DESERT WATER AGENCY
APRIL17, 2018

BOARD OF DIRECTORS
REGULAR MEETING AGENDA

REGULAR MEETING 8:00 A.M. OPERATIONS CENTER - 1200 SOUTH GENE AUTRY TRAIL – PALM SPRINGS – CALIFORNIA

About Desert Water Agency:

Desert Water Agency operates independently of any other local government. Its autonomous elected board members are directly accountable to the people they serve. The Agency is one of the desert's two State Water Contractors and provides water and resource management, including recycling, for a 325-square-mile area of Western Riverside County, encompassing parts of Cathedral City, Desert Hot Springs, outlying Riverside County and Palm Springs.

1. PLEDGE OF ALLEGIANCE

2. APPROVAL OF MINUTES – March 20, 2018 — CIOFFI

3. GENERAL MANAGER'S REPORT — KRAUSE

4. COMMITTEE REPORTS –
   A. Executive – March 28, 2018 & April 11, 2018 — CIOFFI
   B. Finance – April 13, 2018 — STUART

5. PUBLIC INPUT:
   Members of the public may comment on any item not listed on the agenda, but within the jurisdiction of the Agency. In addition, members of the public may speak on any item listed on the agenda as that item comes up for consideration. Speakers are requested to keep their comments to no more than three (3) minutes. As provided in the Brown Act, the Board is prohibited from acting on items not listed on the agenda.

6. SECRETARY-TREASURER'S REPORT - MARCH — BLOOMER

7. ITEMS FOR ACTION
   A. Request Board Action Regarding Claim Filed by Mark Hapner — KRAUSE
   B. Request Consideration of Per Diem for Board's Participation in CRA/Hoover Dam Trip — KRAUSE

8. ITEMS FOR DISCUSSION
   A. March Water Use Reduction Figures — KRAUSE
   B. State Water Contractors' Meeting – March 15, 2018 — RIDDELL
   C. Groundwater Replenishment Assessments 2018/2019 Draft Engineer's Reports — KRAUSE

9. OUTREACH & CONSERVATION
   A. Media Information
   B. Activities

10. DIRECTORS COMMENTS AND REQUESTS

11. CLOSED SESSION

   A. CONFERENCE WITH LEGAL COUNSEL – EXISTING LITIGATION
   Pursuant to Government Code Section 54956.9 (d) (1)
   Name of Case: Agua Caliente Band of Cahuilla Indians vs. Coachella Valley Water District, et al

   B. CONFERENCE WITH LEGAL COUNSEL – EXISTING LITIGATION
   Pursuant to Government Code Section 54956.9 (d) (1)
   Name of Case: Agua Caliente Band of Cahuilla Indians vs. County of Riverside, et al

   C. CONFERENCE WITH LEGAL COUNSEL – EXISTING LITIGATION
   Pursuant to Government Code Section 54956.9 (d) (1)
   Name of Case: Mission Springs Water District vs. Desert Water Agency

12. RECONVENE INTO OPEN SESSION – REPORT FROM CLOSED SESSION

13. ADJOURN

Upon request, this agenda will be made available in appropriate alternative formats to persons with disabilities, as required by Section 202 of the Americans with Disabilities Act of 1990. Any person with a disability who requires a modification or accommodation in order to participate in a meeting is asked to contact Desert Water Agency's Executive Secretary, at (760) 323-4971, at least 48 working hours prior to the meeting to enable the Agency to make reasonable arrangements. Copies of records provided to Board members which relate to any agenda item to be discussed in open session may be obtained from the Agency at the address indicated on the agenda.

MINUTES
OF THE REGULAR MEETING
OF THE
DESERT WATER AGENCY
BOARD OF DIRECTORS

2

March 20, 2018

Attendance

DWA Board:	James Cioffi, President	)
	Joseph K. Stuart, Vice President	)
	Kristin Bloomer, Secretary-Treasurer	)
	Patricia G. Oygar, Director	)
	Craig A. Ewing, Director	)
DWA Staff:	Mark S. Krause, General Manager	)
	Steve Johnson, Asst. General Manager	)
	Martin S. Krieger, Finance Director	)
	Sylvia Baca, Asst. Secretary of the Board	)
	Ashley Metzger, Outreach & Cons. Mgr.	)
	Kris Hopping, Human Resources Manager	)
	John Ruiz, Interim Human Resources Mgr.	)
	Esther Saenz, Accounting Supervisor	)
Consultant:	Michael T. Riddell, Best Best & Krieger	)
Public:	David Freedman, P.S. Sustainability Comm.	)

Pledge of Allegiance

18065. President Cioffi opened the meeting at 8:00 a.m. and asked everyone to join Secretary-Treasurer Bloomer in the Pledge of Allegiance.

Approval of 03/06/18 Regular Board Mtg. Minutes

18066. President Cioffi called for approval of the March 6, 2018 Regular Board meeting minutes.

President Cioffi moved for approval. After a second by Director Ewing, the minutes were approved as written.

General Manager's Report

18067. President Cioffi called upon General Manager Krause to provide an update on Agency operations.

Human Resources Manager Introduction

Mr. Krause introduced Kris Hopping, Human Resources Manager and thanked Interim Human Resources Manager Ruiz for all his efforts.

Hit Fire Hydrant (Tahquitz/Farrell)

Mr. Krause stated on March 11 at approximately 3:50 p.m., Construction staff responded to a hit fire hydrant at Tahquitz Canyon Way and Farrell Drive. The bolts and gasket were replaced and the hydrant put

GM Report (Cont.)

back in service. The water loss was from a 1/4 inch by 3 inch from the flanges that ran for approximately 20 minutes. A police report was made.

Hit Fire Hydrant (Agency Ops Ctr.)

Mr. Krause stated on March 15 at approximately 7:45 a.m., staff responded to a hit fire hydrant in front of the Agency Operations Center employee parking lot entrance. There was damage to the employee entrance sign, stop sign and palm tree. The hydrant was replaced and placed back in service. The water loss was from a fully open 6-inch fire hydrant bury which ran for five minutes. The vehicle driver was 16 years old and unlicensed. A police report was made.

Lake Perris Update

Mr. Krause provided an update on Lake Perris. The current storage is 74,347-acre feet. DWR continues to assess the opportunity to increase storage by ascertaining the availability of water and maximizing the flow in the Santa Ana Pipeline, when necessary. DWR plans to start increasing storage at approximately 100 cfs until 1,568 feet is reached.

System Leak Data, General Manager's Meetings & Activities

Concluding his report, Mr. Krause noted the current system leak data, and meetings and activities he participated in during the past several weeks. He spoke in support of AB2064 (Gloria), which relates to funding for the implementation of integrated regional water management. There was consensus by the Board supporting AB2064.

Committee Reports: Executive 03/13/18

18068. President Cioffi noted the minutes for the March 13, 2018 Executive Committee were provided in the Board's packet.

Public Input

18069. President Cioffi opened the meeting for public input.

There being no one from the public wishing to address the Board, President Cioffi closed the public comment period.

Secretary-Treasurer's Report (February)

18070. President Cioffi called upon Secretary-Treasurer Bloomer to provide an overview of financial activities for the month of February 2018.

Operating Fund

Secretary-Treasurer Bloomer reported that the Operating Fund received $1,881,840 in Water Sales Revnue, $96,700 in Reclamation Sales Revenue and $203,080 in Meter Sales and Services Revenue. Included in the Miscelanneous receipts total is $129,498 from CPower (Energy demand program, May – October 2017). $3,197,850 was paid out in Accounts Payable. Year-to-date Water Sales are 8% over budget, Year-to-date Total Revenues are 13% over budget and Year-to-date Total Expenses are 18% under budget. There were 22,542 active services as of February 28, compared to 22,522 as of January 31, 2018.

General Fund

Reporting on the General Fund, Ms. Bloomer stated that $178,557 was received in Property Tax Revenue, $271,418 in Groundwater Assessments from private pumpers; and $55,391 from SCE for January 2018

Secretary-Treasurer's Report (Cont.)

Whitewater Hydro Revenue. $1,534,500 was paid out in State Water Project Charges (YTD SWP charges $13,085,029).

Wastewater Fund

Reporting on the Wastewater Fund, Ms. Bloomer stated that $2,243 was received in sewer contract payments. There are a total of 48 sewer contracts, with total delinquents of 12 (25%). $84,789 was paid out in Accounts Payable.

Item for Action: LAFCO Election Proceedings

18071. President Cioffi called upon General Manager Krause to present staff's request for Board action regarding Riverside Local Agency Formation Commission (LAFCO) election proceedings.

Mr. Krause stated the Agency received ballot instructions for Riverside Special District Member of LAFCO (Western Riverside County) and Special District Appointee to the Consolidated Countywide Redevelopment Oversight Board. There are three candidates for Special District Member and five candidates for the Oversight Board. Staff requests that the Board provide direction on the selection of the candidates for these positions. He noted that as presiding officer, President Cioffi is authorized to cast a ballot, which must be received by 5:00 p.m. April 9.

Director Ewing made a motion to support Angel Garcia (RCWD) for Regular Special District Member and no one for the Oversight Board. President Cioffi seconded the motion, which carried unanimously.

Discussion Item: February Water Reduction Figures

18072. President Cioffi asked General Manager Krause to report on the February water reduction figures.

Mr. Krause reported that the Agency and its customers achieved an 8% reduction in potable water production during February 2018 compared to the same month in 2013.

Directors Comments/Requests

18073. Director Ewing requested holding a Conservation & Public Affairs Committee meeting soon to discuss future conservation strategies.

Closed Session:
A. Existing Litigation – ACBCI vs. CVWD, et al.
B. Existing Litigation – ACBCI vs. Riverside County
C. Existing Litigation – MSWD vs. DWA

18074. At 8:29 a.m., President Cioffi convened into Closed Session for the purpose of Conference with Legal Counsel, (A) Existing Litigation, pursuant to Government Code Section 54956.9 (d) (1), Agua Caliente Band of Cahuilla Indians vs. Coachella Valley Water District, et al; (B) Existing Litigation, pursuant to Government Code Section 54956.9 (d) (1), ACBCI vs. County of Riverside, et al; and (C) Existing Litigation, pursuant to Government Code Section 54956.9 (d) (1), Mission Springs Water District vs. Desert Water Agency.

Reconvene –No Reportable Action

18075. At 10:01 a.m., President Cioffi reconvened the meeting into open session and announced there was no reportable action.

Adjournment

18076. In the absence of any further business, President Cioffi adjourned the meeting at 10:02 a.m.

_____
James Cioffi, President

ATTEST:

_____
Kristin Bloomer, Secretary-Treasurer

GENERAL MANAGER'S REPORT
APRIL 17, 2018

Operations Center Visitor Restroom Project Update

The Agency is currently in the process of constructing the Operations Center Visitor Restroom. DWA crews performed grading for the building pad and installation of a water service to feed the building the week of March 26-30, 2018.

The Contractor performed installation of the building pad and underground utilities the week of April 2-6, 2018. The City has inspected and approved this portion of the work.

DWA crews began work installing the on-site sewer lateral on April 6, 2018. Work is anticipated to be completed for this part of the project by the end of the week (April 13, 2018).

The Contractor is currently working on metal stud framing and installation of rough electrical and plumbing for the building. Said work should also be completed by April 13 and inspection is tentatively scheduled for Monday, April 16.

Thereafter, the Contractor will begin working on covering the walls, interior finishes and installation of the roof. DWA crews will also connect the existing electrical lines to the electrical panel outside the building. The Agency anticipates the restroom being completed and ready for use by the end of April 2018.

DWA Whitewater Hydroelectric Plant Update

As part of Metropolitan Water District's annual Colorado River Aqueduct shutdown, the Agency planned to inspect, and make any repairs to the hydroelectric turbine assembly. The Agency selected Turbine Repair Services (TRS) from Ontario, California. While balancing the runner, TRS found that the runner blades had been extensively modified during previous balancing. TRS was concerned that the size difference in blades would create a force imbalance on the runner. The Agency had TRS re-weld the stainless steel runner to factor specifications; this added a couple weeks to the project. The re-assembly work was completed on April 10, 2018. The Agency will now proceed with the relay/control modernization that was budgeted last year.

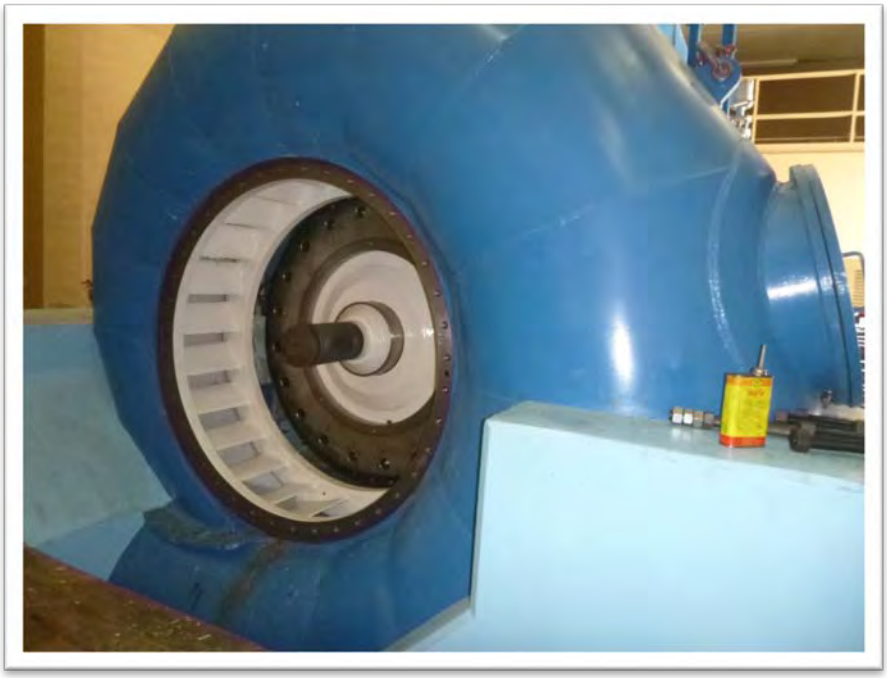


Photo 1: The turbine internals were blasted and recoated.

DWA Whitewater Hydroelectric Plant Update
(Cont.)

Photo 2: The runner was re-welded to original factory specifications.

2018 Non-Potable Water Filter Maintenance Project Update

The Water Reclamation Facility (Rec Plant) Non-Potable Filters 4, 5, and 6 have been recoated; the work was conducted by ERS Industrial Services, Inc. (ERS) for $457,527. The filters are currently in operation. The contractor is working on some minor punch list items.

Palm Springs North Reservoir No. 2 Recoat Project Update

The 12MG reservoir-recoating project is in the final phases. The project has moved forward with very few issues. However, the project has been delayed due to a few storms that created conditions such that the contractor could not blast to bare steel without the metal rusting. The anticipated completion dates are as follows:

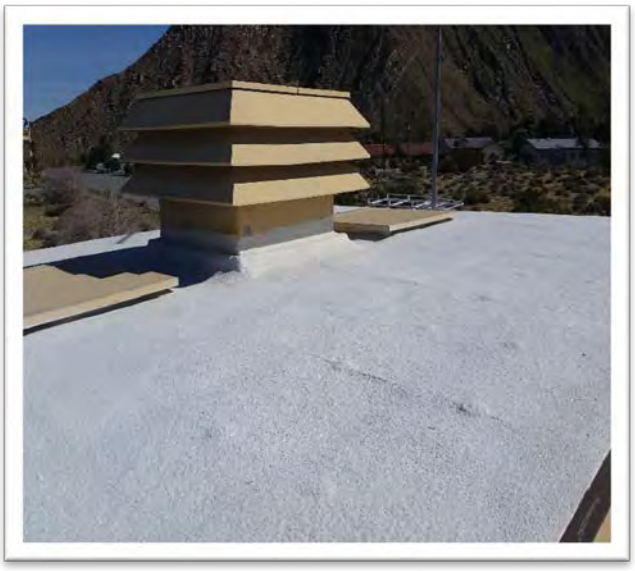
- The interior roof and shell will be 100% complete by May 1
- The interior floor will be completed by June 6
- The exterior shell be completed by June 19

The late completion date of the exterior shell might necessitate the contractor performing some of the coating work in the early morning, when temperatures are low. The blasting work (the process that generates the most noise) will still be done during the normal work hours.

Palm Springs North Reservoir No. II is 232 feet in diameter and 40 feet tall (approximately ½ is buried belowground). When full, the reservoir holds 12 million gallons of water.

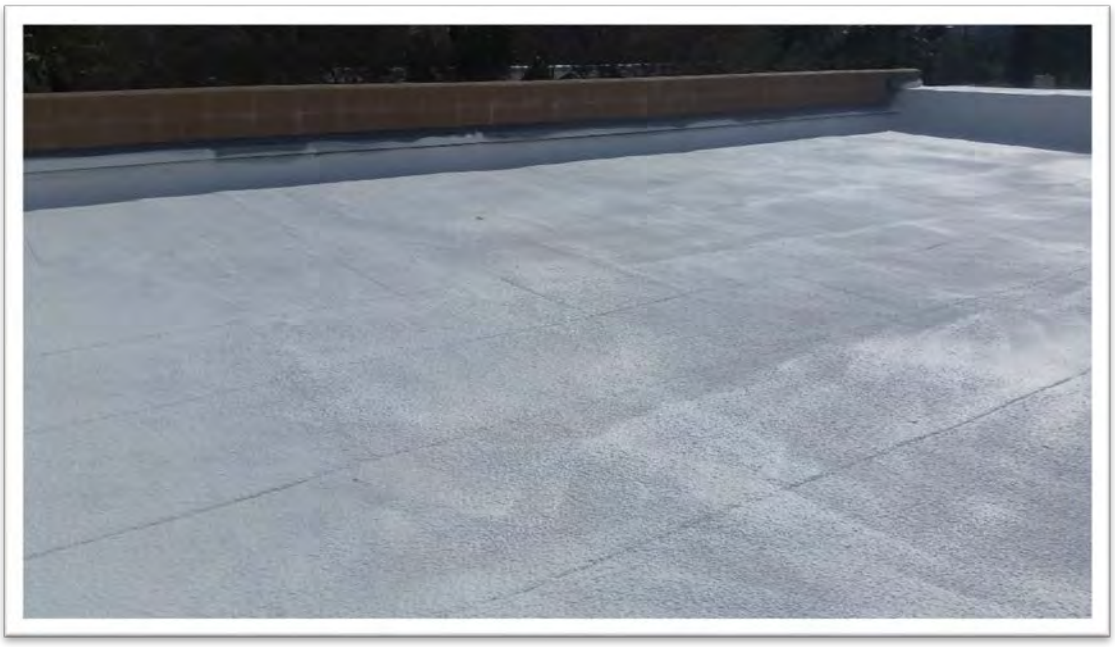
DWA Roof Projects

Well 17 – New solid roofing material has been installed over the leaking metal corrugated roof system. It was then covered with a new 2-inch spray in urethane foam membrane with a slightly increased pitch angle, and buildup of foam around pooling areas to prevent leaking. Well 17 also had the interior ceiling refurbished.



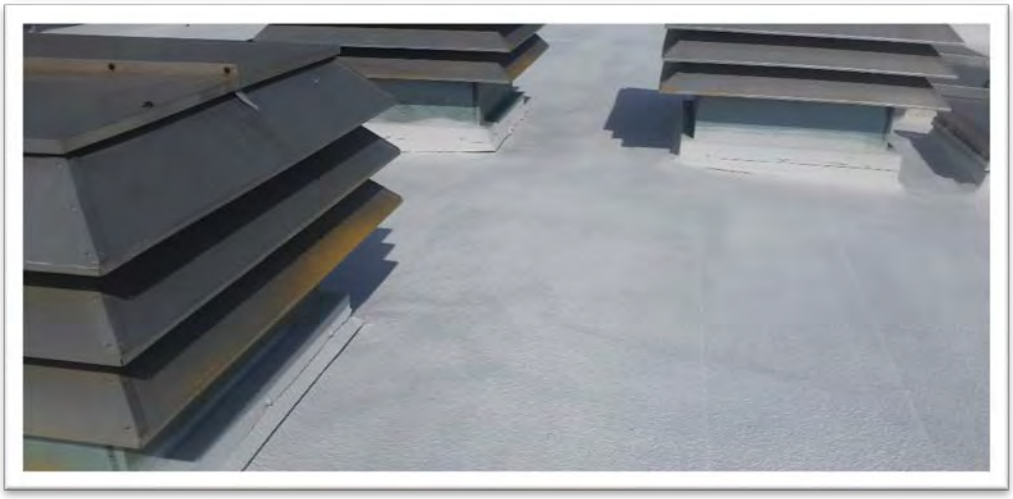
DWA Roof Projects
(Cont.)

