuse Research**
- Water Reuse in the Pacific Northwest: Collaborating to Solve Complex Water Resource Challenges **| Track 5: Effective Governance, Policy & Financing for Water Reuse**
- A Medley of Communications Case Studies | **Track 6: Making the Case for Water Reuse**
- Diversifying Supply | **Track 7: Essential Considerations**
- Irrigation Association | **Track 8: A Little More About Southern California**

Networking Break (3:15 pm - 3:45 pm)

Sponsored by Trojan UV

Monday, Session 3 (3:45 pm – 5:15 pm)

Concurrent Sessions

- Developing Effective Policies to Advance Reuse | **Track 1: Sustainability, Resiliency and Water Reuse**
- Expanding Applications for Reuse in Industry | **Track 2: Reuse for Industrial, Commercial and Agricultural Processes**
- Cost Savings Through Innovation | **Track 3: Potable Reuse: Innovative Strategies**
- Microbial Contaminants – Reducing the Risk| **Track 4: Hot Topics in Water Reuse Research**
- Meeting Compliance Goals | **Track 5: Effective Governance, Policy & Financing for Water Reuse**
- Informed Messaging for Effectively Reaching the Public | **Track 6: Making the Case for Water Reuse**
- Diversifying Supplies – Three Applications | **Track 7: Essential Considerations**
- Water Tech Alliance | **Track 8: A Little More About Southern California**

Baseball Game at Petco Park (6:30 pm)

- **Padres vs Cubs Baseball Box Suite Experience at Petco Park** ($99)
- Sponsored by **Stantec**

Tuesday, September 10

Plenary Breakfast (7:45 am – 8:45 am)

- Water Association CEO Panel

Tuesday, Session 1 (9:00 am – 10:00 am)

Concurrent Sessions

- Imported Water and Wine | **Track 1: Sustainability, Resiliency and Water Reuse**
- Maximizing Commercial Value through Reuse | **Track 2: Reuse for Industrial, Commercial and Agricultural Processes**
- Bioanalytical Screening | **Track 3: Potable Reuse: Innovative Strategies**
- Treatment Technologies | **Track 4: Hot Topics in Water Reuse Research**
- Macro-economic Considerations in Reuse Projects | **Track 5: Effective Governance, Policy & Financing for Water Reuse**
- Proper Planning | **Track 6: Making the Case for Water Reuse**
- Capturing the Rain in Minnesota | **Track 7: Essential Considerations**
- San Diego's Promise | **Track 8: A Little More About Southern California**

Networking Break (10:00 am - 10:30 am)

Sponsored by Suez

Tuesday, Session 2 (10:30 am – 12:00 pm)

Concurrent Sessions

- Establishing Consistent Management Approaches for Water Reuse Across the U.S. | **Track 1: Sustainability, Resiliency and Water Reuse**
- Data Centers Rely on Water Reuse | **Track 2: Reuse for Industrial, Commercial and Agricultural Processes**
- Monitoring Water Quality | **Track 3: Potable Reuse: Innovative Strategies**
- Alternative Treatments for CECs | **Track 4: Hot Topics in Water Reuse Research**
- The Secrets of Developing State DPR Regulatory Frameworks | **Track 5: Effective Governance, Policy & Financing for Water Reuse**
- Marketing Knowledge to Inform Reuse Decision Making | **Track 6: Making the Case for Water Reuse**
- Innovation in Potable Reuse | **Track 7: Essential Considerations**
- Orange County Findings | **Track 8: A Little More About Southern California**

Tuesday Luncheon (12:15 pm – 1:30 pm)

- **National Water Reuse Action Plan:** Dave Ross, EPA Assistant Administrator for Water (Invited)
- Panel – Water Subcabinet
- Sponsored by **Carollo**

Tuesday, Session 3 (1:45 pm – 3:15 pm)

Concurrent Sessions

- LAGWRP: Addressing LA's Water Needs Through Technology and Partnerships | **Track 1: Sustainability, Resiliency and Water Reuse**
- Industrial Water Reuse | **Track 2: Reuse for Industrial, Commercial and Agricultural Processes**
- Creative Strategies to Meet Today's Challenges | **Track 3: Potable Reuse: Innovative Strategies**
- Microplastics | **Track 4: Hot Topics in Water Reuse Research**
- Project Financing Options for On-Site Systems | **Track 5: Effective Governance, Policy & Financing for Water Reuse**
- Parks and Recreation | **Track 6: Making the Case for Water Reuse**
- Groundwater | **Track 7: Essential Considerations**
- Nutrients, Salinity, and Other Considerations | **Track 8: A Little More About Southern California**

Networking Break (3:15 pm - 3:45 pm)

Sponsored by Kennedy Jenks

Tuesday, Session 4 (3:45 pm – 5:15 pm)

Concurrent Sessions

- Water Reuse in Areas with Plenty of Water | **Track 1: Sustainability, Resiliency and Water Reuse**
- Regional Solutions When Resources are Scarce | **Track 2: Reuse for Industrial, Commercial and Agricultural Processes**
- Innovative Approaches for Monitoring Pathogen Removal in RO Membranes | **Track 3: Potable Reuse: Innovative Strategies**
- Increasing Innovation in Water Reuse with the Water Research Foundation's LIFT Program | **Track 4: Hot Topics in Water Reuse Research**
- Federal Funding Programs | **Track 5: Effective Governance, Policy & Financing for Water Reuse**
- Making Business "Cents" through Unique Collaborations to Improve Existing Onsite Reuse Systems | **Track 6: Making the Case for Water Reuse**
- Membrane Considerations| **Track 7: Essential Considerations**
- Continued Innovation in Reuse | **Track 8: A Little More About Southern California**

Gender Diversity in Water Reuse Panel (5:15 pm – 6:15 pm)
Sponsored by **Xylem**

- *Cindy Wallis-Lage*, President, Black & Veatch's Global Water Business
- Gilbert Trejo, Chief Technical Officer, El Paso Water
- Pranjali Kumar, Environmental Engineer, Carollo

Maritime Museum of San Diego: Discovery, Dinner, Music and Fun!
(6:30 pm – 9:00 pm)
Sponsored by **Xylem**

Wednesday, September 11

Breakfast Plenary: Current Status and Visions for the future of Water Reuse Research (8:00 am – 9:00 am)

Water Reuse: Sustaining the New Economy in Nevada's High Desert (9:00 am – 10:30 am)

The Tahoe-Reno Industrial Center (TRIC) is home to Tesla's Gigafactory which, when completed, is expected to be the planet's largest building. The industrial center will also be home to nearly 100 other companies, including Panasonic, and Switch and Google data centers – and over 20,000 new jobs for the region. Learn how public agencies and businesses collaborated to navigate water rights and downstream issues to develop a deal to bring recycled water to the middle of the desert. The Truckee Meadow Water Authority will deliver 4,000 acre-feet per year of recycled water through a 13-mile pipeline, essentially providing the lifeline for this industrial complex. Without the recycled water, TRIC would likely not be feasible – or sustainable over the long-term.

- **Pat Mulroy**, Senior Fellow for Climate Adaptation and Environmental Policy, University of Nevada and Former General Manager at Southern Nevada Water Authority
- **John Enloe, P.E.,** Director, Natural Resources, Truckee Meadows Water Authority
- **Adam Kramer,** Executive Vice President of Strategy, Switch
- **Michael Drinkwater,** Treatment Plant Manager, Truckee Meadows Water Reclamation Facility

State of the States: Highlights and Insights from the State Regulatory Summit (10:30 am – 11:45 am)

Closing Remarks
(11:45 am – 12:00 pm)

**The schedule is subject to change.*

WateReuse Annual Symposium Detailed Schedule

Sunday, September 8, 2019

9:00am – 1:00pm Carlsbad Desalination Plant Tour

9:00am – 5:15pm San Diego Pure Water and Padre Dam Municipal Water District Tours

1:30pm – 3:00pm

Water Reuse Bootcamp	**Track 1: Operator Tips**	**Track 2: Compounds of Emerging Concern**	**Track 3: Techniques and Technologies for Meeting Potable Reuse Challenges**
Moderator *Don Vandertulip, Texas Commission on Environmental Quality*	Certifications, Small Systems and Planning Moderator *Christina Alito, HDR*	Creative Management Moderator *Larry Schimmoller, Jacobs*	UV AOP Moderator *Adam Fetzger, Trojan UV*
Evolution of Water Reuse Regulations from Ag to Potable *Jim Crook, Environmental Consultant*	Addressing Potable Reuse Operator Certification Needs – The CA/NV AWTO Certification Program *Erin Mackey, Brown and Caldwell*	Mitigating Widespread, Bio-active Pesticides in an Indirect Potable Reuse Model *Michael Watts, Garver*	UV Dose Monitoring for Potable Reuse *Harold Wright, Carollo Engineers*
Agriculture Water Reuse Expanded to Non-Potable Reuse *Bahman Sheikh, Bahman Sheikh Water Reuse Consulting*	Water Quality Challenges During Start-up of a Greenfield Desalination Plant *Chandra Mysore, Jacobs*	An In-Depth Evaluation of the Role of Contaminants of Emerging Concern in Aquifer Recharge Projects Using Reclaimed Water in A Wet Temperate Climate *Jeff Hansen, HDR Engineering, Inc*	WRD GRIP UV/Cl2 AOP for Indirect Potable Reuse *Tom Knoell, Water Replenishment District of Southern California* *Jamal Awad, GHD*
	Operations Plan for a Surface Water Augmentation Reservoir *Seval Sen, Padre Dam Municipal Water* *Brian Olney, Helix Water District*	Sorption of Short-chain poly- and Perfluoroalkyl Substances in Wastewater Effluent *Kyle Thompson, Southern Nevada Water*	Modular Advanced Oxidation Processes Enabled by Cathodic Hydrogen Peroxide Production *James Barazesh, Carrollo Engineers*

3:00pm – 3:30pm Networking Break Sponsored by Jacobs

3:30pm – 5:00pm

Water Reuse Bootcamp	**Track 1: Operator Tips**	**Track 2: Compounds of Emerging Concern**	**Track 3: Techniques and Technologies for Meeting Potable Reuse Challenges**
Moderator *Don Vandertulip, Texas Commission on Environmental Quality*	Reverse Osmosis and Concentrate Management Moderator *Paul Chou, Kennedy Jenks*	Resolving Challenges Moderator *Ufuk Erdal, Arcadis*	3 Challenges Understood Moderator *Michael Watts, Garver*
Indirect and Potable Reuse *Don Vandertulip, Texas Commission on Environmental Quality*	A Novel Approach to RO Concentrate Reduction *Nishiki Yoshinori, De Nora Corporation* *Jason Assouline, Carollo Engineers, Inc.*	Evaluating the Quality of Recycled Wastewater in a Desert Community *Daniel Quintanar, City of Tucson Water*	Understanding Your Options for Brine Management: Treatment Technologies and Cost-Benefit Analysis *Alan Bracewell, Kennedy Jenks*
Water Reuse Planning Consideration *Alan Rimer, EnviroTechNovations*	Adventures in Automated Conductivity Profiling *James Vickers, Separation Processes, Inc.*	CEC Removal by Ozone-BAC Treatment: Full-Scale Results from Five Potable Reuse Plants *Larry Schimmoller, Jacobs*	Defying Day Zero – Using the HACCP to Guide Early Design Phase for Potable Reuse in Cape Town *Troy Walker, Hazen and Sawyer* *Brendon Theunissen, Aurecon*
Communicating with the Public *Patricia Tennyson, Katz & Associates*	The New Norm? Using Pilot Data to Verify Ocean Outfall Permit Compliance for 100% RO Concentrate *Kristel Baumgardner-Kranz, Carollo Engineers*		A Performance Review of HRSD's 1 MGD SWIFT Research Center *Tyler Nading, Jacobs*

5:30pm – 7:00pm Welcome Reception

Sponsored by Eastern Municipal Water District, San Diego County Water Authority, Irvine Ranch Water District, LA County Sanitation District, Valley Water, Rowland Water District

Monday, September 9

7:00am – 8:00am Networking Breakfast Sponsored by HDR

8:00am – 10:00am Opening General Session

Sponsored by Clean Water Services, El Paso Water, Alexandria Renew and JEA

Welcome Remarks: Paul Jones, WateReuse President and the Honorable Kevin Faulconer, San Diego Mayor

Keynote Presentation: Peter Annin, From Water Diversion to Water Reuse: Tackling Scarcity in the 21st Century

Panel Discussion: Making the Pitch: How to Speak With Elected Officials and Potential Industry Customers about the Value of Water Recycling

Moderator, Paul Jones, General Manager, Eastern Municipal Water District

Gloria Gray, Chairwoman, Board of Directors, Metropolitan Water District of Southern California, and Vice President, Board of Directors, West Basin Municipal Water District

Ted Henifin, General Manager, Hampton Roads Sanitation District

Dr. Kristina Mena, Associate Professor, The University of Texas Health Science Center

Roy Rogers, Commissioner, Washington County

10:00am – 10:30am Networking Break Sponsor by Hazen and Sawyer

10:30am – 12:00pm

Track 1: Sustainability, Resiliency and Water Reuse	**Track 2: Reuse for Industrial, Commercial and Agricultural Processes**	**Track 3: Potable Reuse: Innovative Strategies**	**Track 4: Hot Topics in Water Reuse Research**	**Track 5: Effective Governance, Policy & Financing for Water Reuse**	**Track 6: Making the Case for Water Reuse**	**Track 7: Essential Considerations**
In 2050: Technology, Regulations, and Utility Planning for the Future Moderator *Christina Alito, HDR*	Growing Reuse in Agriculture Moderator Marilyn Hall, *Athens-Clarke County Public Utilities*	Path to Pure Water San Diego: California's First Surface Water Augmentation Project Moderator *Jeff Pasek, City of San Diego*	Research to Ensure Sound Regulations: CA Water Board Partners with Water Research Foundation Moderator *Julie Minton, Water Research Foundation*	EPA Federal Funding and Program Management Moderator *Jim Gebhardt, US EPA*	Reuse Considerations in Asia, Australia, and Africa Moderator *Hossein Ashktorab, Valley Water*	Congressional Engagement Can Lead to Success Moderator *Greg Fogel, WateReuse Association*
Suez Anne Arundel County, MD	Evaluating Economic and Environmental Benefits of Water Reuse for Agriculture *Anne Thebo, Pacific Institute*	Juan Guerreiro, City of San Diego Public Utilities Department *Doug Owen, Stantec* *Shane Trussell, Trussell Technologies, Inc.*	Jim Crook, Environmental Consultant *Adam Olivieri, VP EOA, inc* *Brian Pecson, Trussell Technologies*		Critical Communications: Its role in Singapore Potable Reuse Strategy *Cecilia Tortajada, Lee Kuan Yew School of Public Policy, National University of Singapore*	
	Empirical Method for Determining Reuse Irrigation Overflow Contributions to Nutrient Impaired Waters *Joan Oppenheimer, Stantec*				One Water: Singapore and California – a Practitioner's Perspective *Melanie Tan, Kennedy Jenks*	
	Low Hanging Fruit: An Agricultural Water Reuse Case Study in Cedar City, UT *Cory Dow, Carollo Engineers, Inc.*				Decentralized Water Reuse: The Answer to South Africa's Water Challenges *Herman Smit, QFS*	
					Monitoring *Cryptosporidium* & *Giardia* in Municipal Sewage--Approach & Procedure *Jerry Ongerth, University of Wollongong, Australia*	

12:00pm – 1:30pm WateReuse Awards for Excellence Luncheon

Sponsored by Black & Veatch

Annual Awards for Excellence Presentation

WateReuse Association Business Meeting

1:45pm – 3:15pm

Track 1: Sustainability, Resiliency and Water Reuse	**Track 2: Reuse for Industrial, Commercial and Agricultural Processes**	**Track 3: Potable Reuse: Innovative Strategies**	**Track 4: Hot Topics in Water Reuse Research**	**Track 5: Effective Governance, Policy & Financing for Water Reuse**	**Track 6: Making the Case for Water Reuse**	**Track 7: Essential Considerations**	**Track 8: A Little More About Southern California**
Innovative Campus-Scale Solutions for Watershed Health Moderator *Molly Freed, Living Building Challenge*	Management of Produced Water from Oil and Gas Exploration: Regulatory and Technology Overview informed by Successes in the Field Moderator *Leonard Levine, Gulf Coast Authority*	Effective Technologies for Potable Reuse Moderator *Jason Dadakis, Orange County Water District*	Prions, Antibiotic Resistance, and Viruses – New Age Challenges Moderator *Kati Bell, Brown and Caldwell*	Water Reuse in the Pacific Northwest: Collaborating to Solve Complex Water Resource Challenges Moderator *Eric Rosenblum, Water Resources Consultant*	A Medley of Communications Case Studies Moderator *Alan Rimer, EnviroTechNovations*	Diversifying Supply Moderator Name	Irrigation Association
Crystal Grinnell, Biohabitats Ghris Gorri, Chesapeake Bay Foundation Skip Backus, Omega Institute	*Shellie Chard, Oklahoma Department of Environmental Quality Lnsp Nagghappan, Veolia Dan Muller, Environmental Defense Fund Rick McCurdy*	Central Coast Blue Demonstration Facility: Innovative Potable Reuse Technologies for Pismo Beach *Andrew Salveson, Carollo Engineers*	The Status of Virus Detection Methods for Water Reuse Applications *Krista Wigginton, University of Michigan*	*Jacque Klug King County Eric Rosenblum, Water Resources Consultant*	GWIC @ Gwinnett - It Takes a Village *Melissa Meeker, Gwinnett County DWR*	Leveraging Industry Experience to Anticipate Trade-offs of Alternative Water Supplies *Wendy Broley, Brown and Caldwell*	
		Pathogen Removal Validation for a Potable Reuse System with Closed Circuit Reverse Osmosis *Eileen Idica, Trussell Technologies, Inc*	An Introduction to Prions, Status of Prion Research and Relevance to Potable Reuse *Greta Zornes, Jacobs*		Making the Unknown Known: Strategies for Water Reuse Education, Engagement and Action *Dennis Nelson, Project WET Foundation*	The Florida Potable Reuse Commission: Making Water in the Sunshine *Christine Owen, Hazen and Sawyer*	
		From Emerging to Emerged: What These "Here Now" Contaminants Mean for the Water Sector *Allegra da Silva, Brown and Caldwell*	Characterizing the Removal of Antibiotic Resistance Dissemination of Two Municipal Water Reuse Systems *Ishi Keenum, Virginia Tech*		Moving from Data to Stories to Persuade Your Audience *Stephen Groner, S. Groner Associates, Inc.*	Navigating the Road to Recycled Water Bottling in California's Silicon Valley *Hossein Ashktorab, Santa Clara Valley Water District*	

3:15pm – 3:45pm Networking Break Sponsored by Trojan UV

3:45pm – 5:15pm

Track 1: Sustainability, Resiliency and Water Reuse	**Track 2: Reuse for Industrial, Commercial and Agricultural Processes**	**Track 3: Potable Reuse: Innovative Strategies**	**Track 4: Hot Topics in Water Reuse Research**	**Track 5: Effective Governance, Policy & Financing for Water Reuse**	**Track 6: Making the Case for Water Reuse**	**Track 7: Essential Considerations**	**Track 8: A Little More About Southern California**
Developing Effective Policies to Advance Reuse Moderator *Diane Taniguchi-Dennis, Clean Water Services*	Expanding Applications for Reuse in Industry Moderator *Craig Lichty, Black & Veatch*	Cost Savings Through Innovation Moderator *Gilbert Trejo, El Paso Water Utilities*	Microbial Contaminants – Reducing the Risk Moderator Name	Meeting Compliance Goals Moderator Name	Informed Messaging for Effectively Reaching the Public Moderator *Guy Carpenter, Corolla*	Diversifying Supplies – 3 Applications Moderator Name	Water Tech Alliance
Creating a "Virtual" One-Water Utility: Pricing and Institutional Arrangements *Robert Raucher, Corona Environmental Consulting*	Industrial Water Reuse: Drivers, Approaches and Treatment *Val Frenkel, Greeley and Hansen*	What is all the Talk about TOC for Potable Reuse? *Amanda Scott, Suez Water Technologies & Solutions*	Monitoring for *Legionella Pneumophila* in Reclaimed Waters *Mark Lechevallier, Dr. Water Consulting, LLC*	Defining "Safe" Potable Water with National Drinking Water Data and a Toxicity Index Approach *James Rosenblum, PhD MPH; Colorado School of Mines*	A Tailored Outreach Approach on Water Knowledge, Trust, and Potable Reuse Issues *Caroline Scruggs, University of New Mexico*	PureWaterSF: Purification and Water Quality Risk Analysis for a Building-Scale DPR in San Francisco *Manisha Kothari, San Francisco Public Utilities Commission Andrea Corral, Carollo Engineers*	
Regulatory Impacts of Decreasing Wastewater Flows on City of Los Angeles Water Recycling *Stephen Opot, City of Los Angeles, LA Sanitation & Environment*	Pilot testing of MF/RO for Industrial Reuse of Biopharmaceutical Wastewater *Christina Casler, Carollo Engineers*	Sizing Granular Activated Carbon While Addressing Regulatory Concerns for Direct Potable Reuse *Jonathan Loveland, Black & Veatch*	Potable Reuse and Microbial Risks – a Critical Review and Comparison of Risks between Planned and DeFacto Reuse *Jeff Soller, Soller Environmental, LLC*	How to Achieve Hawaii's Goal to Double Water Reuse by 2030 *Bahman Sheikh, Bahman Sheikh Water Reuse Consulting*	Engaging Future Ratepayers in Los Angeles *Anthony Tew, Los Angeles Department of Water and Power Tracey Dinh, Los Angeles Department of Water and Power*	Applying Oklahoma's New Potable Water Reuse Regulations for Regional Water Supply Resiliency *Kyle Kruger, Garver Michael Watts, Garver*	
Idaho's Reuse Guidance for the 21st Century: Sharing Approaches and Ideas with the Reuse Community *Michael Cook, Idaho Department of Environmental Quality*		Dynamic Simulation Optimizes Critical San Diego Reuse and Recycled Water Projects *Troy Matsuura, Jacobs*	2019: The Year of the Pathogen Inactivation in Advanced Reclamation for Potable Reuse *Vijay Sundaram, University of Nevada, Reno*	Ocean Plan Amendment Compliance – Carlsbad Desalination Plant Catches the First Wave Steve Friedman, HDR	Toilet-to- Tap, Get Over It! *Patricia Tennyson, Katz & Associates*	Morro Bay OneWater Approach Results in California's First MBR-Based Potable Reuse System *Rob Livick, City of Morro Bay Eric Casares, Carollo Engineers*	

6:30pm Cubs vs Padres Game at Petco Park

Sponsored by Stantec and the City of San Diego

Tuesday, September 10

7:45am – 8:45am Breakfast

Water Association CEO Panel

9:00am – 10:00am

Track 1: Sustainability, Resiliency and Water Reuse	**Track 2: Reuse for Industrial, Commercial and Agricultural Processes**	**Track 3: Potable Reuse: Innovative Strategies**	**Track 4: Hot Topics in Water Reuse Research**	**Track 5: Effective Governance, Policy & Financing for Water Reuse**	**Track 6: Making the Case for Water Reuse**	**Track 7: Essential Considerations**	**Track 8: A Little More About Southern California**
Imported Water and Wine Moderator *Dawn Taffler, Kennedy Jenks*	Maximizing Commercial Value through Reuse Moderator *Keel Robinson, Trussel Technologies*	Bioanalytical Screening Moderator *Paul Cook, Irvine Ranch Water District*	Treatment Technologies Moderator *Paul Steinbrecher, JEA*	Macro-economic Considerations in Reuse Projects Moderator *Karen Pallansch, Alexandria Renew*	Proper Planning Moderator Name	Capturing the Rain in Minnesota Moderator *Claudio Ternieden, Water Environment Federation*	San Diego's Promise Moderator *Doug Owen, Stantec*
Reduce Dependency on Imported Water in Los Angeles: Water Reuse is the Answer *Jagjit Kaur, Jacobs Rafael Villegas, LA Department of Water and Power*	Water Reuse at U.S. Airports: Opportunities, Innovations, and Creative Collaborations *Eric Binder, Bluefield Research*	Bioassays for Screening for Endocrine Disruptors in Potable Reuse Projects in Southern California *Luciana Pereyra, Trussell Technologies, Inc. Yan Qu, Trussell Technologies*	Overcoming Challenges in Ozone/BAF Treatment Systems for Potable Reuse *Vijay Sundaram, University of Nevada, Reno*	Smart Sensor - Potable Reuse Potential *Melanie Holmer, Brown and Caldwell*	Unlocking Water Reuse Opportunities – Roadblocks & Successes *Patrick Regan, Evoqua Technologies*	Utilizing Stormwater as a Reusable Resource *Doug Bode, City of Waconia Kevin Flis, Xylem*	Developing and Permitting California's First Potable Reuse Project Using Reservoir Augmentation *Shane Trussell, Trussell Technologies, Inc.*
From Recycled Water to Wine – A Chloride Reduction Story *Sepi Henneman, Brown and Caldwell Andrew Damron, Napa Sanitation District*	One Water, Many Options *Austa Paker, Denver Water*	Implementing Bioanalytical Tools in California: A Creative Collaboration *Kevin Hardy, National Water Research Institute*	Testing Results of UF/RO vs. Ozone/BAF – Selecting One for a Path to a Sustainable Water Future Ryan Popko, *JEA*	Smart Approaches to Improve Economics of the Potable Reuse Projects *Zeynep Erdal, Black & Veatch*	One Year After Day Zero - Cape Town, South Africa *Lucinda Jooste, Xylem*	Yes, We Reuse Water in Minnesota! Anita Anderson, Minnesota Department of Health *Michelle Stockness, Barr Engineering Company*	Fulfilling the Promise of the Purple Pipe Program—San Diego Recycled Water System Turns 20 years Old *Eric Scherch, HDR*

10:00am – 10:30am Networking Break Sponsored by Suez

10:30am – 12:00pm

Track 1: Sustainability, Resiliency and Water Reuse	**Track 2: Reuse for Industrial, Commercial and Agricultural Processes**	**Track 3: Potable Reuse: Innovative Strategies**	**Track 4: Hot Topics in Water Reuse Research**	**Track 5: Effective Governance, Policy & Financing for Water Reuse**	**Track 6: Making the Case for Water Reuse**	**Track 7: Essential Considerations**	**Track 8: A Little More About Southern California**
Establishing Consistent Management Approaches for Water Reuse Across the U.S Moderator *Melanie Holmer, Brown and Caldwell*	Data Centers Rely on Water Reuse Moderator Name	Monitoring Water Quality Moderator Name	Alternative Treatments for CECs Moderator *Troy Walker, Hazen and Sawyer*	The Secrets of Developing State DPR Regulatory Frameworks Moderator *Julie Minton, The Water Research Foundation*	Marketing Knowledge to Inform Reuse Decision Making Moderator *Janice Whitney, EPA*	Innovation in Potable Reuse Moderator *Val Frenkel, Greeley and Hansen*	Orange County Findings Moderator *Don Vandertulip, Texas Commission on Environmental Quality*
Public Health and Utility Leaders Collaborate to Advance Onsite Reuse *Paula Kehoe, San Francisco Public Utilities Commission*	Black & Veatch	Examining Pathogens and Microbials for a Reservoir Augmentation Type Potable Reuse Scenario *Bob Angelotti, Upper Occoquan Service Authority*	Removal of Emerging Contaminants Through Ozone-BAC: Influence of Activated Carbon Properties *Adam Redding, Calgon Carbon Corporation*	*Brian Bernados, California State Water Resources Control Board / Division of Drinking Water Jeff Mosher, Carollo Engineers, Inc. Tim Thomure, Tucson Water John Rehring, Carollo Engineers, Inc*	Project Planning: Executing on Scenario Mapping and Risk Management using a Sustainability Platform *Nitesh Dullabh, Water Diplomat*	Enhancing the Efficiency of Ion Exchange Resins to Remove DBP Precursors in Water Reuse *Mahmut S. Ersan, Southern Nevada Water Authority*	Evaluating PVDF membranes for Orange County Water District's GWRS Final Expansion Project Design *Sandy Scott-Roberts, Orange County Water District*
Decentralized Reuse: The Future of Distributed Infrastructure *Erin Bonney Casey, Bluefield Research*		Maximizing UV Potential in Potable Reuse through Advanced Validation Methods *Greg Warkentin, Trojan Technologies, Inc*	The Kitchen Sink: UV at a Non-Membrane Advanced Treatment Plant for Multiple Water Quality Objectives *Erik Rosenfeldt, Hazen and Sawyer*		Hydroeconomic Modeling of Direct Potable Reuse as a Regional Supply Source for Los Angeles *Erik Porse, Sacramento State*	Soil Aquifer Treatment and Subsurface-Water Interactions During Groundwater Recharge *Lydia Peri, Truckee Meadows Water Authority*	Universal Filtration Design at the World's Largest IPR Facility *Lee Portillo, Black & Veatch*
Decentralized Greywater Treatment Using a Novel Electrochemical Approach *Nicole A. Poirier, Terragon Environmental Technologies Inc.*		Pipe Loop Studies of the Effects of Raw Water Augmentation on Distribution System Metal Mobilization *Michael Adelman, Stantec*	Treatment of Trace Organic Contaminants by Pilot-Scale Ozone, BAF, and GAC Potable Reuse Systems *Stephanie Riley, Southern Nevada Water Authority*			Electrocoagulation Treatment of Reverse Osmosis Concentrate from a Municipal Wastewater Reuse Facility *Hosein Ashktorab, Santa Clara Valley Water District Galen O'Toole, Santa Clara Valley Water District*	Naturally Occurring Ions to Monitor Reverse Osmosis Performance and Integrity in Reuse Applications *Jana Safarik and Megan Plumlee, Orange County Water District*