Reclaim Plant Chlorine Building – The existing asphalt roof was cleaned and covered with an inch of spray in urethane foam.



DWA Roof Projects
(Cont.)

Reclaim Plant Pump Building - The existing asphalt roof was cleaned and covered with an inch of spray in urethane foam.

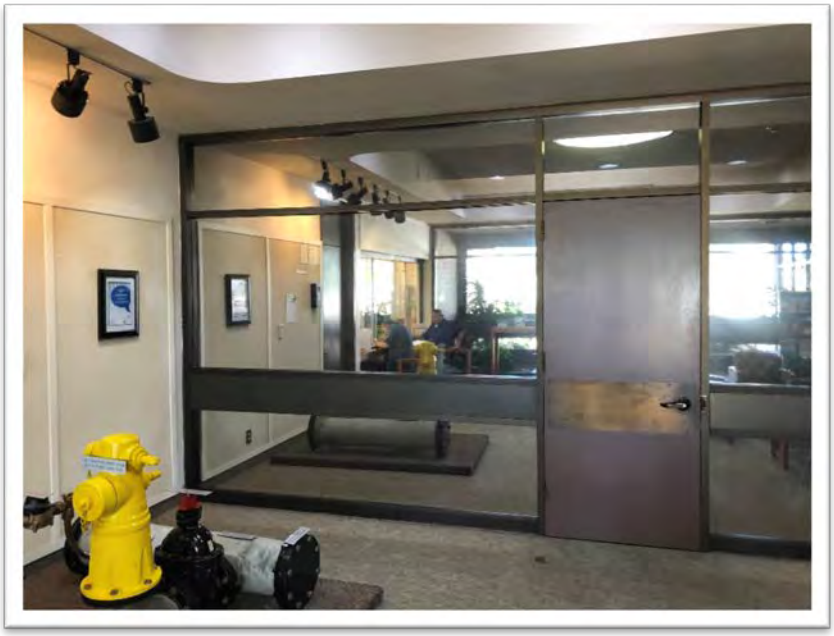


Operations Center Rooftop Fall Protection

3 permanent ladders and Cal Osha required railing systems have been installed on the roof at the Ops Center. The safety gates are scheduled to be installed the week of April 16. Single point anchor systems are stored in weatherproof boxes and located on the five different levels of the roof.

Lobby Hallway Security Film

Master Shield has applied a layer of reflective film on the lobby side of the glass, and a shatterproof 8-mil security film manufactured by 3M on the hallway side of the glass. The purpose is make it difficult for an attacker to track or target any employees that might be escaping through the hallway, while keeping the glass from shattering if shot with bullets or exposed to a bomb blast. The film is still in the curing process and will be bonded to the window frame after the curing is complete.



Board Room Door Remote Panic Hardware

Beaumont Safe and Lock has installed heavy-duty panic hardware on the main Board Room entry doors. This adds yet another layer of security by allowing us to keep the doors locked when necessary and only give access to authorized personnel or members of the public via remote control.

Cal Osha Inspection Status

All requested documents concerning Process Safety Management have been submitted to Cal Osha per their formal request. We are waiting for their review, updates to follow.

Agua Caliente Cultural Museum and Spa Pre-Construction Meeting

Agency representatives met with Penta Building Group on April 10 to discuss construction plans and schedules for the Agua Caliente Cultural Museum and Spa. The buildings will be constructed on the old Spa Hotel site at the corner of Indian Canyon and Tahquitz Canyon. We advised Penta that the Agency currently does not have an easement to construct any new facilities within the streets that surround the site and that they would need to work with the Tribe to secure the easements.

In 2002, the Agua Caliente Tribe provided fire flows for the Spa Casino and future development structures for this area, at which time a water model was performed by DWA. As a result of the model, a pipeline plan was created for the proposed facilities (see attached letter). During the April 10 meeting, we asked Penta to provide an update on fire flows for the proposed facilities and possible future development in the area so that we can determine if the water flow model that was created in 2002 is still valid.

DESERT WATER

Desert Water Agency
1200 Gene Autry Trail South
P.O. Box 1710
Palm Springs, CA 92263-1710
Telephone 760 323-4971
Fax 760 325-6505
www.dwa.org

October 4, 2002

Rob Donnels
Director of Construction
Agua Caliente Band of Cahuilla Indians
650 E. Tahquitz Canyon Way
Palm Springs, CA 92262

RE: Pipeline Upgrades for Spa Hotel and Casino Project
Phases I and II

Dear Mr. Donnels:

Based on the fire flows for four separate facilities proposed to be constructed downtown in Section 14, the Agency has determined the necessary pipeline upgrades therefore. The developer of the project will be responsible for constructing the upgrades, to Agency standards, at their expense.

On September 18, 2002, you provided revised fire flows for the following buildings or facilities at the following corresponding values: new casino – 4,000 gpm, future parking garage – 6,000 gpm; future administration building and warehouse – 2,500 gpm; new Spa Hotel and associated complex facilities – 14,000 gpm.

We have attempted to structure a plan to meet the above fire flow demands utilizing the existing Desert Water Agency water system wherever possible. We also recognize that some facilities in and around the proposed upgrades downtown will require abandonment. Those areas requiring abandonment in the near future are Andreas Road, from Indian Canyon to El Segundo and Calle Encilia, from Andreas Road to Amado.

Phase I of the pipeline upgrades will consist of a 16" pipeline connecting to two existing 12" pipelines at Tahquitz and El Segundo, extending north to Amado Road, west on Amado Road to Calle Encilia, north on Calle Encilia to Alejo Road, and west on Alejo Road to Palm Canyon Drive where the 16" main will be connected to existing 12" pipelines. Please see the attached area map.

Phase II of the pipeline upgrades will be required when fire flows are necessary for the new Spa Hotel and associated complex. Phase II facilities will consist of 16" main in Amado Road, from Calle Encilia to North Palm Canyon, where it will connect to two 12" mains in North Palm Canyon. Phase II will also include a 20" main in Indian Canyon Drive, south from Amado Road

to a location near the Spa site suitable to supply the necessary fire flows. Phase II pipelines will also include a 16" pipeline in Tahquitz Canyon Way, from Calle Encilia west to a point suitable to serve the proposed Spa complex.

The new casino will require a minimum of two 8" fire services, the future parking garage will require a minimum of two 10" fire services, the future administration building and warehouse requires two 6" fire services, and the future renovation of the Spa Hotel will require three 10" fire services and two 8" fire services.

We are aware that the new casino project has a very ridged construction schedule and that fire service must be available at the casino site by January 15, 2003. To facilitate that rigorous schedule, we have been working closely with your design engineer, Mr. Jim Miller of Fuscoe Engineering. Fuscoe is in the process of preparing pipeline drawings for the Phase I facilities described above. The Agency is utilizing mapping information provided by Fuscoe to prepare a connection design at the intersection of Calle El Segundo and Tahquitz Canyon Way. This connection is a critical element of meeting your schedule since the proposed 16" main must be connected at that location. When we have finalized our plan for connecting the mains in that intersection (which is very impacted with existing facilities), we will forward you an estimate of costs and Requests for Deposits so that we begin construction of the necessary connection piping for your project.

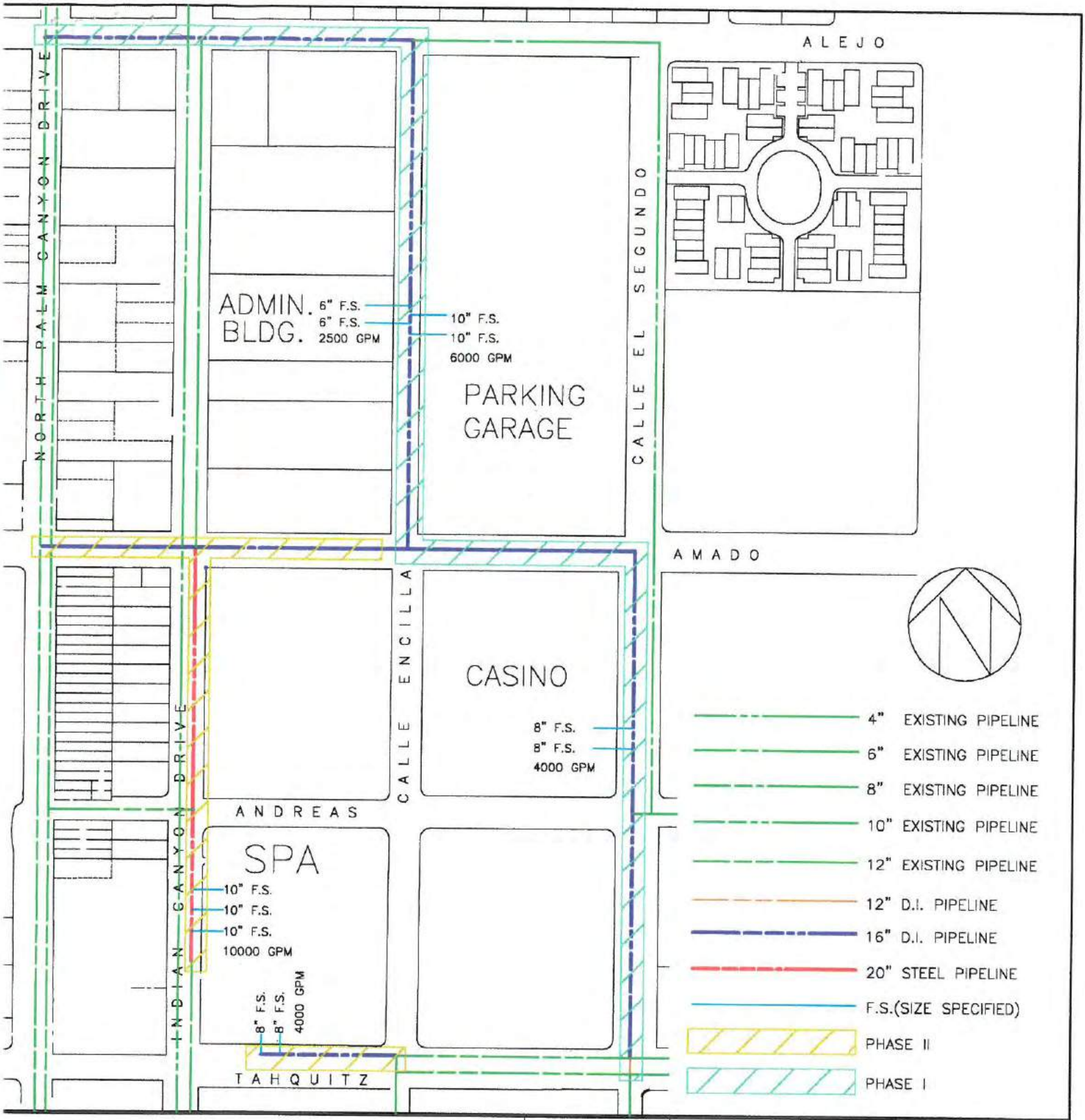
There will be other connections to existing Agency facilities within Phase I, which will be performed by the Agency also. Those connections will be located at El Segundo and Andreas, El Segundo and Amado, Calle Encilia and Amado, Calle Encilia and Alejo, Alejo and Indian Canyon, and Alejo at North Palm Canyon Drive. Funding requirements for these other connections will be determined as the design progresses.

Sincerely,

DESERT WATER AGENCY

David K. Luker
Assistant General Manager

DKL/jds



PIPELINE UPGRADES FOR SPA HOTEL / CASINO PROJECT

DESERT WATER

DWG. BY	DATE	SCALE	W.O.NO.
APC	10/2/02	N.T.S.	
APP'D BY	REVISED	PERMIT	FILE NO.
MSK			
CHK'D BY			SHEET
SLJ			1 OF 1

Facilities Spring Tour

The Spring tour hosted about 90 residents on April 4. Buzz buses took our guests from our office to a well site, a reservoir site, our reclamation plant and lab, and our solar field. The afternoon tour was added to accommodate the interest we saw from community members who were notified via Nextdoor.

Late Fee Update

The average monthly late fees collected amount to approximately $30,000. This represents 1,200 delinquent accounts at $25 per account or 5.2% of our accounts. For the first three months of the year monthly late collections are as follows:

Month	Late Fee Charged	Late Fee Charge Reversed	Total Late Fee Collected
Jan. 2018	$33,900	-$3,325	$30,575
Feb. 2018	$32,950	-$2,675	$30,275
Mar. 2018	$29,525	-$3,425	$26,100

Land Purchase: APN 680-180-034

The escrow closing date for APN 680-180-034 was April 16, 2018. The Agency purchased the property for $1,050,000, with closing costs fees of $1,550.

CRA/Hoover Dam Trip

Reminder: Staff and Board Members will be attending MWD's Colorado River Aqueduct/Hoover Dam trip from April 24 – 26.

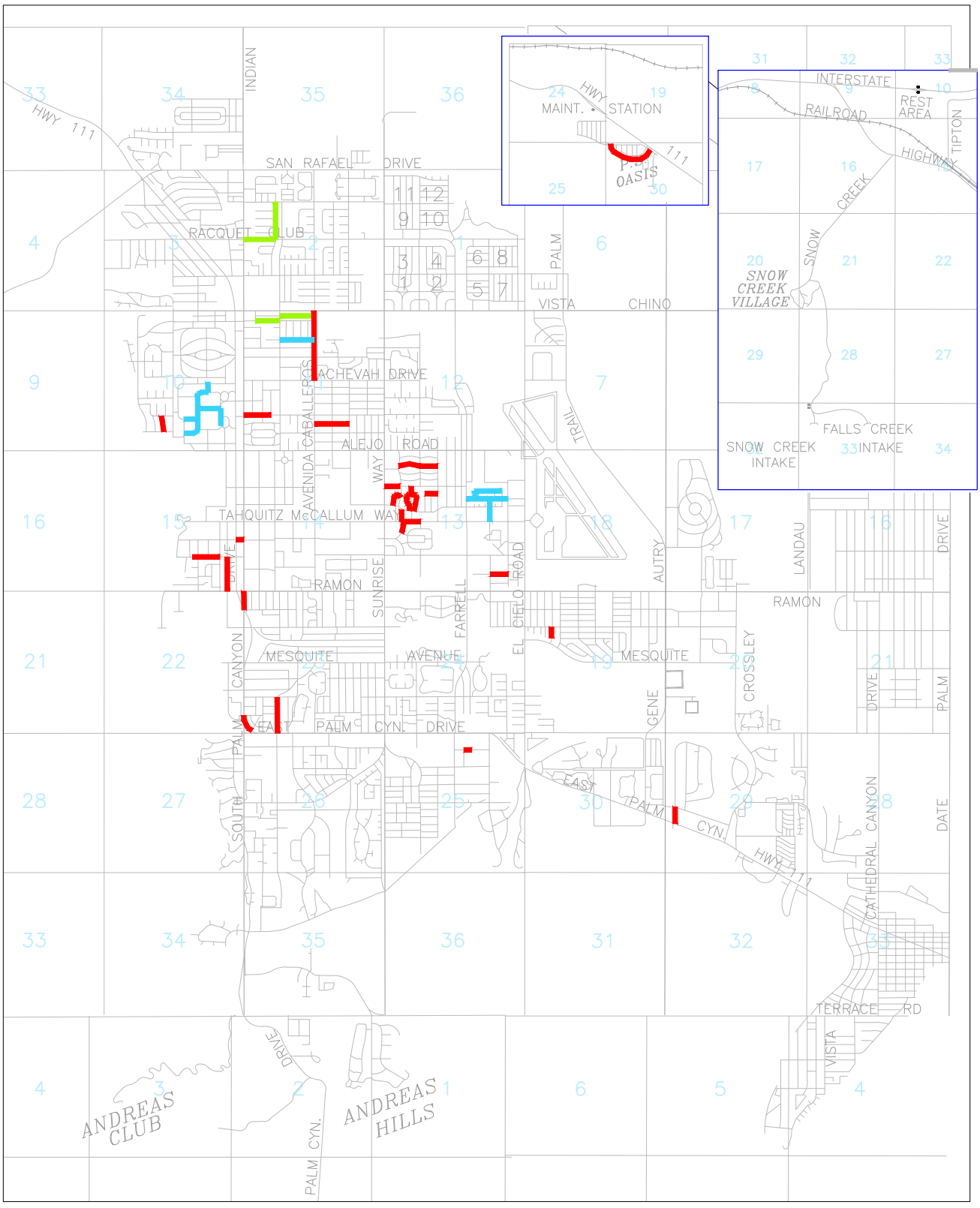
SYSTEM LEAK DATA

(PERIOD BEGINNING MARCH 14, 2018 THRU APRIL 10, 2018)

STREET NAME	QUARTER SECTION	NUMBER OF LEAKS
COTTONWOOD RD	4411NW	7
RACQUET CLUB RD	4402NW	6
STARR RD	4402NW	3
CAHUILLA RD (5")	4410SE	3
MISSION RD	4410SE	3
CHIA RD	4411NW	3
LIVMOR AVE	4413NE	2
LOUELLA RD	4413NE	2
MOUNTAIN VIEW PL	4410SE	2
TERRY LN	4413NW	2
LURING DR	4413NW	2
BARISTO RD	4415SE	2
VIA ALTAMIRA	4411SE	2
SANDCLIFF RD	4425NE	2
CHUCKWALLA RD	4411NW	1
MERITO PL	4410SE	1
CANYON PL	4410SE	1
PLAIMOR AVE	4413NE	1
EASMOR CIR	4413NE	1
PRESCOTT DR	4410SE	1
INDIAN CANYON DR (8")	4422NE	1
OVERTURE DR (8" AC)	3430NW	1
ARENAS RD (10")	4415SE	1
S PALM CANYON DR	4423SW	1
PARK DR	4413NW	1
VIA VAQUERO	4413SE	1
DRY FALLS RD	4410SW	1
MOUNTAIN VIEW RD	4519NW	1
TAMARISK RD (10")	4411SW	1
AVENIDA CABALLEROS (20")	4411NW	1
CERRITOS RD	4413NW	1
SATURMINO DR	4413NW	1
BROADMOOR DR (10")	4529SW	1
BELARDO RD	4415SE	1
CALLE PALO FIERRO	4423SW	1
AMADO RD	4413NW	1
SATURMINO DR	4413SE	1
TAHQUITZ CANYON WAY (8")	4413SW	1
TOTAL LEAKS IN SYSTEM:		**65**

* Streets highlighted in green are scheduled to be replaced as part of the **2017/2018 Replacement Pipeline Project**

* Streets highlighted in blue are being proposed as part of the **2018/2019 Replacement Pipeline Project**



SYSTEM LEAKS

(Period beginning March 14, 2018 thru April 10, 2018)

DESERT WATER AGENCY

PALM SPRINGS, CALIFORNIA

LEGEND

- LEAK(S) RECORDED
- LEAK(S) RECORDED; INCLUDED IN 2017/18 REPLACEMENT PIPELINES
- LEAK(S) RECORDED; INCLUDED IN PROPOSAL FOR 2018/19 REPLACEMENT PIPELINES

DWG. BY	DATE	SCALE
SR	4/18	NTS

EXHIBIT "A"

General Manager's Meetings and Activities:

Meetings:

03/20/18	DWA Bi-Monthly Board Meeting	DWA
03/20/18	C.C. State of the City Address	C.C.
03/21/18	SWC's – CWF Finance JPA	Conf. Call
03/26/18	Monday Staff/I.S./Security Meetings	DWA
03/27/18	DWA CIP Budget Meeting	DWA
03/28/18	Executive Committee Meeting	DWA
03/29/18	Meeting to Discuss District Voting	DWA
04/02/18	Monday Staff/I.S./Security Meetings	DWA
04/04/18	DWA Spring Tours	DWA
04/05/18	SWC's East Branch	SBVMWD
04/06/18	Meeting with DWR on DWA 2015UWMP Population	Conf. Call
04/06/18	Stantec Water Supply/Demand Projection Analysis	Conf. Call
04/09/18	Monday Staff/I.S./Security	DWA
04/11/18	Executive Committee	DWA
04/12/18	SGMA San Gorgonio Pass Subbasin	SGPWA
04/16/18	Monday Staff/I.S./Security Meetings	

Activities:

1) SGMA – Annual Alternative GW Sustainability Plan Update Due in April 2018
2) E-Billing – Implementing customer payment history capabilities
3) E-Billing - Implementing Customer One Time Payment Option
4) Outreach Talking Points – KESQ
5) Snow Creek Hydro SCE contract extension – ongoing
6) Whitewater Hydro – Facility Bypass Pipeline
7) State and Federal Contractors Water Authority and Delta Specific Project Committee (Standing)
8) MSWD Settlement Agreement and MOA from Mediation
9) ACBCI Section 14 Facilities & Easements
10) Lake Oroville Spillway Damage
11) Replacement Pipelines 2017-2018
12) CWF – Phasing Concepts
13) DWA/CVWD/MWD Operations Coordination/Article 21/Pool A/Pool B/Yuba Water
14) DWA/CVWD/MWD Agreements Update
15) SGMA Alternative Plans and Bridge Documents
16) SWP 2018 Water Supply
17) ACBCI Law Suits
18) Lake Perris Dam Remediation
19) Section 14 Pipeline Easements
20) DOI Regulation
21) Prop. 218 Applicability to Groundwater Recharge Assessment

Activities:
(Cont.)

22) Repair of Facility Access Roads Damaged in the September 10 Storm (Araby)
23) Whitewater Hydro Operations Coordination with Recharge Basin O&M
24) Multi-Agency Rate Study
25) SGMA Tribal Stakeholder Meetings
26) Whitewater Spreading Basins – BLM Permits
27) Lake Perris Dam Seepage Recovery Project Participation
28) Cal Waterfix Cost Allocation
29) DWA Surface Water Filtration Feasibility Study
30) Modification of our CVRWMP Boundary
31) MSWD Mediation
32) Review Documents for MSWD Public Records Act Request
33) S1464 - Water Conservation Tax Parity Act (Conservation Rebate Tax)
34) CRA & SWP Tours 2018
35) 3M Glass Shield
36) Snow Creek Gate Locks
37) MCSB Delivery Updates
38) DWA SWP Contract Amendment No. 20

Minutes
Executive Committee Meeting
March 28, 2018

Directors Present: Jim Cioffi, Joe Stuart
Staff Present: Mark Krause, Martin Krieger, Steve Johnson

1. Discussion Items

A. Review Agenda for April 3, 2018 Regular Board Meeting
Due to no there being no action items, it was decided to cancel the April 3 Board meeting. The next Board meeting is scheduled for April 17, 2018. Staff will send out proper notices.

B. CRA/Hoover Dam Trip
The final list of attendees was reviewed and confirmed.

2. Other - None

3. Adjourn

Minutes
Executive Committee Meeting
April 11, 2018

Directors Present: Jim Cioffi, Joe Stuart
Staff Present: Mark Krause, Martin Krieger, Steve Johnson

1. Discussion Items

A. Review Agenda for April 17, 2018 Regular Board Meeting
The proposed agenda for the April 17, 2018 meeting was reviewed.

B. Expense Reports
The March expense reports were reviewed.

2. Other - None

3. Adjourn

Minutes
Finance Committee Meeting
April 13, 2018

Directors Present: Joseph K. Stuart, Kristin Bloomer

Staff Present: Mark Krause, Martin Krieger, Steve Johnson, Esther Saenz

Discussion Items

1. Proposed 2018/2019 Operating Fund Budget
   The Committee reviewed the Capital budget, estimated water and reclamation sales revenue, and rate adjustments.

2. Proposed 2018/2019 General Fund Budget
   The Committee reviewed the groundwater replenishment rate adjustment and estimated revenue, property tax assessment and revenue estimates; State Water Project capital charges and expenses. The proposed capital budget was also reviewed.

3. Proposed 2018/2019 Wastewater Fund Budget
   The Committee reviewed the monthly sewer fixed charge adjustment and the proposed capital budget.

4. Other
   The Committee discussed the 2016/2017 audit request of providing financial documents in excel.

Adjourn

DESERT WATER AGENCY
STATEMENT OF CASH RECEIPTS AND EXPENDITURES

OPERATING ACCOUNT

MARCH 2018

				INVESTED RESERVE FUNDS
BALANCE	MARCH 1, 2018		($319,260.20)	$19,796,980.90
	WATER SALES	$2,172,290.64		
	RECLAMATION SALES	84,099.48		
	WASTEWATER RECEIPTS	104,100.19		
	POWER SALES	2,297.31		
	METERS, SERVICES, ETC.	46,722.00		
	REIMBURSEMENT – GENERAL FUND	121,771.19		
	REIMBURSEMENT – WASTEWATER FUND	6,105.89		
	ACCOUNTS RECEIVABLE – OTHER	10,181.96		
	CUSTOMER DEPOSITS – SURETY	8,298.82		
	CUSTOMER DEPOSITS – CONST.	21,876.00		
	LEASE REVENUE	3,397.91		
	INTEREST RECEIVED ON INV. FDS.	10,750.00		
	FRONT FOOTAGE FEES	0.00		
	BOND SERVICE & RESERVE FUND INT	0.00		
	MISCELLANEOUS	153,975.15		
	TOTAL RECEIPTS		$2,745,866.54	
PAYMENTS				
	PAYROLL CHECKS	$329,600.16		
	PAYROLL TAXES	143,104.72		
	ELECTRONIC TRANSFERS	157,308.21		
	CHECKS UNDER $10,000.00	355,947.30		
	CHECKS OVER $10,000.00 – SCH. #1	1,704,507.64		
	CANCELLED CHECKS AND FEES	7,958.41		
	TOTAL PAYMENTS		$2,698,426.44	
NET INCOME			$47,440.10	
BOND SERVICE ACCOUNT				
	MONTHLY WATER SALES	$0.00		
	EXCESS RETURNED BY B/A	$0.00		
	BOND SERVICE FUND		$0.00	
INVESTED RESERVE FUNDS				
	FUNDS MATURED	$105,000.00		
	FUNDS INVESTED – SCH. #3	672,000.00		
	NET TRANSFER		($567,000.00)	$567,000.00
BALANCE	MARCH 31, 2018		($838,820.10)	$20,363,980.90

OPERATING ACCOUNT

SCHEDULE #1-CHECKS OVER $10,000

CHECK #	NAME	DESCRIPTION	AMOUNT
116953	SWRCB ACCOUNTING OFFICE	WATER SYSTEM FEES - FISCAL 2017/2018	$49,914.40
116986	J COLON COATINGS INC	CONTRACT PAYMENT - RESERVOIR MAINTENANCE	$338,523.00
116996	PASO ROBLES TANK INC	EFFLUENT RESERVOIR #1 - INTERIOR ROOF PAINTING	$75,000.00
117011	SOUTHERN CALIFORNIA EDISON CO	POWER	$193,051.14
117022	Z&L PAVING, INC	PAVING	$27,247.50
117067	JOHN RUIZ	HR MANAGEMENT CONSULTING	$15,960.00
117068	ACWA/JOINT POWERS INS AUTHOR	HEALTH, DENTAL & VISION INSURANCE PREMIUMS - APRIL 2017	$173,549.12
117070	DESERT WATER AGENCY - WASTEWATER	WASTEWATER REVENUE BILLING FOR FEBRUARY 2018	$85,219.98
117073	DESERT WATER AGENCY - WASTEWATER	SEWER CAPACITY CHARGES - JONE CREE VENTURES	$36,680.00
117111	BEST BEST & KRIEGER LLP	LEGAL FEES	$64,499.88
117124	CORE & MAIN LP	WATER SERVICE SUPPLIES	$20,965.83
117128	DOWN TO EARTH LANDSCAPING	LANDSCAPE MAINTENANCE	$30,181.34
117134	ERS	CONTRACT PAYMENT - POTABLE WATER MAINTENANCE	$108,680.00
117141	FIESTA FORD LINCOLN CORP	VEHICLE PURCHASE - REPLACE UNIT #1 (W/O#17-112-M)	$43,740.29
117151	HARTZELL AIR MOVEMENT	VENT FANS - EFFLUENT RESERVOIR #1 (W/O 17-119-M)	$10,564.81
117158	J COLON COATINGS INC	CONTRACT PAYMENT - RESERVOIR MAINTENANCE (P.S. NORTH #2)	$320,511.00
117161	KRIEGER & STEWART INC	ENGINEERING	$48,668.10
117186	THE SOCO GROUP, INC	FUEL PURCHASES	$15,019.32
117191	THATCHER COMPANY OF CALIFORNIA	WATER SERVICE SUPPLIES	$19,311.43
117209	Z&L PAVING, INC	PAVING	$27,220.50
		** TOTAL	$1,704,507.64

DESERT WATER AGENCY
OPERATING FUND - LISTING OF INVESTMENTS
MARCH 31, 2018

PURCH DATE	NAME	DESCRIPTION	MATURITY DATE	COST	PAR VALUE	MARKET VALUE	YIELD TO MATURITY	CALLABLE STATUS
		Local Agency Investment Fund						
06-30-83	State of California	LAIF	Open	$ 15,863,980.90	$ 15,863,980.90	$ 15,863,980.90	1.570%	-
		Certificates of Deposit						
		Total Certificates of Deposit		$ -	$ -	$ -		
		Commercial Paper						
		Total Commerical Paper		$ -	$ -	$ -		
		Government Agency						
09-20-16	Union Bank	FNMA (Callable 6-20-18)	09-20-19	$ 1,000,000.00	$ 1,000,000.00	$ 986,210.00	1.300%	Quarterly
10-28-16	Union Bank	FHLMC STEP (Callable 4-28-18)	10-28-21	$ 1,000,000.00	$ 1,000,000.00	$ 991,420.00	2.000%	Quarterly
02-28-17	Union Bank	FHLMC (Callable 5-25-18)	02-25-19	$ 500,000.00	$ 500,000.00	$ 496,680.00	1.400%	Quarterly
09-29-17	Union Bank	FHLMC (Callable 6-29-18)	09-29-20	$ 500,000.00	$ 500,000.00	$ 490,545.00	1.700%	Quarterly
01-29-18	Union Bank	FHLB (Callable 1-29-19)	01-29-21	$ 500,000.00	$ 500,000.00	$ 496,720.00	2.200%	Quarterly
02-08-18	Union Bank	FFCB	05-08-19	$ 1,000,000.00	$ 1,000,000.00	$ 998,500.00	2.000%	Quarterly
		Total Government Agency		$ 4,500,000.00	$ 4,500,000.00	$ 4,460,075.00		
						Weighted Mean YTM	1.613%	
		TOTAL INVESTED @ 03/31/18		$ 20,363,980.90	$ 20,363,980.90	$ 20,324,055.90		
		BALANCE @ 06/30/17		$ 16,124,074.41				
		INCREASE (DECREASE)		$4,239,906.49				

DESERT WATER AGENCY
STATEMENT OF CASH RECEIPTS AND EXPENDITURES

GENERAL ACCOUNT

MARCH 2018

				INVESTED RESERVE FUNDS
BALANCE	MARCH 1, 2018		($536,039.50)	$124,351,080.98
* TAXES - RIVERSIDE COUNTY		73,320.84		
* INTEREST EARNED - INV. FUNDS		126,031.53		
GROUNDWATER REPLEN. ASSESSMENT		0.00		
REIMBURSEMENT - OPERATING FUND		0.00		
REIMBURSEMENT - CVWD MGMT		190,892.00		
STATE WATER PROJECT REFUNDS		0.00		
REIMB - CVWD - WHITEWATER HYDRO		0.00		
POWER SALES - WHITEWATER		0.00		
MISCELLANEOUS		0.00		
TOTAL RECEIPTS			$390,244.37	
PAYMENTS				
CHECKS UNDER $10,000.00		21,557.29		
CHECKS OVER $10,000.00 - SCH. #1		2,014,908.26		
CANCELLED CHECKS AND FEES		0.00		
TOTAL PAYMENTS			$2,036,465.55	
NET INCOME			($1,646,221.18)	
INVESTED RESERVE FUNDS				
FUNDS MATURED		4,367,000.00		
FUNDS INVESTED – SCH. #2		3,125,000.00		
NET TRANSFER			$1,242,000.00	($1,242,000.00)
BALANCE	MARCH 31, 2018		($940,260.68)	$123,109,080.98

* INCLUSIVE TO DATE	TAXES	INTEREST
RECEIPTS IN FISCAL YEAR	$16,194,739.25	$1,080,118.98
RECEIPTS IN CALENDAR YEAR	$9,646,047.72	$389,625.39

DESERT WATER AGENCY

GENERAL ACCOUNT

SCHEDULE #1-CHECKS OVER $10,000

CHECK #	NAME	DESCRIPTION	AMOUNT
9017	STATE OF CA. DEPT. OF WATER RESOURCES	STATE WATER PROJECT ENTITLEMENT - DECEMBER 2017	$916,432.00
9022	DESERT WATER AGENCY - OPERATING	OPERATING FUND REIMBURSEMENT FOR FEBRUARY 2018	$118,062.76
9023	STATE OF CA. DEPT. OF WATER RESOURCES	STATE WATER PROJECT - MARCH 2018	$960,062.00
9024	COACHELLA VALLEY WATER DISTRICT	WHITEWATER HYDRO REVENUE - JANUARY 2018	$20,351.50
		** TOTAL	$2,014,908.26

DESERT WATER AGENCY
GENERAL FUND - LISTING OF INVESTMENTS
MARCH 31 , 2018

PURCHASE DATE	NAME	DESCRIPTION	MATURITY DATE	COST	PAR VALUE	MARKET VALUE	YIELD TO MATURITY	CALLABLE STATUS
		Local Agency Investment Fund						
06-30-83	State of California	LAIF	Open	$ 39,087,310.98	$ 39,087,310.98	$ 39,087,310.98	1.570%	
		Certificates of Deposit						
10-07-15	Ladenburg Thalmann	Goldman Sachs CD	04-07-18	$ 245,000.00	$ 245,000.00	$ 244,995.10	1.350%	Bullet
04-20-17	RBC Wealth Mgmt	Whitney Bank CD	04-22-19	$ 1,000,000.00	$ 1,000,000.00	$ 995,260.00	1.650%	Bullet
06-14-17	RBC Wealth Mgmt	Capital One N/A CD	06-15-20	$ 250,000.00	$ 250,000.00	$ 246,432.50	1.900%	Bullet
06-14-17	RBC Wealth Mgmt	Capital One Bank USA CD	06-15-20	$ 250,000.00	$ 250,000.00	$ 246,432.50	1.900%	Bullet
06-19-17	RBC Wealth Mgmt	First Priority Bank CD	06-19-20	$ 250,000.00	$ 250,000.00	$ 245,602.50	1.750%	Bullet
06-22-17	Sun Community FCU	Credit Union CD	06-22-18	$ 1,000,000.00	$ 1,000,000.00	$ 1,011,890.84	1.500%	Bullet
		Total Certificates of Deposit		$ 2,995,000.00	$ 2,995,000.00	$ 2,990,413.44		
		Commercial Paper						
12-16-13	Stifel	General Electric	05-15-18	$ 587,600.00	$ 500,000.00	$ 501,000.00	6.300%	Bullet
04-27-15	Ladenburg Thalmann	Apple Inc.	05-03-18	$ 997,920.00	$ 1,000,000.00	$ 999,000.00	1.000%	Bullet
		Total Commercial Paper		$ 1,585,520.00	$ 1,500,000.00	$ 1,500,000.00		
		Government Agency						
08-13-13	Ladenburg Thalmann	FHLB (Callable 6-13-18)	06-13-18	$ 1,000,000.00	$ 1,000,000.00	$ 998,600.00	1.100%	Qtrly
10-02-15	Stifel	FHLB (Callable Continuous)	10-02-19	$ 1,000,000.00	$ 1,000,000.00	$ 988,190.00	1.450%	Continuous
10-29-15	Stifel	FHLB (Callable Continuous)	10-29-18	$ 1,000,000.00	$ 1,000,000.00	$ 994,850.00	1.120%	Continuous
11-23-15	Ladenburg Thalmann	FHLMC (Callable 5-23-18)	05-23-18	$ 996,000.00	$ 1,000,000.00	$ 998,840.00	1.000%	Qtrly
11-25-15	Stifel	FNMA (Callable 5-25-18)	11-25-19	$ 1,000,000.00	$ 1,000,000.00	$ 987,530.00	1.500%	Qtrly
02-26-16	Ladenburg Thalmann	FNMA (Callable 5-26-18)	02-26-19	$ 1,000,000.00	$ 1,000,000.00	$ 991,440.00	1.250%	Qtrly
03-23-16	Ladenburg Thalmann	FNMA (Callable 6-23-18)	03-23-20	$ 1,000,000.00	$ 1,000,000.00	$ 983,870.00	1.500%	Qtrly
03-30-16	Stifel	FNMA STEP (Callable 6-30-18)	03-30-21	$ 1,000,000.00	$ 1,000,000.00	$ 990,050.00	1.750%	Qtrly
03-30-16	Stifel	FHLMC STEP (Callable 6-30-18)	03-30-21	$ 1,000,000.00	$ 1,000,000.00	$ 987,330.00	1.750%	Qtrly
04-26-16	Ladenburg Thalmann	FHLB (Callable Continuous)	10-26-20	$ 999,500.00	$ 1,000,000.00	$ 976,050.00	1.550%	Continuous
05-23-16	Stifel	FNMA (Callable 5-23-18)	08-23-19	$ 1,000,000.00	$ 1,000,000.00	$ 986,480.00	1.250%	Qtrly
05-26-16	Union Bank	FNMA	11-26-19	$ 1,000,000.00	$ 1,000,000.00	$ 984,280.00	1.300%	1 Time
05-31-16	Ladenburg Thalmann	FHLMC (Callable 5-29-18)	08-29-18	$ 1,000,000.00	$ 1,000,000.00	$ 996,420.00	1.020%	Qtrly
06-01-16	Stifel	FFCB (Callable Continuous)	03-01-19	$ 1,000,000.00	$ 1,000,000.00	$ 989,190.00	1.250%	Continuous
06-13-16	Ladenburg Thalmann	FNMA (Callable 8-13-18)	06-13-19	$ 1,000,000.00	$ 1,000,000.00	$ 990,760.00	1.400%	Qtrly
06-16-16	Stifel	FFCB (Callable Continuous)	03-16-20	$ 1,000,000.00	$ 1,000,000.00	$ 978,110.00	1.400%	Continuous
06-21-16	Stifel	FHLMC STEP (Callable 6-21-18)	06-21-21	$ 1,000,000.00	$ 1,000,000.00	$ 990,900.00	1.400%	Qtrly
06-28-16	Ladenburg Thalmann	FNMA (Callable 6-28-18)	06-28-19	$ 1,000,000.00	$ 1,000,000.00	$ 987,930.00	1.200%	Qtrly
06-30-16	Stifel	FHLMC STEP (Callable 6-30-18)	12-30-19	$ 1,000,000.00	$ 1,000,000.00	$ 991,660.00	1.250%	Qtrly
07-07-16	Ladenburg Thalmann	FFCB (Callable Continuous)	01-07-19	$ 1,000,000.00	$ 1,000,000.00	$ 992,070.00	1.000%	Continuous
07-11-16	Ladenburg Thalmann	FHLB (Callable Continuous)	10-11-19	$ 1,000,000.00	$ 1,000,000.00	$ 989,020.00	1.125%	Continuous
07-11-16	Ladenburg Thalmann	FHLB (Callable Continuous)	07-11-19	$ 1,000,000.00	$ 1,000,000.00	$ 986,460.00	1.125%	Continuous
07-13-16	Union Bank	FFCB (Callable Continuous)	01-13-20	$ 1,000,000.00	$ 1,000,000.00	$ 978,990.00	1.240%	Continuous
07-26-16	Ladenburg Thalmann	FNMA (Callable 4-26-18)	07-26-19	$ 999,500.00	$ 1,000,000.00	$ 985,270.00	1.125%	Qtrly
07-27-16	Stifel	FNMA STEP (Callable 4-27-18)	07-27-21	$ 1,000,000.00	$ 1,000,000.00	$ 963,300.00	1.250%	Qtrly
08-10-16	Ladenburg Thalmann	FHLMC (Callable 5-10-18)	08-10-20	$ 1,000,000.00	$ 1,000,000.00	$ 977,290.00	1.450%	Qtrly
08-24-16	Ladenburg Thalmann	FHLMC STEP (Callable 5-24-18)	08-24-21	$ 1,000,000.00	$ 1,000,000.00	$ 993,080.00	1.500%	Qtrly
08-30-16	Stifel	FHLMC STEP (Callable 5-28-18)	08-27-21	$ 1,000,000.00	$ 1,000,000.00	$ 991,730.00	1.500%	Qtrly
08-30-16	Ladenburg Thalmann	FNMA (Callable 5-27-18)	11-27-19	$ 1,000,000.00	$ 1,000,000.00	$ 983,430.00	1.250%	Qtrly
09-06-16	Ladenburg Thalmann	FFCB (Callable Continuous)	03-06-19	$ 1,000,000.00	$ 1,000,000.00	$ 989,040.00	1.150%	Continuous
09-20-16	Union Bank	FNMA (Callable 6-20-18)	09-20-19	$ 1,000,000.00	$ 1,000,000.00	$ 986,210.00	1.300%	Qtrly
09-27-16	Ladenburg Thalmann	FHLMC STEP (Callable 6-27-18)	09-27-19	$ 1,000,000.00	$ 1,000,000.00	$ 996,190.00	1.500%	Qtrly