12:15pm – 1:30pm Tuesday Plenary Luncheon

Sponsored by Carollo

EPA Action Plan Announcement

Panel – Water Subcabinet

1:45pm – 3:15pm

Track 1: Sustainability, Resiliency and Water Reuse	**Track 2: Reuse for Industrial, Commercial and Agricultural Processes**	**Track 3: Potable Reuse: Innovative Strategies**	**Track 4: Hot Topics in Water Reuse Research**	**Track 5: Effective Governance, Policy & Financing for Water Reuse**	**Track 6: Making the Case for Water Reuse**	**Track 7: Essential Considerations**	**Track 8: A Little More About Southern California**
LAGWRP: Addressing LA's Water Needs Through Technology and Partnerships Moderator *Joline Munoz, LASAN*	Industrial Water Reuse Moderator Name	Creative Strategies to Meet Today's Challenges Moderator *Chance Lauderdale, HDR*	Microplastics Moderator *Steve Tedesco, Tetra Tech*	Project Financing Options for On-Site Systems Moderator Name	Parks and Recreation *Dexter May, Alan Plummer Associates*	Groundwater Moderator *Brian Biesemeyer, Scottsdale Water*	Nutrients, Salinity, and Other Considerations Moderator Name
Roshanak Aflaki, LASAN Yoshiko Tsunehara, LADWP Hannah Ford, Carollo Teresa Venezia, Trussell Technologies	CDM Smith	Virus Treatment Crediting Alternatives to Allow Operation at Shorter Underground Retention Times *John Kenny, Trussell Technologies, Inc.*	Fate and Transport of Microplastics in an Advanced Water Treatment (AWT) System *Ayu Sari, Stantec*	Natural Systems	Salinity Management for Landscapes *Austa Parker, Denver Water*	Groundwater Considerations for Indirect Potable Reuse *William Alley, Ph.D., National Ground Water Association*	Nitrogen Management Strategies for Large-Scale Potable Reuse *Zakir Hirani, Stantec Gloria Lai-Bluml, Metropolitan Water District of Southern California*
		Sweet Success with Open Platform Membrane Systems Treating Challenging Effluents for Water Reuse *Jason Assouline, Carollo Engineers*	A Survey of Microplastics Occurrence in Drinking Water Systems Globally *Andrew Eaton, Eurofins Eaton Analytical, LLC*		Commercial Reuse Applications: Irrigation, Graywater, and Environmental Discharge *Ronen Barkan, Fluence*	Bromate Prevention of Ozone Based Aquifer Recharge *Kevin Fils, Xylem, Inc*	Case for High Recovery RO in Potable Reuse Trains *Ufuk Erdal, Arcadis*
		Innovative Framework Assessing Industrial Source Control for Potable Reuse in the Occoquan Watershed *Bob Angelotti, Upper Occoquan Service Authority*	Methodology to Detect and Quantitate Microplastics in Water Sources *Michael Dziewatkoski, Eurofins SF Analytical, LLC*		Use of a Losing Stream for Groundwater Recharge *Rosalyn Prickett, Woodard & Curran*	Beneficial Uses of Produced Water *Mike Paque, Groundwater Protection Council*	Regional Approach to Brackish Water Reclamation in the West Coast Groundwater Basin *Diane Gatza, The Water Replenishment District of Southern California*

3:15pm – 3:45pm Networking Break Sponsored by Kennedy Jenks

3:45pm – 5:15pm

Track 1: Sustainability, Resiliency and Water Reuse	**Track 2: Reuse for Industrial, Commercial and Agricultural Processes**	**Track 3: Potable Reuse: Innovative Strategies**	**Track 4: Hot Topics in Water Reuse Research**	**Track 5: Effective Governance, Policy & Financing for Water Reuse**	**Track 6: Making the Case for Water Reuse**	**Track 7: Essential Considerations**	**Track 8: A Little More About Southern California**
Water Reuse in Areas with Plenty of Water Moderator *Bart Weiss, Hillsborough County Water Department*	Regional Solutions When Resources are Scarce Moderator *Eric Saperstein, California Association of Sanitation Agencies*	Innovative Approaches for Monitoring Pathogen Removal in RO Membranes Moderator *Jason Assouline, Carrollo Engineers*	Increasing Innovation in Water Reuse with the Water Research Foundation's LIFT Program Moderator *Justin Mattingly, Water Research Foundation*	Federal Funding Programs Moderator *Greg Fogel, WateReuse*	Making Business "Cents" Through Unique Collaborations to Improve Existing On-Site Reuse Systems Moderator *Zach Gallager, Natural Systems Utilities*	Membrane Considerations Moderator Name	Continued Innovation in Reuse Moderator Name
Water Reuse in an Area With Plenty of Water? How a Research Project is Helping Drive It Ahead. *Jennifer Khemai, The Regional Municipality of York, Canada*	The Application of Stormwater Treatment for Groundwater Augmentation: Challenges and Solutions *Brent Alspach, Arcadis*	*Eva Steinle-Darling, Carollo Engineers Jim Vickers, Separations Processes Inc. Tomoyuki Taguchi, Yokogawa Electric Corp. Yasuhiro Matsui, Japan Desalination Association*	*Mehul Patel, Orange County Water District Kevin Flis, Xylem, Inc. Greg Ryan, Pasteurization Technology Group*	Title XVI Water Reclamation and Reuse Program *Amanda Erath, Bureau of Reclamation*	*Sheng Chu, Natural Systems Utilities John Tekula, Natural Systems Utilities*	Maximizing MF/UF Membrane Life - How One Utility Has Exceeded Industry Expectations through a Unique Foulant Management Strategy *Jim Lozier, Jacobs*	Innovative Design Concepts for an Advanced Water Treatment Demonstration Facility *Gloria Lai-Bluml, Metropolitan Water District of Southern California Zakir Hirani, Stantec*
Utility Resilience in the Face of Climate Change *Alan Rimer, EnviroTechNovations LLC Gary Hunter, Black & Veatch*	Guiding Regional Reuse Options - A Distributed Systems Approach *Jocelyn Lu, Brown and Caldwell*			DOE Grand Water Challenge Diana Bauer, US Department of Energy		Techno-Economic Evaluation of Field-Ready RO Brine Recovery and Minimization Technologies *Gil Hurwitz, Black & Veatch*	8.7 gpm/sf – NCWRP's new granular media tertiary filtration rate (>> 5 gpm/sf) *John Kenny, Trussell Technologies, Inc.*
Making it Rain in Central Arkansas – The Development of AR's First Non-Potable Reuse System *Michael Graves, Garver Greg Ramon, Little Rock Water Reclamation Authority*	Planning for Stormwater to Supplement San Diego's Pure Water Program *Jim Rasmus, Carollo Engineers*			U.S. Army Corps of Engineers (invited)		Monitoring Bacteria in RO Permeate Online *Takahiro Fujioka, Nagasaki University*	Coupled Oxidant and Ceramic Membrane Processes for Decreased Biofouling and Enhanced Flux in Water Reclamation Applications *Karl Linden, University of Colorado*

5:15pm – 6:15pm Gender Diversity in Water Reuse Panel

Sponsored by Xylem

Cindy Wallis-Lage, President, Black & Veatch's Global Water Business

Gilbert Trejo, Chief Technical Officer, El Paso Water

Pranjali Kumar, Envrionmental Engineer, Carollo

6:30pm – 9:00pm Maritime Museum of San Diego: Discovery, Dinner, Music and Fun!

Sponsored by Xylem

Wednesday, September 11, 2019

8:00am – 9:00am Breakfast Plenary: Current Status and Visions for the future of Water Reuse Research

Sponsored by Greeley and Hansen

9:00am – 10:30am Plenary Water Reuse: Sustaining the New Economy in Nevada's High Desert

Michael Drinkwater, Truckee Meadows Water Reclamation Facility

Adam Kramer, Switch

Pat Mulroy, University of Nevada

John Enloe, Truckee Meadows Water Authority

10:30am – 11:45am State of the States: Highlights and Insights from the State Regulatory Summit

PALMDALE WATER DISTRICT

BOARD MEMORANDUM

DATE:	July 10, 2019	**July 22, 2019**
TO:	BOARD OF DIRECTORS	**Board Meeting**
FROM:	Mr. Bob Egan, Financial Advisor	
RE:	***AGENDA ITEM NO. 8.1.a – STATUS REPORT ON CASH FLOW STATEMENT AND CURRENT CASH BALANCES AS OF JUNE 2019. (FINANCIAL ADVISOR EGAN/FINANCIAL HEALTH AND STABILITY COMMITTEE)***	

Attached is the Investment Funds Report and current cash balance as of June 2019. The reports will be reviewed in detail at the Board meeting.

PALMDALE WATER DISTRICT
INVESTMENT FUNDS REPORT
June 30, 2019

						June 2019	May 2019	March 2019
CASH								
1-00-0103-100	Citizens - Checking					20,933.69	581,704.28	1,743.09
1-00-0103-200	Citizens - Refund					-	(65.56)	-
1-00-0103-300	Citizens - Merchant					215,745.51	208,248.44	145,383.72
					Bank Total	**236,679.20**	**789,887.16**	**147,126.81**
1-00-0110-000	PETTY CASH					300.00	300.00	300.00
1-00-0115-000	CASH ON HAND					5,400.00	5,400.00	5,400.00
					TOTAL CASH	**242,379.20**	**795,587.16**	**152,826.81**
INVESTMENTS								
1-00-0135-000	**Local Agency Investment Fund**				**Acct. Total**	**12,279.76**	**12,279.76**	**12,203.21**
1-00-0120-000	**UBS Money Market Account General (SS 11469)**							
	UBS RMA Government Portfolio					1,332,419.75	820,073.16	630,548.67
	UBS Bank USA Dep acct					250,000.00	250,000.00	250,000.00
	Accrued interest					6,175.77	5,410.93	4,666.26
						1,588,595.52	**1,075,484.09**	**885,214.93**
	US Government Securities							
	CUSIP #	**Issuer**	**Maturity Date**	**Rate**	**PAR**	**Market Value**	**Market Value**	**Market Value**
	912796RF8	US Treasury Bill	10/10/2019	0.000	1,000,000	994,120.00	991,780.00	987,620.00
					1,000,000	**994,120.00**	**991,780.00**	**987,620.00**
	Certificates of Deposit							
		Issuer	**Maturity Date**	**Rate**	**Face Value**			
	1	Key Bank	03/29/2019	1.500	240,000	-	-	240,000.00
	2	Safra National Bank	04/30/2019	1.850	240,000	-	-	239,911.20
	3	Wells Fargo	05/20/2019	1.250	240,000	-	-	239,668.80
	4	Capital Bank	06/17/2019	1.850	200,000	-	199,936.00	199,682.00
	5	Discover Bank	07/24/2019	1.850	200,000	199,938.00	199,852.00	199,662.00
	6	BMO Harris Bank	08/26/2019	2.350	240,000	240,019.20	239,978.40	239,966.40
	7	US Bank	09/12/2019	2.400	240,000	240,072.00	240,002.40	240,007.20
	8	US Bank NA MN	10/10/2019	2.250	240,000	240,028.80	239,860.80	-
	9	Synchrony Bank	11/12/2019	2.300	240,000	240,122.40	239,877.60	-
	10	TBK Bank	12/02/2019	2.400	240,000	240,268.80	239,983.20	-
	11	Bank of China	12/19/2019	2.450	200,000	200,318.00	-	-
	12	Apollo bank	01/10/2020	2.250	240,000	240,151.20	239,736.00	-
	13	Vreitex Comm bank	02/18/2020	2.350	240,000	240,297.60	239,865.60	-
					2,280,000	**2,081,216.00**	**2,079,092.00**	**1,598,897.60**
					Acct. Total	**4,663,931.52**	**4,146,356.09**	**3,471,732.53**
1-00-1110-000	**UBS Money Market Account Capital (SS 11475)**							
	UBS Bank USA Dep acct					130,437.84	130,364.89	124,324.96
	UBS RMA Government Portfolio					-	-	-
					Acct. Total	**130,437.84**	**130,364.89**	**124,324.96**
1-00-0125-000	**UBS Access Account General (SS 11432)**							
	UBS Bank USA Dep acct					26,146.56	25,233.64	-
	UBS RMA Government Portfolio					-	-	1,836.19
	Accrued interest					22,094.24	16,614.78	25,978.19
						48,240.80	**41,848.42**	**27,814.38**
	US Government Securities							
	CUSIP #	**Issuer**	**Maturity Date**	**Rate**	**PAR**	**Market Value**	**Market Value**	**Market Value**
	912796RF8	US Treasury Bill	10/10/2019	2.260	1,750,000	1,739,710.00	1,735,615.00	1,728,335.00
	9128283N8	US Treasury Note	12/31/2019	1.875	1,000,000	999,180.00	997,310.00	995,780.00
	912828C57	US Treasury Note	03/21/2021	2.250	1,430,000	1,441,111.10	1,436,592.30	1,429,327.90
					4,180,000	**4,180,001.10**	**4,169,517.30**	**4,153,442.90**
	Certificates of Deposit							
		Issuer	**Maturity Date**	**Rate**	**Face Value**			
	1	American Express	04/29/2019	1.440	240,000	-	-	239,880.00
	2	Synchrony Bank	04/14/2020	1.850	240,000	239,652.00	239,071.20	238,804.80
	3	JP Morgan Chase Bank	11/18/2020	1.600	240,000	237,036.00	235,888.80	235,473.60
	4	Bank of Baroda NY	11/23/2020	1.600	77,000	76,059.06	75,688.69	75,563.95
	5	Wells Fargo	12/14/2020	3.100	240,000	243,144.00	242,251.20	242,572.80
	6	Comenity Cap Bank	01/19/2021	1.900	163,000	163,399.35	162,652.81	162,691.93
	7	Bank of America	02/08/2021	2.550	240,000	241,351.20	240,252.00	240,412.80
	8	Sallie Mae Bank	05/10/2021	2.450	240,000	241,096.80	239,784.00	-
					1,680,000	**1,441,738.41**	**1,435,588.70**	**1,435,399.88**
					Acct. Total	**5,669,980.31**	**5,646,954.42**	**5,616,657.16**
					Total Managed Accounts	**10,476,629.43**	**9,935,955.16**	**9,224,917.86**
1-00-1121-000	**UBS Rate Stabilization Fund (SS 24016)** - *District Restricted*							
	UBS Bank USA Dep acct					2,835.71	2,316.49	1,295.94
	UBS RMA Government Portfolio					-	-	-
	Accrued interest					200.54	250.68	217.25
						3,036.25	**2,567.17**	**1,513.19**
	Certificates of Deposit							
		Issuer	**Maturity Date**	**Rate**	**Face Value**			
	1	US Bank USA	10/16/2019	2.500	244,000	244,226.92	244,087.84	244,119.56
					-	-	-	-
					244,000	**244,226.92**	**244,087.84**	**244,119.56**
					Acct. Total	**247,263.17**	**246,655.01**	**245,632.75**
					GRAND TOTAL CASH AND INVESTMENTS	**10,966,271.80**	**10,978,197.33**	**9,623,377.42**
					Increase (Decrease) in Funds	**(11,925.53)**		
1-00-1135-000	**2018A Bonds - Project Funds (BNY Mellon)**							
	Construction Funds					**9,718,142.15**	**9,699,313.20**	**9,718,251.77**
	Issuance Funds					**12,331.27**	**12,307.41**	**12,260.00**
						9,730,473.42	**9,711,620.61**	**9,730,511.77**

PALMDALE WATER DISTRICT

2019 Cash Flow Report (Based on Nov. 13, 2018 Approved Budget)

	January	February	March	April	May	June	July	August	September	October	November	December	YTD	Budget 2020 Carryover Information
Total Cash Beginning Balance (BUDGET)	**11,758,902**	**11,719,239**	**11,701,222**	**9,716,957**	**11,223,622**	**11,836,793**	**11,371,326**	**11,142,978**	**10,898,854**	**8,880,124**	**9,040,500**	**9,425,377**		
Total Cash Beginning Balance	**11,758,902**	**11,738,165**	**12,039,792**	**9,623,377**	**10,972,277**	**10,978,197**	**10,966,272**	**10,544,504**	**10,250,175**	**8,231,241**	**8,326,412**	**8,621,068**		
Budgeted Water Receipts	1,857,500	1,801,000	1,717,500	1,908,000	2,013,500	2,174,500	2,428,000	2,491,500	2,638,500	2,464,000	2,129,000	2,115,500	25,738,500	
Water Receipts	**2,209,434**	**1,813,810**	**1,788,600**	**1,755,912**	**1,817,467**	**1,988,434**	2,428,000	2,491,500	2,638,500	2,464,000	2,129,000	2,115,500	25,640,156	
DWR Refund (Operational Related)				**4,993**		**7,294**							12,287	
Other													-	
Total Operating Revenue (BUDGET)													-	
Total Operating Revenue (ACTUAL)	2,209,434	1,813,810	1,788,600	1,760,905	1,817,467	1,995,728	2,428,000	2,491,500	2,638,500	2,464,000	2,129,000	2,115,500	25,652,443	
Total Operating Expenses excl GAC (BUDGET)	(1,703,728)	(1,470,089)	(1,442,592)	(1,552,592)	(1,724,092)	(1,767,092)	(1,828,092)	(1,944,092)	(1,907,092)	(1,838,092)	(1,702,091)	(1,485,497)	(20,365,141)	
GAC (BUDGET)		(160,000)		(160,000)		-	(160,000)	(160,000)		(160,000)			(800,000)	
Operating Expenses excl GAC (ACTUAL)	**(2,315,781)**	**(1,692,032)**	**(1,660,277)**	**(1,603,933)**	**(2,432,794)**	**(1,664,550)**	(1,828,092)	(1,910,592)	(1,698,092)	(1,838,092)	(1,702,091)	(1,485,497)	(21,831,823)	
GAC	**(123,876)**	-	-	**(123,876)**	-	-	(160,000)	(160,000)	-	(160,000)	-	(160,000)	(887,752)	
Prepaid Insurance (paid)/refunded								(33,500)	(209,000)				(242,500)	
Total Operating Expense (ACTUAL)	(2,439,657)	(1,692,032)	(1,660,277)	(1,727,809)	(2,432,794)	(1,664,550)	(1,988,092)	(2,104,092)	(1,907,092)	(1,998,092)	(1,702,091)	(1,645,497)	(22,962,075)	
Non-Operating Revenue:														
Assessments, net (BUDGET)	686,050	264,605	18,650	2,167,790	745,795	13,325	86,225	134,500	-	-	137,500	2,620,560	6,875,000	
Actual/Projected Assessments, net	**649,895**	**302,122**	**33,330**	**1,922,586**	**737,077**	**36,359**	86,225	134,500	-	-	137,500	2,620,560	6,660,154	
Asset Sale/Unencumbered Money (Taxes)													-	
RDA Pass-through (Successor Agency)	**254,124**					**470,470**						275,000	999,594	
Interest	**36,770**	**15,070**	**29,281**	**33,027**	**30,415**	**32,419**	12,500	12,500	12,500	12,500	12,500	12,500	251,982	
Market Adjustment	**11,113**	**24,995**	**9,551**	**5,603**	**14,958**	**20,887**							87,107	
Grant Re-imbursement	**9,185**								50,000			50,000	109,185	
Capital Improvement Fees - Infrastructure		**1,963**		**2,833**	**3,114**		25,000						32,910	
Capital Improvement Fees - Water Supply							50,000						50,000	
DWR Refund (Capital Related)				**111,507**	**33,510**						29,983		175,000	
Other	**4,195**	**(3)**	**(19)**	**20,997**	**(4)**	**(11)**	5,000	5,000	7,500		7,500		50,155	
Total Non-Operating Revenues (BUDGET)													-	
Total Non-Operating Revenues (ACTUAL)	**965,283**	**344,147**	**72,142**	**2,096,554**	**819,069**	**560,125**	**178,725**	**152,000**	**70,000**	**12,500**	**187,483**	**2,958,060**	**8,416,087**	
Non-Operating Expenses:														
Budgeted Capital Expenditures	(80,000)	(325,000)	(235,000)	(478,000)	(291,000)	(145,000)	(195,000)	(685,000)	(179,500)	(169,500)	(126,000)	(439,785)	(3,348,785)	
Budgeted Capital Expenditures (Committed During Year)													-	
Actual/Projected Capital Expenditures	**(34,053)**	**(15,749)**	**(507,515.89)**	**(106,387)**	**(48,125)**	**(64,096)**	(189,295)	(135,000)	(179,500)	(184,500)	(126,000)	(89,000)	(1,679,221)	
WRB Capital Expenditures (COP - Amargosa Recharge Proj)				**(225,626)**				(500,000)				(395,159)	(1,120,785)	
Const. of Monitoring Wells/Test Basin (Water Supply)			**(54,040)**			**(5,540)**	(38,920)	(50,000)	(50,000)	(50,000)	(45,000)		(293,500)	
Grade Control Structure (Water Supply)													-	
SWP Capitalized	**(712,005)**	**(138,030)**	**(160,840)**	**(138,030)**	**(138,029)**	**(138,029)**	(712,001)	(138,029)	(167,030)	(138,029)	(138,028)	(138,028)	(2,856,108)	
Investment in PRWA				**(300,000)**										
Butte County Water Transfer						**(684,855)**						(776,104)	(1,460,959)	
Bond Payments - Interest			**(1,295,245)**						(1,295,245)				(2,590,490)	
Principal			**(588,735)**						(1,117,860)				(1,706,595)	
Capital leases - Holman Capital (2017 Lease)							(89,477)					(89,477)	(178,953)	
Capital leases - Enterprise FM Trust (Vehicles)	**(5,357)**	**(6,136)**	**(6,121)**	**(6,121)**	**(7,081)**	**(6,121)**	(6,121)	(6,121)	(6,121)	(6,121)	(6,121)	(6,121)	(73,663)	
Capital leases - Wells Fargo (Printers)	**(4,382)**	**(4,382)**	**(4,382)**	**(4,587)**	**(4,587)**	**(4,587)**	(4,587)	(4,587)	(4,587)	(4,587)	(4,587)	(4,587)	(54,427)	
Total Non-Operating Expenses (ACTUAL)	**(755,797)**	**(164,298)**	**(2,616,879)**	**(780,750)**	**(197,821)**	**(903,228)**	**(1,040,401)**	**(833,737)**	**(2,820,343)**	**(383,237)**	**(319,736)**	**(1,498,476)**	**(12,014,702)**	
Total Cash Ending Balance (BUDGET)	**11,719,239**	**11,701,222**	**9,716,957**	**11,223,622**	**11,836,793**	**11,371,326**	**11,142,978**	**10,898,854**	**8,880,124**	**9,040,500**	**9,425,377**	**11,649,020**		
Total Cash Ending Balance (ACTUAL)	**11,738,165**	**12,039,792**	**9,623,377**	**10,972,277**	**10,978,197**	**10,966,272**	**10,544,504**	**10,250,175**	**8,231,241**	**8,326,412**	**8,621,068**	**10,550,655**		
											Budget	**11,649,020**	**Carryover**	-
											Difference		**Adj. Difference**	#VALUE!
2018 Cash Ending Balance (ACTUAL)	**14,185,206**	**14,474,248**	**13,088,750**	**14,753,769**	**15,025,830**	**13,747,742**	**12,855,412**	**12,404,076**	**10,070,582**	**9,788,348**	**9,787,373**	**11,758,902**		

Indicates actual expenditures/revenues:

Indicates anticipated expenditures/revenues:

PALMDALE WATER DISTRICT

BOARD MEMORANDUM

DATE:	July 10, 2019	**July 22, 2019**
TO:	Board of Directors	**Board Meeting**
FROM:	Michael Williams, Finance Manager/CFO	
VIA:	Mr. Dennis LaMoreaux, General Manager	
RE:	***AGENDA ITEM 8.1.b – STATUS REPORT ON 2019 FINANCIAL STATEMENTS, REVENUE, AND EXPENSE AND DEPARTMENTAL BUDGET REPORTS FOR JUNE 2019***	

Discussion:

Presented here are the Balance Sheet and Profit/Loss Statement for the period ending June 30, 2019. Also included are Year-To-Year Comparisons, Quarter-To-Quarter Comparisons, and Month-To-Month Comparisons for both revenue and expense. Finally, I have provided individual departmental budget reports through the month of June 2019.

This is the 6th month/2nd quarter of the District's Budget Year 2019. The target percentage is 50%. Revenues ideally are at or above, and expenditures ideally are below.

Balance Sheet:

- Pages 1 and 2 is our balance sheet on June 30, 2019.
- There are no significant changes from May to June.

Profit/Loss Statement:

- Page 4 is our profit/loss statement on June 30, 2019.
- Operating revenue is at 43% of budget.
- Cash operating expense is at 46% of budget.
- All departmental budgets are at or below the target percentage, except for Engineering and Human Resources, which was discussed in prior meetings.
- Revenues have exceeded expenses for the month by $904K, and year-to-date revenues have exceeded expenditures by $529K.
- Under Non-Operating Revenues, interest earnings have exceeded budget by $114K due to bond proceeds continuing to sit and earn interest as the grade control project is on hold.
- Page 7 is showing the distribution of expense between labor and operations. Labor costs are currently at 58% of total expenses with salaries making up 40% of that.

Year-To-Year Comparison P&L:

- Page 8 is our comparison of June 2018 to June 2019.
- Total operating revenue is up $15K, or 1%.
- Operating expenditures are down $970K, or 44%.

- Page 9 is a graphic presentation of water consumption comparison for 2018
    - Units billed in acre feet were down by 129, or 8%.
    - Total revenue per unit sold was up $0.27, or 9%.
    - Total revenue per connection was up $0.50, or .6%.
    - Units billed per connection was down 2.13, or 8%.

- Page 10 is our comparison of June 2017 to June 2019.
- Total operating revenue was up $56K, or 3%.
- Total operating expenses were down $414K, or 25%.
- Page 11 is a graphic presentation of the water consumption comparison for 2017.
    - Units billed in acre feet were down by 156, or 9%.
    - Total revenue per unit sold was up $0.37, or 13%.
    - Total revenue per connection was up $2.02, or 3%.
    - Units billed per connection is down 2.63, or 9%.

Quarter-To-Quarter Comparison P&L:

- Page 11-1 is our 1st to 2nd quarter comparison
- Total operating revenue increased $710K, or 14%.
- Total operating expense increased $90K, or 2%.
- Units billed increased by 660K.
- Revenue per unit sold decreased $1.58.
- Revenue per connection increased $8.83.
- Units sold per connection increased by 8.23.

- Page 11-2 is our yearly 2nd quarter comparison
- Total operating revenue decreased $59K, or 1%.
- Total operating expense decreased $1.3M, or 20%.
- Units billed decreased by 108K.
- Revenue per unit sold increased $1.76.
- Revenue per connection decreased $9.63.
- Units sold per connection decreased 9.61.

Revenue Analysis Year-To-Date:

- Page 12 is our comparison of revenue, year-to-date.
- Operating revenue through June 2019 is down $120K, or 1%.
- Retail water revenue from all areas are down by $71K from last year. That's shown by the combined green highlighted area.
- Retail water sales excluding meter fees, is down $457K.
- Total revenue is up $144K, or 1%.
- Operating revenue is at 43% of budget, last year was at 47% of budget.

Expense Analysis Year-To-Date:

- Page 14 is our comparison of expense, year-to-date.
- Cash Operating Expenses through June 2019 are down $640K, or 6%, compared to 2018, note that the 2019 budget is approximately $1.2M less than 2018.
- Total Expenses are down $612K, or 4%.

Departments:

- Pages 17 through 27 are detailed individual departmental budgets for your review.

Non-Cash Definitions:

Depreciation: This is the spreading of the total expense of a capital asset over the expected life of that asset.

OPEB Accrual Expense: Other Post-Employment Benefits (OPEB) is the recognized annual required contribution to the benefit. The amount is actuarially determined in accordance with the parameters of GASB 45. The amount represents a level of funding that, if paid on an ongoing basis, is projected to cover normal cost each year.

Bad Debt: The uncollectible accounts receivable that has been written off.

Service Cost Construction: The value of material, parts & supplies from inventory used to construct, repair and maintain our asset infrastructure.

Capitalized Construction: The value of our labor force used to construct our asset infrastructure.