DESERT WATER AGENCY
GENERAL FUND - LISTING OF INVESTMENTS
MARCH 31, 2018

PURCHASE DATE	NAME	DESCRIPTION	MATURITY DATE	COST	PAR VALUE	MARKET VALUE	YIELD TO MATURITY	CALLABLE STATUS
		Government Agency						
09-29-16	Ladenburg Thalmann	FHLMC STEP (Callable 6-29-18)	09-29-21	$ 950,000.00	$ 950,000.00	$ 930,667.50	1.375%	Qtrly
09-30-16	Ladenburg Thalmann	FNMA (Callable 6-30-18)	09-30-19	$ 1,000,000.00	$ 1,000,000.00	$ 985,080.00	1.250%	Qtrly
10-06-16	Ladenburg Thalmann	FHLMC (Callable 4-6-18)	07-06-20	$ 1,000,000.00	$ 1,000,000.00	$ 976,840.00	1.375%	Qtrly
10-11-16	Ladenburg Thalmann	FHLMC (Callable 4-11-18)	10-11-18	$ 999,750.00	$ 1,000,000.00	$ 995,040.00	1.000%	Qtrly
10-17-16	Stifel	FNMA	04-17-20	$ 1,000,000.00	$ 1,000,000.00	$ 978,320.00	1.250%	1 Time
10-28-16	Stifel	FHLMC STEP (Callable 4-28-18)	10-28-21	$ 1,500,000.00	$ 1,500,000.00	$ 1,475,415.00	1.250%	Qtrly
10-28-16	Union Bank	FHLMC STEP (Callable 4-28-18)	10-28-21	$ 1,000,000.00	$ 1,000,000.00	$ 981,420.00	2.000%	Qtrly
11-09-16	Ladenburg Thalmann	FFCB (Callable Continuous)	05-09-21	$ 999,250.00	$ 1,000,000.00	$ 970,240.00	1.480%	Continuous
11-15-16	Stifel	FHLMC STEP (Callable 5-15-18)	11-15-19	$ 1,000,000.00	$ 1,000,000.00	$ 987,880.00	1.000%	Qtrly
12-14-16	Ladenburg Thalmann	FHLMC (Callable 6-14-18)	12-14-20	$ 1,000,000.00	$ 1,000,000.00	$ 980,000.00	1.750%	Qtrly
12-29-16	Ladenburg Thalmann	FNMA (Callable 6-29-18)	06-29-20	$ 1,000,000.00	$ 1,000,000.00	$ 985,400.00	1.750%	Qtrly
12-30-16	Ladenburg Thalmann	FHLMC (Callable 6-30-18)	12-30-19	$ 998,000.00	$ 1,000,000.00	$ 982,420.00	1.500%	Qtrly
01-27-17	Ladenburg Thalmann	FNMA (Callable 4-27-18)	01-27-20	$ 1,000,000.00	$ 1,000,000.00	$ 985,940.00	1.650%	Qtrly
01-30-17	Union Bank	FHLB (Callable 4-30-18)	04-30-20	$ 1,000,000.00	$ 1,000,000.00	$ 986,780.00	1.750%	Qtrly
02-28-17	Union Bank	FHLMC (Callable 5-25-18)	02-25-19	$ 1,000,000.00	$ 1,000,000.00	$ 993,360.00	1.400%	Qtrly
04-20-17	Stifel	FHLMC STEP (Callable 4-20-18)	04-20-20	$ 1,000,000.00	$ 1,000,000.00	$ 994,090.00	1.250%	Qtrly
04-27-17	Ladenburg Thalmann	FHLMC (Callable 4-27-18)	01-27-21	$ 1,000,000.00	$ 1,000,000.00	$ 987,640.00	2.000%	Qtrly
06-08-17	Stifel	FHLMC STEP (Callable 6-8-18)	06-08-20	$ 1,000,000.00	$ 1,000,000.00	$ 994,790.00	1.375%	Qtrly
06-22-17	Ladenburg Thalmann	FHLMC STEP (Callable 6-22-18)	06-22-22	$ 1,000,000.00	$ 1,000,000.00	$ 989,790.00	1.625%	Qtrly
06-27-17	Union Bank	FHLB (Callable 6-27-18)	09-27-19	$ 1,000,000.00	$ 1,000,000.00	$ 989,130.00	1.500%	Qtrly
06-29-17	Ladenburg Thalmann	FHLMC (Callable 6-29-18)	09-29-20	$ 1,000,000.00	$ 1,000,000.00	$ 980,950.00	1.750%	Qtrly
07-11-17	Ladenburg Thalmann	FHLMC (Callable 4-11-18)	01-11-21	$ 1,000,000.00	$ 1,000,000.00	$ 978,070.00	1.800%	Qtrly
07-26-17	Stifel	FHLMC STEP (Callable 4-26-18)	07-26-22	$ 1,000,000.00	$ 1,000,000.00	$ 992,620.00	1.750%	Qtrly
07-27-17	Stifel	FHLMC STEP (Callable 4-27-18)	07-27-22	$ 1,000,000.00	$ 1,000,000.00	$ 993,510.00	1.500%	Qtrly
08-07-17	Ladenburg Thalmann	FFCB (Callable Continuous)	11-29-20	$ 999,850.00	$ 1,000,000.00	$ 981,010.00	1.770%	Continuous
08-09-17	Stifel	FHLB STEP (Callable 5-9-18)	02-09-22	$ 2,000,000.00	$ 2,000,000.00	$ 1,969,600.00	1.750%	Qtrly
08-10-17	Ladenburg Thalmann	FHLB STEP (Callable 5-10-18)	08-10-22	$ 1,000,000.00	$ 1,000,000.00	$ 984,030.00	1.500%	Qtrly
08-08-17	Stifel	FHLB STEP (Callable 6-8-18)	08-08-22	$ 1,000,000.00	$ 1,000,000.00	$ 984,470.00	1.750%	Qtrly
08-28-17	Ladenburg Thalmann	FHLMC STEP (Callable 6-28-18)	08-28-20	$ 1,000,000.00	$ 1,000,000.00	$ 986,450.00	1.375%	Qtrly
09-29-17	Union Bank	FHLMC (Callable 6-29-18)	09-29-20	$ 1,000,000.00	$ 1,000,000.00	$ 981,090.00	1.700%	Qtrly
09-29-17	Stifel	FHLMC STEP (Callable 6-29-18)	09-29-22	$ 1,000,000.00	$ 1,000,000.00	$ 983,850.00	1.625%	Qtrly
10-26-17	Ladenburg Thalmann	FNMA (Callable 4-26-18)	07-26-21	$ 1,000,000.00	$ 1,000,000.00	$ 980,980.00	2.000%	Qtrly
11-06-17	Ladenburg Thalmann	FFCB (Callable Continuous)	08-06-19	$ 1,000,000.00	$ 1,000,000.00	$ 992,790.00	1.600%	Continuous
11-20-16	Ladenburg Thalmann	FHLMC (Callable 5-20-18)	11-20-20	$ 1,000,000.00	$ 1,000,000.00	$ 987,600.00	2.000%	Qtrly
12-11-17	Ladenburg Thalmann	FHLB (Callable 6-11-18)	12-11-20	$ 999,750.00	$ 1,000,000.00	$ 986,790.00	2.000%	Qtrly
12-14-17	Stifel	FFCB (Callable 12-14-18)	12-14-20	$ 1,000,000.00	$ 1,000,000.00	$ 988,090.00	2.060%	Continuous
01-16-18	Ladenburg Thalmann	FHLMC (Callable 4-16-18)	10-16-20	$ 1,000,000.00	$ 1,000,000.00	$ 991,150.00	2.070%	Qtrly
01-26-18	Ladenburg Thalmann	FHLB (Callable 4-26-18)	01-26-21	$ 999,650.00	$ 1,000,000.00	$ 990,380.00	2.250%	Qtrly
01-26-18	Stifel	FHLMC (Callable 4-26-18)	01-26-21	$ 1,000,000.00	$ 1,000,000.00	$ 991,900.00	2.220%	Qtrly
01-29-18	Union Bank	FHLB (Callable 1-29-19)	01-29-21	$ 1,000,000.00	$ 1,000,000.00	$ 988,440.00	2.200%	Qtrly
01-30-18	Union Bank	FHLB (Callable 1-30-19)	07-30-20	$ 1,000,000.00	$ 1,000,000.00	$ 992,330.00	2.100%	Qtrly
02-01-18	Stifel	FFCB (Callable 8-1-18)	02-01-21	$ 1,000,000.00	$ 1,000,000.00	$ 996,330.00	2.350%	Qtrly
02-08-18	Union Bank	FFCB	05-08-19	$ 1,000,000.00	$ 1,000,000.00	$ 998,500.00	2.000%	Qtrly
02-12-18	Stifel	FHLB (Callable 2-12-19)	02-12-21	$ 1,000,000.00	$ 1,000,000.00	$ 993,710.00	2.300%	Qtrly
03-26-18	Ladenburg Thalmann	FHLB STEP (Callable 6-28-18)	03-26-21	$ 1,000,000.00	$ 1,000,000.00	$ 998,370.00	2.000%	Qtrly
03-29-18	Stifel	FHLMC STEP (Callable 6-29-18)	03-29-23	$ 1,000,000.00	$ 1,000,000.00	$ 999,080.00	2.250%	Qtrly
		Total Government Agency		$ 79,441,250.00	$ 79,450,000.00	$ 78,466,632.50		
						Weighted Mean YTM	1.575%	
		TOTAL INVESTED @ 03/31/18		$ 123,109,060.98	$ 123,032,310.98	$ 122,044,356.92		
		BALANCE @ 06/30/17		$ 117,493,032.70				
		INCREASE OR (DECREASE)		$ 5,616,048.28				

DESERT WATER AGENCY
STATEMENT OF CASH RECEIPTS AND EXPENDITURES

WASTEWATER ACCOUNT

MARCH 2018

				INVESTED RESERVE FUNDS
BALANCE	MARCH 1, 2018		$3,007.57	$1,254,974.41
ACCOUNTS RECEIVABLE - OTHER		$0.00		
CUSTOMER DEPOSITS - CONSTRUCTION		0.00		
INTEREST EARNED - INVESTED FUNDS		16.02		
WASTEWATER REVENUE		85,219.98		
SEWER CAPACITY CHARGES		40,908.86		
MISCELLANEOUS		0.00		
TOTAL RECEIPTS			$126,144.86	
PAYMENTS				
CHECKS UNDER $10,000.00		$15,180.13		
CHECKS OVER $10,000.00 - SCH. #1		49,184.68		
CANCELLED CHECKS AND FEES		0.00		
TOTAL PAYMENTS			$64,364.81	
NET INCOME			$61,780.05	
INVESTED RESERVE FUNDS				
FUNDS MATURED		$0.00		
FUNDS INVESTED – SCH. #2		23,000.00		
NET TRANSFER			($23,000.00)	$23,000.00
BALANCE	MARCH 31, 2018		$41,787.62	$1,277,974.41

DESERT WATER AGENCY

WASTEWATER ACCOUNT

SCHEDULE #1-CHECKS OVER $10,000

CHECK #	NAME	DESCRIPTION	AMOUNT
2544	COACHELLA VALLEY WATER DISTRICT	WASTEWATER REVENUE BILLING FOR FEBRUARY 2018	$49,184.68
		** TOTAL	$49,184.68

DESERT WATER AGENCY
WASTEWATER FUND - LISTING OF INVESTMENTS
MARCH 31, 2018

PURCH DATE	NAME	DESCRIPTION	MATURITY DATE	COST	PAR VALUE	MARKET VALUE	YIELD TO MATURITY
		Local Agency Invstment Fund					
06-30-83	State of California	LAIF	Open	$ 1,277,974.41	$ 1,277,974.41	$ 1,277,974.41	1.570%
		TOTAL INVESTED @ 03/31/18		$ 1,277,974.41	$ 1,277,974.41	$ 1,277,974.41	
		BALANCE @ 06/30/17		$ 1,142,620.01			
		INCREASE OR (DECREASE)		$ 135,354.40			

DESERT WATER AGENCY - OPERATING FUND
COMPARATIVE EARNINGS STATEMENT

MONTH 17-18 MARCH	THIS MONTH THIS YEAR	THIS MONTH LAST YEAR	THIS MONTH BUDGET	FISCAL YEAR TO DATE THIS YEAR	FISCAL YEAR TO DATE LAST YEAR	FISCAL YEAR TO DATE BUDGET	VARIANCE YTD	VARIANCE PCT
OPERATING REVENUES								
WATER SALES	1,940,488.04	1,456,078.50	1,704,350.00	21,623,463.01	17,083,533.77	19,938,225.00	1,685,238.01	8
RECLAMATION SALES	90,135.64	58,496.05	70,100.00	1,096,138.62	1,004,967.58	994,800.00	101,338.62	10
POWER SALES	2,297.31	.00	2,000.00	23,121.93	15,212.73	18,000.00	5,121.93	28
OTHER OPER REVENUE	130,294.30	93,553.93	130,700.00	1,758,584.23	897,637.74	1,176,300.00	582,284.23	50
TOTAL OPER REVENUES	2,163,215.29	1,608,128.48	1,907,150.00	24,501,307.79	19,001,351.82	22,127,325.00	2,373,982.79	11
OPERATING EXPENSES								
SOURCE OF SUPPLY EXP	754,073.67	564,652.73	707,625.00	3,102,493.02	2,434,053.20	2,916,750.00	185,743.02	6
PUMPING EXPENSE	227,769.46	35,822.82	222,575.00	2,154,358.33	1,824,128.99	2,387,575.00	233,216.67-	10-
REGULATORY WATER TREAT	50,109.60	40,658.30	42,500.00	404,910.30	369,946.39	382,500.00	22,410.30	6
TRANS & DIST EXPENSE	836,466.50	908,287.93	437,800.00	2,734,579.36	2,778,486.34	3,940,200.00	1,205,620.64-	31-
CUSTOMER ACT EXPENSE	93,468.08	80,010.55	80,025.00	693,652.45	705,328.70	721,725.00	28,072.55-	4-
ADMIN & GEN EXPENSE	632,080.25	604,982.86	613,850.00	6,583,719.61	6,653,694.37	6,586,825.00	3,105.39-	0
REGULATORY EXPENSE	63,608.65	11,808.69	25,125.00	179,252.69	160,894.04	226,275.00	47,022.31-	21-
SNOW CREEK HYDRO EXP	3,424.01	571.15	3,350.00	17,509.22	29,333.75	30,150.00	12,640.78-	42-
RECLAMATION PLNT EXP	262,623.44	290,683.85-	207,800.00	894,700.11	283,570.82	1,870,775.00	976,074.89-	52-
SUB-TOTAL	2,923,623.66	1,956,111.18	2,340,650.00	16,765,175.09	15,239,436.60	19,062,775.00	2,297,599.91-	12-
OTHER OPER EXPENSES								
DEPRECIATION	475,155.90	460,038.94	471,200.00	4,214,689.57	4,177,520.92	4,240,800.00	26,110.43-	1-
SERVICES RENDERED	25,772.46	9,731.67	11,250.00	168,161.28	100,788.65	101,250.00	66,911.28	66
DIR & INDIR CST FOR WO	144,573.38-	156,945.74-	83,750.00-	1,425,979.66-	1,536,405.92-	753,750.00-	672,229.66-	89
TOTAL OPER EXPENSES	3,279,978.64	2,268,936.05	2,739,350.00	19,722,046.28	17,981,340.25	22,651,075.00	2,929,028.72-	13-
NET INCOME FROM OPERATIONS	1,116,763.35-	660,807.57-	832,200.00-	4,779,261.51	1,020,011.57	523,750.00-	5,303,011.51	0
NON-OPERATING INCOME (NET)								
RENTS	3,397.91	3,368.43	3,425.00	62,410.13	62,183.77	62,475.00	64.87-	0
INTEREST REVENUES	26,668.67	11,945.29	10,250.00	177,974.15	90,194.57	92,250.00	85,724.15	93
OTHER REVENUES	.00	485.00	.00	496,029.16	2,025.00	.00	496,029.16	0
GAINS ON RETIREMENT	8,500.00	.00	750.00	22,595.00	9,554.15	5,250.00	17,345.00	330
DISCOUNTS	5.54	2,006.63	300.00	169.76	2,942.35	2,700.00	2,530.24-	94-
PR. YEAR EXPENSES	115,523.24	.00	.00	277,122.13	300.00-	.00	277,122.13	0
LOSS ON RETIREMENTS	12,090.82-	5,043.91-	3,000.00-	25,894.23-	22,795.04-	27,000.00-	1,105.77	4-
TOTAL NON-OPER INCOME	142,004.54	12,761.44	11,725.00	1,010,406.10	143,804.80	135,675.00	874,731.10	645
TOTAL NET INCOME	974,758.81-	648,046.13-	820,475.00-	5,789,667.61	1,163,816.37	388,075.00-	6,177,742.61	0

DESERT WATER AGENCY
OPERATING FUND
WATER CONSUMPTION

QUARTER ENDING MARCH 2018

	THIS QUARTER			FISCAL YEAR TO DATE		
	LAST YEAR	THIS YEAR	% UP (DOWN)	LAST YEAR	THIS YEAR	% UP (DOWN)
WATER REVENUE	$4,101,317	$5,763,044	41	$17,088,801	$21,623,463	27
TOTAL CONSUMPTION (100 CU FT)	1,848,755	2,414,977	31	8,879,812	9,852,688	11
AVERAGE CONSUMPTION PER CONSUMER (100 CU FT)	83	107	29	398	438	10
NUMBER OF CONNECTIONS	9	79 *		22,356	22,582 C	1

* = ADDED THIS QUARTER

C = TOTAL ACTIVE MARCH 2018

STAFF REPORT
TO
DESERT WATER AGENCY
BOARD OF DIRECTORS

APRIL 17, 2018

RE: REQUEST BOARD ACTION REGARDING A CLAIM FOR DAMAGES FILED BY MARK HAPNER

Attached for the Board's review is a claim form submitted to the Agency by Mr. Mark Hapner on March 14, 2018.