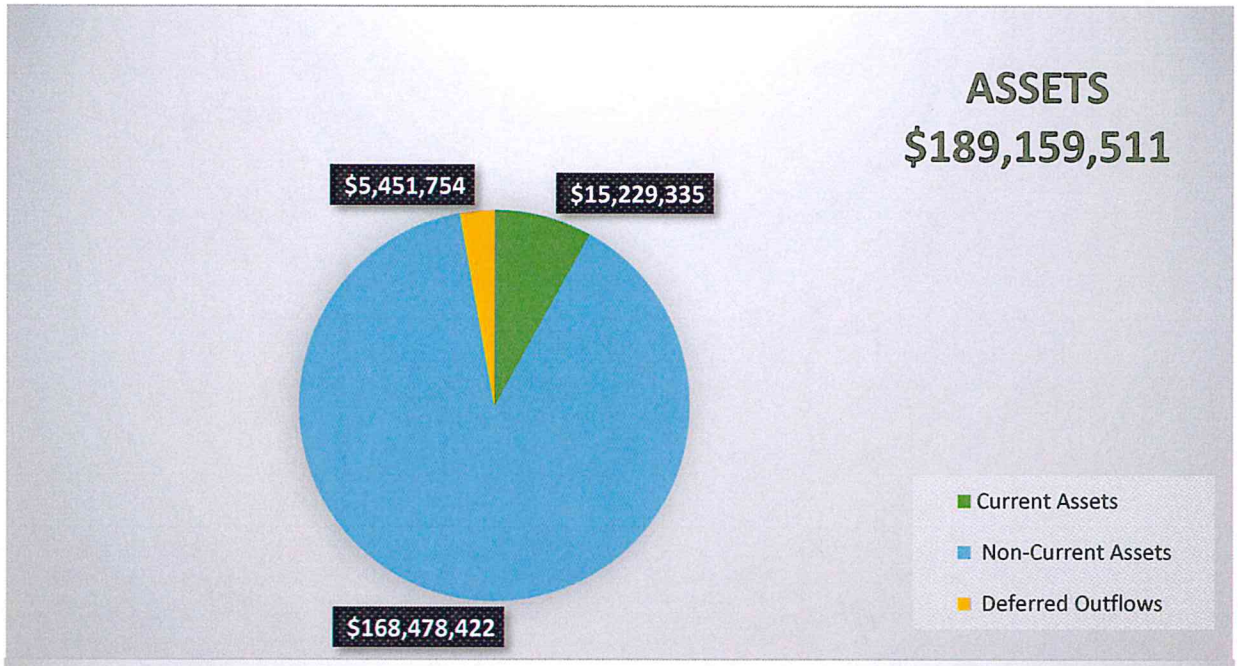
Palmdale Water District
Balance Sheet Report
For the Six Months Ending 6/30/2019

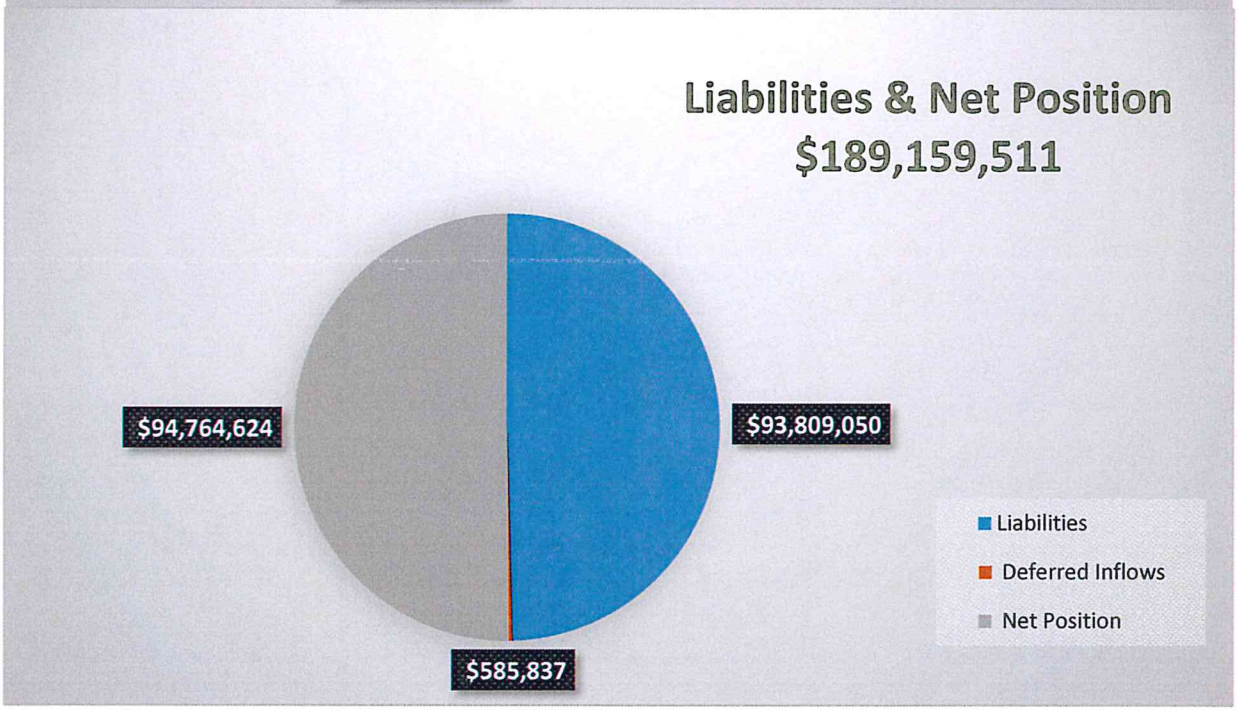
	June 2019	May 2019
ASSETS		
Current Assets:		
Cash and cash equivelents	$ 240,435	$ 795,587
Investments	10,723,893	10,182,610
Accrued interest receivable	-	-
Accounts receivable - water sales and services, net	1,753,716	1,571,645
Accounts receivable - property taxes and assessments	672,145	708,504
Accounts receivable - other	10,103	10,103
Materials and supplies inventory	1,476,371	1,508,282
Prepaid items and other deposits	352,672	303,734
Total Current Assets	**$ 15,229,335**	**$ 15,080,465**
Non-Current Assets:		
Restricted - cash and cash equivalents	$ 9,730,473	$ 9,711,621
Investment in Palmdale Recycled Water Authority	1,668,290	1,668,290
Capital assets - not being depreciated	14,812,756	14,620,616
Capital assets - being depreciated, net	142,266,903	142,115,088
Total Non-Current Assets	$ 168,478,422	$ 168,115,615
TOTAL ASSETS	**$ 183,707,757**	**$ 183,196,079**
DEFERRED OUTFLOWS OF RESOURCES:		
Deferred loss on debt defeasence, net	$ 2,086,785	$ 2,099,843
Deferred outflows of resources related to pensions	3,364,969	3,364,969
Total Deferred Outflows of Resources	**$ 5,451,754**	**$ 5,464,812**
TOTAL ASSETS AND DEFERRED OUTFLOWS OF RESOURCES	**$ 189,159,511**	**$ 188,660,892**

Palmdale Water District
Balance Sheet Report
For the Six Months Ending 6/30/2019

	June 2019	May 2019
LIABILITIES AND NET POSITION		
Current Liabilities:		
Accounts payable and accrued expenses	$ 128,649	$ 456,313
Customer deposits for water service	3,042,331	3,038,060
Construction and developer deposits	1,623,277	1,623,277
Accrued interest payable	644,063	429,710
Long-term liabilities - due in one year:	-	-
Compensated absences	384,319	384,319
Capital lease payable	82,364	82,364
Loan payable	597,860	597,860
Revenue bonds payable	520,000	520,000
Total Current Liabilities	**$ 7,022,862**	**$ 7,131,902**
Non-Current Liabilities:		
Long-term liabilities - due in more than one year:		
Compensated absences	$ 128,106	$ 128,106
Capital lease payable	429,316	429,316
Loan payable	8,688,812	8,700,410
Revenue bonds payable	53,490,000	53,490,000
Net other post employment benefits payable	14,240,495	14,133,436
Aggregate net pension liability	9,809,458	9,809,458
Total Non-Current Liabilities	**$ 86,786,188**	**$ 86,690,726**
Total Liabilities	**$ 93,809,050**	**$ 93,822,627**
DEFERRED INFLOWS OF RESOURCES:		
Unearned property taxes and assessments	$ -	$ 550,000
Deferred inflows of resources related to pensions	585,837	585,837
Total Deferred Inflows of Resources	**$ 585,837**	**$ 1,135,837**
NET POSITION:		
Profit/(Loss) from Operations	$ (943,672)	$ (2,005,869)
Restricted for investment in Palmdale Recycled Water Authority	1,974,945	1,974,945
Unrestricted	93,733,350	93,733,350
Total Net Position	**$ 94,764,624**	**$ 93,702,427**
TOTAL LIABILITIES, DEFERRED INFLOWS OF RESOURCES, AND NET POSITION	**$ 189,159,511**	**$ 188,660,892**

BALANCE SHEET AS OF JUNE 30, 2019

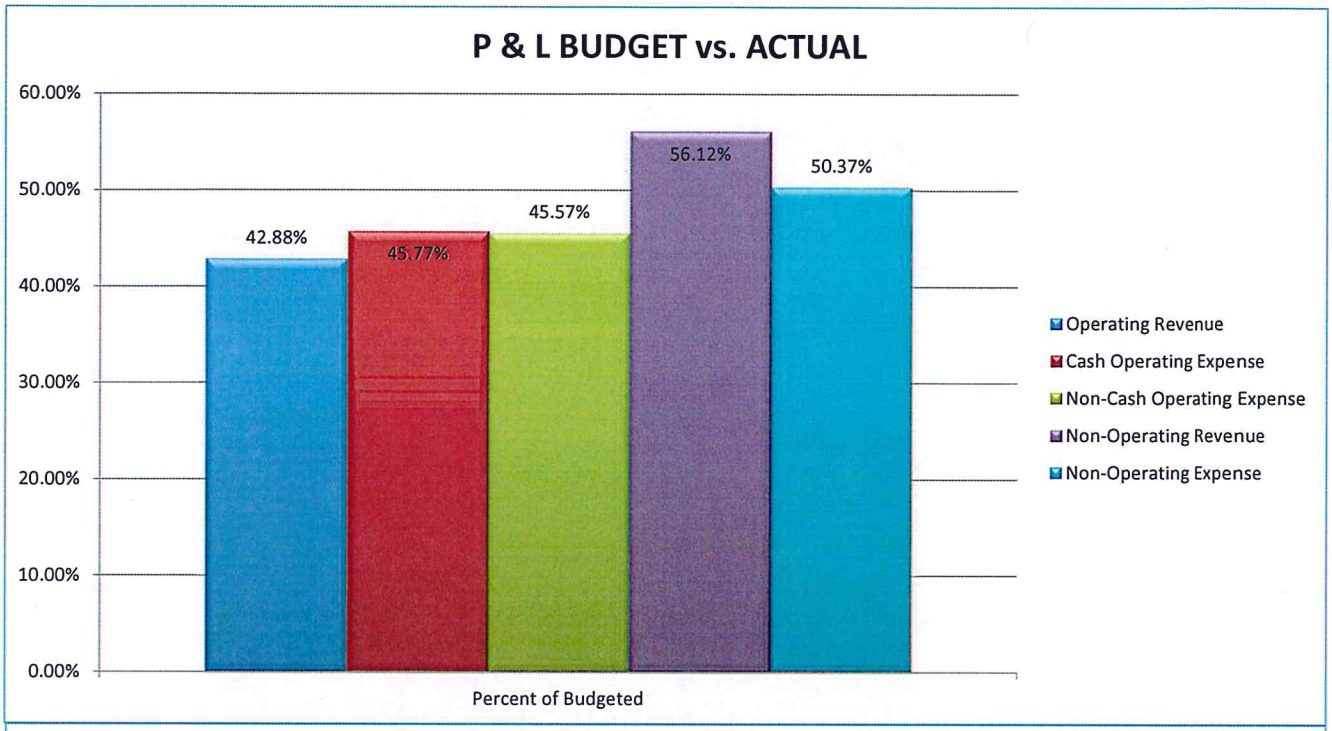


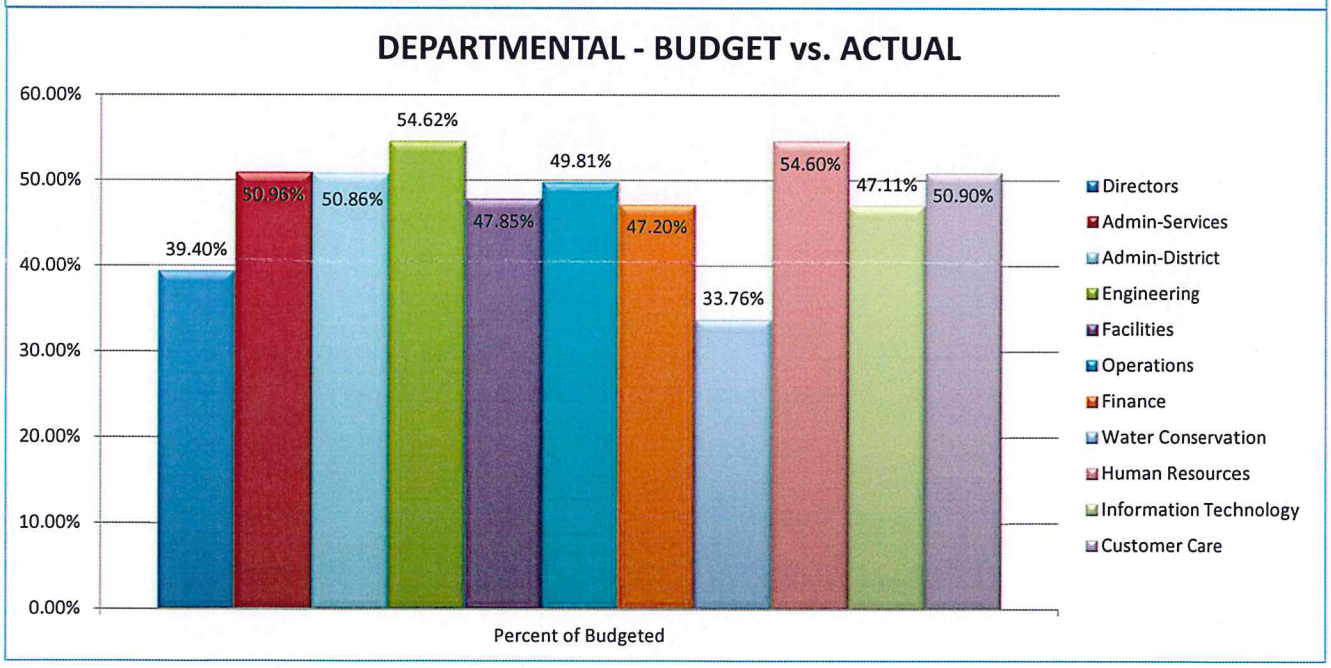


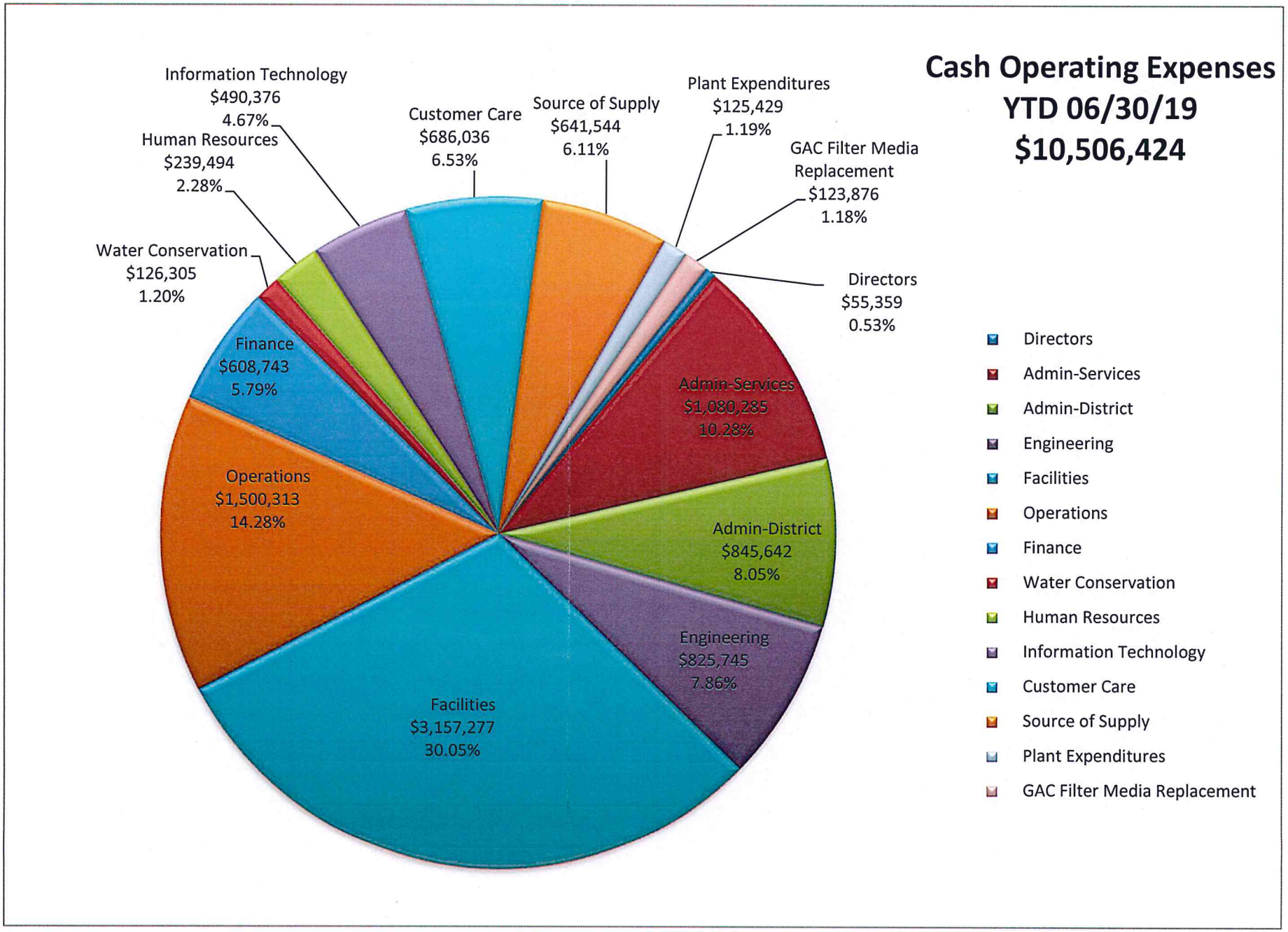
Palmdale Water District
Consolidated Profit and Loss Statement
For the Six Months Ending 6/30/2019

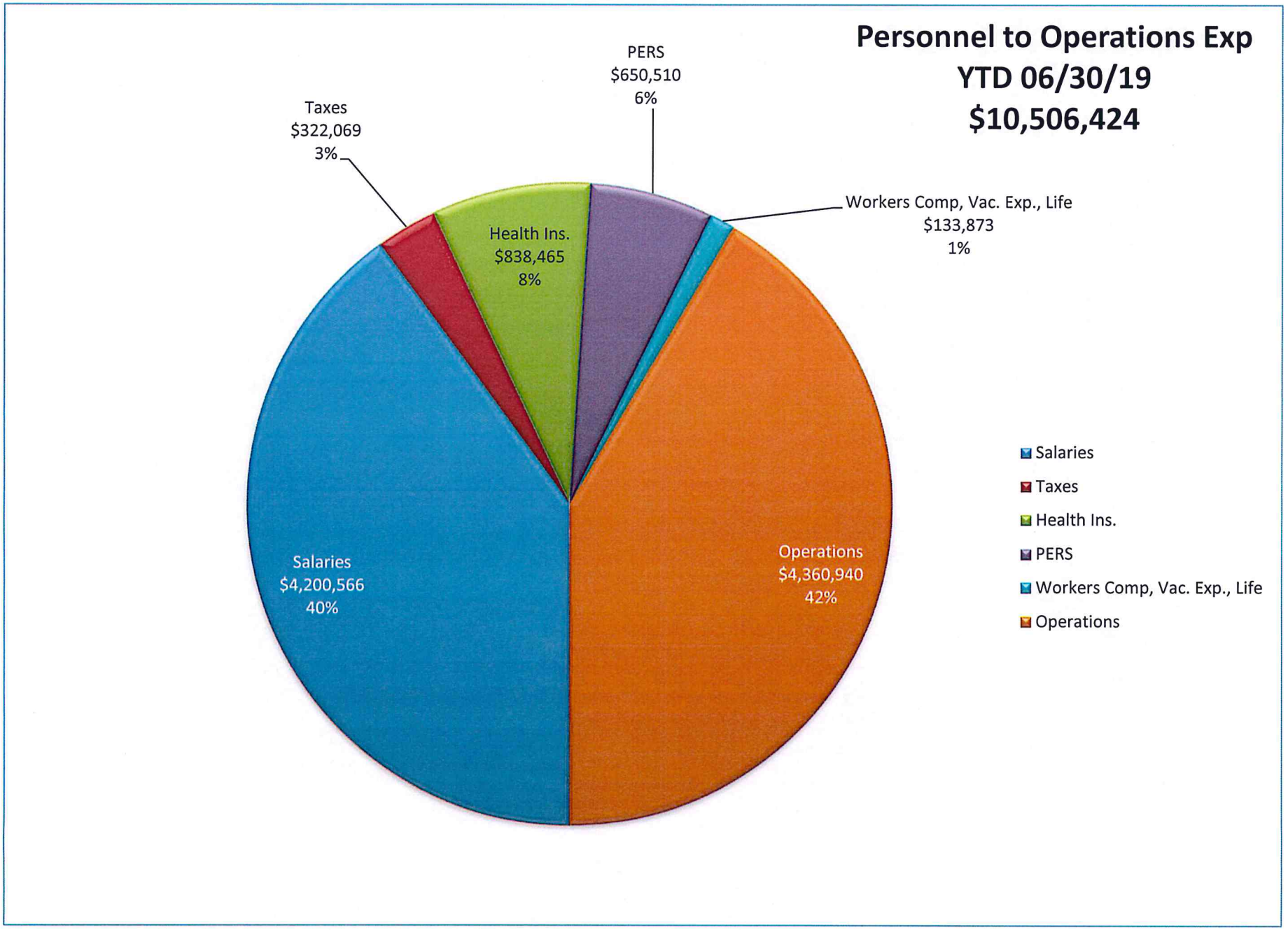
	Thru May	June	Year-to-Date	Adjustments	Adjusted Budget	% of Budget
Operating Revenue:						
Wholesale Water	$ 103,617	$ 48,639	$ 152,256		$ 295,000	51.61%
Water Sales	2,298,432	749,595	3,048,027		9,653,000	31.58%
Meter Fees	5,804,549	1,165,538	6,970,087		13,719,000	50.81%
Water Quality Fees	222,182	73,107	295,289		826,500	35.73%
Elevation Fees	89,746	32,479	122,225		370,000	33.03%
Other	387,646	60,205	447,851		875,000	51.18%
Total Operating Revenue	**$ 8,906,172**	**$ 2,129,563**	**$ 11,035,736**	**$ -**	**$ 25,738,500**	**42.88%**
Cash Operating Expenses:						
Directors	$ 44,374	$ 10,985	$ 55,359		$ 140,500	39.40%
Administration-Services	925,154	155,131	1,080,285		2,119,700	50.96%
Administration-District	749,109	96,533	845,642		2,166,500	39.03%
Engineering*	695,872	129,873	825,745	(84,809)	1,511,741	54.62%
Facilities	2,811,176	346,101	3,157,277		6,598,000	47.85%
Operations	1,340,847	159,466	1,500,313		3,012,000	49.81%
Finance	522,164	86,580	608,743		1,289,750	47.20%
Water Conservation	108,462	17,843	126,305		374,150	33.76%
Human Resources	223,572	15,923	239,494		438,600	54.60%
Information Technology*	385,473	104,903	490,376	84,809	1,040,859	47.11%
Customer Care	581,293	104,744	686,036		1,347,700	50.90%
Source of Supply-Purchased Water	644,336	(2,792)	641,544		1,905,000	33.68%
Plant Expenditures	125,429	-	125,429		212,000	59.16%
GAC Filter Media Replacement	123,876	-	123,876		800,000	15.48%
Total Cash Operating Expenses	**$ 9,281,136**	**$ 1,225,288**	**$ 10,506,424**	**$ -**	**$ 22,956,500**	**45.77%**
Net Cash Operating Profit/(Loss)	**$ (374,963)**	**$ 904,275**	**$ 529,312**	**$ -**	**$ 2,782,000**	**19.03%**
Non-Cash Operating Expenses:						
Depreciation	$ 2,204,034	$ 433,184	$ 2,637,218		$ 5,050,000	52.22%
OPEB Accrual Expense	638,550	127,710	766,260		1,750,000	43.79%
Bad Debts	13,485	(6,942)	6,543		50,000	13.09%
Service Costs Construction	8,645	(1,651)	6,995		100,000	6.99%
Capitalized Construction	(397,829)	(125,525)	(523,354)		(600,000)	87.23%
Total Non-Cash Operating Expenses	**$ 2,466,885**	**$ 426,777**	**$ 2,893,662**	**$ -**	**$ 6,350,000**	**45.57%**
Net Operating Profit/(Loss)	**$ (2,841,848)**	**$ 477,499**	**$ (2,364,350)**	**$ -**	**$ (3,568,000)**	**66.27%**
Non-Operating Revenues:						
Assessments (Debt Service)	$ 1,980,000	$ 396,000	$ 2,376,000		$ 5,125,000	46.36%
Assessments (1%)	1,024,124	624,470	1,648,594		2,300,000	71.68%
DWR Fixed Charge Recovery	145,017	-	145,017		175,000	82.87%
Interest	210,784	53,306	264,090		150,000	176.06%
CIF - Infrastructure	7,910	-	7,910		18,750	42.19%
CIF - Water Supply	-	-	-		56,250	0.00%
Grants - State and Federal	9,185	-	9,185		100,000	9.19%
Other	25,166	(11)	25,155		50,000	50.31%
Total Non-Operating Revenues	**$ 3,402,186**	**$ 1,073,765**	**$ 4,475,951**	**$ -**	**$ 7,975,000**	**56.12%**
Non-Operating Expenses:						
Interest on Long-Term Debt	$ 1,095,984	$ 216,636	$ 1,312,620		$ 2,648,000	49.57%
Amortization of SWP	1,189,032	237,885	1,426,917		2,881,000	49.53%
Change in Investments in PRWA	306,655	-	306,655		300,000	102.22%
Water Conservation Programs	4,645	4,436	9,080		236,500	3.84%
Total Non-Operating Expenses	**$ 2,596,316**	**$ 458,956**	**$ 3,055,273**	**$ -**	**$ 6,065,500**	**50.37%**
Net Earnings	**$ (2,035,979)**	**$ 1,092,307**	**$ (943,672)**	**$ -**	**$ (1,658,500)**	**56.90%**

* Budget adjustments by Board action 03/25/19


P & L BUDGET vs. ACTUAL
60.00%
50.00%
40.00%
30.00%
20.00%
10.00%
0.00%
42.88%
45.77%
45.57%
56.12%
50.37%
Operating Revenue
Cash Operating Expense
Non-Cash Operating Expense
Non-Operating Revenue
Non-Operating Expense
Percent of Budgeted


DEPARTMENTAL - BUDGET vs. ACTUAL
60.00%
50.00%
40.00%
30.00%
20.00%
10.00%
0.00%
39.40%
50.96%
50.86%
54.62%
47.85%
49.81%
47.20%
33.76%
54.60%
47.11%
50.90%
Directors
Admin-Services
Admin-District
Engineering
Facilities
Operations
Finance
Water Conservation
Human Resources
Information Technology
Customer Care
Percent of Budgeted


Cash Operating Expenses
YTD 06/30/19
$10,506,424
Information Technology
$490,376
4.67%
Human Resources
$239,494
2.28%
Water Conservation
$126,305
1.20%
Finance
$608,743
5.79%
Operations
$1,500,313
14.28%
Facilities
$3,157,277
30.05%
Engineering
$825,745
7.86%
Admin-District
$845,642
8.05%
Admin-Services
$1,080,285
10.28%
Directors
$55,359
0.53%
GAC Filter Media
Replacement
$123,876
1.18%
Plant Expenditures
$125,429
1.19%
Source of Supply
$641,544
6.11%
Customer Care
$686,036
6.53%
Directors
Admin-Services
Admin-District
Engineering
Facilities
Operations
Finance
Water Conservation
Human Resources
Information Technology
Customer Care
Source of Supply
Plant Expenditures
GAC Filter Media Replacement


Personnel to Operations Exp
YTD 06/30/19
$10,506,424
PERS
$650,510
6%
Taxes
$322,069
3%
Health Ins.
$838,465
8%
Workers Comp, Vac. Exp., Life
$133,873
1%
Salaries
$4,200,566
40%
Operations
$4,360,940
42%
Salaries
Taxes
Health Ins.
PERS
Workers Comp, Vac. Exp., Life
Operations

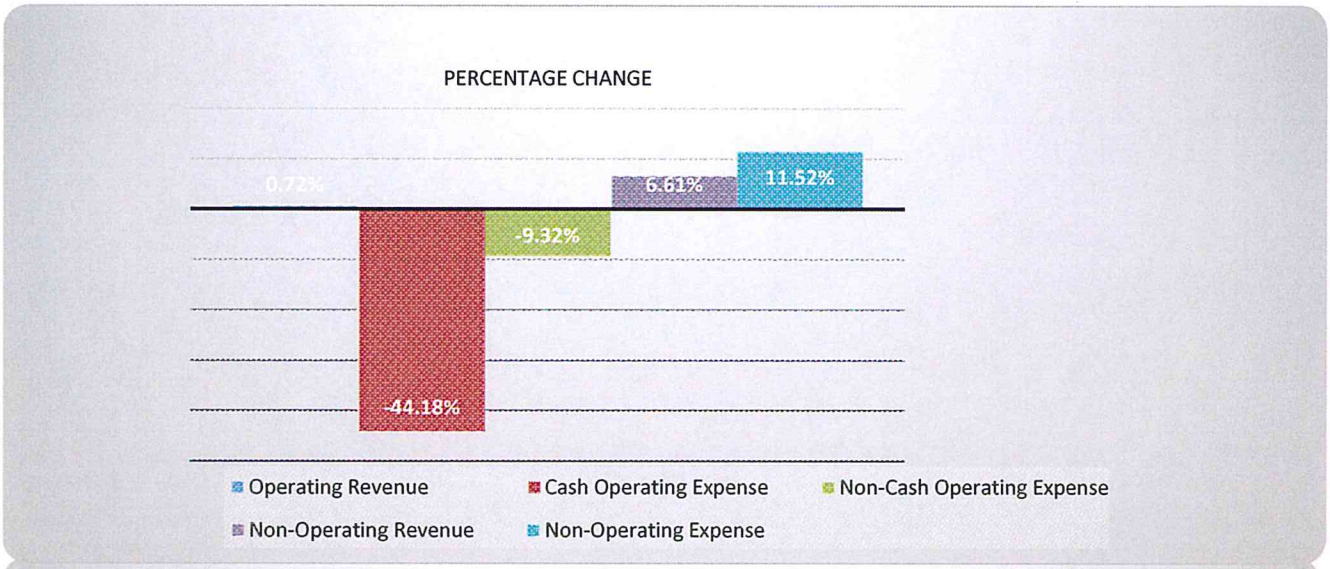
Palmdale Water District
Profit and Loss Statement
Year-To-Year Comparison - June

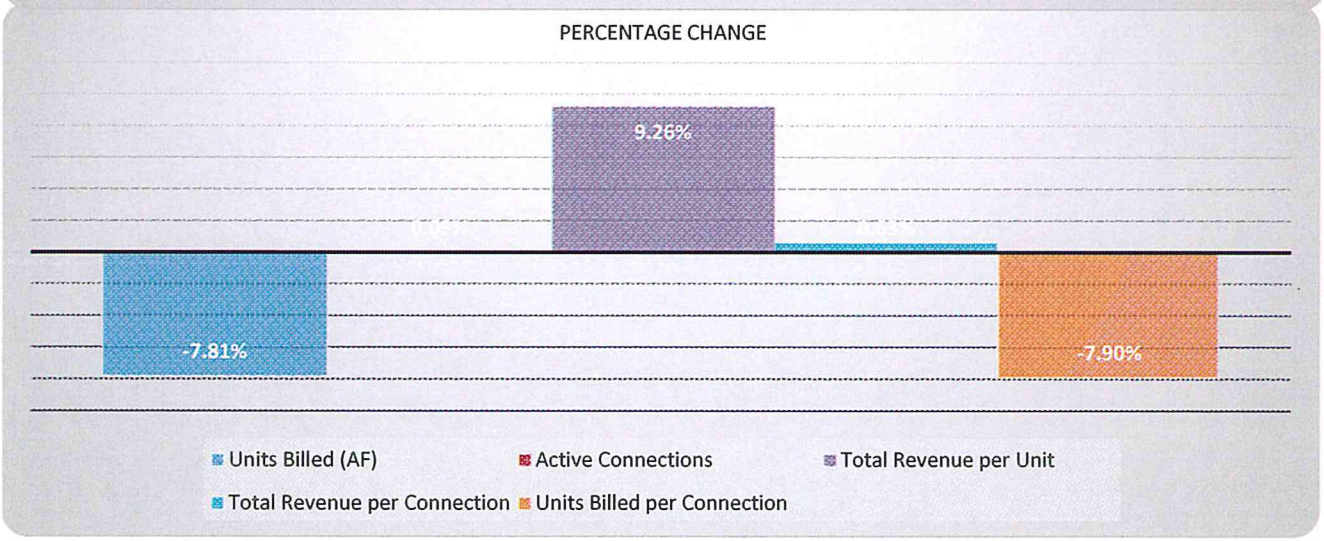
	2018 June	2019 June	Change	% Change
Operating Revenue:				
Wholesale Water	$ 3,810	$ 48,639	$ 44,829	1176.71%
Water Sales	817,891	749,595	(68,296)	-8.35%
Meter Fees	1,098,935	1,165,538	66,603	6.06%
Water Quality Fees	79,315	73,107	(6,207)	-7.83%
Elevation Fees	39,047	32,479	(6,567)	-16.82%
Other	75,373	60,205	(15,168)	-20.12%
Total Operating Revenue	**$ 2,114,370**	**$ 2,129,563**	**$ 15,193**	**0.72%**
Cash Operating Expenses:				
Directors	$ 12,094	$ 10,985	$ (1,109)	-9.17%
Administration-Services	130,231	155,131	24,899	19.12%
Administration-District	210,022	96,533	(113,489)	-54.04%
Engineering	117,690	129,873	12,184	10.35%
Facilities	550,421	346,101	(204,320)	-37.12%
Operations	358,332	159,466	(198,866)	-55.50%
Finance	117,840	86,580	(31,260)	-26.53%
Water Conservation	16,972	17,843	871	5.13%
Human Resources	18,859	15,923	(2,936)	-15.57%
Information Technology	56,311	104,903	48,592	86.29%
Customer Care	96,627	104,744	8,117	8.40%
Source of Supply-Purchased Water	287,791	(2,792)	(290,583)	-100.97%
Plant Expenditures	52,530	-	(52,530)	-100.00%
GAC Filter Media Replacement	169,477	-	(169,477)	-100.00%
Total Cash Operating Expenses	**$ 2,195,197**	**$ 1,225,288**	**$ (969,908)**	**-44.18%**
Non-Cash Operating Expenses:				
Depreciation	$ 446,497	$ 433,184	$ (13,313)	-2.98%
OPEB Accrual Expense	127,710	127,710	-	0.00%
Bad Debts	660	(6,942)	(7,602)	-1151.28%
Service Costs Construction	(4,510)	(1,651)	2,859	-63.40%
Capitalized Construction	(99,718)	(125,525)	(25,807)	25.88%
Total Non-Cash Operating Expenses	**$ 470,639**	**$ 426,777**	**$ (43,863)**	**-9.32%**
Net Operating Profit/(Loss)	**$ (551,466)**	**$ 477,499**	**$ 1,028,964**	**-186.59%**
Non-Operating Revenues:				
Assessments (Debt Service)	$ 440,417	$ 396,000	$ (44,417)	-10.09%
Assessments (1%)	546,909	624,470	77,561	14.18%
DWR Fixed Charge Recovery	-	-	-	
Interest	15,555	53,306	37,751	242.69%
CIF - Infrastructure	4,277	-	(4,277)	-100.00%
CIF - Water Supply	-	-	-	
Grants - State and Federal	-	-	-	
Other	(1)	(11)	(10)	
Total Non-Operating Revenues	**$ 1,007,157**	**$ 1,073,765**	**$ 66,608**	6.61%
Non-Operating Expenses:				
Interest on Long-Term Debt	$ 185,803	$ 216,636	$ 30,833	16.59%
Amortization of SWP	216,738	237,885	21,147	9.76%
Change in Investments in PRWA	-	-	-	
Water Conservation Programs	8,995	4,436	(4,560)	-50.69%
Total Non-Operating Expenses	**$ 411,537**	**$ 458,956**	**$ 47,420**	11.52%
Net Earnings	**$ 44,155**	**$ 1,092,307**	**$ 1,048,153**	**2373.81%**

Consumption Comparison

	2018	2019
Units Billed	721,065	664,724
Active	26,686	26,710
Vacant	711	708
Rev/unit	$ 2.93	$ 3.20
Rev/con	$ 79.23	$ 79.73
Unit/con	27.02	24.89

YEAR-TO-YEAR COMPARISON
June 2018 -To - June 2019





	2018	2019	Change	
Units Billed (AF)	1,655	1,526	-129	-7.81%
Active Connections	26,686	26,710	24	0.09%
Non-Active	711	708	-3	-0.42%
Total Revenue per Unit	$2.93	$3.20	$0.27	9.26%
Total Revenue per Connection	$79.23	$79.73	$0.50	0.63%
Units Billed per Connection	27.02	24.89	-2.13	-7.90%

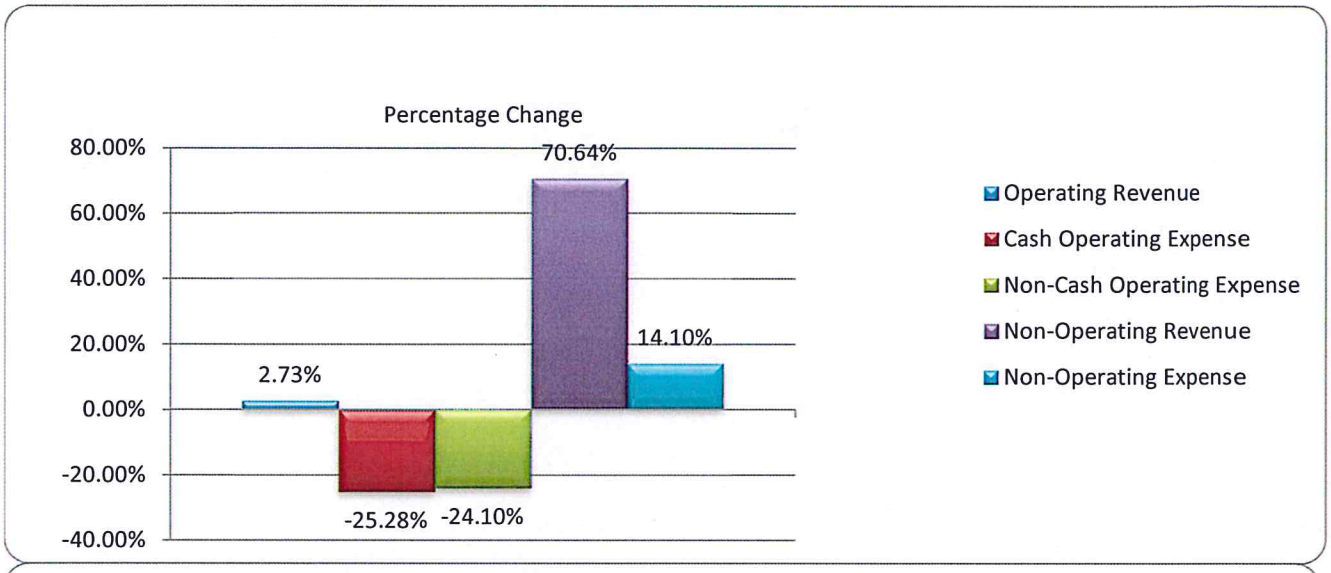
Palmdale Water District
Profit and Loss Statement
Year-To-Year Comparison-2 Years - June

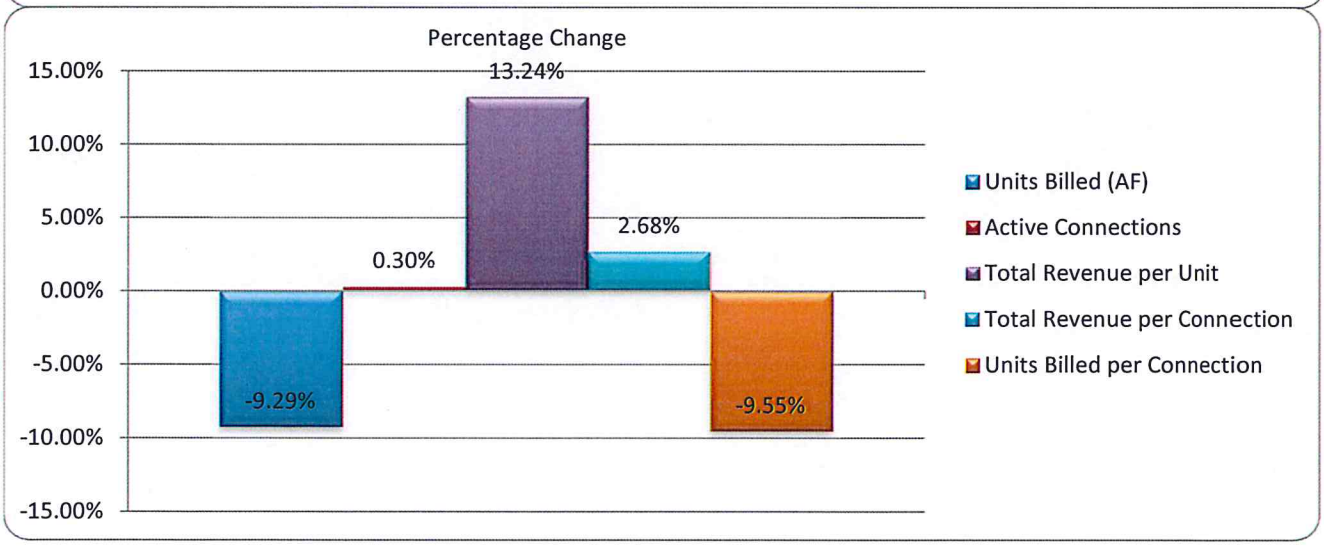
	2017 June	2019 June	Change	% Change
Operating Revenue:				
Wholesale Water	$ 171	$ 48,639	$ 48,467	
Water Sales	820,965	749,595	(71,369)	-8.69%
Meter Fees	1,061,105	1,165,538	104,433	9.84%
Water Quality Fees	87,932	73,107	(14,824)	-16.86%
Elevation Fees	39,260	32,479	(6,781)	-17.27%
Other	63,611	60,205	(3,406)	-5.36%
Drought Surcharge	-	-	-	
Total Operating Revenue	**$ 2,073,044**	**$ 2,129,563**	**$ 56,519**	**2.73%**
Cash Operating Expenses:				
Directors	$ 7,838	$ 10,985	$ 3,147	40.15%
Administration-Services	124,329	155,131	30,801	24.77%
Administration-District	212,448	96,533	(115,915)	-54.56%
Engineering	108,833	129,873	21,040	19.33%
Facilities	462,127	346,101	(116,026)	-25.11%
Operations	209,637	159,466	(50,171)	-23.93%
Finance	87,515	86,580	(936)	-1.07%
Water Conservation	16,024	17,843	1,818	11.35%
Human Resources	30,959	15,923	(15,036)	-48.57%
Information Technology	43,233	104,903	61,669	142.64%
Customer Care	93,867	104,744	10,876	11.59%
Source of Supply-Purchased Water	257,588	(2,792)	(260,380)	-101.08%
Plant Expenditures	(14,653)	-	14,653	-100.00%
GAC Filter Media Replacement	-	-	-	
Total Cash Operating Expenses	**$ 1,639,747**	**$ 1,225,288**	**$ (414,459)**	**-25.28%**
Non-Cash Operating Expenses:				
Depreciation	$ 465,041	$ 433,184	$ (31,857)	-6.85%
OPEB Accrual Expense	182,900	127,710	(55,189)	-30.17%
Bad Debts	-	(6,942)	(6,942)	
Service Costs Construction	(21,602)	(1,651)	19,951	-92.36%
Capitalized Construction	(64,064)	(125,525)	(61,461)	95.94%
Total Non-Cash Operating Expenses	**$ 562,275**	**$ 426,777**	**$ (135,498)**	**-24.10%**
Net Operating Profit/(Loss)	**$ (128,977)**	**$ 477,499**	**$ 606,476**	**-470.22%**
Non-Operating Revenues:				
Assessments (Debt Service)	$ 440,417	$ 396,000	$ (44,417)	-10.09%
Assessments (1%)	142,917	624,470	481,553	336.95%
DWR Fixed Charge Recovery	46,158	-	(46,158)	-100.00%
Interest	(250)	53,306	53,556	-21443.72%
CIF - Infrastructure	-	-	-	
CIF - Water Supply	-	-	-	
Grants - State and Federal	-	-	-	
Other	21	(11)	(31)	-151.31%
Total Non-Operating Revenues	**$ 629,262**	**$ 1,073,765**	**$ 444,503**	70.64%
Non-Operating Expenses:				
Interest on Long-Term Debt	$ 180,607	$ 216,636	$ 36,029	19.95%
Amortization of SWP	216,738	237,885	21,147	9.76%
Change in Investments in PRWA	-	-	-	
Water Conservation Programs	4,912	4,436	(477)	-9.71%
Total Non-Operating Expenses	**$ 402,258**	**$ 458,956**	**$ 56,699**	14.10%
Net Earnings	**$ 98,027**	**$ 1,092,307**	**$ 994,280**	**1014.29%**

Consumption Comparison

	2017	2019
Units Billed	732,765	664,724
Active	26,631	26,710
Vacant	787	708
Rev/unit	$ 2.83	$ 3.20
Rev/con	$ 75.45	$ 77.48
Unit/con	27.52	24.89

YEAR-TO-YEAR COMPARISON
June 2017 -To -June 2019





	2017	2019	Change	
Units Billed (AF)	1,682	1,526	-156	-9.29%
Active Connections	26,631	26,710	79	0.30%
Non-Active	787	708	-79	-10.04%
Total Revenue per Unit	$2.83	$3.20	$0.37	13.24%
Total Revenue per Connection	$75.45	$77.48	$2.02	2.68%
Units Billed per Connection	27.52	24.89	-2.63	-9.55%

Palmdale Water District
Profit and Loss Statement
Quarterly Comparison - June

	1st Qtr March	2nd Qtr June	Change	% Change
Operating Revenue:				
Wholesale Water	$ 66,088	$ 77,744	$ 11,656	17.64%
Water Sales	1,189,044	1,858,983	669,939	56.34%
Meter Fees	3,480,418	3,489,669	9,250	0.27%
Water Quality Fees	111,373	183,917	72,544	65.14%
Elevation Fees	41,404	80,821	39,417	95.20%
Other	270,228	177,221	(93,007)	-34.42%
Total Operating Revenue	**$ 5,158,554**	**$ 5,868,355**	**$ 709,800**	**13.76%**
Cash Operating Expenses:				
Directors	$ 23,278	$ 32,080	$ 8,802	37.81%
Administration-Services	504,125	570,341	66,216	13.13%
Administration-District	396,517	346,777	(49,740)	-12.54%
Engineering	400,503	407,554	7,052	1.76%
Facilities	1,394,472	1,725,028	330,556	23.70%
Operations	658,324	825,736	167,413	25.43%
Finance	302,804	299,097	(3,708)	-1.22%
Water Conservation	56,424	69,881	13,457	23.85%
Human Resources	138,451	109,313	(29,138)	-21.05%
Information Technology	247,617	241,885	(5,732)	-2.31%
Customer Care	339,141	334,435	(4,706)	-1.39%
Source of Supply-Purchased Water	311,002	142,293	(168,709)	-54.25%
Plant Expenditures	117,261	-	(117,261)	-100.00%
GAC Filter Media Replacement	123,876	-	(123,876)	-100.00%
Total Cash Operating Expenses	**$ 5,013,795**	**$ 5,104,421**	**$ 90,626**	**1.81%**
Non-Cash Operating Expenses:				
Depreciation	$ 1,320,940	$ 1,316,277	$ (4,663)	-0.35%
OPEB Accrual Expense	383,130	383,130	-	0.00%
Bad Debts	17,269	(10,726)	(27,995)	-162.11%
Service Costs Construction	(6,760)	5,261	12,021	-177.83%
Capitalized Construction	(122,612)	(392,249)	(269,637)	219.91%
Total Non-Cash Operating Expenses	**$ 1,591,968**	**$ 1,301,694**	**$ (290,275)**	**-18.23%**
Net Operating Profit/(Loss)	**$ (1,447,209)**	**$ (537,760)**	**$ 909,449**	**-62.84%**
Non-Operating Revenues:				
Assessments (Debt Service)	$ 1,188,000	$ 1,188,000	$ 0	0.00%
Assessments (1%)	716,124	932,470	216,346	30.21%
DWR Fixed Charge Recovery	-	145,017	145,017	
Interest	126,780	137,309	10,529	8.30%
CIF - Infrastructure	1,963	5,947	3,983	202.90%
CIF - Water Supply	-	-	-	
Grants - State and Federal	9,185	-	(9,185)	-100.00%
Other	4,172	20,982	16,810	402.92%
Total Non-Operating Revenues	**$ 2,046,225**	**$ 2,429,725**	**$ 383,500**	18.74%
Non-Operating Expenses:				
Interest on Long-Term Debt	$ 1,957,957	$ 649,908	$ (1,308,049)	-66.81%
Amortization of SWP	713,262	713,655	393	0.06%
Change in Investments in PRWA	6,618	300,037	293,419	4433.33%
Water Conservation Programs	3,887	5,193	1,306	33.61%
Total Non-Operating Expenses	**$ 2,681,725**	**$ 1,668,793**	**$ (1,012,931)**	-37.77%
Net Earnings	**$ (2,082,709)**	**$ 223,172**	**$ 2,305,881**	**-110.72%**

Consumption Comparison

	1st Qtr	2nd Qtr
Units Billed	1,012,539	1,672,105
Active	80,083	80,114
Vacant	2,141	2,131
Rev/unit	$ 5.09	$ 3.51
Rev/con	$ 64.42	$ 73.25
Unit/con	12.64	20.87

Palmdale Water District
Profit and Loss Statement
Quarterly Comparison

	2nd Qtr 2018	2nd Qtr 2019	Change	% Change
Operating Revenue:				
Wholesale Water	$ 31,436	$ 77,744	$ 46,308	147.31%
Water Sales	1,963,541	1,858,983	(104,558)	-5.32%
Meter Fees	3,290,605	3,489,669	199,064	6.05%
Water Quality Fees	195,875	183,917	(11,958)	-6.10%
Elevation Fees	91,463	80,821	(10,642)	-11.64%
Other	354,818	177,221	(177,597)	-50.05%
Total Operating Revenue	**$ 5,927,738**	**$ 5,868,355**	**$ (59,383)**	**-1.00%**
Cash Operating Expenses:				
Directors	$ 34,127	$ 32,080	$ (2,046)	-6.00%
Administration-Services	476,366	570,341	93,975	19.73%
Administration-District	456,005	346,777	(109,228)	-23.95%
Engineering	447,655	407,554	(40,100)	-8.96%
Facilities	1,955,323	1,725,028	(230,294)	-11.78%
Operations	961,074	825,736	(135,338)	-14.08%
Finance	333,670	299,097	(34,573)	-10.36%
Water Conservation	58,800	69,881	11,081	18.85%
Human Resources	93,774	109,313	15,540	16.57%
Information Technology	181,644	241,885	60,240	33.16%
Customer Care	347,153	334,435	(12,718)	-3.66%
Source of Supply-Purchased Water	563,745	142,293	(421,452)	-74.76%
Plant Expenditures	161,200	-	(161,200)	-100.00%
GAC Filter Media Replacement	349,146	-	(349,146)	
Total Cash Operating Expenses	**$ 6,419,681**	**$ 5,104,421**	**$ (1,315,260)**	**-20.49%**
Non-Cash Operating Expenses:				
Depreciation	$ 1,343,052	$ 1,316,277	$ (26,775)	-1.99%
OPEB Accrual Expense	383,130	383,130	-	0.00%
Bad Debts	14,448	(10,726)	(25,175)	-174.24%
Service Costs Construction	63,441	5,261	(58,180)	-91.71%
Capitalized Construction	(278,021)	(392,249)	(114,228)	41.09%
Total Non-Cash Operating Expenses	**$ 1,526,051**	**$ 1,301,694**	**$ (224,358)**	**-14.70%**
Net Operating Profit/(Loss)	**$ (2,017,994)**	**$ (537,760)**	**$ 1,480,234**	**-73.35%**
Non-Operating Revenues:				
Assessments (Debt Service)	$ 1,321,250	$ 1,188,000	$ (133,250)	-10.09%
Assessments (1%)	850,271	932,470	82,199	9.67%
DWR Fixed Charge Recovery	166,170	145,017	(21,153)	-12.73%
Interest	47,854	137,309	89,455	186.93%
CIF - Infrastructure	13,372	5,947	(7,425)	-55.53%
CIF - Water Supply	20,295	-	(20,295)	-100.00%
Grants - State and Federal	-	-	-	
Other	(1)	20,982	20,983	
Total Non-Operating Revenues	**$ 2,419,210**	**$ 2,429,725**	**$ 10,515**	0.43%
Non-Operating Expenses:				
Interest on Long-Term Debt	$ 538,700	$ 649,908	$ 111,208	20.64%
Amortization of SWP	650,208	713,655	63,447	9.76%
Change in Investments in PRWA	301,363	300,037	(1,326)	-0.44%
Water Conservation Programs	41,262	5,193	(36,069)	-87.41%
Total Non-Operating Expenses	**$ 1,531,533**	**$ 1,668,793**	**$ 137,260**	8.96%
Net Earnings	**$ (1,130,316)**	**$ 223,172**	**$ 1,353,489**	**-119.74%**

Consumption Comparison

	2018	2019
Units Billed	1,780,744	1,672,105
Active	80,048	80,114
Vacant	2,137	2,131
Rev/unit	$ 3.33	$ 5.09
Rev/con	$ 74.05	$ 64.42
Unit/con	22.25	12.64

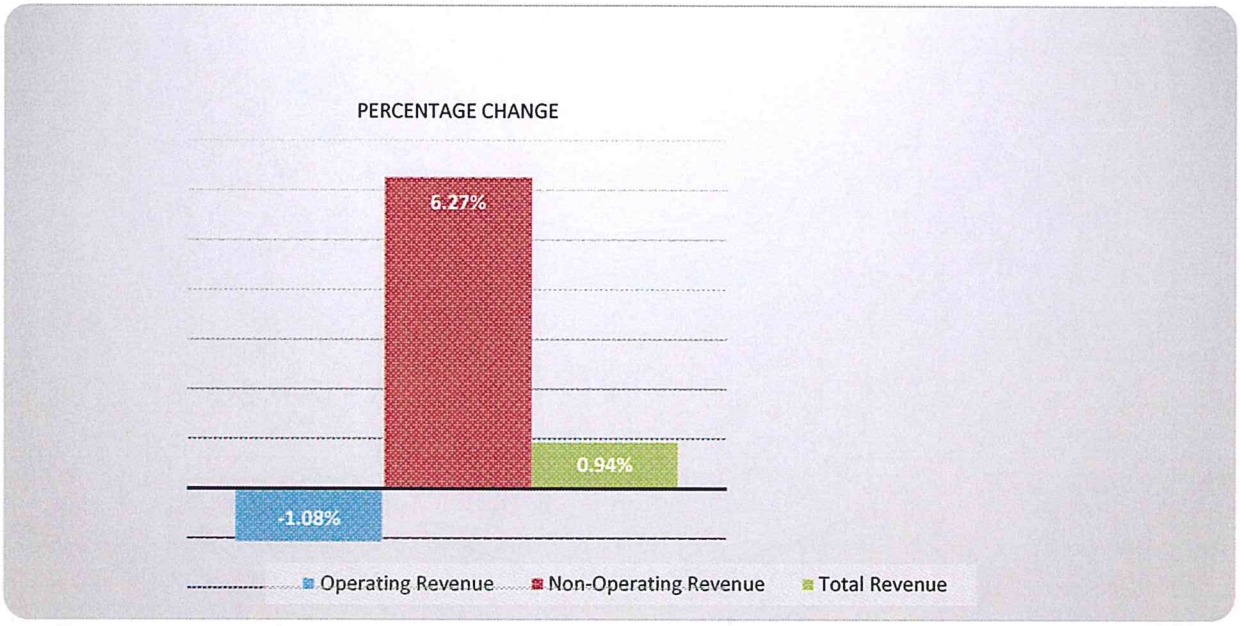
Palmdale Water District
Revenue Analysis
For the Six Months Ending 6/30/2019

	2019 Thru May	2019 June	2019 Year-to-Date	2019 Adjusted Budget	2019 % of Budget	2018 to 2019 Comparison June	2018 to 2019 Comparison Year-to-Date	2018 to 2019 Comparison % Change
Operating Revenue:								
Wholesale Water	$ 103,617	$ 48,639	$ 152,256	$ 295,000	51.61%	$ 44,829	$ 56,918	59.70%
Water Sales	2,298,432	749,595	3,048,027	9,653,000	31.58%	(68,296)	(397,094)	-11.53%
Meter Fees	5,804,549	1,165,538	6,970,087	13,719,000	50.81%	66,603	386,159	5.87%
Water Quality Fees	222,182	73,107	295,289	826,500	35.73%	(6,207)	(33,867)	-10.29%
Elevation Fees	89,746	32,479	122,225	370,000	33.03%	(6,567)	(26,371)	-17.75%
Other	387,646	60,205	447,851	875,000	51.18%	(15,168)	(105,574)	-19.08%
Total Water Sales	**$ 8,906,172**	**$ 2,129,563**	**$ 11,035,736**	**$ 25,738,500**	**42.88%**	**$ 15,193**	**$ (119,829)**	**-1.08%**
Non-Operating Revenues:								
Assessments (Debt Service)	$ 1,980,000	$ 396,000	$ 2,376,000	$ 5,125,000	46.36%	$ (44,417)	$ (266,500)	-10.09%
Assessments (1%)	1,024,124	624,470	1,648,594	2,300,000	71.68%	77,561	369,574	28.90%
DWR Fixed Charge Recovery	145,017	-	145,017	175,000	82.87%	-	(21,153)	-12.73%
Interest	210,784	53,306	264,090	150,000	176.06%	37,751	191,997	266.32%
CIF - Infrastructure	7,910	-	7,910	18,750	42.19%	(4,277)	(5,462)	-40.85%
CIF - Water Supply	-	-	-	56,250	0.00%	-	(20,295)	-100.00%
Grants - State and Federal	9,185	-	9,185	100,000	9.19%	-	(9,335)	-50.40%
Other	25,166	(11)	25,155	50,000	50.31%	(10)	25,134	
Total Non-Operating Revenues	**$ 3,402,186**	**$ 1,073,765**	**$ 4,475,951**	**$ 7,975,000**	**56.12%**	**$ 66,608**	**$ 263,961**	**6.27%**
Total Revenue	**$ 12,308,358**	**$ 3,203,329**	**$ 15,511,687**	**$ 33,713,500**	**46.01%**	**$ 81,801**	**$ 144,132**	**0.94%**