Mr. Hapner claims that on March 1, 2018 at 10:45 a.m. while driving around a broken hydrant on San Rafael Road, a rock hit his truck windshield. He is seeking damages to replace his windshield in the amount of $425.80.

There was a hit hydrant at that location, but the Agency is not liable for any damages resulting from the damaged hydrant.

Staff requests that the Board deny the claim for damages filed by Mr. Hapner.

RECEIVED
MAR 14 2018
DESERT WATER AGENCY
MANAGEMENT

Claim Form

(A claim shall be presented by the claimant or by a person acting on his behalf.)

NAME OF DISTRICT: DESERT WATER AGENCY

1 Claimant name, address (**mailing** address if different), phone number, social security number, e-mail address, and date of birth.

*Effective January 1, 2010, the Medicare Secondary Payer Act (Federal Law) requires the District/Agency to report all claims involving payments for bodily injury and/or medical treatments to Medicare. As such, if you are seeking **medical damages**, we **MUST** have both your Social Security Number and your date of birth.*

Name: MARK HAPNER — Phone Number: [redacted]

Address(es): 67-275 GARBINO RD — Social Security No.:

CATHEDRAL CITY, CA 92234 — Date of Birth: [redacted]

E-mail: [redacted]

2 List name, address, and phone number of any witnesses.

Name:

Address:

Phone Number: ( )

3 List the **date, time, place,** and **other circumstances** of the occurrence or transaction, which gave rise to the claim asserted.

Date: 3/1/18 Time: 10:45 AM Place: SAN RAFAEL PALM SPRINGS

Tell What Happened (give complete information): DRIVING AROUND BROKEN HYDRANT WITH WATER SHOOTING OUT & A ROCK WAS THROWN FROM IT AND HIT MY TRUCK WINDSHIELD CRACKING IT.

NOTE: Attach any photographs you may have regarding this claim.

4 Give a general description of the indebtedness, obligation, injury, damage, or loss incurred so far as it may be known at the time of presentation of the claim. CRACKED WINDSHIELD

5 Give the name or names of the public employee or employees causing the injury, damage, or loss, if known.

6 The amount claimed if it totals less than ten thousand dollars ($10,000) as of the date of presentation of the claim, including the estimated amount of any prospective injury, damage or loss, insofar as it may be known at the time of the presentation of the claim, together with the basis of computation of the amount claimed. If the amount claimed exceeds ten thousand dollars ($10,000), no dollar amount shall be included in the claim. However, it shall indicate whether the claim would be a limited civil case.

$425.83 REPLACE

Date: 3/14/18 Time: 2:40 pm Signature:

ANSWER ALL QUESTIONS. OMITTING INFORMATION COULD MAKE YOUR CLAIM LEGALLY INSUFFICIENT!

HENRYS AUTO GLASS
69642 Ridgeway Ave
Cathedral City, Ca 92234

TAX ID: 622862414

760-250-6203
Email: Henrysautoglass.yahoo.com
Website: HenrysAutomotiveGlass.com

Estimate

Estimate No: 1056
Date: 06 Mar 18

Bill To:
Mark Hapner
Ph: [redacted]

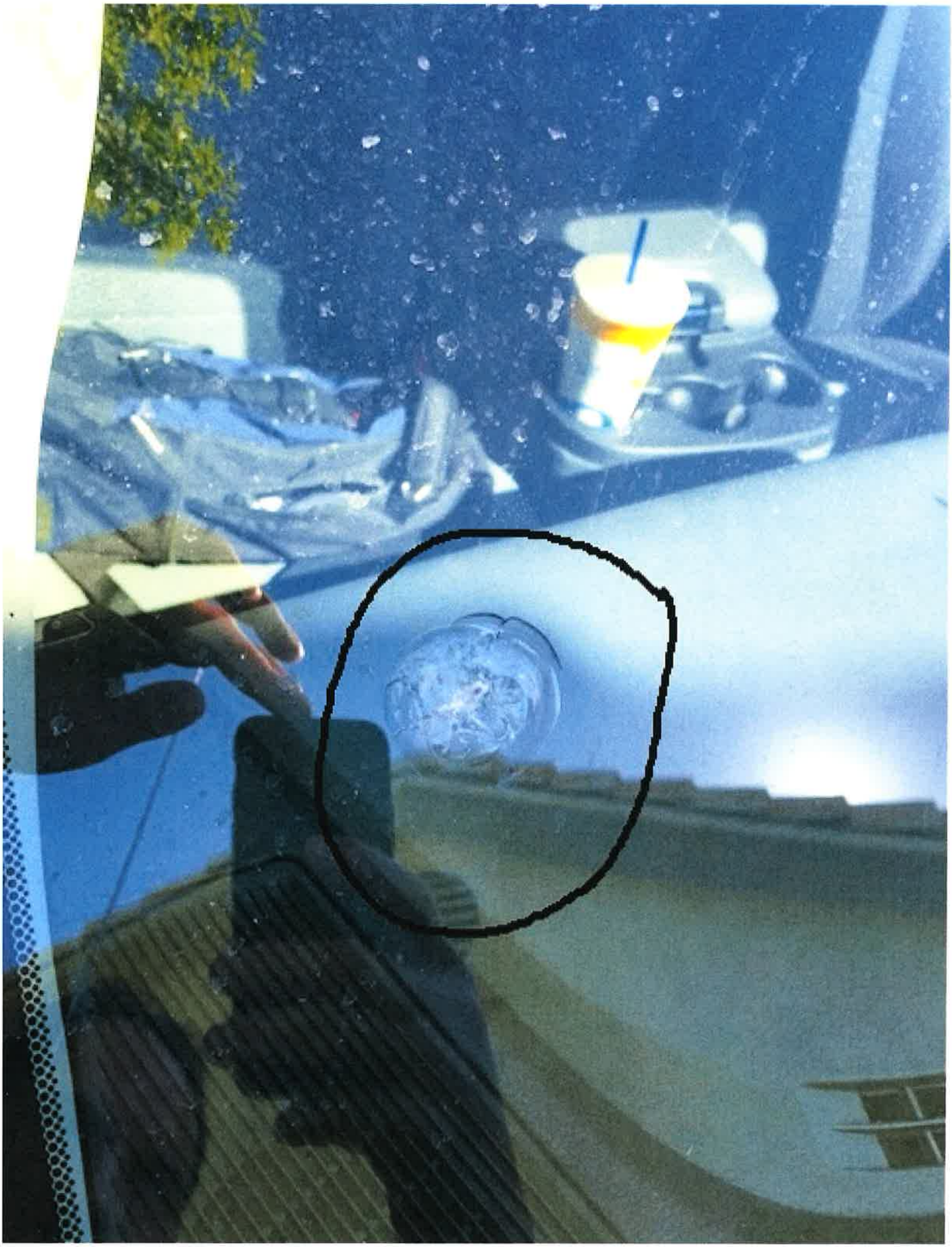
Description	Quantity	Rate	Amount
DW01993 GTN - Windshield (OEM Mopar/Solar Tint)	1.00	$288.00	$288.00
Urethane Kit	1.00	$30.00	$30.00
Installation Labor	1.00	$80.00	$80.00*

Mark Hapner 3/7/18

* Indicates non-taxable item

Vehicle: 2016 Dodge Ram 1500

Subtotal	$398.00
TAX (8.75%)	$27.83
Total	$425.83

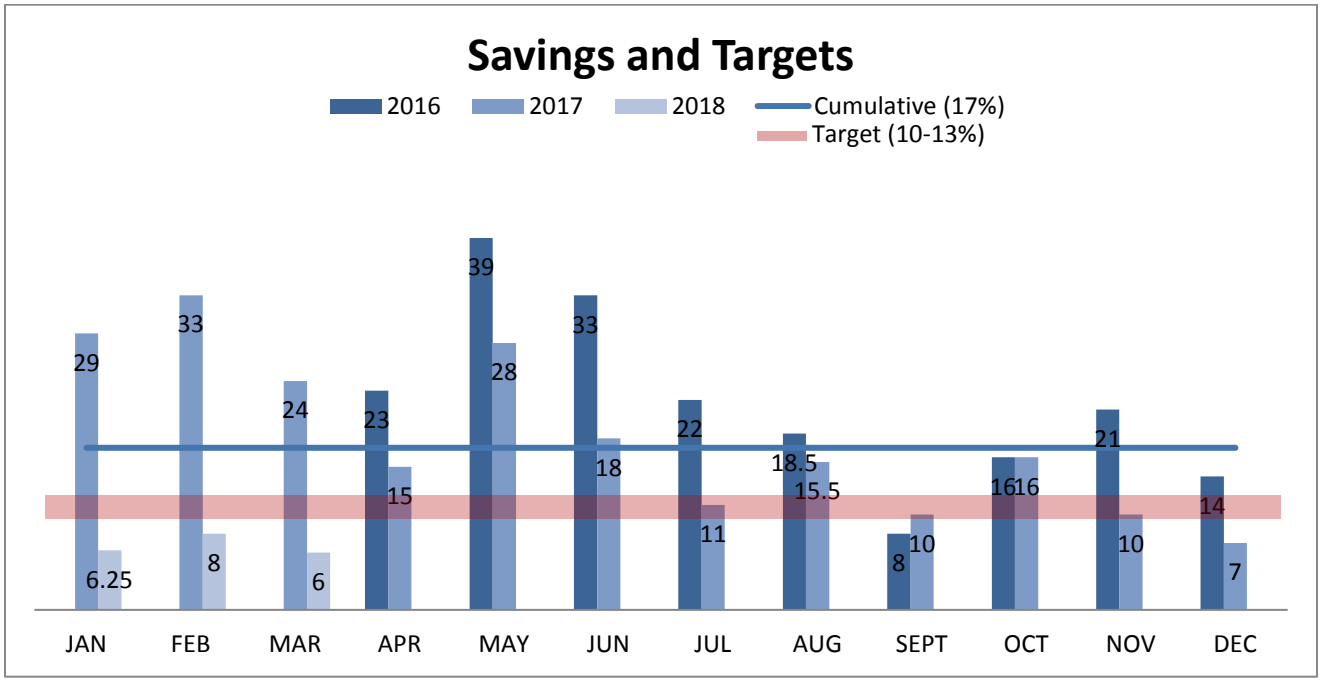


STAFF REPORT
TO
DESERT WATER AGENCY
BOARD OF DIRECTORS

APRIL 17, 2018

RE: MARCH 2018 WATER USE REDUCTION FIGURES

Desert Water Agency and its customers achieved a 6% percent reduction in potable water production during March 2018 compared to the same month in 2013 – the baseline year used by the State Water Resources Control Board (State Water Board) to measure statewide conservation achievements. DWA continues to report its production to the state on a monthly basis, despite mandatory conservation ending in April 2017.



DWA is asking its customers to save 10-13% compared to 2013 to help achieve long-term sustainability. The cumulative savings beginning in June of 2016 when we put our 10-13% target in place is 17%.

Staff is also tracking the water use compared to the threshold in the rate study regarding the proposed drought surcharge. This trigger was not met this month and the cumulative since March is far below the drought surcharge trigger (we are 20.45% above the baseline).

On the following page is additional information for this month.

March 2018 water production	1,875.17 AF
March 2013 water production	1,986.41 AF
Percent changed in this month per drought surcharge baseline (March 2016)	10.45% increase
Quantity of potable water delivered for all commercial, industrial, and institutional users for the reporting month	663.26 AF
The percentage of the Total Monthly Potable Water Production going to residential use only for the reporting month	64.63%
Population (inclusive of seasonal residents)	106,812
Estimated R-GPCD	119.26
How many public complaints of water waste or violation of conservation rules were received during the reporting month?	22
How many contacts (written/ verbal) were made with customers for actual/ alleged water waste or for a violation of conservation rules?	9
How many formal warning actions (e.g.: written notifications, warning letters, door hangers) were issued for water waste or for a violation of conservation rules?	2
How many penalties were issued for water waste or for a violation of conservation rules?	0

Comments: The Agency's service area is highly seasonal making population analysis a complex task. The State Water Resources Control Board (State Board) analyzes data on a per capita basis.

Historically, DWA has submitted data based on the permanent population of the service area; however that data does not accurately reflect water use in DWA's service area which has a highly seasonal population. Based on local data, the correct population is higher than previously reported. The Residential Gallons Per Capita Per Day (R-GPCD) is being submitted using the corrected population.

DWA would like it noted that the amount of fresh water outflow to the ocean during the month of March was 1,188,924.3 acre feet. Additionally, since it began recycling water Desert Water Agency has reclaimed 95,184 acre feet. If our recycled water production for this month was taken into consideration against our potable production, the conservation achieved would have been several percentage points higher.

March 15, 2018

MEMORANDUM

TO: GENERAL MANAGER AND BOARD OF DIRECTORS OF DESERT WATER AGENCY

FROM: BEST BEST & KRIEGER LLP

RE: MARCH 15, 2018 MEETING OF THE BOARD OF DIRECTORS OF THE STATE WATER CONTRACTORS, INC.

The March 15, 2018 meeting of the Board of Directors of the State Water Contractors, Inc., was conducted at the Tsakopoulos Library Galleria in downtown Sacramento.

1. Water Supply Report. Molly White was present from DWR to provide a report on water supply conditions as of March 15. She reported that conditions were much more favorable than in February. As of the date of the meeting, storage in Lake Oroville was at 1.55 million acre feet, and the water level had risen slightly to 736 feet elevation. She stated that DWR expected a further increase of ten feet in elevation within the next ten days, due to a significant storm event that was expected drop another five inches of precipitation during that ten day period. As of the date of the meeting, precipitation in the Feather River watershed was the third driest on record, and the snowpack was only at 31% of average. DWR was reducing releases from Lake Oroville to 1,300 cubic feet per second. Exports from the Delta were at the rate of 3,500 cubic feet per second. Storage in the San Luis Reservoir was at 790,000 acre feet for the state share, with a total of 1.6 million feet for both the state and the federal share. Most of the water in storage in the state share was carryover water. Ms. White also reported that DWR is preparing its plan for continued repairs to the spillway at Oroville next summer.

2. Infrastructure Objective Update. Eric Chapman from the State Water Contractors provided an update on infrastructure objective identified for the current year. One significant objective was to address the issue of subsidence affecting the California Aqueduct. DWR is continuing to work on the issue, which involves additional surveying, a study of possible physical solutions, a study of the effect on SWP delivery capability, and some construction activity. The construction work currently consists of "quick fixes" rather than ultimate solutions, to maintain the integrity of the aqueduct. As a humorous side note, Eric

stated that in the San Luis Field Division alone, DWR has pulled 170 cars out of the aqueduct. Apparently the California Aqueduct is a popular place to get rid of a car.

DWR has been performing repair and maintenance work on hydroelectric units one, three and five at the Hyatt Power Plant. The work involves installing new runners, which can be performed on site. The work also involves the removal of a shut off valve to be refurbished, which Eric described as a massive undertaking.

Intermediate repairs to the spillway at Lake Oroville were completed on time. With a relatively dry winter, there was been no need to utilize the spillway, a good thing at least in terms of the repair effort. However, additional work is necessary to complete the ultimate repair. In fact, the work done to date only represents about 45% of the total, and 55% of the work remains to be performed. That work will begin on May 15 and will require the installation of more concrete and steel. DWR will be utilizing the same contractor that was utilized to perform the intermediate work last summer.

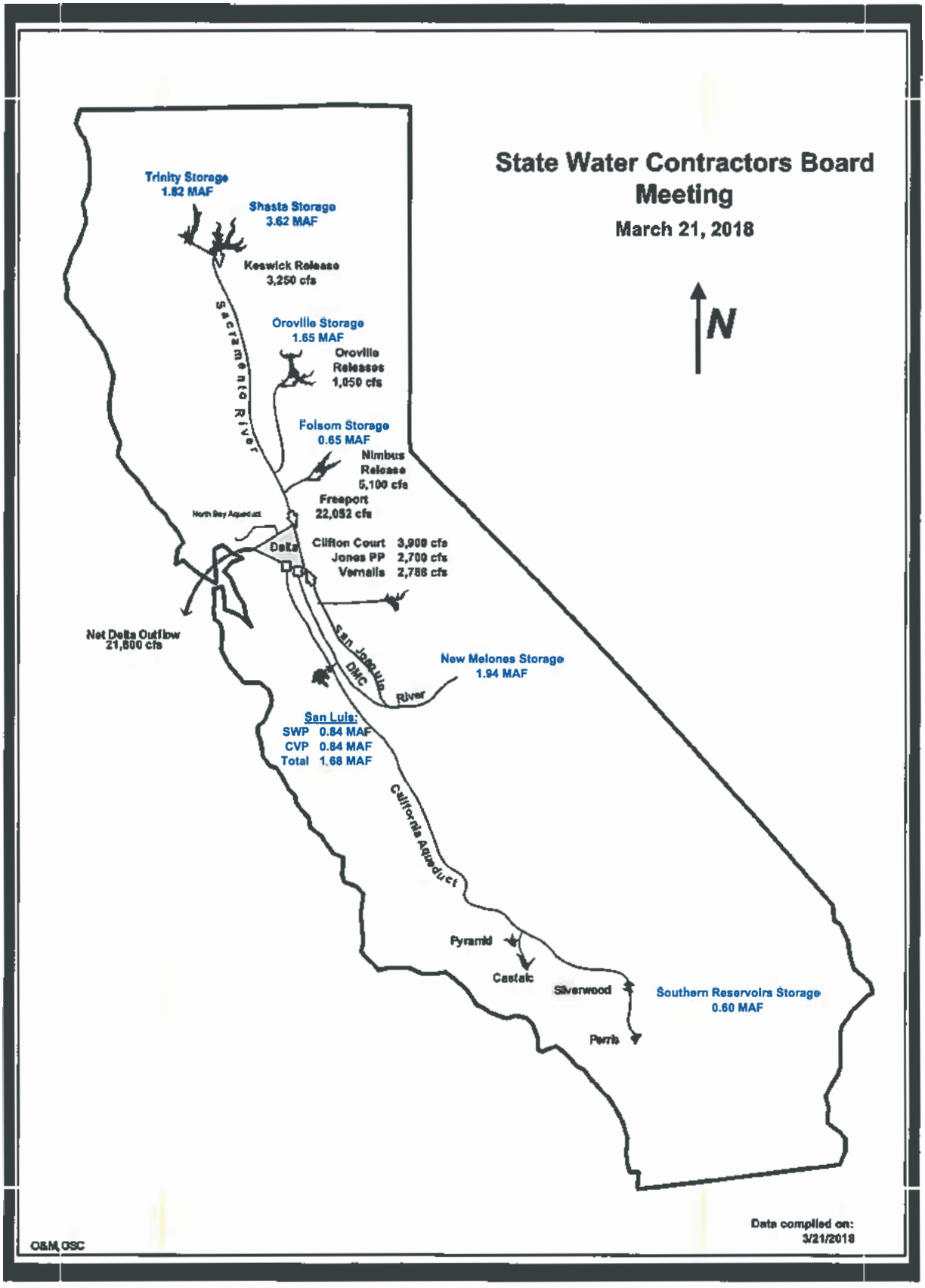
At Perris Dam the embankment stability work was completed at a cost of $85 million. Studies of the outlet tower revealed that it did not need to be replaced in order to satisfy seismic stability requirements. However, DWR did perform some retrofit work on the bridge to the tower, as well as some other minor work. In addition, DWR is constructing an emergency release channel for the emergency release of water from the lake, if needed.

Following the fire event at the Thermolito Power Plant, DWR is perfoming a fire system modernization project at number of locations. The objectives of the project are to address life safety issues, protection of property, business interruption resulting from a fire event, and environmental impact. The work will address issues at Lake Oroville, the Thermolito Power Plant, and the San Luis Field Division, among other locations, at a total estimated cost of $300 million.