	2018 Thru May	2018 June	2018 Year-to-Date	2018 Adjusted Budget	2018 % of Budget
Operating Revenue:					
Wholesale Water	$ 91,528	$ 3,810	$ 95,338	$ 160,000	59.59%
Water Sales	2,627,230	817,891	3,445,121	8,320,000	41.41%
Meter Fees	5,484,993	1,098,935	6,583,928	13,006,500	50.62%
Water Quality Fees	249,842	79,315	329,156	941,000	34.98%
Elevation Fees	109,549	39,047	148,596	360,000	41.28%
Other	478,052	75,373	553,426	800,000	69.18%
Total Water Sales	**$ 8,949,666**	**$ 2,110,560**	**$ 11,060,226**	**$ 23,587,500**	**46.89%**
Non-Operating Revenues:					
Assessments (Debt Service)	$ 2,202,083	$ 440,417	$ 2,642,500	$ 5,125,000	51.56%
Assessments (1%)	732,112	546,909	1,279,021	2,375,000	53.85%
DWR Fixed Charge Recovery	166,170	-	166,170	175,000	94.95%
Interest	56,537	15,555	72,092	90,000	80.10%
CIF - Infrastructure	9,094	4,277	13,372	62,500	21.39%
CIF - Water Supply	20,295	-	20,295	187,500	10.82%
Grants - State and Federal	18,520	-	18,520	178,000	10.40%
Other	22	(1)	22	60,000	0.04%
Total Non-Operating Revenues	**$ 3,204,833**	**$ 1,007,157**	**$ 4,211,990**	**$ 8,253,000**	**51.04%**
Total Revenue	**$ 12,154,499**	**$ 3,117,718**	**$ 15,272,217**	**$ 31,840,500**	**47.96%**

REVENUE COMPARISON YEAR-TO-DATE

June 2018-To- June 2019



Palmdale Water District
Operating Expense Analysis
For the Six Months Ending 6/30/2019

	2019 Thru May	June	Year-to-Date	Adjusted Budget	% of Budget	2018 to 2019 Comparison June	Year-to-Date	% Change
Cash Operating Expenses:								
Directors	$ 44,374	$ 10,985	$ 55,359	$ 140,500	39.40%	$ (1,109)	$ (8,995)	-13.98%
Administration-Services	925,154	155,131	1,080,285	2,119,700	50.96%	24,899	188,521	21.14%
Administration-District	749,109	96,533	845,642	2,166,500	39.03%	(113,489)	(69,202)	-7.56%
Engineering	695,872	129,873	825,745	1,596,550	51.72%	12,184	(47,798)	-5.47%
Facilities	2,811,176	346,101	3,157,277	6,598,000	47.85%	(204,320)	(331,699)	-9.51%
Operations	1,340,847	159,466	1,500,313	3,012,000	49.81%	(198,866)	(159,645)	-9.62%
Finance	522,164	86,580	608,743	1,289,750	47.20%	(31,260)	(19,559)	-3.11%
Water Conservation	108,462	17,843	126,305	374,150	33.76%	871	12,457	10.94%
Human Resources	223,572	15,923	239,494	438,600	54.60%	(2,936)	(8,706)	-3.51%
Information Technology	385,473	104,903	490,376	956,050	51.29%	48,592	87,904	21.84%
Customer Care	581,293	104,744	686,036	1,347,700	50.90%	8,117	17,013	2.54%
Source of Supply-Purchased Water	644,336	(2,792)	641,544	1,905,000	33.68%	(290,583)	68,660	11.98%
Plant Expenditures	125,429	-	125,429	212,000	59.16%	(52,530)	(143,848)	-53.42%
GAC Filter Media Replacement	123,876	-	123,876	800,000	15.48%	(169,477)	(225,270)	-64.52%
Total Cash Operating Expenses	**$ 9,281,136**	**$ 1,225,288**	**$ 10,506,424**	**$ 22,956,500**	**45.77%**	**$ (969,908)**	**$ (640,167)**	**-6.09%**
Non-Cash Operating Expenses:								
Depreciation	$ 2,204,034	$ 433,184	$ 2,637,218	$ 5,050,000	52.22%	$ (13,313)	$ (44,189)	-1.65%
OPEB Accrual Expense	638,550	127,710	766,260	1,750,000	43.79%	-	-	
Bad Debts	13,485	(6,942)	6,543	50,000	13.09%	(7,602)	(76,646)	-92.13%
Service Costs Construction	8,645	(1,651)	6,995	100,000	6.99%	2,859	(59,027)	-89.41%
Capitalized Construction	(397,829)	(125,525)	(523,354)	(600,000)	87.23%	(25,807)	(166,512)	46.66%
Total Non-Cash Operating Expenses	**$ 2,466,885**	**$ 426,777**	**$ 2,893,662**	**$ 6,350,000**	**45.57%**	**$ (43,863)**	**$ (346,375)**	**-11.97%**
Non-Operating Expenses:								
Interest on Long-Term Debt	$ 1,095,984	$ 216,636	$ 1,312,620	$ 2,648,000	49.57%	$ 30,833	$ 229,712	21.21%
Amortization of SWP	1,189,032	237,885	1,426,917	2,881,000	49.53%	21,147	186,025	14.99%
Change in Investments in PRWA	306,655	-	306,655	300,000	102.22%	-	4,648	1.54%
Water Conservation Programs	4,645	4,436	9,080	236,500	3.84%	(4,560)	(46,162)	-83.56%
Total Non-Operating Expenses	**$ 2,596,316**	**$ 458,956**	**$ 3,055,273**	**$ 6,065,500**	**50.37%**	**$ 47,420**	**$ 374,223**	**13.96%**
Total Expenses	**$ 14,344,337**	**$ 2,111,021**	**$ 16,455,358**	**$ 35,372,000**	**46.52%**	**$ (966,351)**	**$ (612,319)**	**-3.59%**

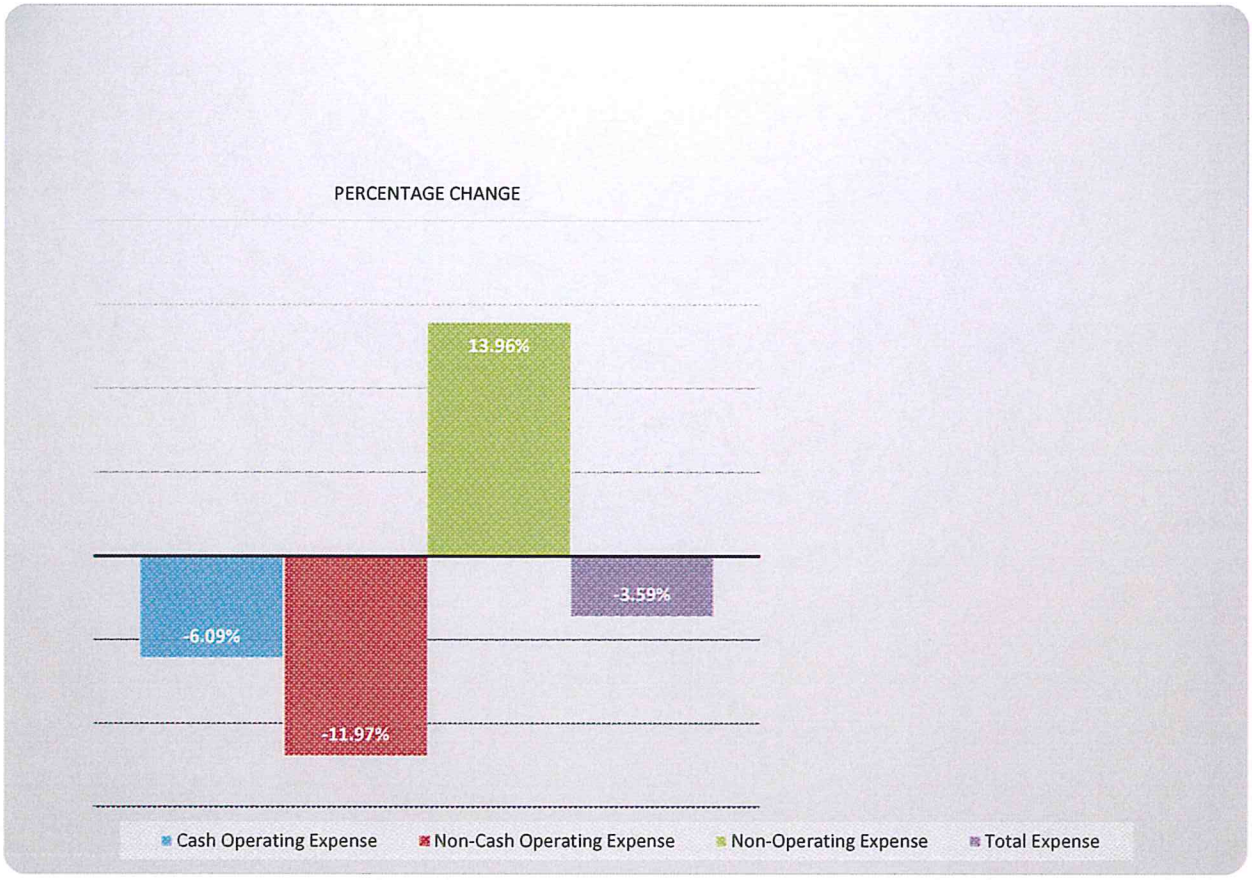
Palmdale Water District
Operating Expense Analysis
For the Six Months Ending 6/30/2019

2018 to 2019 Comparison

	2018 Thru May	June	Year-to-Date	Adjusted Budget	% of Budget
Cash Operating Expenses:					
Directors	$ 52,259	$ 12,094	$ 64,353	$ 140,500	45.80%
Administration-Services	761,533	130,231	891,764	1,957,200	45.56%
Administration-District	704,822	210,022	914,844	1,730,000	52.88%
Engineering	755,853	117,690	873,543	1,662,900	52.53%
Facilities	2,938,555	550,421	3,488,976	7,091,750	49.20%
Operations	1,301,625	358,332	1,659,957	3,032,007	54.75%
Finance	510,463	117,840	628,303	1,291,250	48.66%
Water Conservation	96,876	16,972	113,848	300,000	37.95%
Human Resources	229,342	18,859	248,201	636,850	38.97%
Information Technology	346,161	56,311	402,472	896,350	44.90%
Customer Care	572,396	96,627	669,023	1,312,700	50.97%
Source of Supply-Purchased Water	285,093	287,791	572,884	2,100,000	27.28%
Plant Expenditures	216,747	52,530	269,277	1,144,000	23.54%
GAC Filter Media Replacement	179,669	169,477	349,146	840,000	41.57%
Total Cash Operating Expenses	**$ 8,951,394**	**$ 2,195,197**	**$ 11,146,591**	**$ 24,135,507**	**46.18%**
Non-Cash Operating Expenses:					
Depreciation	$ 2,234,910	$ 446,497	$ 2,681,407	$ 6,000,000	44.69%
OPEB Accrual Expense	638,550	127,710	766,260	2,300,000	33.32%
Bad Debts	82,529	660	83,189	50,000	166.38%
Service Costs Construction	70,531	(4,510)	66,022	125,000	52.82%
Capitalized Construction	(257,124)	(99,718)	(356,842)	(600,000)	59.47%
Total Non-Cash Operating Expenses	**$ 2,769,397**	**$ 470,639**	**$ 3,240,037**	**$ 7,875,000**	**41.14%**
Non-Operating Expenses:					
Interest on Long-Term Debt	$ 897,104	$ 185,803	$ 1,082,908	$ 2,063,500	52.48%
Amortization of SWP	1,024,154	216,738	1,240,892	2,851,000	43.52%
Change in Investments in PRWA	302,008	-	302,008	300,000	100.67%
Water Conservation Programs	46,247	8,995	55,242	221,000	25.00%
Total Non-Operating Expenses	**$ 2,269,513**	**$ 411,537**	**$ 2,681,049**	**$ 5,435,500**	**49.32%**
Total Expenses	**$ 13,990,304**	**$ 3,077,373**	**$ 17,067,677**	**$ 37,446,007**	**45.58%**

EXPENSE COMPARISON YEAR-TO-DATE

June 2018-To-June 2019



Palmdale Water District
2019 Directors Budget
For the Six Months Ending Sunday, June 30, 2019

	YTD ACTUAL 2019	ORIGINAL BUDGET 2019	ADJUSTMENTS 2019	ADJUSTED BUDGET REMAINING	PERCENT USED
Personnel Budget:					
1-01-4000-000 Directors Pay	$ -	$ -	$ -	$ -	
Employee Benefits					
1-01-4005-000 Payroll Taxes	1,813	5,500		3,687	32.96%
Subtotal (Benefits)	1,813	5,500	-	3,687	32.96%
Total Personnel Expenses	$ 1,813	$ 5,500	$ -	$ 3,687	32.96%
OPERATING EXPENSES:					
1-01-xxxx-006 Director Share - Dizmang, Gloria	$ 750	$ 23,010		$ 22,260	3.26%
1-01-xxxx-007 Director Share - Alvarado, Robert	14,400	27,000		12,600	53.33%
1-01-xxxx-008 Director Share - Mac Laren, Kathy	12,063	27,000		14,937	44.68%
1-01-xxxx-010 Director Share - Dino, Vincent	10,933	27,000		16,067	40.49%
1-01-xxxx-011 Director Share - Henriquez, Marco	3,990	3,990		(0)	100.01%
1-01-xxxx-012 Director Share - Wilson, Don	11,409	27,000		15,591	42.26%
Subtotal Operating Expenses	53,546	135,000	-	81,454	39.66%
Total O & M Expenses	$ 55,359	$ 140,500	$ -	$ 85,141	39.40%

Palmdale Water District
2019 Administration District Wide Budget
For the Six Months Ending Sunday, June 30, 2019

	YTD ACTUAL 2019	ORIGINAL BUDGET 2019	ADJUSTMENTS 2019	ADJUSTED BUDGET REMAINING	PERCENT USED
Personnel Budget:					
1-02-5070-001 On-Call	$ 37,344	$ 105,000		$ 67,656	35.57%
Subtotal (Salaries)	$ 37,344	$ 105,000	$ -	$ 67,656	35.57%
Employee Benefits					
1-02-5070-002 PERS-Unfunded Liability	$ 315,529	$ 699,000		383,471	45.14%
1-02-5070-003 Workers Compensation	93,683	375,000		281,317	24.98%
1-02-5070-004 Vacation Benefit Expense	36,995	25,000		(11,995)	147.98%
1-02-5070-005 Life Insurance	3,195	6,500		3,305	49.16%
Subtotal (Benefits)	$ 449,402	$ 1,105,500	$ -	$ 656,098	40.65%
Total Personnel Expenses	$ 486,746	$ 1,210,500	$ -	$ 723,754	40.21%
OPERATING EXPENSES:					
1-02-5070-006 Other Operating	$ 3,431	$ 25,000		21,569	13.73%
1-02-5070-007 Consultants	84,870	234,000		149,130	36.27%
1-02-5070-008 Insurance	105,124	280,000		174,876	37.54%
1-02-5070-009 Groundwater Adjudication - Legal	11,953	40,000		28,047	29.88%
1-02-5070-010 Legal Services	31,879	125,000		93,121	25.50%
1-02-5070-011 Memberships/Subscriptions	29,717	125,000		95,283	23.77%
1-02-5070-012 Elections	51,671	57,000		5,329	90.65%
1-02-5070-014 Groundwater Adjudication - Assessment	40,251	45,000		4,749	89.45%
Subtotal Operating Expenses	$ 358,897	$ 931,000	$ -	$ 572,103	38.55%
Total Departmental Expenses	$ 845,642	$ 2,141,500	$ -	$ 1,295,858	39.49%

Palmdale Water District
2019 Administration Services Budget
For the Six Months Ending Sunday, June 30, 2019

		YTD ACTUAL 2019	ORIGINAL BUDGET 2019	ADJUSTMENTS 2019	ADJUSTED BUDGET REMAINING	PERCENT USED
Personnel Budget:						
1-02-4000-000	Salaries	$ 670,337	$ 1,350,000		$ 679,663	49.65%
1-02-4000-100	Overtime	1,871	14,000		12,129	13.36%
	Subtotal (Salaries)	$ 672,208	$ 1,364,000	$ -	$ 691,792	49.28%
Employee Benefits						
1-02-4005-000	Payroll Taxes	$ 51,378	$ 96,500		45,122	53.24%
1-02-4010-000	Health Insurance	100,110	194,000		93,890	51.60%
1-02-4015-000	PERS	55,314	120,000		64,686	46.09%
	Subtotal (Benefits)	$ 206,802	$ 410,500	$ -	$ 203,698	50.38%
	Total Personnel Expenses	$ 879,009	$ 1,774,500	$ -	$ 895,491	49.54%
OPERATING EXPENSES:						
1-02-4050-000	Staff Travel	$ 7,543	$ 14,000	$ -	$ 6,457	53.88%
1-02-4050-100	General Manager Travel	3,598	5,000		1,402	71.96%
1-02-4060-000	Staff Conferences & Seminars	2,990	6,000		3,010	49.83%
1-02-4060-100	General Manager Conferences & Seminars	1,924	4,000		2,076	48.10%
1-02-4130-000	Bank Charges	90,997	150,000		59,003	60.66%
1-02-4150-000	Accounting Services	19,000	25,000		6,000	76.00%
1-02-4175-000	Permits	1,495	17,500		16,005	8.54%
1-02-4180-000	Postage	4,504	25,000		20,496	18.02%
1-02-4190-100	Public Relations - Publications	21,155	30,000		8,845	70.52%
1-02-4190-700	Public Affairs - Marketing/Outreach	22,386	25,000		2,614	89.55%
1-02-4190-710	Public Affairs -Advertising	524	4,000		3,476	13.10%
1-02-4190-720	Public Affairs - Equipment	52	2,500		2,448	2.08%
1-02-4190-730	Public Affairs -Conference/Seminar/Travel	1,010	2,500		1,490	40.40%
1-02-4190-740	Public Affairs - Consultants	-	3,000		3,000	0.00%
1-02-4190-750	Public Affairs - Membership	405	700		295	57.86%
1-02-4200-000	Advertising	1,820	4,000		2,181	45.49%
1-02-4205-000	Office Supplies	16,391	22,000		5,609	74.51%
1-02-4210-000	Office Furniture	5,482	5,000		(482)	109.64%
	Subtotal Operating Expenses	$ 201,275	$ 345,200	$ -	$ 143,925	58.31%
	Total Departmental Expenses	$ 1,080,285	$ 2,119,700	$ -	$ 1,039,416	50.96%

Palmdale Water District
2019 Engineering Budget
For the Six Months Ending Sunday, June 30, 2019

		YTD ACTUAL 2019	ORIGINAL BUDGET 2019	ADJUSTMENTS 2019	ADJUSTED BUDGET REMAINING	PERCENT USED
Personnel Budget:						
1-03-4000-000	Salaries*	$ 562,637	$ 1,092,500	$ (68,789)	$ 461,074	54.96%
1-03-4000-100	Overtime*	10,548	11,250	(1,433)	(731)	107.45%
	Subtotal (Salaries)	$ 573,185	$ 1,103,750	$ (70,222)	$ 460,343	55.46%
Employee Benefits						
1-03-4005-000	Payroll Taxes*	43,681	82,000	(7,711)	30,608	58.80%
1-03-4010-000	Health Insurance	121,743	211,000		89,257	57.70%
1-03-4015-000	PERS*	47,752	106,000	(6,876)	51,372	48.17%
	Subtotal (Benefits)	$ 213,175	$ 399,000	$ (14,587)	$ 171,238	55.45%
	Total Personnel Expenses	$ 786,361	$ 1,502,750	$ (84,809)	$ 631,580	55.46%
OPERATING EXPENSES:						
1-03-4050-000	Staff Travel	$ 213	$ 4,500		$ 4,287	4.74%
1-03-4060-000	Staff Conferences & Seminars	1,395	4,800		3,405	29.06%
1-03-4060-001	Staff Training - Auto CAD Civil 3D	-	13,000		13,000	0.00%
1-03-4155-000	Contracted Services	2,432	20,000		17,568	12.16%
1-03-4165-000	Memberships/Subscriptions	2,008	2,500		492	80.34%
1-03-4250-000	General Materials & Supplies	1,400	10,500		9,100	13.33%
1-03-8100-100	Computer Software - Maint. & Support	64	31,000		30,936	0.20%
1-03-8100-200	Computer Software - SCADAWatch	31,873	7,500		(24,373)	424.97%
	Subtotal Operating Expenses	$ 39,385	$ 93,800	$ -	$ 54,415	41.99%
	Total Departmental Expenses	$ 825,745	$ 1,596,550	$ (84,809)	$ 685,996	54.62%

* Budget adjustments by Board action 03/25/19

Palmdale Water District
2019 Facilities Budget
For the Six Months Ending Sunday, June 30, 2019

		YTD ACTUAL 2019	ORIGINAL BUDGET 2019	ADJUSTMENTS 2019	ADJUSTED BUDGET REMAINING	PERCENT USED
Personnel Budget:						
1-04-4000-000	Salaries	$ 1,122,063	$ 2,251,500		$ 1,129,437	49.84%
1-04-4000-100	Overtime	93,027	115,000		21,973	80.89%
	Subtotal (Salaries)	$ 1,215,090	$ 2,366,500	$ -	$ 1,151,410	51.35%
Employee Benefits						
1-04-4005-000	Payroll Taxes	95,138	181,000		85,862	52.56%
1-04-4010-000	Health Insurance	301,445	473,000		171,555	63.73%
1-04-4015-000	PERS	92,785	230,500		137,715	40.25%
	Subtotal (Benefits)	$ 489,368	$ 884,500	$ -	$ 395,132	55.33%
	Total Personnel Expenses	$ 1,704,458	$ 3,251,000	$ -	$ 1,546,542	52.43%
OPERATING EXPENSES:						
1-04-4050-000	Staff Travel	$ 4,623	$ 6,000		$ 1,377	77.06%
1-04-4060-000	Staff Confrences & Seminars	1,658	15,000		13,342	11.05%
1-04-4155-000	Contracted Services	427,054	571,500		144,446	74.73%
1-04-4175-000	Permits-Dams	37,830	40,000		2,170	94.58%
1-04-4215-100	Natural Gas - Wells & Boosters	80,251	210,000		129,749	38.21%
1-04-4215-200	Natural Gas - Buildings	11,276	9,000		(2,276)	125.29%
1-04-4220-100	Electricity - Wells & Boosters	353,682	1,150,000		796,318	30.75%
1-04-4220-200	Electricity - Buildings	23,097	88,000		64,903	26.25%
1-04-4225-000	Maint. & Repair - Vehicles	13,165	32,500		19,335	40.51%
1-04-4230-100	Maint. & Rep. Office Building	4,030	25,000		20,970	16.12%
1-04-4235-110	Maint. & Rep. Equipment	5,114	12,000		6,886	42.61%
1-04-4235-400	Maint. & Rep. Operations - Wells	19,403	80,000		60,597	24.25%
1-04-4235-405	Maint. & Rep. Operations - Boosters	8,925	50,000		41,075	17.85%
1-04-4235-410	Maint. & Rep. Operations - Shop Bldgs	5,139	25,000		19,861	20.56%
1-04-4235-415	Maint. & Rep. Operations - Facilities	13,432	50,000		36,568	26.86%
1-04-4235-420	Maint. & Rep. Operations - Water Lines	106,219	300,000		193,781	35.41%
1-04-4235-425	Maint. & Rep. Operations - Littlerock Dam	-	15,000		15,000	0.00%
1-04-4235-430	Maint. & Rep. Operations - Palmdale Dam	670	-		(670)	
1-04-4235-435	Maint. & Rep. Operations - Palmdale Canal	4,884	10,000		5,116	48.84%
1-04-4235-440	Maint. & Rep. Operations - Large Meters	7,470	25,000		17,530	29.88%
1-04-4235-445	Maint. & Rep. Operations - Telemetry	893	-		(893)	
1-04-4235-450	Maint. & Rep. Operations - Hypo Generators	-	10,000		10,000	0.00%
1-04-4235-455	Maint. & Rep. Operations - Heavy Equipment	45,559	42,500		(3,059)	107.20%
1-04-4235-460	Maint. & Rep. Operations - Storage Reservoirs	1,251	5,000		3,749	25.02%
1-04-4235-461	Maint. & Rep. Operations - Air Vac	14,815	15,000		185	98.77%
1-04-4235-470	Maint. & Rep. Operations - Meters Exchanges	54,079	50,000		(4,079)	108.16%
1-04-4270-300	Telecommunication - Other	3,343	5,000		1,657	66.87%
1-04-4300-100	Testing - Regulatory Compliance	-	20,000		20,000	0.00%
1-04-4300-200	Testing - Large Meters	7,470	12,500		5,030	59.76%
1-04-4300-300	Testing - Edison Testing	2,550	15,000		12,450	17.00%
1-04-6000-000	Waste Disposal	8,378	20,000		11,622	41.89%
1-04-6100-100	Fuel and Lube - Vehicle	50,027	134,000		83,973	37.33%
1-04-6100-200	Fuel and Lube - Machinery	12,388	25,000		12,612	49.55%
1-04-6200-000	Uniforms	8,757	28,000		19,243	31.28%
1-04-6300-100	Supplies - General	18,524	55,000		36,476	33.68%
1-04-6300-200	Supplies - Hypo Generators	1,096	7,500		6,404	14.61%
1-04-6300-300	Supplies - Electrical	-	3,000		3,000	0.00%
1-04-6300-400	Supplies - Telemetry	832	5,000		4,168	16.64%
1-04-6300-800	Supplies - Construction Materials	15,356	35,000		19,644	43.87%
1-04-6400-000	Tools	22,643	45,000		22,358	50.32%
1-04-6450-000	Equipment	-	15,500		15,500	0.00%
1-04-7000-100	Leases -Equipment	13,362	15,000		1,638	89.08%
1-04-7000-100	Leases -Vehicles	43,573	70,000		26,427	62.25%
	Subtotal Operating Expenses	$ 1,452,819	$ 3,347,000	$ -	$ 1,894,181	43.41%
	Total Departmental Expenses	$ 3,157,277	$ 6,598,000	$ -	$ 3,440,723	47.85%

Palmdale Water District
2019 Operation Budget
For the Six Months Ending Sunday, June 30, 2019

		YTD ACTUAL 2019	ORIGINAL BUDGET 2019	ADJUSTMENTS 2019	ADJUSTED BUDGET REMAINING	PERCENT USED
Personnel Budget:						
1-05-4000-000	Salaries	$ 505,198	$ 1,006,500		$ 501,302	50.19%
1-05-4000-100	Overtime	59,180	73,500		14,320	80.52%
	Subtotal (Salaries)	$ 564,378	$ 1,080,000	$ -	$ 515,622	52.26%
Employee Benefits						
1-05-4005-000	Payroll Taxes	43,928	81,000		37,072	54.23%
1-05-4010-000	Health Insurance	80,226	179,000		98,775	44.82%
1-05-4015-000	PERS	42,013	102,000		59,987	41.19%
	Subtotal (Benefits)	$ 166,166	$ 362,000	$ -	$ 195,834	45.90%
	Total Personnel Expenses	$ 730,544	$ 1,442,000	$ -	$ 711,456	50.66%
OPERATING EXPENSES:						
1-05-4050-000	Staff Travel	$ 2,158	$ 3,000		$ 842	71.92%
1-05-4060-000	Staff Conferences & Seminars	-	3,000		3,000	0.00%
1-05-4155-000	Contracted Services	-	5,000		5,000	0.00%
1-05-4175-000	Permits	49,995	97,000		47,005	51.54%
1-05-4215-200	Natural Gas - WTP	5,559	68,000		62,441	8.17%
1-05-4220-200	Electricity - WTP	774	3,000		2,226	25.82%
1-05-4230-110	Maint. & Rep. - Office Equipment	101,638	200,000		98,362	50.82%
1-05-4235-110	Maint. & Rep. Operations - Equipment	1,609	5,000		3,391	32.19%
1-05-4235-410	Maint. & Rep. Operations - Shop Bldgs	7,699	20,000		12,301	38.49%
1-05-4235-415	Maint. & Rep. Operations - Facilities	5,985	6,000		15	99.75%
1-05-4235-450	Maint. & Rep. Operations - Hypo Generator	76,847	70,000		(6,847)	109.78%
1-05-4235-500	Maint. & Rep. Operations - Wind Turbine	2,790	10,000		7,210	27.90%
1-05-4236-000	Palmdale Lake Management	77,686	100,000		22,314	77.69%
1-05-6000-000	Waste Disposal	1,384	20,000		18,616	6.92%
1-05-6200-000	Uniforms	5,403	16,000		10,597	33.77%
1-05-6300-100	Supplies - General	3,449	15,000		11,551	23.00%
1-05-6300-600	Supplies - Lab	20,035	60,000		39,965	33.39%
1-05-6300-700	Outside Lab Work	39,023	100,000		60,978	39.02%
1-05-6400-000	Tools	1,762	6,000		4,238	29.36%
1-05-6500-000	Chemicals	355,430	760,000		404,570	46.77%
1-05-7000-100	Leases -Equipment	10,542	3,000		(7,542)	351.41%
	Subtotal Operating Expenses	$ 769,768	$ 1,570,000	$ -	$ 800,232	49.03%
	Total Departmental Expenses	$ 1,500,313	$ 3,012,000	$ -	$ 1,511,687	49.81%

Palmdale Water District
2019 Finance Budget
For the Six Months Ending Sunday, June 30, 2019

		YTD ACTUAL 2019	ORIGINAL BUDGET 2019	ADJUSTMENTS 2019	ADJUSTED BUDGET REMAINING	PERCENT USED
Personnel Budget:						
1-06-4000-000	Salaries	$ 340,769	$ 711,750		$ 370,981	47.88%
1-06-4000-100	Overtime	330	3,000		2,670	10.98%
	Subtotal (Salaries)	$ 341,099	$ 714,750	$ -	$ 373,651	47.72%
Employee Benefits						
1-06-4005-000	Payroll Taxes	25,320	55,000		29,680	46.04%
1-06-4010-000	Health Insurance	57,428	101,250		43,822	56.72%
1-06-4015-000	PERS	30,109	72,500		42,391	41.53%
	Subtotal (Benefits)	$ 112,857	$ 228,750	$ -	$ 115,893	49.34%
	Total Personnel Expenses	$ 453,956	$ 943,500	$ -	$ 489,544	48.11%
OPERATING EXPENSES:						
1-06-4050-000	Staff Travel	$ 347	$ 2,000		$ 1,654	17.33%
1-06-4060-000	Staff Conferences & Seminars	-	1,500.00		1,500	0.00%
1-06-4155-000	Contracted Services	10,750	12,250		1,500	87.76%
1-06-4155-100	Contracted Services - Infosend	113,279	270,000		156,721	41.96%
1-06-4165-000	Memberships/Subscriptions	220	500		280	44.00%
1-06-4230-110	Maintenance & Repair - Office Equipment	-	500		500	0.00%
1-06-4250-000	General Material & Supplies	-	3,000		3,000	0.00%
1-06-4260-000	Business Forms	-	4,000		4,000	0.00%
1-06-4270-100	Telecommunication - Office	16,201	25,000		8,799	64.80%
1-06-4270-200	Telecommunication - Cellular Stipend	12,740	24,500		11,760	52.00%
1-06-7000-100	Leases - Equipment	1,251	3,000		1,749	41.69%
	Subtotal Operating Expenses	$ 154,787	$ 346,250	$ -	$ 191,463	44.70%
	Total Departmental Expenses	$ 608,743	$ 1,289,750	$ -	$ 681,007	47.20%

Palmdale Water District
2019 Water Conservation Budget
For the Six Months Ending Sunday, June 30, 2019

		YTD ACTUAL 2019	ORIGINAL BUDGET 2019	ADJUSTMENTS 2019	ADJUSTED BUDGET REMAINING	PERCENT USED
Personnel Budget:						
1-07-4000-000	Salaries	$ 78,135	$ 156,750		$ 78,615	49.85%
1-07-4000-100	Overtime	3,221	3,000		(221)	107.38%
	Subtotal (Salaries)	$ 81,356	$ 159,750		$ 78,394	50.93%
Employee Benefits						
1-07-4005-000	Payroll Taxes	6,412	12,500		6,088	51.29%
1-07-4010-000	Health Insurance	21,972	40,400		18,428	54.39%
1-07-4015-000	PERS	7,352	16,000		8,648	45.95%
	Subtotal (Benefits)	$ 35,736	$ 68,900	$ -	$ 33,164	51.87%
	Total Personnel Expenses	$ 117,092	$ 228,650	$ -	$ 111,779	51.21%
OPERATING EXPENSES:						
1-07-4050-000	Staff Travel	$ 1,386	$ 2,500		$ 1,114	55.44%
1-07-4060-000	Staff Confrences & Seminar	750	3,000		2,250	25.00%
1-07-4190-300	Public Relations - Landscape Workshop/Training	89	5,000		4,911	1.79%
1-07-4190-400	Public Relations - Contests	390	3,000		2,610	13.01%
1-07-4190-500	Public Relations - Education Programs	1,177	120,000		118,823	0.98%
1-07-4190-900	Public Relations - Other	1,522	5,000		3,478	30.44%
1-07-6300-100	Supplies - Misc.	3,899	7,000		3,101	55.70%
	Subtotal Operating Expenses	$ 9,213	$ 145,500	$ -	$ 136,287	6.33%
	Total Departmental Expenses	$ 126,305	$ 374,150	$ -	$ 248,066	33.76%

Palmdale Water District
2019 Human Resources Budget
For the Six Months Ending Sunday, June 30, 2019

	YTD ACTUAL 2019	ORIGINAL BUDGET 2019	ADJUSTMENTS 2019	ADJUSTED BUDGET REMAINING	PERCENT USED
Personnel Budget:					
1-08-4000-000 Salaries	$ 118,097	$ 222,750		$ 104,653	53.02%
1-08-4000-100 Salaries - Overtime	-	1,000		1,000	0.00%
Subtotal (Salaries)	$ 118,097	$ 222,750	$ -	$ 104,653	53.02%
Employee Benefits					
1-08-4005-000 Payroll Taxes	9,329	17,000		7,671	54.88%
1-08-4010-000 Health Insurance	18,340	31,750		13,410	57.76%
1-08-4015-000 PERS	8,749	18,000		9,251	48.61%
Subtotal (Benefits)	$ 36,419	$ 66,750	$ -	$ 30,331	54.56%
Total Personnel Expenses	$ 154,516	$ 289,500	$ -	$ 134,984	53.37%
OPERATING EXPENSES:					
1-08-4050-000 Staff Travel	$ 777	$ 1,500		$ 723	51.83%
1-08-4060-000 Staff Conferences & Seminars	749	1,500		751	49.93%
1-08-4070-000 Employee Expense	47,614	50,000		2,386	95.23%
1-08-4090-000 Temporary Staffing	-	-		-	
1-08-4095-000 Employee Recruitment	2,053	3,000		947	68.44%
1-08-4100-000 Employee Retention	2,446	5,000		2,554	48.92%
1-08-4105-000 Employee Relations	-	3,500		3,500	0.00%
1-08-4120-100 Training-Safety	1,539	35,000		33,461	4.40%
1-08-4120-200 Training-Speciality	6,376	15,000		8,624	42.51%
1-08-4121-000 Safety Program	-	1,000		1,000	0.00%
1-08-4165-000 Membership/Subscriptions	991	1,600		609	61.95%
1-08-4165-100 HR/Safety Publications	-	1,000		1,000	0.00%
1-08-6300-500 Supplies - Safety	22,432	30,000		7,568	74.77%
Subtotal Operating Expenses	$ 84,978	$ 148,100	$ -	$ 63,122	57.38%
Total Departmental Expenses	$ 239,494	$ 437,600	$ -	$ 198,106	54.73%

Palmdale Water District
2019 Information Technology Budget
For the Six Months Ending Sunday, June 30, 2019

		YTD ACTUAL 2019	ORIGINAL BUDGET 2019	ADJUSTMENTS 2019	ADJUSTED BUDGET REMAINING	PERCENT USED
Personnel Budget:						
1-09-4000-000	Salaries*	$ 127,112	$ 213,500	$ 68,789	$ 155,177	45.03%
1-09-4000-100	Overtime*	26	3,000	1,433	4,407	0.58%
	Subtotal (Salaries)	$ 127,137	$ 216,500	$ 70,222	$ 159,585	44.34%
Employee Benefits						
1-09-4005-000	Payroll Taxes*	9,681	17,000	7,711	15,030	39.18%
1-09-4010-000	Health Insurance	14,675	24,750		10,075	59.29%
1-09-4015-000	PERS*	10,926	21,750	6,876	17,700	38.17%
	Subtotal (Benefits)	$ 35,282	$ 63,500	$ 14,587	$ 42,805	45.18%
	Total Personnel Expenses	$ 162,420	$ 280,000	$ 84,809	$ 202,389	44.52%
OPERATING EXPENSES:						
1-09-4050-000	Staff Travel	$ 377	$ 3,000		$ 2,623	12.57%
1-09-4060-000	Staff Confrences & Seminars	650	10,000		9,350	6.50%
1-09-4155-000	Contracted Services	109,137	200,850		91,713	54.34%
1-09-4165-000	Memberships/Subscriptions	200	2,500		2,300	8.00%
1-09-4270-000	Telecommunications	46,037	99,500		53,463	46.27%
1-09-7000-100	Leases - Equipment	26,906				
1-09-8000-100	Computer Equipment - Computers	34,098	45,000		10,902	75.77%
1-09-8000-200	Computer Equipment - Laptops	6,312	45,000		38,688	14.03%
1-09-8000-300	Computer Equipment - Monitors	215	2,000		1,785	10.74%
1-09-8000-500	Computer Equipment - Toner Cartridges	72	3,000		2,928	2.41%
1-09-8000-550	Computer Equipment - Telephony	-	3,000		3,000	0.00%
1-09-8000-600	Computer Equipment - Other	4,114	25,000		20,886	16.46%
1-09-8000-650	Computer Equipment - Warranty & Support	3,420	15,000		11,580	22.80%
1-09-8100-100	Computer Software - Maint. and Support	59,512	145,200		85,688	40.99%
1-09-8100-150	Computer Software - Dynamics GP Support	29,076	55,000		25,924	52.87%
1-09-8100-200	Computer Software - Software and Upgrades	7,830	20,000		12,170	39.15%
	Subtotal Operating Expenses	$ 327,956	$ 674,050	$ -	$ 373,000	48.65%
	Total Departmental Expenses	$ 490,376	$ 954,050	$ 84,809	$ 575,390	47.20%

* Budget adjustments by Board action 03/25/19

Palmdale Water District
2019 Customer Care Budget
For the Six Months Ending Sunday, June 30, 2019

	YTD ACTUAL 2019	ORIGINAL BUDGET 2019	ADJUSTMENTS 2019	ADJUSTED BUDGET REMAINING	PERCENT USED
Personnel Budget:					
1-10-4000-000 Salaries	$ 469,173	$ 897,000		$ 427,827	52.30%
1-10-4000-100 Overtime	1,498	7,500		6,002	19.97%
Subtotal (Salaries)	$ 470,671	$ 904,500	$ -	$ 433,829	52.04%
Employee Benefits					
1-10-4005-000 Payroll Taxes	35,390	68,500		33,110	51.66%
1-10-4010-000 Health Insurance	122,527	181,500		58,973	67.51%
1-10-4015-000 PERS	39,982	121,500		81,518	32.91%
Subtotal (Benefits)	$ 197,898	$ 371,500	$ -	$ 173,602	53.27%
Total Personnel Expenses	$ 668,569	$ 1,276,000	$ -	$ 607,431	52.40%
OPERATING EXPENSES:					
1-10-4050-000 Staff Travel	$ 536	$ 2,000		$ 1,464	26.81%
1-10-4060-000 Staff Conferences & Seminars	954	3,000		2,046	31.80%
1-10-4155-000 Contracted Services	14,767	22,000		7,233	67.12%
1-10-4230-110 Maintenance & Repair-Office Equipment	-	200		200	0.00%
1-10-4250-000 General Material & Supplies	338	7,000		6,662	4.83%
1-10-4260-000 Business Forms	871	2,500		1,629	34.85%
Subtotal Operating Expenses	$ 17,467	$ 36,700	$ -	$ 19,233	47.59%
Total Departmental Expenses	$ 686,036	$ 1,312,700	$ -	$ 626,664	52.26%

Updated: 7/9/2019

AGENDA ITEM NO. 8.1.c

Palmdale Water District

2018 Capital Projects - Contractual Commitments and Needs

New and Replacement Capital Projects

Budget Year	Project	Project Title	Project Type	Estimated Expense	Contractor	Approved Contract Amount	Board / Manager Approval	Payments Approved to Date	Contract Balance	Through Dec. 2018	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	2019 Total	2020 Carryover
2017	12-400	PRGRRP - Construction of Monitoring Wells / Test Basin	Water Supply		Environmental Const.	427,490	04/26/2017	232,192	195,298	232,192	-	-	-	-	-	-	-	-	-	-	-	-	-	
2017	12-400	PRGRRP - Construction of Monitoring Wells / Test Basin - Auxiliary Items	Water Supply		Various Vendors			133,922	-	74,342	-	-	54,040	-	-	5,540	-	-	-	-	-	-	59,580	
2017	15-611	WM Replacement - Camares & Avenue S14 (Spec 1502)	Replacement Cap.	110,000				27,171	-	10,584	-	-	-	-	6,722	9,864	-	-	-	-	-	-	16,587	
2017	15-614	WTP - Drainage Improvements	New Capital	80,000				-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
2017	16-411	6MG Clearwell - Piping Replacement	Replacement Cap.					-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
2017	16-605	WTP - Additional Brine Tank/Salt Silo	New Capital	90,000				81,009	-	59,389	14,293	4,664	340	1,516	-	808	-	-	-	-	-	-	21,621	
2017	16-611	CL2 Monitoring @ Well Sites	Regulatory	110,000				-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
2017	17-613	Avenue T8 Booster #2 - Emergency Repair	Replacement Cap.		Best Drilling & Pump, Inc.			36,540	-	36,540	-	-	-	-	-	-	-	-	-	-	-	-	-	
2018	12-611	WM Replacement - Avenue P8/20th	Replacement Cap.	410,000				-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
2018	15-613	WM Replacement - Avenue V5 (Spec 1504)	Replacement Cap.	45,000				-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
2018	16-602	WM Replacement - Avenue P & 25th ST (Spec 1601)	Replacement Cap.	152,000				-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
2018	17-602	WM Replacement - 13th ST E/Avenue R (Spec 1703)	Replacement Cap.	170,000				43,657	-	26,422	6,150	11,085	-	-	-	-	-	-	-	-	-	-	17,235	
2018	17-608	Replace PRV - Avenue S14/Camares	Replacement Equip.					492	-	492	-	-	-	-	-	-	-	-	-	-	-	-	-	
2018	18-408	Water Meter Replacement Program (Qty. 3,400)	Replacement Cap.	550,000				499,132	-	487,830	11,302	-	-	-	-	-	-	-	-	-	-	-	11,302	
2018	18-410	PRV Replacement - 40th ST E (Bypass)	General Project					9,165	-	9,165	-	-	-	-	-	-	-	-	-	-	-	-	-	
2018	18-601	6MG Clearwell - Curtain Repairs	General Project	94,000	Garrett Paint & Sndblsting			85,169	-	85,169	-	-	-	-	-	-	-	-	-	-	-	-	-	
2018	18-603	Well 29 - Rehabilitation	Replacement Cap.	65,000				-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
2018	18-605	Well 14 - Rehabilitation	Replacement Cap.					15,962	-	15,962	-	-	-	-	-	-	-	-	-	-	-	-	-	
2018	18-606	45th ST Tank Site - Altitude Valve Replacement	Replacement Cap.	70,000				72,141	-	72,141	-	-	-	-	-	-	-	-	-	-	-	-	-	
2018	18-609	WTP Replacement Sodium Hypochlorite Unit	Replacement Cap.	68,000	DeNora Water Tech			68,290	-	68,290	-	-	-	-	-	-	-	-	-	-	-	-	-	
2018	18-611	WTP - MPS6120-ZETASIZER Water Testing Equipment	New Equipment					72,862	-	72,862	-	-	-	-	-	-	-	-	-	-	-	-	-	
2018	18-613	WTP - Ferric Chloride Tank	General Project					52,661	-	8,636	2,308	-	-	-	39,566	2,152	-	-	-	-	-	-	44,025	
2018	18-414	Well # 25 - Emergency Rehabilitation	General Project					118,070	-	-	-	-	-	88,341	-	29,729	-	-	-	-	-	-	118,070	
2018	18-615	Install/Construction - Water Fill Station	General Project					19,942	-	-	-	-	-	-	-	19,942	-	-	-	-	-	-	19,942	
2019	19-403	2019 Canal Repair-Bentonite	General Project	12,000				7,763	-	-	-	-	-	7,763	-	-	-	-	-	-	-	-	7,763	
2019	19-404	2019 Meter Exchange Project	General Project	750,000				507,808	-	-	-	-	507,176	632	-	-	-	-	-	-	-	-	507,808	
2018		45th ST - Booster #3	Replacement Cap.	23,000				-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
2018		Well 3 - Booster	Replacement Cap.	15,000				-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
2018		Well 14 - Booster	Replacement Cap.	8,000				-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
2018		Ave. P-12, Division, 2nd, 3rd, Stanridge Water Main Repl.	Replacement Cap.	750,000				-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
2018		Sierra Hwy. Tie-In and Abandonment	Replacement Cap.	15,000				-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
2018		Ave. Q-14 and 17th Street East Water Main Replacement	Replacement Cap.	45,000				-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
2018		Ave. Q-10 and 12th Street East Water Main Replacement	Replacement Cap.	15,000				-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
2018		Protective Coatings on WTP Structures	Replacement Cap.	100,000				-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
2018		WTP Infrastructure and Process/Equipment Repairs	Replacement Cap.	75,000				-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
2018		PRV Replacements 37th St; 40th St	Replacement Equip.	26,667				-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
2018		Altitude Valve - 25th St East (Body Only)	Replacement Equip.	22,000				-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
2018		Littlerock - Insertion Mag Meter	Replacement Equip.	32,000				-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
2018		T-8 Booster Station Pump Skids	Replacement Equip.	35,000				-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
2018		Intellispark @ Well 11 & 15	Replacement Equip.	13,000				-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
2018-2020		Replacement of Structural Support Beams - WTP Sed. Basins	Replacement Cap.	300,000				-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
2019		Ancillary costs related to all project over and above the main contractor			Various Vendors			2,358		-	-	-	-	2,358	-	-	-	-	-	-	-	-	2,358	
			Sub-Totals:	4,140,667		427,490		2,086,307	195,298	1,260,016	34,053	15,749	561,556	100,610	46,288	68,035	-	-	-	-	-	-	826,291	-

Updated: 7/9/2019

Palmdale Water District
2018 Capital Projects - Contractual Commitments and Needs

Consulting and Engineering Support

Budget Year	Project	Project Title	Project Type	Estimated Expense	Contractor	Approved Contract Amount	Board / Manager Approval	Payments Approved to Date	Contract Balance	Through Dec. 2018	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	2019 Total	2020 Carryover
2017	12-400	PRGRRP - CEQA, Permitting, Pre-Design, and Pilot	Water Supply		Kennedy/Jenks	1,627,000	05/12/2016	-	1,627,000	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
		Paid by General Fund			Kennedy/Jenks			432,840	-	432,840	-	-	-	-	-	-	-	-	-	-	-	-	-	
2017	14-603	Upper Amargosa Recharge Project	Water Supply		City of Palmdale	1,250,000	12/04/2013	244,431	1,005,569	18,806	-	-	-	225,626	-	-	-	-	-	-	-	-	225,626	
2017	04-501	Littlerock Sediment Removal Project (EIR/EIS/Permitting)	Water Supply		Aspen	869,023	09/14/2016	-	869,023	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
		Paid by General Fund			Aspen			208,383	-	206,782	-	-	-	-	-	1,601	-	-	-	-	-	-	1,601	
		Paid by 2018A Water Revenue Bonds			Aspen	1,238,287	07/18/2018	543,693	694,594	184,515	-	223,960	78,799	49,460	-	6,959	-	-	-	-	-	-	359,178	
		Paid by 2018A Water Revenue Bonds			ASI	9,275,808	07/18/2018	4,276,589	4,999,219	1,777,841	-	2,159,848	338,899	-	-	-	-	-	-	-	-	-	2,498,747	
2017	04-501	Littlerock Sediment Removal (Cost Recovery Agreement)	Permitting		Forest Service	100,000	04/26/2017	-	100,000	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
2017	04-501	Littlerock Sediment Removal Project - Design Grade Control Structure	Water Supply	350,000		-		146,954	-	146,954	-	-	-	-	-	-	-	-	-	-	-	-	-	
2017	14-404	Water System Master Plan - CEQA	Facilities Planning		ESA	174,715	11/09/2016	133,778	131,242	133,778	-	-	-	-	-	-	-	-	-	-	-	-	-	
		Water System Master Plan - CEQA (Amendment No. 1)	Facilities Planning		ESA	69,985	01/24/2018																	
		Water System Master Plan - CEQA (Amendment No. 2)	Facilities Planning		ESA	20,320	05/14/2018																	
		Water System Master Plan - Hydraulic Model	Facilities Planning		Stantec	9,510	05/14/2018	-	9,510	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
2017	17-405	WTP Process Evaluation (As-Needed)	Regulatory		Carollo	35,000	01/11/2017	3,500	31,500	3,500	-	-	-	-	-	-	-	-	-	-	-	-	-	
2017	17-410	Sanitary Survey Update	Regulatory	50,000	Black & Veatch	49,773	07/26/2017	33,763	16,010	33,763	-	-	-	-	-	-	-	-	-	-	-	-	-	
2017	04-501	Littlerock Sediment Removal Project - State Permits	Permitting	152,000		-		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
2018	18-402	Emergency Action Plan	Planning	175,000	Black & Veatch	178,970	01/24/2018	132,186	46,784	124,573	-	-	-	5,776	1,837	-	-	-	-	-	-	-	7,613	
2018		System Valuation Study	Financial Planning	30,000		-		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
2018		Electrical Engineering (As-Needed)	Facilities Design	10,000		-		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
2018		Energy Storage - Feasibility and Pilot Study	Savings/Efficiency	50,000		-		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
						-		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
			Sub-Totals:	817,000		14,898,391		6,156,118	9,530,450	3,063,352	-	2,383,808	417,699	280,862	1,837	8,560	-	-	-	-	-	-	3,092,766	-

New and Replacement Equipment

Budget Year	Project	Project Title	Project Type	Estimated Expense	Contractor	Approved Contract Amount	Board / Manager Approval	Payments Approved to Date	Contract Balance	Through Dec. 2018	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	2019 Total	2020 Carryover
2018	17-402	WTP - Security Improvements - Additional Cameras (Blind Spots) Spec. No. 1702	Safety		Siemens	20,000		10,236	9,764	10,236	-	-	-	-	-	-	-	-	-	-	-	-	-	
2018	18-405	Replace and Upgrade VMWare Servers (EOL)	Replacement Equip.					81,721	-	81,721	-	-	-	-	-	-	-	-	-	-	-	-	-	
2018		Replace Firewall and VPN Appliances (EOL)	Replacement Equip.					-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
2018		Upgrade Microsoft GP & SQL Databases	Replacement Equip.					-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
2018		Water Meter Calibration Bench	New Equipment	10,000		-		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
2018		Online Forms (Add-In Functionality)	New Equipment	5,000		-		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
2018		Customer Texting / Mass Communication	New Equipment	15,000		-		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
2018		Conference Bridge - ShoreTel	New Equipment	25,000		-		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
2018		Data Center UPS - Whole Room UPS	New Equipment	25,000		-		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
						-		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
			Sub-Totals:	80,000		20,000		91,957	9,764	91,957	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Water Quality Fee Funded Projects

Budget Year	Work Order	Project Title	Project Type	Estimated Expense	Vendor/Supplier	Approved Contract Amount	Board / Manager Approval	Payments Approved to Date	Contract Balance	Through Dec. 2018	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	2019 Total	2020 Carryover
2019	19-401	GAC Replacements @ WTP	Water Quality	760,000	Calgon Carbon	-	07/09/2014	-	-		-	-	-	-	-	-	-	-	-	-	-	-	-	
2019	19-401	GAC Replacement @ Underground Booster Station	Water Quality	40,000	Evoqua	-	03/10/2017	-	-		-	-	-	-	-	-	-	-	-	-	-	-	-	
											-	-	-	-	-	-	-	-	-	-	-	-	-	
			Sub-Totals:	800,000		-		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

= Projects that originated from 2013 WRB Funds

= Project had additional funding paid out by the general fund to complete.

= Project is now deemed complete with no further expense.

= Projects paid by 2018 WRB Funds

Project Summary (W/O GAC Included)	Totals	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	2019 Total
Total Approved Contracts to Date	15,345,881													
Total Payments on Approved Contracts to Date	8,334,382													
Total Contract Balance to Date	9,735,511													
Non-Operating Capital Expenditures (Paid)		34,053	2,399,557	979,254	381,473	48,125	76,595	-	-	-	-	-	-	3,919,057
Non-Operating Capital Expenditures (Projected)	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Funding Available Through Water Supply Fees	-	-	-	-	-	-	-	-	-	-	-	-	-	-
2019 Funding Through Budgeted Non-Operating Capital Ex.	3,919,057	34,053	2,399,557	979,254	381,473	48,125	76,595	-	-	-	-	-	-	3,919,057

Water Revenue Bond - Series 2018A

Updated: July 9, 2019

Project	Project #	Description	Bond Allocation	Contractual Commitment	Payout to Date	Remaining Contract	Uncommitted Bond $
LGCS-ASI	04-501	Littlerock Dam - Grade Control Structure (Construction)	$ 8,160,257	$ 9,500,808	$ 3,559,884	$ 5,940,924	$ (1,340,551)
LGCS-ASP	04-501	Littlerock Dam - Grade Control Structure (Monitoring)		1,238,287	495,055	743,232	(1,238,287)
WTP		Water Treatment Plant Improvements	2,375,000		-	-	
6MG		6 M.G. Reservoir Renovations	1,050,000		-	-	
WMR		Various W.M. Replacements	1,789,612		-	-	
PWD		Design, Engineering and Other Preconstruction Costs	173,000		-	-	
WRB		Bond Issuance Costs	226,303		226,303	-	
ISS		Issuance Funds			(12,092)		
		Interest Earned through April 30			(225,451)		
		Totals:	**$ 13,774,172**	**$ 10,739,095**	**$ 4,043,698**	**$ 6,684,156**	**$ (2,578,838)**
		2018A Water Revenue Bonds - Unallocated Funds:		**$ 3,035,077**			
		2018A Water Revenue Bonds - Remaining Funds to payout:			**$ 9,730,474**		

Requisition No.	Payee	Date Approved	Invoice No.	Project	Payment Amount
	Issuance Costs	Jun 27, 2018	N/A	WRB	$ 226,302.82
	Interest - Jul 2018		N/A	INT	1,384.72
	Interest - Aug 2018		N/A	INT	20,900.39
1	Aspen Environmental Group	Sep 12, 2018	1116.007-01	LGCS-ASP	28,105.88
2	ASI Construction LLC	Sep 18, 2018	01	LGCS-ASI	60,027.00
	Interest - Sep 2018		N/A	INT	21,047.68
3	ASI Construction LLC	Oct 2, 2018	02	LGCS-ASI	156,655.00
4	Aspen Environmental Group	Oct 8, 2018	1116.007-02	LGCS-ASP	51,072.42
5	Aspen Environmental Group	Oct 30, 2018	1116.007-03	LGCS-ASP	56,698.38
	Interest - Oct 2018		N/A	INT	20,838.36
6	ASI Construction LLC	Nov 7, 2018	03	LGCS-ASI	844,455.00
	Interest - Nov 2018		N/A	INT	22,998.40
7	Aspen Environmental Group	Dec 10, 2018	1116.007-04	LGCS-ASP	99,711.66
7	ASI Construction LLC	Dec 10, 2018	04	LGCS-ASI	665,631.99
	Interest - Dec 2018		N/A	INT	21,673.24
8	Aspen Environmental Group	Jan 3, 2019	1116.007-05	LGCS-ASP	67,719.03
9	ASI Construction LLC	Jan 7, 2019	05	LGCS-ASI	1,494,216.00
10	Aspen Environmental Group	Jan 29, 2019	1116.007-06	LGCS-ASP	56,529.35
	Interest - Jan 2019		N/A	INT	22,085.33
11	ASI Construction LLC	Feb 14, 2019	06	LGCS-ASI	338,899.30
	Interest - Feb 2019		N/A	INT	20,485.96
12	Aspen Environmental Group	Feb 28, 2019	1116.007-07	LGCS-ASP	78,799.25
	Interest - Mar 2019		N/A	INT	17,656.62
13	Aspen Environmental Group	Apr 1, 2019	1116.007-08	LGCS-ASP	34,790.67
13	Aspen Environmental Group	Apr 1, 2019	1116.008-01	LGCS-ASP	7,731.53
14	Aspen Environmental Group	Apr 22, 2019	1116.007-09	LGCS-ASP	6,938.12
	Interest - Apr 2019		N/A	INT	19,042.25
15	Aspen Environmental Group	May 15, 2019	1116.007-10	LGCS-ASP	6,958.75
	Interest - May 2019		N/A	INT	18,485.68
	Interest - June 2019		N/A	INT	18,852.79

PALMDALE WATER DISTRICT

BOARD MEMORANDUM

DATE:	July 10, 2019	**July 22, 2019**
TO:	Board of Directors	**Board Meeting**
FROM:	Michael Williams, Finance Manager/CFO	
VIA:	Mr. Dennis LaMoreaux, General Manager	
RE:	***AGENDA ITEM 8.1.d – PRESENTATION OF PROPOSITION 218 PROCESS AND TIMELINE***	

Discussion:

Presented here is the 2019 rate study schedule and Proposition 218 process.