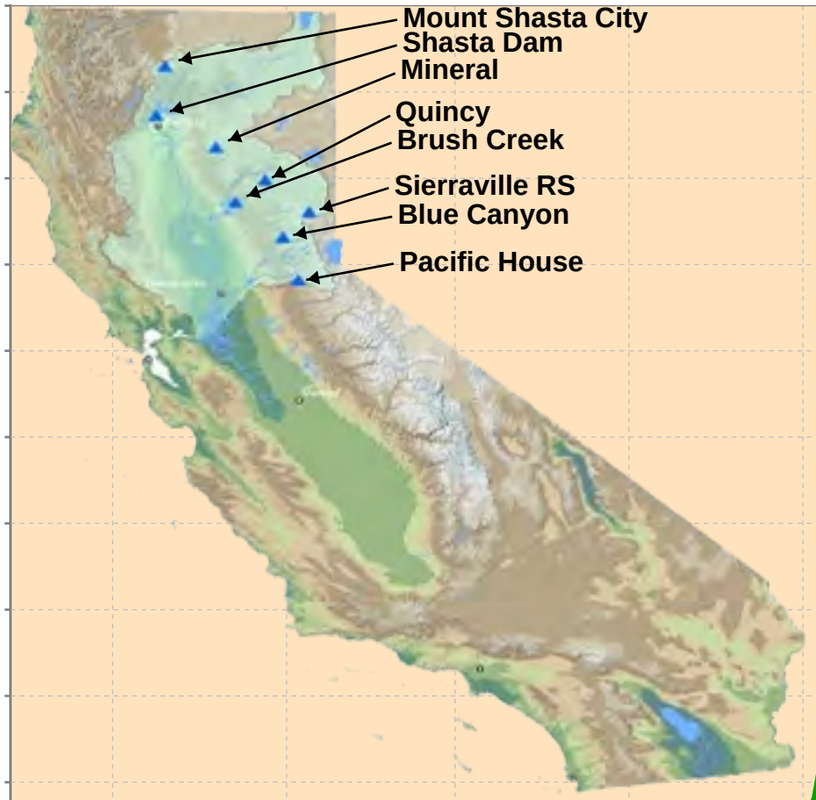
Finally, Eric reported that DWR seeks to expand existing personnel by a total of 74 positions, with 53 new positions requested for the Division of Engineering, 20 new positions requested for the Division of Operations and Maintenance, and 1 new position requested for legal counsel staff. The primary justification for the request is to address dam safety and asset management requirements.

3. Fiscal Year 2018-2019 Budget Review. Julie Ramsay of the SWC staff reviewed the proposed budget alternatives with the Board. The Board took action to delay adoption of the budget pending decisions that need to be made involving the State and Federal Contractors Water Agency and the performance of certain science projects. Julie reminded the Board that there are three funds involved in the budget, and separate dues assessments for each fund. Assessments for the "Dues Fund" are allocated among Contractors based in part upon Table A Amounts and in part upon water deliveries in 2017. Assessments for the "Energy Fund" are allocated among Contractors based upon Table A Amounts and 2017 energy use. Assessments for the "Delta Fund" are based upon Table A Amounts, with credits provided to Metropolitan Water District and Kern County Water Agency for the value of their individual contributions of work that benefit all of the SWC members. The total of all dues, for all SWC members, will probably be between $7.6 million and $8.2 million for the upcoming year. The final budget will be presented for adoption by the Board at a later date.

Michael T. Riddell


State Water Contractors Board Meeting
March 21, 2018
N
Trinity Storage
1.82 MAF
Shasta Storage
3.62 MAF
Keswick Release
3,250 cfs
Sacramento River
Oroville Storage
1.65 MAF
Oroville Releases
1,050 cfs
Folsom Storage
0.65 MAF
Nimbus Release
5,100 cfs
Freeport
22,052 cfs
North Bay Aqueduct
Delta
Clifton Court 3,908 cfs
Jones PP 2,700 cfs
Vernalis 2,786 cfs
Net Delta Outflow
21,600 cfs
San Joaquin River
DMC
New Melones Storage
1.94 MAF
San Luis:
SWP 0.84 MAF
CVP 0.84 MAF
Total 1.68 MAF
California Aqueduct
Pyramid
Castaic
Silverwood
Perris
Southern Reservoirs Storage
0.60 MAF
O&M, OSC
Data compiled on:
3/21/2018

North Sierra Precipitation: 8-Station Index, March 14, 2018



Percent of Average for this Date: 69%

2016-2017 Daily Precip (wettest) 94.7

1982-1983 (2nd wettest) 88.5

1997-1998 82.4

Average (1966-2015) 51.8

2014-2015 Daily Precip 37.2

Current Daily Precip:26.9

1976-1977(2nd driest & driest thru Aug) 19.0

Cumulative Daily/Monthly Precipitation (inches)

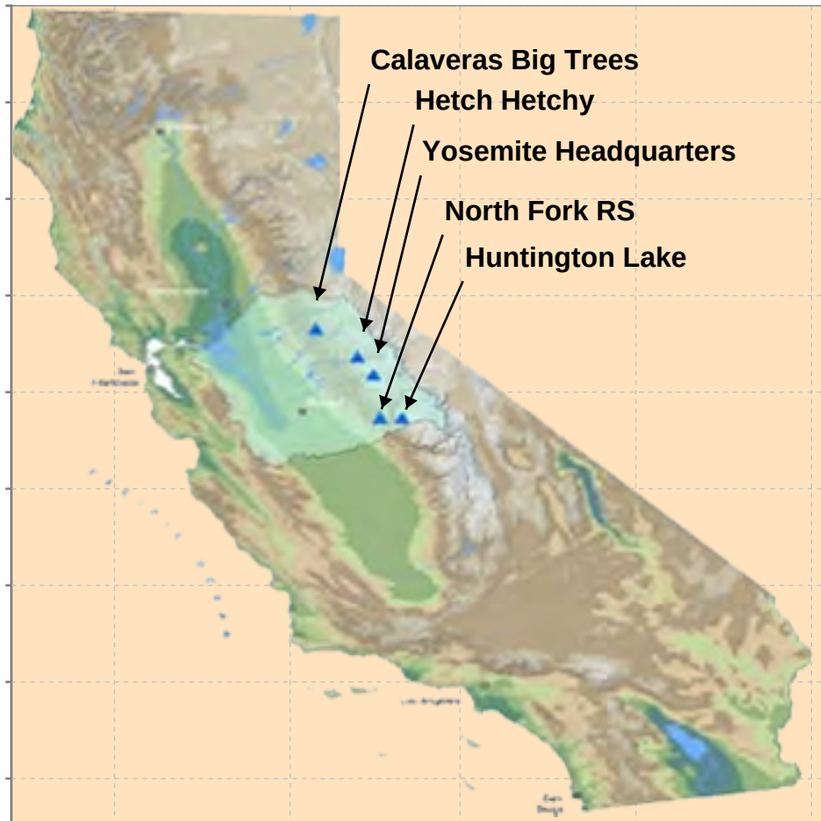
Total Water Year Precipitation

0 5 10 15 20 25 30 35 40 45 50 55 60 65 70 75 80 85 90 95 100

Oct 1 Nov 1 Dec 1 Jan 1 Feb 1 Mar 1 Apr 1 May 1 Jun 1 Jul 1 Aug 1 Sep 1 Oct 1

Water Year (October 1 - September 30)

San Joaquin Precipitation: 5-Station Index, March 14, 2018



Percent of Average for this Date: 56%

1982-1983 (wettest) 77.4

72.7 2016-2017 Daily Precip (2nd wettest)

1997-1998 65.2

Average (1966-2015) 40.2

Current Daily Precip:16.8

2014-2015 Daily Precip 19.0

15.4 1976-1977(2nd driest & driest thru Aug)

Cumulative Daily/Monthly Precipitation (inches)

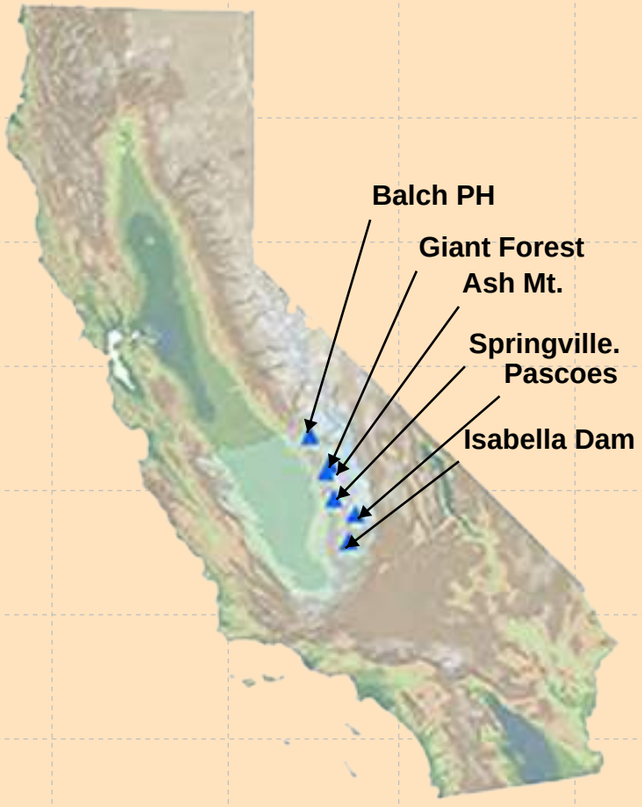
0 5 10 15 20 25 30 35 40 45 50 55 60 65 70 75 80 85 90

Oct 1 Nov 1 Dec 1 Jan 1 Feb 1 Mar 1 Apr 1 May 1 Jun 1 Jul 1 Aug 1 Sep 1 Oct 1

Water Year (October 1 - September 30)

Total Water Year Precipitation

Tulare Basin Precipitation: 6-Station Index, March 14, 2018



Percent of Average for this Date: 42%

1968-1969 (Wettest) 56.3

1997-1998 (2nd wettest) 54.2

2016-2017 Daily Precip 46.9

Average (1966-2015) 28.8

2014-2015 Daily Precip 13.5

Current Daily Precip:9.0

1976-1977 Daily Precip (Driest) 10.9

Cumulative Daily/Monthly Precipitation (inches)

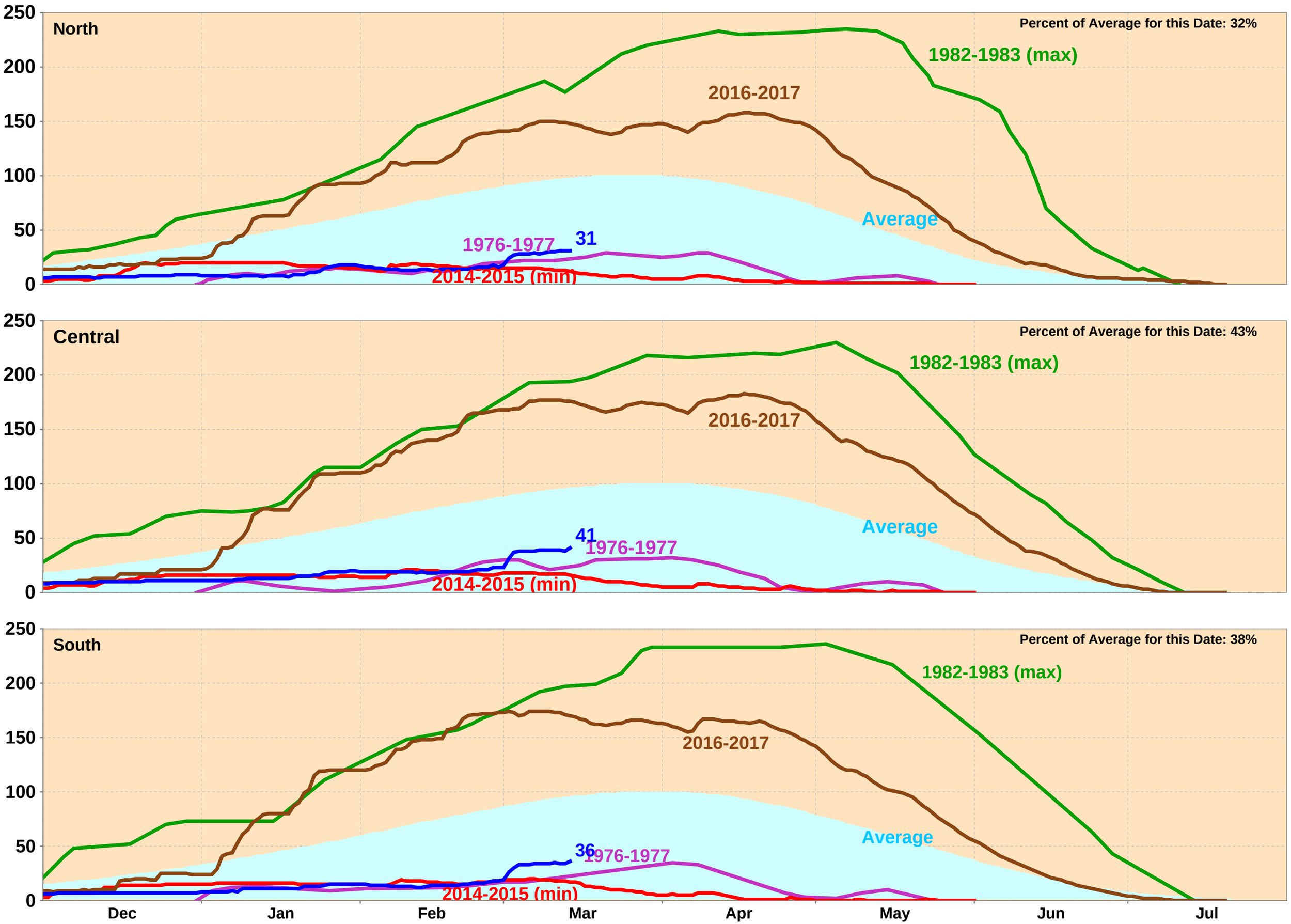
0 5 10 15 20 25 30 35 40 45 50 55 60 65 70

Oct 1 Nov 1 Dec 1 Jan 1 Feb 1 Mar 1 Apr 1 May 1 Jun 1 Jul 1 Aug 1 Sep 1 Oct 1

Water Year (October 1 - September 30)

Total Water Year Precipitation

California Snow Water Content, March 14, 2018, Percent of April 1 Average



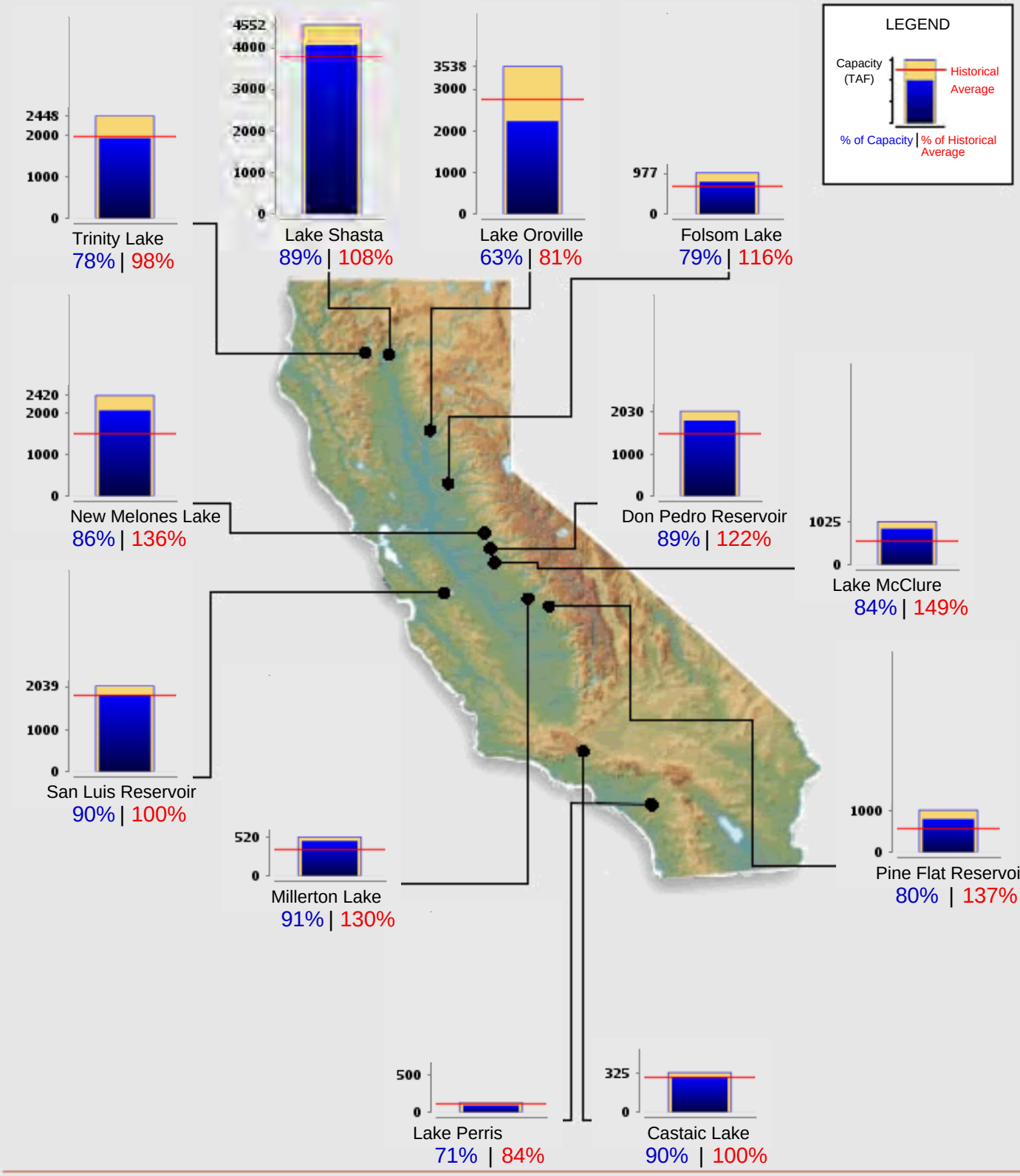
Statewide Percent of April 1: 37%

Statewide Percent of Average for Date: 38%

Reservoir Conditions

Ending At Midnight - April 11, 2018

CURRENT RESERVOIR CONDITIONS



Graph Updated 04/12/2018 09:45 AM

SWC FY 2017-18 INFRASTRUCTURE OBJECTIVES Update

March 15, 2018
SWC Board Meeting

SWC FY 2017-18 Infrastructure Objectives

March 15, 2018 Update

Priority 1

- Aqueduct Subsidence, Liner Integrity, and SWP Capacity Retention
- Hyatt Unit 1, 3, 5 New Runners/Bearing & TSV Refurbishment
- Oroville Dam Spillway Remediation and Improvement
- Sisk Dam Seismic Stability & Dam Raise Study

Priority 2

- Edmonston Pump Replacements
- SWP Seismic Vulnerability
- Perris Dam – Remediation of Seismic Deficiency
- SWP Asset Management
- Thermalito Plant Post-fire Restoration

Priority 3

- Control System Upgrade
- Fire System Modernization
- Motor/Generator/Valve Rehab/Replacements

Aqueduct Subsidence, Liner Integrity, and SWP Capacity Retention

- DWR's Aqueduct Subsidence Study
  - Phase 1 Initial Report out in 2017, then work extended to March 21
  - Phase 2 completion extended from Dec '17 to June '19
  - Project budget expanded from $3M to $6.1M
    - Additional survey & UAVSAR (Radar) data collection
    - Numerical modeling of canal operation
    - Jet Propulsion Lab collect/analyze subsidence data for SJ Valley
    - DOE conducting feasibility study to develop alternative and operation criteria for future Aqueduct operations; evaluating potential impacts