Timeline:

July 17 – Presentation of 2019 Rate Study Schedule to the Financial Health & Stability Committee

July 24 – Presentation to the Organizational Excellence Committee

July 31 – Presentation to Leadership & Outreach Committee

August 6 – Presentation to the Resource Reliability & Operational Efficiency Committee

August 12 – RDN's Presentation on Findings/Models/Proposed Rates to Board of Directors, 6 p.m. @ PWD

August 15 – Mail Rate Notice

August 22 – Workshop for Elected Officials, Community Leaders, Water Ambassadors, 5:30-8 p.m. @ PWD

August 28 – Community Workshop, 5:30-8 p.m. @ Palmdale Learning Plaza, 38043 Division Street, Palmdale

September 3 – Deadline for Mailing Rate Notice

September 7 – Open House, 9 a.m.- noon @ Water Treatment Plant

September 24 – Community Workshop, 5:30-8 p.m. @ Buena Vista Elementary School, 37005 Hillcrest Drive, Palmdale

October 28 – Board of Directors Public Hearing for 2019 Rate Study

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, 2019	**July 22, 2019**
TO:	Board of Directors	**Board Meeting**
FROM:	Michael Williams, Finance Manager/CFO	
VIA:	Mr. Dennis D. LaMoreaux, General Manager	
RE:	***AGENDA ITEM NO. 8.1.e – OTHER FINANCIAL ITEMS***	

Discussion:

Presented here are financial related items for your review:

1. Payment Transactions by Type January – June:
   a. Note that electronic forms of payment continue to increase while counter and mail decrease.

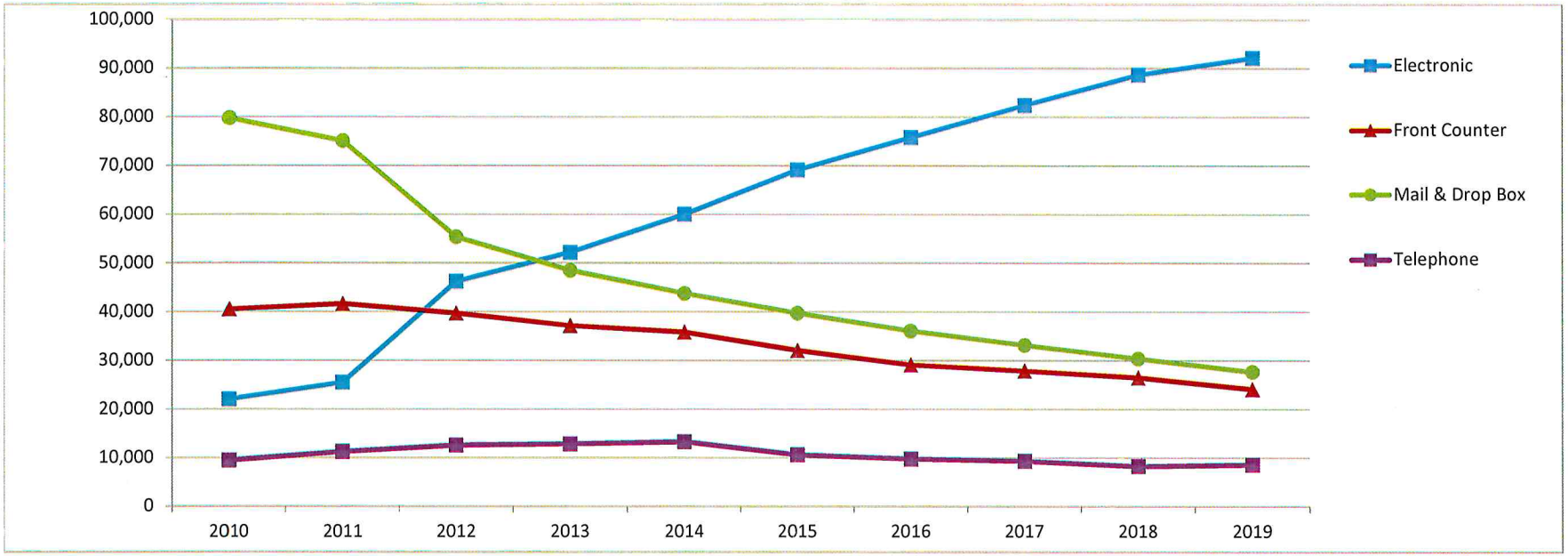
2. Billing & Collection Statistics:
   a. Billing and collection cycle complete through January shows slight decrease in late fee notices and shut off notices from December but higher percentage of off & lock after shut off notice.

3. Accounts Receivable Aging Report June 30, 2019:
   a. Aging report shows we are consistent with collection and amount of outstanding receivables in relation to time of year.

4. Revenue Projections:
   a. Revenue projections for 2019 based on selling 17,250 AF shows as of June 30th revenue is down approximately $600K.

5. Rate Assistance Program:
   a. As of June 30th, there are 696 participants, 352 are Seniors and 344 are Low Income.

Payment Transactions By Types January - June



Payment Type	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019
Electronic	21,945	25,387	46,116	52,106	59,928	69,074	75,724	82,325	88,583	92,037
Front Counter	40,535	41,675	39,764	37,217	35,841	32,128	29,161	27,916	26,560	24,136
Mail & Drop Box	79,698	75,028	55,317	48,366	43,690	39,680	36,024	33,116	30,331	27,609
Telephone	9,519	11,311	12,633	12,881	13,324	10,642	9,842	9,361	8,324	8,634
Total	**151,695**	**153,401**	**153,830**	**150,570**	**152,783**	**151,524**	**150,751**	**152,718**	**153,798**	**152,416**

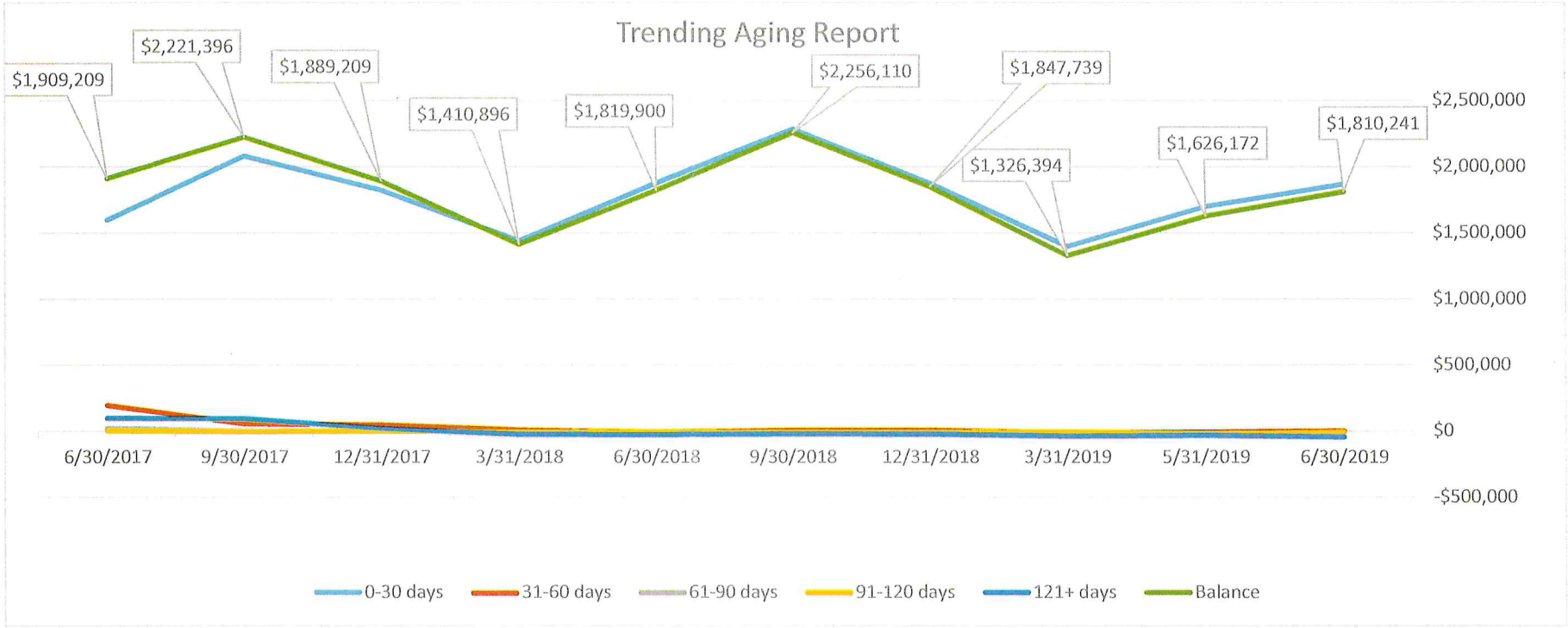
Detail of Electronic Payments	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019
META - ACH Pymt	3,644	4,304	3,754	3,811	1,633	1,617	801	849	842	865
WES - ACH Pymt	0	466	439	495	493	488	497	521	508	462
INF - Website Pymts	18,301	20,617	31,206	34,534	36,779	38,452	41,039	44,351	47,806	51,135
IVR - Automated Pay ##	0	0	0	0	4,091	10,984	13,816	15,996	17,444	18,411
KIOSK - Automated Pay $$	0	0	0	0	0	0	547	457	1,284	696
PNM - Automated Pay %%	0	0	0	0	0	0	21	1,260	1,989	2,309
VAN - ACH Pymt &&	0	0	10,717	13,266	16,932	17,533	19,003	18,891	18,710	18,159
Total	**21,945**	**25,387**	**46,116**	**52,106**	**59,928**	**69,074**	**75,724**	**82,325**	**88,583**	**92,037**

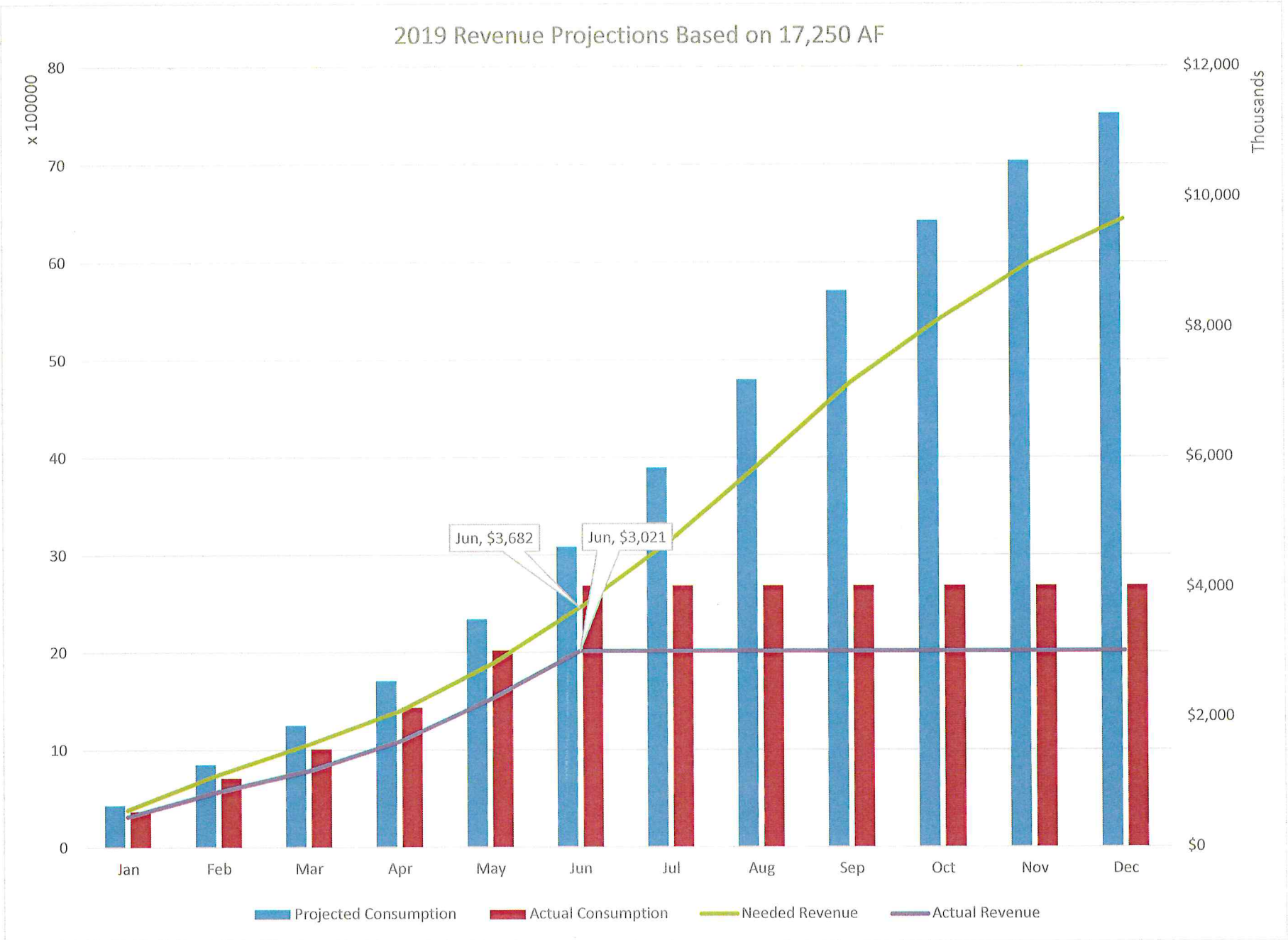
##- IVR service started March 13, 2014
$$ - Kiosk service started July 1, 2015
%% - PNM - Pay Near Me service started June 9, 2016
&& - Vanco ACH service started Sept 2011

Billing Statistics

	Bills	LF Notice	Shut Notice	Off & Lock	Based on Bills Issued			Based on Late Notices		Based on Shut Notice
	(A)	(B)	(C)	(D)	B / A	C / A	D /A	C / B	D / B	D / C
Jan-18	26,582	6,358	2,262	427	23.9%	8.5%	1.6%	35.6%	6.7%	18.88%
Feb-18	26,586	5,945	2,324	394	22.4%	8.7%	1.5%	39.1%	6.6%	16.95%
Mar-18	26,584	5,419	2,148	444	20.4%	8.1%	1.7%	39.6%	8.2%	20.67%
Apr-18	26,593	5,896	2,250	408	22.2%	8.5%	1.5%	38.2%	6.9%	18.13%
May-18	26,588	5,713	2,118	387	21.5%	8.0%	1.5%	37.1%	6.8%	18.27%
Jun-18	26,599	5,996	2,283	439	22.5%	8.6%	1.7%	38.1%	7.3%	19.23%
Jul-18	26,619	6,047	2,316	371	22.7%	8.7%	1.4%	38.3%	6.1%	16.02%
Aug-18	26,628	6,052	2,338	381	22.7%	8.8%	1.4%	38.6%	6.3%	16.30%
Sep-18	26,628	6,272	2,518	419	23.6%	9.5%	1.6%	40.1%	6.7%	16.64%
Oct-18	26,621	6,197	2,429	345	23.3%	9.1%	1.3%	39.2%	5.6%	14.20%
Nov-18	26,632	5,769	2,094	316	21.7%	7.9%	1.2%	36.3%	5.5%	15.09%
Dec-18	26,632	6,485	2,401	423	24.4%	9.0%	1.6%	37.0%	6.5%	17.62%
Jan-19	26,627	5,834	1,989	378	21.9%	7.5%	1.4%	34.1%	6.5%	19.00%

	0-30 days	31-60 days	61-90 days	91-120 days	121+ days	Balance
6/30/2019	$1,867,456	$4,978	-$8,295	-$6,641	-$47,257	$1,810,241
5/31/2019	$1,699,266	-$3,601	-$12,522	-$22,616	-$34,356	$1,626,172
3/31/2019	$1,396,553	-$10,972	-$11,317	-$5,758	-$42,112	$1,326,394
12/31/2018	$1,871,921	$11,096	-$5,439	-$3,721	-$26,118	$1,847,739
9/30/2018	$2,282,443	$10,683	-$5,391	-$5,897	-$25,729	$2,256,110
6/30/2018	$1,875,467	-$9,241	-$11,326	-$4,097	-$31,338	$1,819,900
3/31/2018	$1,437,029	$11,627	-$5,872	-$2,367	-$29,520	$1,410,896
12/31/2017	$1,821,145	$48,908	$3,517	-$765	$16,405	$1,889,209
9/30/2017	$2,079,393	$55,984	-$169	-$4,034	$90,222	$2,221,396
6/30/2017	$1,594,748	$197,398	$19,539	$3,049	$94,475	$1,909,209




2019 Revenue Projections Based on 17,250 AF
x 100000
80
70
60
50
40
30
20
10
0
$12,000
$10,000
$8,000
$6,000
$4,000
$2,000
$0
Thousands
Jun, $3,682
Jun, $3,021
Jan
Feb
Mar
Apr
May
Jun
Jul
Aug
Sep
Oct
Nov
Dec
Projected Consumption
Actual Consumption
Needed Revenue
Actual Revenue

MINUTES OF REGULAR MEETING OF THE COMMISSIONERS OF THE ANTELOPE VALLEY STATE WATER CONTRACTORS ASSOCIATION, APRIL 11, 2019.

A regular meeting of the Commissioners of the Antelope Valley State Water Contractors Association was held Thursday, April 11, 2019, at the Palmdale Water District at 2029 East Avenue Q, Palmdale. Chair Parris called the meeting to order at 6:00 p.m.

1) Pledge of Allegiance.

At the request of Chair Parris, Commissioner Dino led the pledge of allegiance.

2) Roll Call.

Attendance:	**Others Present:**
Robert Parris, Chair	Matt Knudson, General Manager
Vincent Dino, Vice Chair	Peter Thompson II, Asst. General Manager
Leo Thibault, Treasurer-Auditor	Dennis Hoffmeyer, Controller
Kathy Mac Laren, Secretary	James Chaisson, LCID General Manager
Keith Dyas, Commissioner	Danielle Henry, Management Analyst
John Tenerelli, Alt. Commissioner	1 member of the public

EXCUSED ABSENCES--
Barbara Hogan, Commissioner

3) Adoption of Agenda.

It was moved by Commissioner Mac Laren, seconded by Commissioner Dino, and unanimously carried by all members of the Board of Commissioners present at the meeting to adopt the agenda, as written.

4) Public Comments for Non-Agenda Items.

There were no public comments.

5) Consideration and Possible Action on Minutes of Regular Meeting Held March 14, 2019.

It was moved by Commissioner Dyas, seconded by Commissioner Thibault, and carried by a 5-0-1 vote, with Chair Parris abstaining, to approve the minutes of the regular meeting held March 14, 2019, as written.

6) Payment of Bills.

Commissioner Thibault reviewed the bills received for payment and then moved to pay the bills received from PWD in the amount of $597.44 for staff services, from AVEK in the amount of $771.43 for staff services, from Raftelis in the amount of $1,732.50 for professional services associated with the Financial Analysis for Replacement Water Assessment for the period of March 1, 2019 through March 31, 2019, and from Streamline Audio Visual, Inc. in the amount of $2,635.66 for audio and visual rentals for the 2019 Home Show and SMART Water Expo to be invoiced to the member agencies according to State Water Project Table A allocations. The motion was seconded by Commissioner Mac Laren, and after a brief discussion of the applicable sales tax for the labor included on the invoice from Streamline Audio Visual, Inc., the motion unanimously carried by all members of the Board of Commissioners present at the meeting.

7) Consideration and Possible Action on Position of ACWA/JPIA Representative. (General Manager Knudson)

After a brief discussion of attendance at the Spring and Fall ACWA Conferences, Commissioner Dyas nominated Commissioner Mac Laren as the ACWA/JPIA Representative for the Association. The motion was seconded by Commissioner Thibault and unanimously carried by all members of the Board of Commissioners present at the meeting.

8) Consideration and Possible Action on Resolution No. 2019-2 Adopting Replacement Water Assessments for 2019. (General Manager Knudson/Assistant General Manager Thompson II)

General Manager Knudson stated that the Board of each member agency approved the Financial Analysis Study for Replacement Water Assessment prepared by Raftelis and then reviewed Resolution No. 2019-2 Adopting Replacement Water Assessments for 2019 after which it was moved by Commissioner Mac Laren, seconded by Commissioner Thibault, and unanimously carried by all members of the Board of

Commissioners present at the meeting to approve Resolution No. 2019-2 Adopting Replacement Water Assessments for 2019.

A copy of Resolution No. 2019-2 is hereby made a portion of the minutes of this meeting.

9) Discussion and Possible Action on Frequency of Association Meetings. (General Manager Knudson/Assistant General Manager Thompson II)

Assistant General Manager Thompson II reviewed the benefits of holding regular Association meetings every other month, including the increased efficiency of meetings and the reduction in staff time and overtime charges from the General Program Funds, after which it was moved by Commissioner Mac Laren, seconded by Alternate Commissioner Tenerelli, and unanimously carried by all members of the Board of Commissioners present at the meeting that regularly scheduled Association meetings will now be held every other month beginning in June, 2019 and that written project update reports will be provided by the General Manager and Assistant General Manager during non-meeting months.

10) Report of General Manager and Assistant General Manager.

a) Update on Proposed East Side Recycled Water Line Project.

General Manager Knudson stated that this proposed project has made a transition into discussions within the Antelope Valley IRWMP Advisory Group.

b) Update on Big Rock Creek Joint Groundwater Recharge Project.

General Manager Knudson stated that natural recharge continues to occur from the outflow of melted snowpack from Big Rock Creek; that staff will continue to monitor the flow for the restart of the Pilot Project test flow; and that staff is working with the Department of Water Resources to extend the Pilot Project testing schedule.

c) Update on Antelope Valley Watermaster Meetings.

General Manager Knudson stated that the next Watermaster meeting will be held on April 24, 2019 at 10 a.m. at AVEK and that discussions will include transfer of production rights, replacement water assessments, and small pumper qualifiers.

d) Update on Antelope Valley and Fremont Basin IRWMP Stakeholder meetings.

General Manager Knudson stated that he has no report for the Antelope Valley IRWMP Stakeholders.

He then stated that the Fremont Basin IRWMP has been adopted by Mojave and Cal City and that staff anticipates adoption of the Plan by AVEK's Board at their next meeting.

e) Update on 2019 Home Show and SMART Water Expo.

Assistant General Manager Thompson II stated that attendance for the 2019 Home Show and SMART Water Expo increased over 2018; that different types of vendors were mixed throughout the Expo building creating additional traffic; and that PWD staff recommends sponsorship of the 2020 Home Show and SMART Water Expo be considered by June, 2019 to allow sufficient planning time.

9) Report of Controller.

a) Update on Revenue, Expenses and Change in Net Position.

Controller Hoffmeyer provided a brief update on the Association's revenue, expenses, and change in net position for month ending March 31, 2019 and stated that Nigro & Nigro has begun the Association's audit process for 2017/2018.

10) Reports of Commissioners.

Commissioner Mac Laren stated that she attended AG Day at the Antelope Valley Fairgrounds on April 10, 2019 and that it was a great experience for local students.

There were no further reports.

11) Report of Attorney.

There was no report.

12) Commission Members' Requests for Future Agenda Items.

It was determined that "Update on the Big Rock Creek Joint Groundwater Recharge Project," "Update on Antelope Valley Watermaster Meetings" and "Update on Antelope Valley and Fremont Basin IRWMP Stakeholder meetings" will remain on the next meeting agenda and that "Presentation on USGS Groundwater Monitoring and Quality Program" and "Consideration and Possible Action on Sponsorship of 2020 Home Show and SMART Water Expo" be added to the next meeting agenda.

There were no further requests for future agenda items.

13) Consideration and Possible Action on Scheduling the Next Association Meeting.

It was determined that the next regular meeting of the Association will be held on June 13, 2019 at 6:00 p.m. at Palmdale Water District.

14) Adjournment.

There being no further business to come before the Commissioners, the regular meeting of the Commissioners of the Antelope Valley State Water Contractors Association was adjourned at 6:29 p.m.

Secretary

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 17, 2019 **July 22, 2019**

TO: BOARD OF DIRECTORS **Board Meeting**

FROM: Mr. Dennis D. LaMoreaux, General Manager

RE: ***AGENDA ITEM NO. 8.3.a – JULY 2019 GENERAL MANAGER REPORT***

The following is the July 2019 report to the Board of activities through June 2019. It is organized to follow the District's six strategic initiatives adopted in January 2018 and is intended to provide a general update on the month's activities. A summary of the initiatives is as follows:

Water Resource Reliability

Complete the 2018 phase of the Upper Armagosa Creek Recharge Project
Ensure Palmdale Recycled Water Authority (PRWA) to be fully operational by year 2020
Adopt new state-of-the-art water treatment technologies
Implement the Antelope Valley Groundwater Adjudication agreement
Complete the grade-control structure for the Littlerock Reservoir Sediment Removal Project
Continue the next phase towards the completion of Palmdale Regional Groundwater Recharge and Recovery Project
Identify and pursue opportunities to increase the reliability of water supply

Organizational Excellence

Offer competitive compensation and benefits package to promote employee retention
Focus Succession Planning Program on ensuring an overlap of training for key positions
Continue providing transparency to our ratepayers
Promote and support leadership training and professional development programs to enhance the District's customers' experience

Systems Efficiency

Implement 2016 Water System Master Plan
Develop a five-year Infrastructure Revitalization Plan to continue the reinvestment and preventative maintenance for aging infrastructure
Explore energy independence
Continue being the industry's leader on the use of Granular Activated Carbon (GAC)
Research and test new technologies to increase efficiencies
Improve safety and training for Directors, employees and customers
Develop a crisis communications plan

Financial Health and Stability

Pursue additional grant funding for all District projects
Adopt a sustainable and balanced rate structure to meet short and long-term needs
Create a five-year financial plan in conjunction with the 2019 Water Rate Plan
Maintain adequate reserve levels, high-level bond rating, and financial stability

Regional Leadership

Enhance relationships with Antelope Valley partnerships, including local water agencies, Antelope Valley State Water Contractors Association and the Palmdale Recycled Water Authority
Expand school water education programs
Engage elected officials in water-related issues
Continue offering career opportunities through the Internship Program
Provide opportunities for local businesses to contract with the District

Customer Care, Advocacy and Outreach

Increase Customer Care accessibility through communication and feedback to enhance customers' experience
Evaluate, develop, and market additional payment options
Be point of communication for customers' water-related public health concerns
Develop the District's Public Outreach Plan
Increase public awareness of the District's history and promote centennial anniversary

This report also includes charts that show the effects of the District's efforts in several areas. They are organized within each strategic initiative and include status of the State Water Resources Control Board's (SWRCB) long-term conservation orders, 20 x 2020 status, the District's total per capita water use trends, 2019 water production and customer use graph, mainline leaks, and the water loss trends for both 12- and 24-month running averages.

Water Resource Reliability

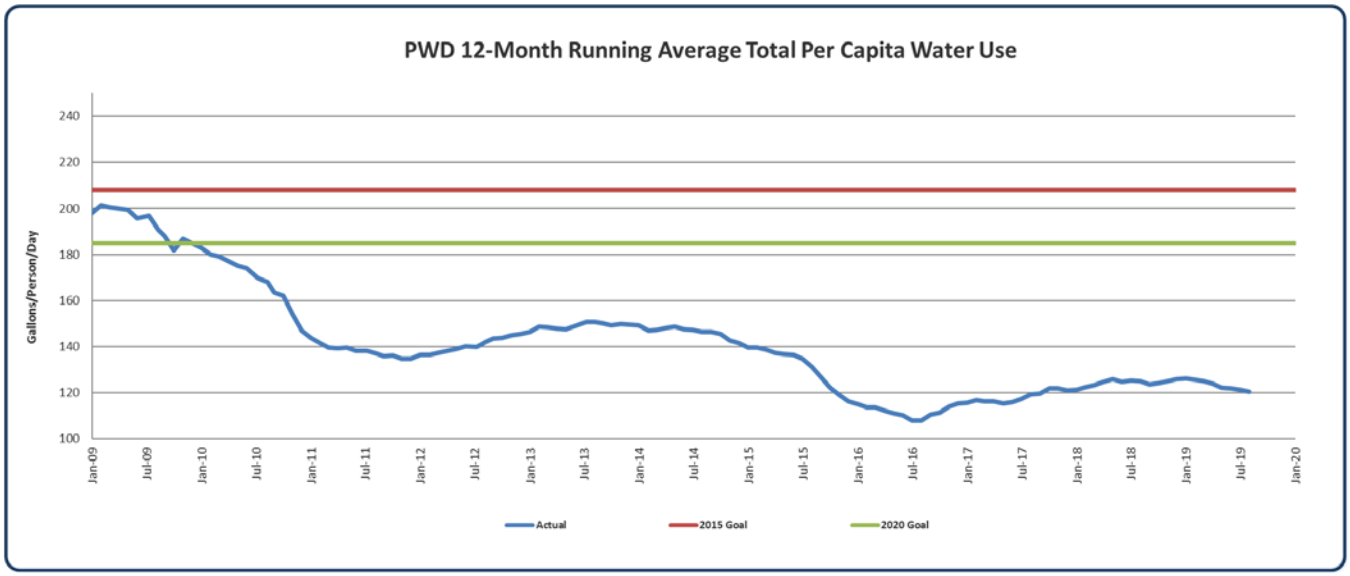
This initiative includes conservation efforts, water supply projects, and water planning. Recent highlights are as follows:

State Water Resources Control Board (SWRCB) Activities

- The 20 x 2020 per capita reduction goals passed by the legislature in 2009 with new long-term water budgeting requirements have now been replaced with new requirements and water agency water budgets. These follow through on the "Making Water Conservation

a California Way of Life" plan. The District expects to easily comply with the new requirements as they are based on the same philosophy as the District water budget rate structure.

The District's compliance with the former 20 x 2020 law is evident from the chart titled "PWD 12-Month Running Average Total Per Capita Water Use.":



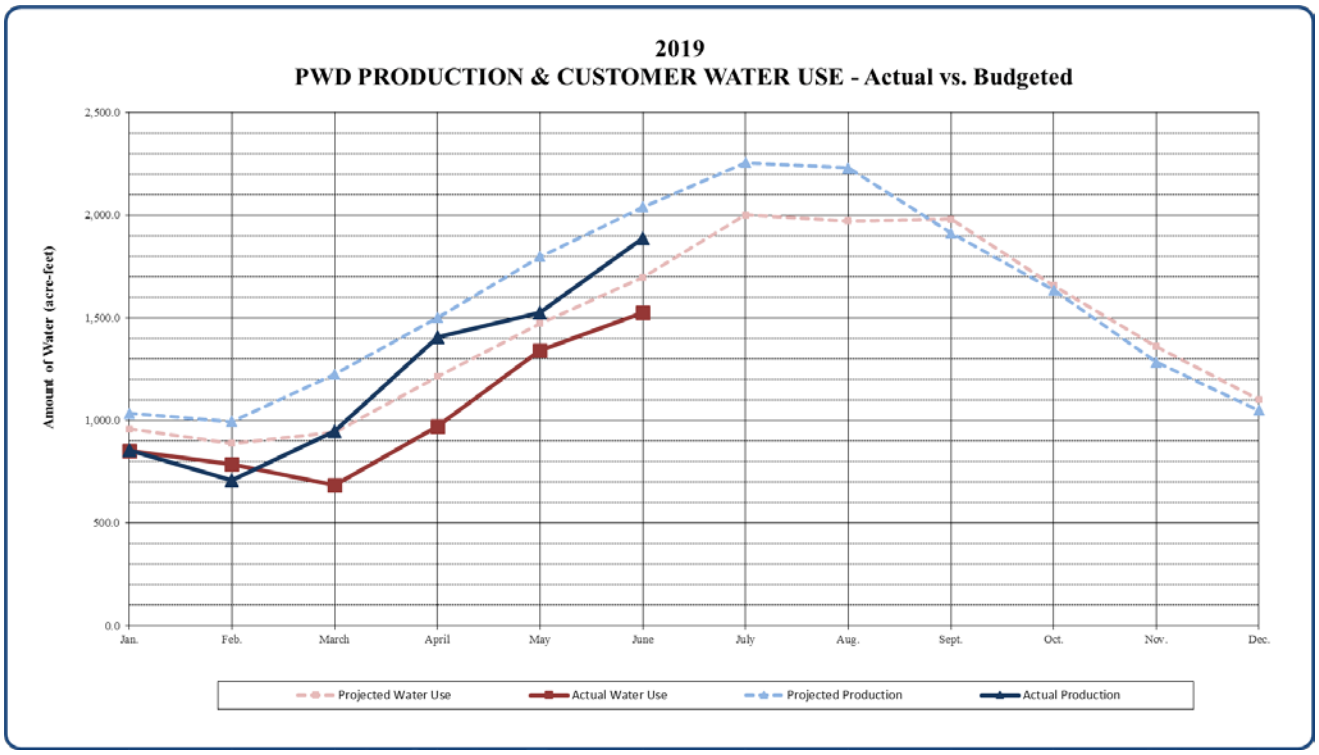
The District's customers have cut their water use by **48.1%** from the baseline number of 231 and met the 2020 Goal in early 2010. The current Total-GPCD is 120.

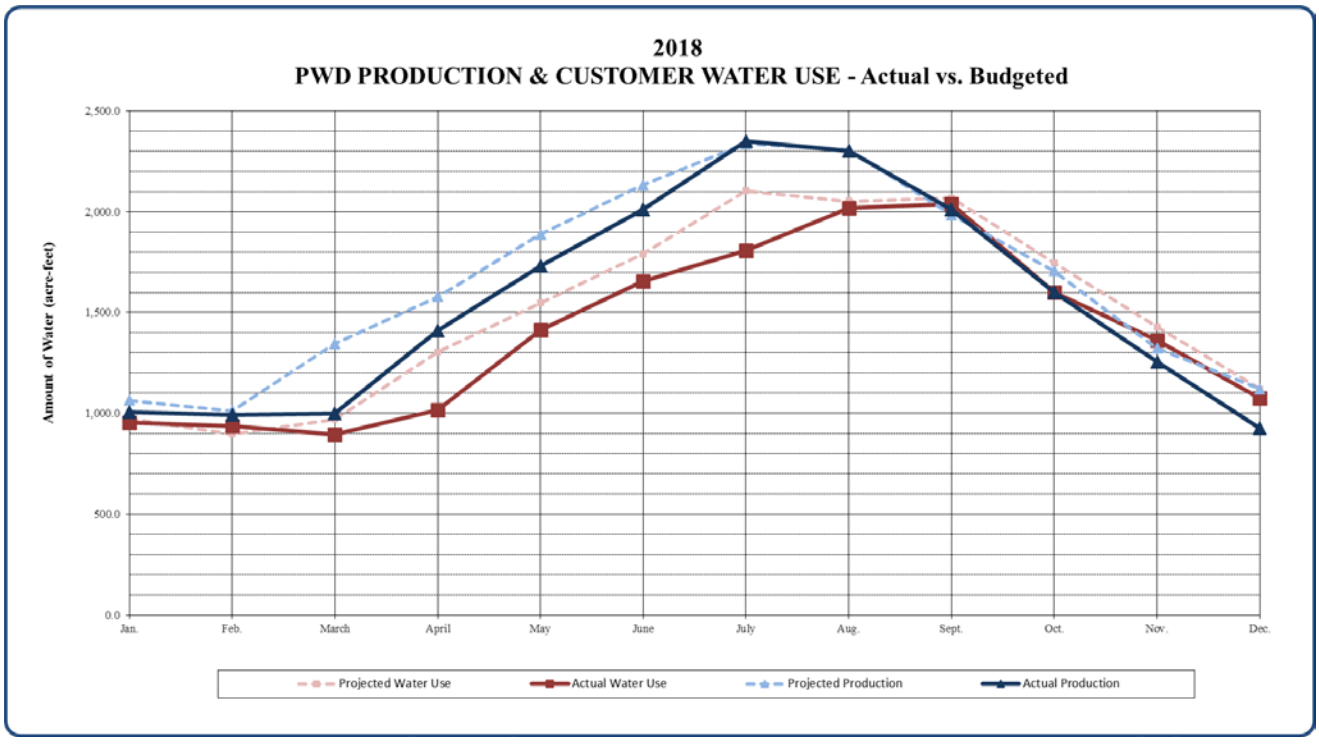
Water Supply Information

- The AV Adjudication is now in its fourth year, and the reduction to the native safe yield is in its second year. The District's native groundwater right is 2,769.63 AF. Other groundwater rights for 2018 were 1,452.27 AF of unused Federal Reserve Rights, 3,828.41 AF of Return Flow Rights, and 3,911.94 AF of Carryover Rights. These groundwater rights total 11,962.55 AF. The District used approximately 6,073 AF. This leaves a total carryover amount of approximately 5,890 AF going into 2019. The District's 2019 groundwater rights are expected to be similar to 2018 and will be calculated in the next couple months. A more detailed description of the District adjudicated groundwater production rights is provided below.

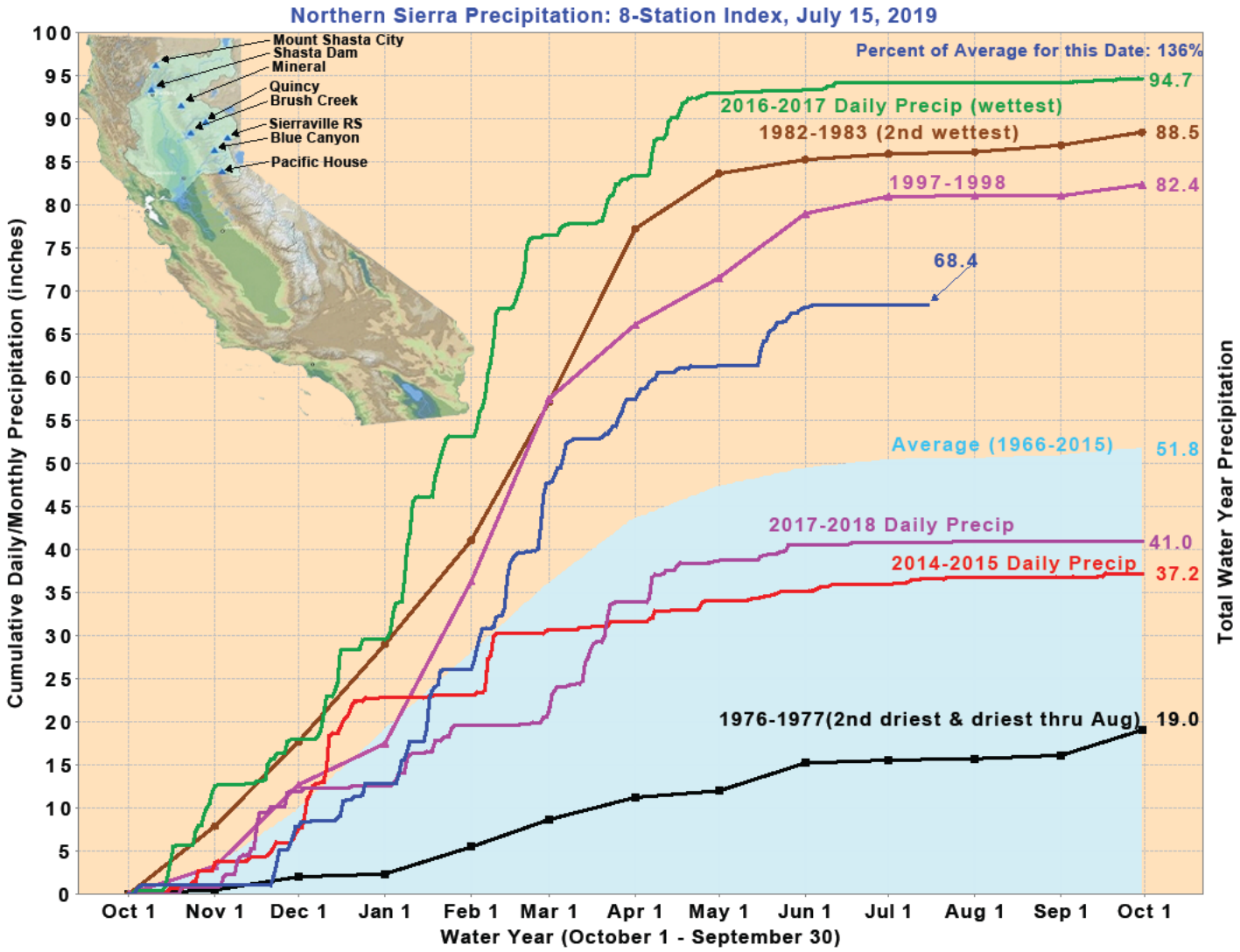
- The 2019 water resources plan is finalized. The 2019 State Water Project (SWP) allocation is 75% and provides 23,475 AF. The District will be using a higher amount of surface water than normal due to the SWP and Littlerock Reservoir supplies. SWP supplies beyond our customers' needs will be banked or exchanged to help provide water during dry years. The following graph shows actual amounts through June 2019 and

monthly projections for both production and consumption, based on the prior five years of actual monthly information, for the entire year. Water use is 14% less than anticipated so far this year due to the rainy weather and appears to be recovering. The 2018 chart is added in this report for comparison.





The precipitation index for the area contributing to the State Water Project is currently at 136% of average and has leveled off as a significantly wet year. This is shown in the following graph.



Groundwater Production Rights Summary

Director Wilson requested an overview of the District's adjudicated groundwater rights. A native safe yield of 82,300 acre-feet per year (AFY) was established by the Court for the Antelope Valley Area of Adjudication and the adjudication Parties were divided into various classes to establish respective water rights among groundwater producers.

- The Production Right is the portion of the Native Safe Yield assigned to each Party. Production Rights for specific Parties are defined in the Judgment in Exhibit 3 (Non-Overlying Production Rights), Exhibit 4 (Overlying Production Rights), and in Paragraphs 5.1.3, 5.1.4, and 5.1.5 for the Small Pumper Class, Federal Reserved

Water Rights, and State of California, respectively. **The District's Production Right is 2,769.63 AF/Year.**

- Unused Federal Reserved Water Rights are the portion of water rights, 7,600 AF/Y, left unused by the Federal government. This amount has been approximately 6,000 AF/Y and is divided amongst the Non-Overlying Producers (Public Water Suppliers). **The District's share of Unused Federal Reserve Water Rights is approximately 1,400 AF/Year.**

- Imported Water Return Flows represent water brought into the basin from outside of the watershed that provides a net increase in groundwater supply (i.e., does not include consumed or evaporated imported water). Return flows for agriculture were established in the Judgment at 34 percent of imported water use and at 39 percent for municipal and industrial uses. Each year's amount is determined based on an average of the five (5) prior years of imported water. **The District's typical Imported Water Return Flow Right is approximately 4,000 AF/Year.**

- Carry Over Water is the right to an unused portion of an annual Production Right or a right to Imported Water Return Flows in a year after the year in which the right was originally available. **The District is building Carry Over Rights for years when surface water supplies are low.**

- Stored Water is water held in storage in the basin as a result of direct spreading or other methods for subsequent withdrawal and use pursuant to an agreement with the Watermaster. It does not include Imported Water Return Flows. **The District currently has approximately 1,500 AF stored in the Antelope Valley and is participating in projects (Upper Amargosa, Big Rock Creek, and Palmdale Regional Groundwater Recharge and Recovery Project) for more storage in the future.**

Other Items

- The Littlerock Reservoir Sediment Removal Project Environmental Impact Report/Environmental Impact Statement (EIR/EIS) was fully approved in 2017. All required permits are in place, and a construction contract for the Grade Control Structure was awarded in July 2018 to ASI Construction, LLC (ASI) of Colorado Springs.

  ASI installed dewatering wells around the construction area and began pumping out water in early November. Dewatering, excavation, and constructing a water bypass continued through December and early January. A series of storms during the week of January 14th overwhelmed the partially completed water bypass and flooded the construction site.

  ASI will be back on site in mid-July to begin work again. The first activity will be re-establishing a dewatering network, so excavation can be done. The tentative plan is to place RCC in September.

A citizen's committee, Friends of Littlerock Dam (FOLD), was formed in the Littlerock, Pearblossom, and Juniper Hills area to find a way to reopen the Littlerock Reservoir Recreation area. They worked with the District and the USFS on this issue. The USFS has issued an eviction notice to the former operator living at the Reservoir. They also plan to issue a request for proposals for a recreational operator. This process is expected to take a year.

- The public review of the Draft California Environmental Quality Act (CEQA) EIR for the Palmdale Regional Groundwater Recharge and Recovery Project is complete. The Final EIR was certified by the Board on July 13, 2016, and the Notice of Determination was filed on July 14, 2016. The comments from the SWRCB Recycled Water Division on the Title 22 Engineering Report were addressed and returned for further review. Another set of comments was received in 2018 and information is being collected to address them.

  The soil column tests were completed and reported on late last year. The District reviewed additional geotechnical work done to verify the proposed location is suitable. The result is a recommendation to drill an additional well to better understand the aquifer in the area.

- The Upper Amargosa Creek Recharge Project is now under construction. One contract is for the California Aqueduct turnout and transmission water main. The other is for the recharge basins. They are higher than original estimates and will result in a request from the City of Palmdale to the District, LA County Waterworks, and AVEK for additional funding. A successful groundbreaking was held on November 15, 2018. Construction is expected to be completed late this year.

- California Water Fix: There have been recent regulatory approvals moving this project forward. However, the current Governor has only stated support for one of the proposed tunnels. The State Water Contractors and the Department of Water Resources are continuing discussions about the Project's financing and operations. These discussions will result in a clearer picture of the effect on individual contractors. Staff is directly involved in these discussions and will be able to update the Board in the future.

Organizational Excellence

This initiative includes efforts to restructure staff duties and activities to more efficiently provide service to our customers. Recent highlights are as follows:

- Workshops were held to discuss the District's direction and begin to update the Strategic Plan for 2019. This process reset the District's standing committees to align better with the Strategic Plan and give them clear direction.

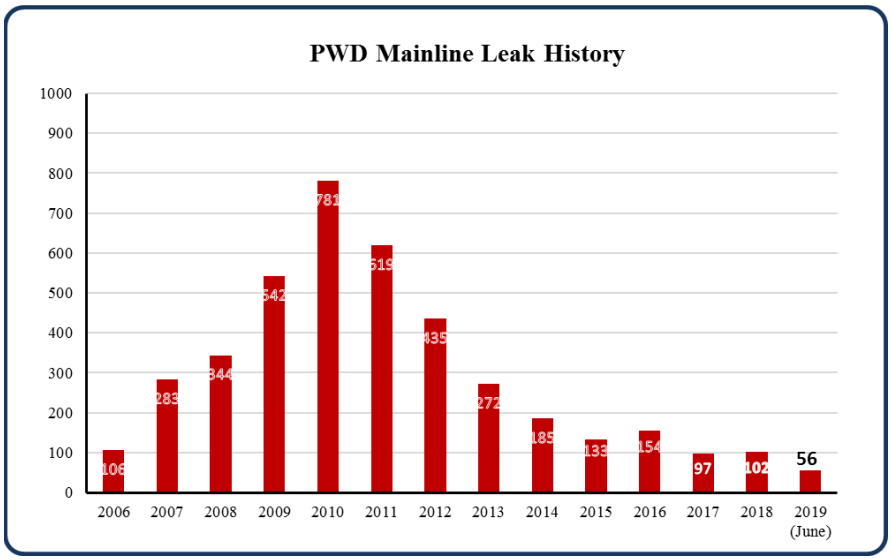
- The District and other members of the Public Water Agencies Group (PWAG) have hired and share the services of an Emergency Preparedness Coordinator. This has already resulted in a successful training held at the District office. More activities, including drills and a review of the Emergency Response Plan, are planned for 2019. This approach also kept the District in a good position when responding to the July 4 and 5 earthquakes near Ridgecrest.

- The Board of Directors and staff completed a cultural survey in 2018. The results show continuing overall improvements in the District's operations. The Mathis Group will assist the Board and staff in following up on the survey and improving the District's operations. The staff Communications Committee has started working with the overall staff to reinforce strong areas from the Survey and help improve the other areas.

Systems Efficiency

This initiative largely focuses on the state of the District's infrastructure. Recent highlights are as follows:

- The effects of the District's past efforts in replacing failing water mains and meters can be seen in the reduced number of mainline leaks. This is illustrated in the chart titled "Mainline Leak History." The mainline leaks through June 2019 are 56, and there were 31 service line leaks. This sharp increase is due to water main replacement work near old mains.

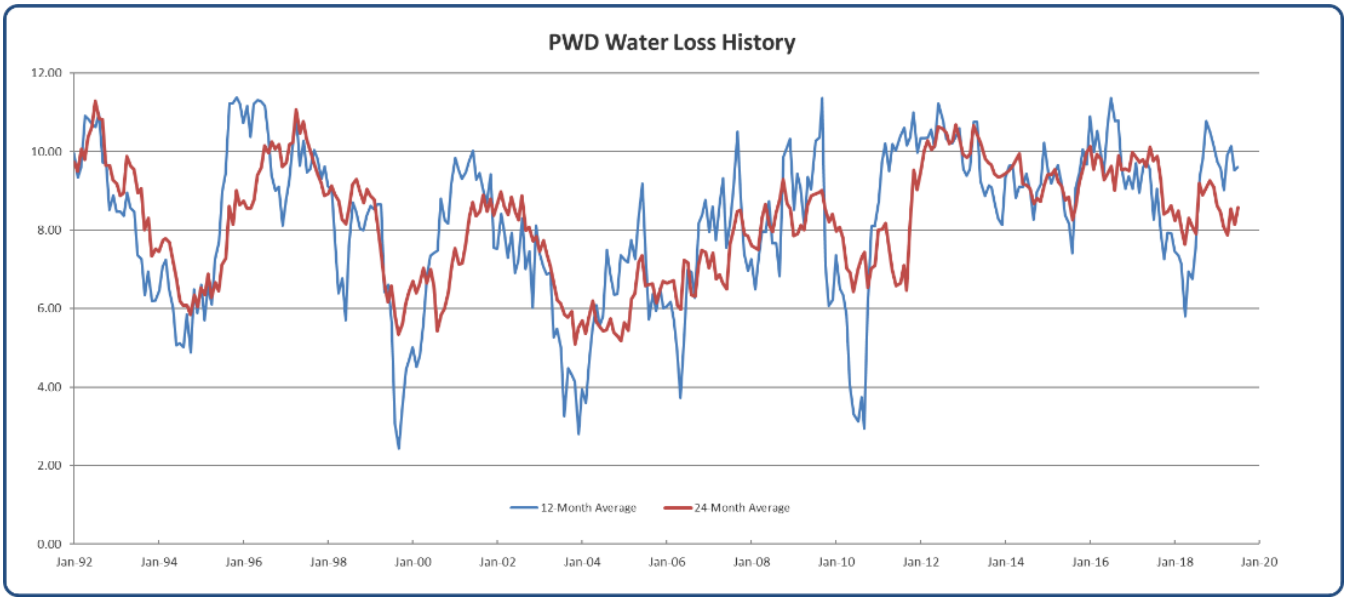


- The 2019 Budget includes replacing approximately 2,800 meters. Staff is doing this replacement project and will evaluate how best to do it in future years.

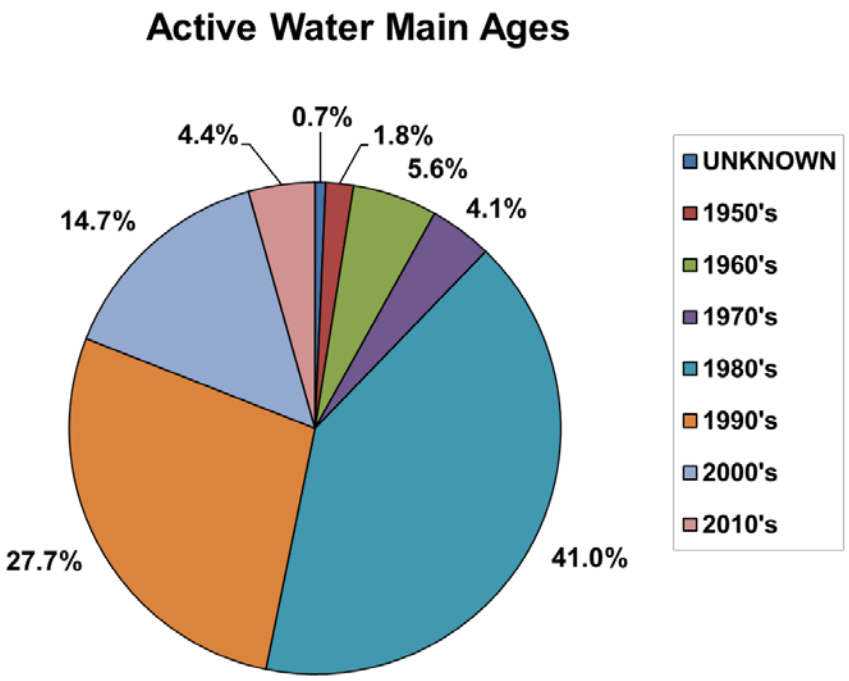
- Facilities staff is focusing on maintenance activities to incorporate pressure reducing valves, air-vacuum release valves, and other facilities as their efforts can continue to be more preventative due to a lower number of emergency repairs.

- District staff's replacement work for 2019 includes Avenue V-5 west of 47th Street East, and East Avenue P-8 from 20th Street East to 25th Street East. Camares Drive south of Barrel Springs Road is now completed.

- The positive effect of both water main and water meter replacement programs is shown on the chart titled "PWD Water Loss History." The running average for water losses is now under 10%.



- Director Alvarado recently asked for a summary of the District's water main ages. This information has been included as additional in annual budgets in past in a tabular form. Staff used the information to create the following graph. This shows that 2.6%, 10.33 miles, of the water distribution system is nearly seventy years or is of unknown age.



Summary of Data from Auxilary DB:
(MLpipeLab.mdb/MainLinePipe2019)

Decade Installed	Total Pipe Length	Percent of Total Pipe
Unknown	15,104	0.7%
1950's	39,233	1.8%
1960's	120,177	5.6%
1970's	89,234	4.1%
1980's	884,224	41.0%
1990's	598,566	27.7%
2000's	316,952	14.7%
2010's	94,247	4.4%
TOTAL	2,157,737	

Financial Health and Stability

- Engineering staff has successfully applied for planning grant funding for the Palmdale Regional Groundwater Recharge and Recovery Project and for the Phase II pipeline for the Palmdale Recycled Water Authority. Application packages for further funding have been determined to be complete by the State. A comment letter was also submitted to raise the priority of both projects in the State's funding plan for 2017/2018.

The State is satisfied with resolutions from the City and the District related to the PRWA Phase II funding application for compliance with their repayment requirements. An amendment to the JPA was also completed to tie these into PRWA. The outstanding financing issue is the State's approach to determining the District's Debt Coverage Ratio. They continue to include non-operating expenses into the calculation. Staff and our financial advisor are still working on this issue. PRWA is also trying to obtain completed booster station plans being held by Los Angeles County Waterworks District 40 to complete the Phase II design plans and financing.

Staff is also working with the California Infrastructure Bank, Holman Capital, and considering a public bond issue for this project. Early discussions show this as a strong possibility to fund the work.

- A new water rate study conducted in accordance with Proposition 218 is started for 2019. Three proposals were received in March and a recommendation made to the Board to award a contract to RDN. The first staff meetings with RDN were held in April. Staff is providing all the needed information to project revenue needs over the next five years.

  The Board authorized obtaining better information for irrigated property that will help make the District's water rate structure more accurate. RDN has completed a financial forecast for the next five years with assistance from staff. A presentation of RDN's recommendation is scheduled for August 12th. A program of public outreach will follow and a public hearing to consider water rates for the next five years is anticipated in October.

- Engineering/Grant Manager Riley has worked with the Bureau of Reclamation for the acceptance of a Feasibility Report for the Palmdale Regional Groundwater Recharge and Recovery Project and having it eligible for funding. The 2017 competition effort did not result in an award of funds from the Bureau. However, lessons from this submittal were used in the current funding competition.

- Water-Wise Landscape Conversion Program (Cash-for-Grass Program): The District received a $75,000 Grant from the Bureau of Reclamation in 2017 to assist in funding the Program. The District has fully used the grant funds. The Board approved an application for additional funds in February.

Regional Leadership

This initiative includes efforts to involve the community, be involved in regional activities, and be a resource for other agencies in the area. Recent highlights are as follows:

- Activities of the Palmdale Recycled Water Authority (PRWA) and Antelope Valley State Water Contractors Association have continued.

- The District staff continues to share the administration of the Antelope Valley Watermaster Board (AVWB) with AVEK and related meetings.

- District staff is active in the local chambers, GAVEA, and area human resources and public information groups.

- The first "PWD Water Ambassador Academy" was conducted on September 19 and 26, October 3 and a tour/graduation on October 6, 2018. The response from them was overwhelmingly positive. The next Academy was successfully completed in March. A high school version of the Academy was successfully held as a one-day event on May 16, 2019.

- The District has joined with other water districts to express concerns with the proposed Statewide water tax over the last two years. The State Senate also refused the water tax approach. Instead, the State has created a $130M fund using Greenhouse Gas Funds.

  The District cooperative use of Reeb Government Relations has been highly effective. AGM Ly and I are in communication with Mr. Reeb several times a week and have helped amend proposed legislation as needed.

Customer Care and Advocacy

This initiative includes efforts to better serve our customers. Recent highlights are as follows:

- The ability to make payments at 7-Eleven and Family Dollar Store is also continuing to grow.

- Customer Care office and field staff are crosstraining to better understand the other's interaction with customers and to improve communication.

- Customers are continuing to take advantage of the District's electronic payment options. 59% of all payments made by customers were done electronically in 2018.