Aqueduct Subsidence, Liner Integrity, and SWP Capacity Retention continued

- Construction to address subsidence
  - DWR approved Project Charter on October 19th for $6M in initial work in pools 17 & 20 (noted as "short-term actions" in report), which involves:
  - Contract advertised/awarded; work started Feb 26 with an estimated completion on April 30, 2018
  - Involves two, ~ 1 mile long sections in pools 17 & 20
  - Concrete liner extended up existing embankment (1.5'-2.25')
  - Construction award amount = $1.09M (~$272k/mi, does not include design & inspection)

Aqueduct Subsidence, Liner Integrity, and SWP Capacity Retention continued

- Efforts to Maintain Liner Integrity & Capacity
  - Pool 12 liner repair (6-8 week outage, complete dewater starts April 1)
  - Mile Marker (MM) 6.43 & 7.99 liner repairs (w/o dewatering)
  - MM 62 rebuild of liner in area of old oil pipeline break
  - Multiple overcrossing bridge inspections
  - Fun-fact: In San Luis FD alone, 170 cars have been removed from the Aqueduct just in the last 18 months
  - General Heads-up: More significant Aqueduct outages will be schedule in the future to accommodate liner repair work

Aqueduct Subsidence, Liner Integrity, and SWP Capacity Retention continued

- The Subsidence - SGMA Connection
  - Identified the three Groundwater Sustainable Agencies whose areas contain significant subsidence around the SWP Aqueduct
    - Determine points of contact and procedures to comment
    - Letters will be generated to state SWC concerns on subsidence

Hyatt Unit 1, 3, 5 New Runners/Bearing & TSV Refurbishment

- Work on Unit 1 continues (started August 2015)
  - New runner has been manufactured and is in the plant
  - Turbine Shutoff Valve (TSV) was removed (a first for the Hyatt plant) and shipped off site for complete refurbishment. Pressure testing of TSV reveled leakage, so parts are now back at shop for additional machining
  - Line boring complete
  - Machining of facing plates & lower stationary wear ring is in progress.
  - Generator did not need rewind or restacking of the iron
  - Estimated return to service is January 2019
  - Estimated total cost for Unit 1 work is $21M

Oroville Dam Spillway Remediation and Improvement

- Planned 2017 repairs of main spillway were completed on time for winter shutdown. No flows have been released thru the spillway this winter.
- Construction focus over winter has been on emergency spillway
  - Secant cutoff wall installation (completed mid March)
  - Remove/replaced right half of control weir (completed)
  - Splashpad foundation prep; start of RCC placement
- Other Work
  - Relocated RCC batch plant over to emergency spillway
  - Constructing RCC access road below dentates of flood control spillway (to facilitate refurbishment of dentates)

Oroville Dam Spillway Remediation and Improvement

continued

Major Upcoming Work (more volume than 2017 work)

- Main Spillway (from mid-May thru October 2018)
  - Remove & replace the last remaining section (upper 730') of the original chute (mid-May thru October 2018)
  - Place structural concrete over 2017 RCC section (middle 1,100') of spillway chute
  - Refurbish flood control spillway dentates (energy dissipaters)
- Emergency Spillway (throughout 2018)
  - Place RCC splashpad
  - Install RCC buttress against the ogee control structure

Oroville Dam Spillway Remediation and Improvement

continued

Emergency Spillway with Main Spillway and Dam in Background

Oroville Dam Spillway Remediation and Improvement

continued

Upcoming Emergency Spillway Work in 2018

Perris Dam – Remediation of Seismic Deficiency

- Embankment Stability Piece
  - Status: Complete as of March 15, 2017
  - Costs = $75.54M (award) + $10.52M (variance) ≈ $86* (*DWR still working through claims, etc)
  - Final Board of Consultants (BOC) meeting on December 12-13, 2017
    - BOC performed review of the completed construction program
    - BOC concurs with DWR that their efforts have successfully improved the seismic performance of alluvial soil foundation and the reservoir can be refilled to El. 1590.5'
    - DSOD gave final approval of the remediation work
    - Depending on hydrology and dam's performance, the reservoir could be back up to maximum pool by the end of 2018

Perris Dam – Remediation of Seismic Deficiency
continued

- Outlet Tower Piece
  - Analysis predicts tower can withstand maximum credible earthquake, but seismic retrofits needed on access bridge and operating equipment
  - Bridge retrofit: 95% drawings & construction start in 4th quarter of 2018
  - New slide gate: in design phase
  - Fish screen refurbishment & gantry crane maintenance: in progress
- Emergency Release Facility Piece
  - Scope: Design and construct improvement to the channel to safely route maximum releases from an emergency dewatering around an urbanized development. Estimated cost: ~$44M. Completion date: April 2021
  - Design started January 2018; Geotech exploration largely complete
  - Construction start in CY 2020

Fire System Modernization

Major effort as a result of Nov 2012 Thermalito Plant fire

Mission Statement: Improve the safety of personnel and facilities by assessing the fire risks at all SWP plants and selected support facilities and mitigating those risks by constructing the identified necessary improvements.

Implementation Strategy: Mitigate identified risks through modernization of the fire detection and suppression systems. Improve occupied spaces and emergency egress through fire rated construction, incorporating new exit ways where needed. Fire/Safety Modernization is to meet the intent of current codes and design standards where practicable while simultaneously enhancing fire safety through consistent and regular inspection, testing, and maintenance (ITM) programs.

Fire System Modernization continued

Four Major Goals

1) Life Safety:

Definition – Life safety involves protecting persons and providing a suitable means of egress during a potential emergency.

Example – Design and incorporate 2-hour fire rated means of egress within plant and egress route from the control room.

2) Property Protection:

Definition – Property protection focuses on containing a fire, minimizing its spread.

Example – Design and incorporate fire stopping at all existing and new floor, ceiling, and wall penetrations to inhibit the spread of fire and smoke.

3) Business Interruption:

Definition – The period of time necessary to restore DWR's capacity to deliver water/generate power after a fire within a SWP facility. This is the "Probable Maximum Loss Goal" (PML).

a. Restore a minimum of 25% of facility water delivery capacity within 30 days.
b. Restore a minimum of 50% of facility water delivery capacity within 60 days.
c. Restore 100% of facility water delivery capacity within 180 days.

Example – Design and incorporate fire detection and suppression systems in keeping with the sensitivity of the area and equipment being protected in order to meet the above 3 PML goals.

4) Environmental Impact:

Definition – Identify potential environmental impacts related to SWP facilities such that consideration of additional design parameters are included, where necessary.

Example – Transformers near natural waterways. Include design parameters to ensure proper separation, containment, deluge, heat detection, and maintenance dissolved gas analysis do not impact the surrounding environs.

Fire System Modernization continued

Eight Phases of Work (Projects)

1) Program Initiation & Development – COMPLETED December 2015
2) Oroville FD (Hyatt, O&M Center, and 3 control bldg.'s) – In Construction
3) Thermalito Restoration – In Construction
4) San Luis Field Division (Gianelli, Dos Amigos, O&M Center, Coalinga Sub Center) – Initiation & Planning Completed; Design started January 2018
5) San Joaquin FD (Buena Vista, Wheeler Ridge, Wind Gap, Edmonston, O&M Center) – Kick-Off Initiation in January 2019
6) Southern Field Division Phase I (Alamo, Oso, William Warne, Pearblossom, O&M Center) – Kick-Off Initiation in October 2020
7) Southern Field Division Phase II (Mohave Siphon PP, San Bernardino Intake, Devils Canyon) – Kick-Off Initiation in April 2022
8) Delta Field Division (Banks, O&M Center) – Kick-Off Initiation in June 2023

Fire System Modernization continued

Program Costs (all costs are capitalized)

8-C

STAFF REPORT TO
DESERT WATER AGENCY
BOARD OF DIRECTORS

APRIL 17, 2018

RE: DRAFT GROUNDWATER REPLENISHMENT ASSESSMENT ENGINEERING SURVEY AND REPORTS FOR WEST WHITEWATER RIVER, MISSION CREEK AND GARNET HILL SUBBASINS

Section 15.4(b) of Desert Water Agency Law, which pertains to replenishment assessments, provides that:

> "By May 1 of each year the Board shall cause to be prepared and presented to it an engineering survey and report concerning the groundwater supplies within the Agency. Such report shall include the condition of such groundwater supplies, the need for replenishment, and recommendations for any replenishment program, including the source and amount of replenishment water and the cost of purchasing, transporting and spreading such water. In connection with any proposed replenishment program, the report shall describe the area or areas benefited, either directly or indirectly, the amount of water production in each such area during the prior year, and shall recommend the amount of assessment to be levied upon all production within such area or areas of benefit."

Section 15.4(c) provides that:

> "If the Board determines that funds should be raised by a replenishment assessment, it shall call a public hearing, and shall publish notice at least 10 days in advance thereof pursuant to Section 6061 of the Government Code. Notice shall also be mailed by the Agency to all producers as disclosed by the records of the Agency who may be affected by the recommended assessment. Failure of any affected producers to receive such notice shall not affect the validity of any subsequent replenishment assessment. The notice shall contain a description of each area of benefit, the amount of each recommended replenishment assessment, and an invitation to all interested parties to attend and be heard in support of or in opposition to the proposed assessment. The notice shall also state that a copy of the engineering report is available for inspection at the office of the Agency."

Consulting Engineer Krieger & Stewart has prepared a Draft Engineer's Report on Groundwater Replenishment and Assessment Program for Desert Water Agency 2018/2019, which is enclosed herewith. This draft is presented today for discussion purposes only. A final report will be presented at a public meeting set for May 15, 2018 and a determination made that funds should be raised by a replenishment assessment for Board acceptance. Staff will request authorization to set a public hearing for the June 5, 2018 Board meeting. A Notice of Public Hearing will be published in The Public Record on May 1, 2018 and a Notice of Public Hearing will be sent to all producers (over 10 acre feet production) who will be affected by the recommended assessment.

DWA's proposed replenishment assessment rate for 2018/2019 is $140.00 per acre-foot for West Whitewater River, Mission Creek and Garnet Hill Subbasins.

CVWD's proposed replenishment assessment rate for 2018/2019 is $227.14 per acre-foot for Whitewater River Subbasin.

CVWD’s proposed replenishment assessment rate for 2018/2019 is $149.07 per acre-foot for Mission Creek River Subbasin.

Due to recent dramatic increases in the charges for imported water, replenishment costs have risen significantly. Delta related charges have risen more than 16% since 2015. This level of spending is expected to continue and increase steadily into the future. Conservation has reduced replenishing assessment revenue by approximately 15% annually. What the long-term residual level of conservation will be now that the state drought restrictions are lifted is difficult to determine. We are currently at 17%. However, for this report we are expecting conservation to continue at a level of at least 13% using 2013 water production as a baseline.

The 5-year rate study completed in 2016 and the subsequent Prop 218 approved rates have taken into account Delta charge increases and increased conservation. The Rate Study incorporated the proposed replenishment rates taken from the 2016/2017 Engineers Report on Groundwater Replenishment and Assessment.

The current estimated effective Table A Assessment Rate has been calculated to be $198/AF, up from $158/AF last year. This increase is due to the increased Call Back Factor for the 100,000 AF exchange with MWD and the increased reliability of Table A from 58% to 62%. Both of these factors increase projected water deliveries and the expenses beyond what was expected in setting the 2016 Prop 218 rates.

The proposed assessment rate is $140/AF and is intended to stabilize water rates. We will continue to rely on using our State Water Project reserve account to make up the difference and gradually increase the replenishment assessment until such time that the revenues cover each year’s charges for imported water with no further shortfall accrual.

DRAFT 4/13/18

DESERT WATER

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ENGINEER'S REPORT

GROUNDWATER REPLENISHMENT AND ASSESSMENT PROGRAM FOR THE WEST WHITEWATER RIVER SUBBASIN, MISSION CREEK SUBBASIN, AND GARNET HILL SUBBASIN AREAS OF BENEFIT

DESERT WATER AGENCY 2018/2019

MAY 2018

Prepared by

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R.C.E. No. 42922

101-33.42
(DFS/blt)
(REPORTS/101-33P42RPT)

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ABBREVIATIONS

2013-2014 Multi-Year Water Pool ..... MYWP
acre feet per year ..... AF/Yr
Applicable State Water Project Charges ..... Applicable SWP Charges
Area of Benefit ..... AOB
Bay Delta Conservation Plan ..... BDC
California Department of Water Resources ..... CDWR
Coachella Valley Water District ..... CVWD
degrees Fahrenheit ..... °F
Desert Water Agency ..... DWA
Garnet Hill Subbasin ..... GH
Metropolitan Water District of Southern California ..... MWD
Mission Creek/Garnet Hill Water Management Plan ..... MC/GH WMP
Mission Creek Subbasin ..... MC
Mission Springs Water District ..... MSWD
Montgomery Watson Harza ..... MWH
Off-Aqueduct Power Component of the State Water Project Transportation Charge ..... Off-Aqueduct Power Charge
State Water Resources Control Board ..... SWRCB
State Water Project ..... SWP
United States Geological Survey ..... USGS
Variable OMP&R Component of the State Water Project Transportation Charge ..... Variable Transportation Charge
West Whitewater River Subbasin ..... WWR

CHAPTER I
EXECUTIVE SUMMARY

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EXECUTIVE SUMMARY

Since 1973, Coachella Valley Water District (CVWD) and Desert Water Agency (DWA) have been using Colorado River water exchanged for State Water Project (SWP) water to replenish groundwater in the West Whitewater River Subbasin (WWR) and Mission Creek Subbasin (MC) Management Areas of the Coachella Valley Groundwater Basin.

Through the 2017/2018 Engineer's Reports, the WWR Management Area was referred to simply as the Whitewater River Subbasin. However, the Whitewater River Subbasin includes separate groundwater management areas in both the westerly and easterly portions of the Whitewater River Subbasin. Also, the westerly management area has two areas of benefit (AOBs), one managed by DWA and one managed by CVWD. For these reasons, the following terms and definitions are adopted herein and for future Engineer's Reports:

- "Whitewater River Subbasin" – the entire Whitewater River Groundwater Subbasin as defined by the United States Geological Survey
- "West Whitewater River Subbasin Management Area" or "WWR Management Area" – the westerly portion of the Whitewater River Subbasin plus that portion of the Garnet Hill Subbasin (GH) that lies within CVWD's service area, as specifically defined in Chapter II.
- "West Whitewater River Subbasin Area of Benefit" or "WWR AOB" – the portion of the WWR Management Area that is within DWA's service area and is managed by DWA. The portion of the WWR Management Area that is within CVWD's, DWA's service area and is managed by CVWD will be referred to as "CVWD's West Whitewater River Subbasin Area of Benefit" or "CVWD's WWR AOB".

Through the 2015/2016 Engineer's Reports, each of DWA's AOBs in the Western (Upper) Coachella Valley was described in its own separate report. Beginning with the 2016/2017 Engineer's Report, all of DWA's AOBs (Whitewater River Subbasin (now referred to a West Whitewater River Subbasin or WWR), Mission Creek Subbasin or MC, and Garnet Hill Subbasin or GH) have been included in a single report.

Groundwater production continues to exceed natural groundwater replenishment. If groundwater replenishment with imported water (artificial replenishment) is excluded, gross groundwater overdraft (defined herein as groundwater extractions or water production in excess of natural groundwater

replenishment and/or recharge) within the WWR, MC, and GH Management Areas of the Coachella Valley Groundwater Basin (see **Figure 1**) would continue to increase at a steady rate. The five-year average gross overdraft (total net production minus net natural inflow) in the WWR Management Area is currently estimated to be about 87,000 acre feet per year (AF/Yr), while gross overdraft in the MC Management Area is currently estimated at about 6,000 AF/Yr. Supplementing natural groundwater recharge resulting from rainfall runoff with artificial replenishment using imported water supplies is therefore necessary to offset annual and cumulative gross overdraft.

Increases in cumulative overdraft, without artificial replenishment, will result in declining groundwater levels and increasing pump lifts, thereby increasing energy consumption for groundwater extraction. Extreme cumulative overdraft has the potential of causing ground surface settlement, and could also have an adverse impact upon groundwater quality and storage volume. Artificial replenishment offsets annual groundwater overdraft and the concerns associated therewith and arrests or reduces the effects of cumulative groundwater overdraft.

The AOBs for DWA's portion of the groundwater replenishment program are those portions of the Whitewater River Subbasin, MC, and GH and tributaries--including subbasins (San Gorgonio Pass Subbasin), rivers, or streams--which lie within the boundaries of DWA (**Figure 2**). The costs involved in carrying out DWA's groundwater replenishment program are essentially recovered through water replenishment assessments applied to all groundwater and surface water production within the AOB, aside from specifically exempted production. Desert Water Agency Law defines *production* as "the extraction of groundwater by pumping or any other method within the boundaries of the agency, or the diversion within the agency of surface supplies which naturally replenish the groundwater supplies within the agency and are used therein." The Whitewater Water Management Agreement (2014) and Mission Creek Water Management Agreement (2014) referring to production that is assessable under the replenishment assessment program, further define *water production* as "water pumped or diverted from a Management Area and from sources tributary to the Management Area excluding minimal pumpers and pumpers or diverters exercising adjudicated water rights." Therefore, *production*, as used herein, is understood as either extraction of groundwater from the WWR, MC, and GH Management Areas and upstream tributaries, or diversion of surface water that would otherwise naturally replenish the subbasins and upstream tributaries (not including water diverted pursuant to adjudicated water rights), all within their respective Management Areas.

As a result of the implementation of the Mission Creek Groundwater Replenishment Agreement, dated April 8, 2003, between CVWD and DWA to replenish and jointly manage groundwater in the MC, the Mission Springs Water District (MSWD) filed an action in the Superior Court of California challenging the replenishment assessments levied on MSWD groundwater extractions or production. The three parties settled the dispute as documented in a Settlement Agreement and Addendum in December 2004. The Settlement Agreement stipulated that the three parties would form the Mission Creek/Garnet Hill Subbasin Management Committee to collectively discuss water management in the WWR, MC, and GH Management Areas. The three parties also agreed to investigate whether the GH was in fact benefitting from the artificial recharge programs within the WWR and MC Management Areas and to prepare the MC/GH WMP.

The MC/GH WMP determined that, since artificial recharge activities began, the GH has benefitted from artificial recharge in both the westerly portion of the WWR and the MC: the former by means of infiltration from the Whitewater River channel, from subsurface flow across the Garnet Hill Fault from the westerly portion of the WWR into the upper and central portions of the GH, and by retardation of subsurface outflow from the lower portion of the GH during high groundwater levels resulting from recharge operations within the Whitewater River Replenishment Facility; and the latter by means of subsurface flow across the Banning Fault from the MC resulting from recharge operations at the Mission Creek Replenishment Facility, as evidenced by the groundwater contours observed on either side of the Banning Fault.

The MC/GH WMP did not specifically quantify the recharge contributions to the GH from either the westerly portion of the Whitewater River Subbasin or the MC, and stated that hydrologic data for such a determination is currently lacking and, based on data available, it is unclear and uncertain as to the exact relative contribution from these sources to the replenishment of the GH. Regardless, the GH is dependent on both the westerly portion of the WWR and the MC for its groundwater replenishment, both natural and artificial.

The benefits resulting from artificial groundwater infiltration from the Whitewater River channel and subsurface flow of groundwater from the MC and from the westerly portion of the Whitewater River Subbasin is evidenced by the response observed by groundwater levels in wells within the GH. Historic groundwater levels within the GH and historic quantities of imported water delivered to the Whitewater River and Mission Creek Replenishment Facilities are shown in **Exhibit 3**. The rising groundwater levels correlate with the large quantities of groundwater recharge, particularly in those groundwater wells

located in the westerly and central portions of the GH, especially for the periods 1983 through 1987, 1995 through 2000, and 2009 through 2012.

Since the GH benefits from CVWD's and DWA's recharge programs in the WWR and MC Management Areas, CVWD and DWA have the authority to levy replenishment assessment charges on production within the GH under the provisions set forth in the Settlement Agreement.

The following producers are specifically exempted from assessment: producers extracting groundwater from all three subbasins and upstream tributaries at rates of 10 AF/Yr or less; and producers diverting surface water without diminishing stream flow and groundwater recharge of the subbasins and upstream tributaries by 10 AF/Yr or less.

Because groundwater production continues to exceed natural groundwater replenishment and cumulative groundwater overdraft persists within each subbasin, continued artificial replenishment in the WWR and MC Management Areas is necessary to either eliminate or reduce the effects of cumulative overdraft, and to reduce the resultant threat to the groundwater supply. There are currently no artificial replenishment facilities within the GH.

DWA has requested its maximum 2018 Table A SWP water allocation of 55,750 AF pursuant to its SWP Contract, which was increased from 38,100 AF in 2004 to 50,000 AF in 2005 and to 55,750 in 2010, for the purpose of groundwater replenishment. CVWD plans to do the same with its maximum 2018 Table A water allocation, which was increased in quantity from 23,100 AF in 2003 to 33,000 AF in 2004, to 121,100 AF in 2005, and to 138,350 AF in 2010.

By virtue of the 2003 Exchange Agreement, The Metropolitan Water District of Southern California (MWD) assigned 11,900 AF of its annual Table A allocation to DWA and 88,100 AF of its annual Table A allocation to CVWD; however, MWD retained the option to call-back or recall the assigned annual Table A water allocations, in accordance with specific conditions, in any year. In implementing the 2003 Exchange Agreement, MWD advised CVWD and DWA that it would probably recall the 100,000 AF assigned to the two Coachella Valley agencies from 2005 through 2009. In fact, MWD did recall 100,000 AF in 2005 but has not recalled any water since then. According to communications with MWD management, it is unlikely that MWD will recall any water in the foreseeable future.

According to current projections for 2017, California Department of Water Resources (CDWR) will deliver 20% of Table A water allocation requests, resulting in deliveries of 38,820 AF of Table A water to the Coachella Valley agencies (based on notification from DWR dated January 29, 2018). For 2018, no SWP surplus water under Pool A or Pool B of the Turn-Back Water Pool Program has been offered. It is not likely that any Article 21 water will be available to DWA via MWD for 2018. Up to approximately 100,000 AF of water under the Yuba River Accord is estimated to be available for 2018, of which DWA and CVWD have requested 692 AF and 1,718 AF, respectively. 97,050 AF of Article 56 water carried over from 2017 has already been delivered to the agencies in 2018. In addition, CVWD is anticipated to receive up to approximately 35,000 AF of non-SWP water deliverable to the Whitewater River Replenishment Facility.

The maximum replenishment assessment rate permitted by Desert Water Agency Law for Table A water for the 2018/2019 fiscal year is $217.12/AF. The $217.12 rate is based on estimated Applicable SWP Charges of $10,014,300 (see **Table 5** for DWA applicable charges for 2018 and 2019) and estimated combined assessable production of 43,700 AF for the WWR, MC, and GH Areas of Benefit (estimated for WWR based on the production for 2013 minus 13% for implementation of permanent conservation measures, and based on 2017 production for MC and GH: 33,980 AF within the WWR AOB, 9,250 AF within the MC AOB, and 470 AF within the GH AOB).

The effective replenishment assessment rate for Table A water is based on DWA's estimated Allocated SWP Charges for the current year (based on CDWR's projections for the assessment period) divided by the estimated assessable production for the assessment period, as set forth in **Table 6**. Historically, the estimated assessable production has been based on the assessable production for the previous year; however, the production during 2015 and 2016 was unusually low due to mandatory water conservation measures imposed as a result of the Governor's April 1, 2015 executive order mandating water restrictions on urban water use statewide, and demanding a 32% reduction in water use within DWA. Only a portion of the effects of these severe water restrictions are anticipated to be permanent; therefore, for 2016/2017, DWA elected to estimate assessable groundwater production based on the 2014 assessable groundwater production minus a factor of 10% to account for the effects of permanent water conservation measures. However, since the State urban water use restrictions were based on water usage in 2013 as a baseline, DWA elected, for 2017/2018 and for 2018/2019, to estimate assessable groundwater production based on the 2013 assessable groundwater production minus a factor of 15% for 2017/2018 to account for the effects of permanent water conservation measures. For 2018/2019, DWA elected to use a conservation

factor of 13%, and apply the conservation factor only to producers within WWR. Anticipated production within MC and GH is estimated based on 2017 production.

For the 2012/2013 fiscal year, DWA's effective replenishment assessment rate was based on the actual payments made to the SWP by DWA for the previous calendar year divided by the assessable production for that calendar year. This change was made due to a history of variability in the estimated charge projections published by CDWR in Appendix B of Bulletin 132, which have occasionally diverged significantly from the amounts actually charged by CDWR. However, due to significant quantities of surplus and carryover water from 2011 delivered in 2012, DWA paid significantly higher SWP charges in 2012 than in 2011. It became clear that the variability in the actual payment of effective replenishment assessment rates was no less than the variability previously observed in CDWR's estimated charge projections. Therefore, beginning in 2013/2014, DWA's estimated effective replenishment assessment rate is based on CDWR's projected charges, since carryover and surplus water quantities cannot be projected.

Pursuant to the terms of the Water Management Agreement between CVWD and DWA, and based on DWA's allocated SWP charges amount of $8,659,340 and estimated assessable production of 43,700 AF for the 2018 calendar year (shown in **Table 6** as the estimated assessable production for the 2018/2019 fiscal year), the effective replenishment assessment rate component for Table A water is $198.15/AF for the 2018/2019 fiscal year. This represents a relatively steep increase from the previous year's effective rate, which is the result of an increase in CDWR's estimated SWP reliability factor from 58% to 62% and the Agency's decision to eliminate the use of a reliability factor to account for potential MWD call-backs in the future.

During the Proposition 218 proceedings held in Fall 2016, DWA elected to adopt anticipated rate ranges for fiscal years 2017/2018 through 2020/2021, based on estimated projections of expenses and revenues at the time of adoption. Since rates are anticipated to increase sharply over the next several years and then stabilize, the rate ranges adopted for the transitional period of fiscal years 2017/2018 through 2019/2020 were calculated to incorporate a diminishing deficit, to be recovered in subsequent years. The rate range adopted for the 2018/2019 fiscal year was $120 to $140. It should be noted that at the time these rate ranges were adopted, the rates were being estimated using a lower SWP reliability factor of 58%; and a factor of 35% was being applied to future MWD transfers to account for potential call-back by MWD. Although Proposition 218 was determined in December 2017 by the California Supreme Court to be inapplicable to groundwater pumping fees such as DWA's replenishment assessment, DWA has

elected to comply with the rate ranges adopted in the 2016 Proposition 218 proceedings. Therefore, although the 2018/2019 effective rate exceeds the maximum rate of the specified range for 2018/2019, DWA will levy a rate of $140 AF for FY 2018/2019, which is the maximum of the specified range.

At that rate, DWA's replenishment assessment for the entire Replenishment Program will be about $6,049,400, based on estimated assessable production of 43,700 AF (33,980 AF for the WWR AOB, 9,250 AF for the MC AOB, and 470 AF for the GH AOB). Accordingly, DWA will bill approximately $4,757,200 for the WWR AOB, approximately $1,295,000 for the MC AOB, and approximately $65,800 for the GH AOB.

Due to significant increases in the Delta Water Charge beginning in in 2015 that could result in large future increases in the replenishment assessment rate, DWA elected in 2016 to transfer the existing cumulative deficit in the Replenishment Assessment Account to reserve account(s), rather than continue to attempt to recover past deficits by future increases in the replenishment assessment rate. Deficits that result from the current and future assessments will be recovered by adding surcharges, as shown in the "Other Charges and Costs" column for each subbasin in **Table 7**.

It should be noted that there is currently no independent replenishment program for the GH Management Area. Assessment of the GH Management Area production began in the 2015/2016 fiscal year as a result of the MC/GH WMP findings that the GH benefits from artificial replenishment activities in the WWR and MC Management Areas. The estimated assessable production within the GH AOB for the 2018 calendar year is 470 AF, yielding $65,800 in replenishment assessments.

In summary, gross overdraft persists in the westerly portion of the Coachella Valley Groundwater Basin even though groundwater levels have generally stabilized. Cumulative net overdraft (cumulative gross overdraft offset by artificial replenishment) is currently estimated to be approximately 624,000 AF in the WWR Management Area and 105,000 AF in the MC Management Area. Thus, there is a continuing need for groundwater replenishment. Even though DWA has requested of CDWR its full SWP Table A allocation of 55,750 AF, CDWR currently (as of April 12, 2018) expects to deliver 20% of this allocation during the coming year, and DWA has elected to adopt a groundwater replenishment assessment rate for 2018/2019 of $140.00/AF.

CHAPTER II
INTRODUCTION

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INTRODUCTION

A. THE COACHELLA VALLEY AND ITS GROUNDWATER

1. The Coachella Valley

The Coachella Valley is a desert valley in Riverside County, California. It extends approximately 45 miles southeast from the San Bernardino Mountains to the northern shore of the Salton Sea. Cities of the Coachella Valley include Cathedral City, Coachella, Desert Hot Springs, Indian Wells, Indio, La Quinta, Palm Desert, Palm Springs, and Rancho Mirage, and the unincorporated communities of Thousand Palms, Thermal, Bermuda Dunes, Oasis, and Mecca. The Coachella Valley is bordered on the north by Mount San Gorgonio of the San Bernardino Mountains, on the west by the San Jacinto and Santa Rosa Mountains, on the east by the Little San Bernardino Mountains, and on the south by the Salton Sea.

The Coachella Valley lies within the northwesterly portion of California's Colorado Desert, an extension of the Sonoran Desert. The San Bernardino, San Jacinto, and Santa Rosa Mountains provide an effective barrier against coastal storms, and greatly reduce the contribution of direct precipitation to replenish the Coachella Valley's groundwater basin, resulting in an arid climate. The bulk of natural groundwater replenishment comes from runoff from the adjacent mountains.

Climate in the Coachella Valley is characterized by low humidity, high summer temperatures, and mild dry winters. Average annual precipitation in the Coachella Valley varies from 4 inches on the Valley floor to more than 30 inches in the surrounding mountains. Most of the precipitation occurs during December through February (except for summer thundershowers). The low rainfall is inadequate to supply sufficient water supply for the valley, thus the need for the importation of Colorado River water. Precipitation data recorded at nine rain gauge stations in the Upper Coachella Valley by Riverside County Flood Control and Water Conservation District is included in **Appendix A**.

Prevailing winds in the area are usually gentle, but occasionally increase to velocities of 30 miles per hour or more. Midsummer temperatures commonly exceed 100 degrees Fahrenheit (°F), frequently reach 110°F, and periodically reach 120°F. The average winter temperature is approximately 60°F.

2. The Coachella Valley Groundwater Basin

The Coachella Valley Groundwater Basin, as described in CDWR Bulletins 108 and 118, is bounded on the north and east by non-water-bearing crystalline rocks of the San Bernardino and Little San Bernardino Mountains and on the south and west by the crystalline rocks of the Santa Rosa and San Jacinto Mountains. At the west end of the San Gorgonio Pass, between Beaumont and Banning, the basin boundary is defined by a surface drainage divide separating the Coachella Valley Groundwater Basin from the Beaumont Groundwater Basin of the Upper Santa Ana Drainage Area.

The southern boundary is formed primarily by the watershed of the Mecca Hills and by the northwest shoreline of the Salton Sea running between the Santa Rosa Mountains and Mortmar. Between the Salton Sea and Travertine Rock, at the base of the Santa Rosa Mountains, the lower boundary coincides with the Riverside/Imperial County Line.

Southerly of the southern boundary, at Mortmar and at Travertine Rock, the subsurface materials are predominantly fine grained and low in permeability; although groundwater is present, it is not readily extractable. A zone of transition exists at these boundaries; to the north the subsurface materials are coarser and more readily yield groundwater.

Although there is interflow of groundwater throughout the groundwater basin, fault barriers, constrictions in the basin profile, and areas of low permeability limit and control movement of groundwater. Based on these factors, the groundwater basin has been divided into subbasins and subareas as described by CDWR in 1964 and the United States Geological Survey (USGS) in 1971.

3. Subbasins and Subareas

The San Andreas Fault drives a complex pattern of branching fault lines within the Coachella Valley which define the boundaries of the subbasins that make up the Coachella Valley Groundwater Basin (CDWR 2003). There are five subbasins within the Coachella Valley Groundwater Basin: the Whitewater River Subbasin, MC, San Gorgonio Pass Subbasin, Desert Hot Springs Subbasin, and GH (USGS 1974).

The subbasins, with their groundwater storage reservoirs, are defined without regard to water quantity or quality. They delineate areas underlain by formations which readily yield the stored water through water wells and offer natural reservoirs for the regulation of water supplies.

The boundaries between subbasins within the groundwater basin are generally defined by faults that serve as effective barriers to the lateral movement of groundwater. Minor subareas have also been delineated, based on one or more of the following geologic or hydrologic characteristics: type of water bearing formations, water quality, areas of confined groundwater, forebay areas, groundwater divides and surface drainage divides.

The following is a list of the subbasins and associated subareas, based on the CDWR and USGS designations:

- Mission Creek Subbasin (Subbasin 7-21.02 per CDWR Bulletin 118, 2003)
- Desert Hot Springs Subbasin (Subbasin 7-21.03 per CDWR Bulletin 118, 2003)
    - Miracle Hill Subarea
    - Sky Valley Subarea
    - Fargo Canyon Subarea
- Garnet Hill Subbasin (considered a subarea of the Indio Subbasin in CDWR Bulletin 118, 2013)
- San Gorgonio Pass Subbasin (Subbasin 7-21.04 per CDWR Bulletin 118, 2003)

- Whitewater River Subbasin (Subbasin 7-21.01 per CDWR Bulletin 118, 2003, referred to therein as the Indio Subbasin)
    - Palm Springs Subarea
    - Thermal Subarea
    - Thousand Palms Subarea
    - Oasis Subarea

DWA's groundwater replenishment program encompasses portions of four of the five subbasins (Whitewater River, Mission Creek, San Gorgonio Pass, and Garnet Hill). DWA's replenishment program does not include the Desert Hot Springs Subbasin. **Figure 2** illustrates the subbasin boundaries per the MC/GH WMP (Montgomery Watson Harza (MWH) 2003) and DWA's Areas of Benefit of the replenishment program.

The boundaries (based on faults, barriers, constrictions in basin profile, and changes in permeability of water-bearing units), geology, hydrogeology, water supply, and groundwater storage of these subbasins are further described in the following sections.

a. Mission Creek Subbasin (MC)

Water-bearing materials underlying the Mission Creek upland comprise the MC. This subbasin is designated Number 7-21.02 in CDWR's Bulletin 118 (2003). The subbasin is bounded on the south by the Banning Fault and on the north and east by the Mission Creek Fault. The subbasin is bordered on the west by relatively impermeable rocks of the San Bernardino Mountains. The Indio Hills are located in the easterly portion of the subbasin, and consist of the semi-water-bearing Palm Springs Formation. The area within this boundary northwesterly of the Indio Hills reflects the estimated geographic limit of effective storage within the subbasin (CDWR 1964).

Both the Mission Creek Fault and the Banning Fault are partially effective barriers to lateral groundwater movement, as evidenced by offset water levels, fault springs, and changes in vegetation. Water level differences across the Banning Fault, between the MC and the GH, are on the order of 200 feet to 250

feet. Similar water level differences exist across the Mission Creek Fault between the MC and Desert Hot Springs Subbasin (MWH 2013).

This subbasin relies on the same imported SWP/Colorado River Exchange Water source for replenishment, as does the westerly portion of the Whitewater River Subbasin. CVWD, DWA, and MSWD jointly manage this subbasin under the terms of the 2004 Mission Creek Settlement Agreement. This agreement and the 2014 Mission Creek Water Management Agreement between CVWD and DWA specify that the available SWP water will be allocated between the MC and WWR Management Areas in proportion to the amount of water produced or diverted from each subbasin during the preceding year.

b. Desert Hot Springs Subbasin

The Desert Hot Springs Subbasin is designated Number 7-21.03 in CDWR's Bulletin 118 (2003). It is bounded on the north by the Little San Bernardino Mountains and on the southeast by the Mission Creek and San Andreas Faults. The Mission Creek Fault separates the Desert Hot Springs Subbasin from the MC, and the San Andreas Fault separates the Desert Hot Springs Subbasin from the Whitewater River Subbasin. Both faults serve as effective barriers to lateral groundwater flow. The subbasin has been divided into three subareas: Miracle Hill, Sky Valley, and Fargo Canyon (CDWR 1964).

The Desert Hot Springs Subbasin is not extensively developed, except in the Desert Hot Springs area. Relatively poor groundwater quality has limited the use of this subbasin for groundwater supply. The Miracle Hill Subarea underlies portions of the City of Desert Hot Springs and is characterized by hot mineralized groundwater, which supplies a number of spas in that area. The Fargo Canyon Subarea underlies a portion of the planning area along Dillon Road north of Interstate 10. This area is characterized by coarse alluvial fans and stream channels flowing out of Joshua Tree National Park. Based on limited groundwater data for this area, flow is generally to the southeast. Water quality is relatively poor with salinities in the range of 700 milligrams per liter (mg/L) to over 1,000 mg/L (CDWR 1964).

c. Garnet Hill Subbasin (GH)

The area between the Garnet Hill Fault and the Banning Fault, named the Garnet Hill Subarea of the Indio (Whitewater River) Subbasin by CDWR (1964), was considered a distinct subbasin by the USGS because of the partially effective Banning and Garnet Hill Faults as barriers to lateral groundwater movement. This is demonstrated by a difference of 170 feet in groundwater level elevation in a horizontal distance of 3,200 feet across the Garnet Hill Fault, as measured in the spring of 1961. The Garnet Hill Fault does not reach the surface, and is probably effective as a barrier to lateral groundwater movement only below a depth of about 100 feet (MWH 2013).

The 2013 MC/GH WMP states groundwater production is low in the GH and is not expected to increase significantly in the future due to relatively low well yields compared to those in the MC. Water levels in the western and central portions of the subbasin show response to large replenishment quantities from the Whitewater River Groundwater Replenishment Facility, while levels are relatively flat in the easterly portion of the subbasin. The lack of wells in the subbasin limits the hydrogeologic understanding of how this subbasin operates relative to the MC and Whitewater River Subbasin.

Although some natural replenishment to this subbasin may come from Mission Creek and other streams that pass through during periods of high flood flows, the chemical character of the groundwater (and its direction of movement) indicate that the main source of replenishment to the subbasin comes from the Whitewater River through the permeable deposits which underlie Whitewater Hill (MWH 2013).

This subbasin is considered part of the Whitewater River (Indio) Subbasin in CDWR's Bulletin 118 (2003) and therefore was not designated with a separate number therein. There are no assessable groundwater pumpers within CVWD's portion of the GH, and CVWD considers the portion of the GH within its boundaries to be a part of their WWR AOB. There are two assessable producers

within DWA's portion of the GH, which together produced a total of 470.46 AF of groundwater from the subbasin in 2017. DWA considers the portion of the GH within its service area to be a separate AOB.

d. San Gorgonio Pass Subbasin

The San Gorgonio Pass Subbasin lies entirely within the San Gorgonio Pass area, bounded by the San Bernardino Mountains on the north and the San Jacinto Mountains on the south (CDWR 2003). This subbasin is designated Number 7 21.04 in CDWR's Bulletin 118 (2003).

The San Gorgonio Pass Subbasin is hydrologically connected to the Whitewater River Subbasin on the east. Groundwater within the San Gorgonio Pass Subbasin moves from west to east and spills out into the Whitewater River Subbasin over the suballuvial bedrock constriction at the east end of the pass (CDWR 1964).

DWA's service area includes three square miles of the San Gorgonio Pass Subbasin.

e. Whitewater River (Indio) Subbasin

The Whitewater River Subbasin, designated the Indio Subbasin (Basin No. 7 21.01) in CDWR Bulletin No. 118 (2003), underlies the major portion of the Coachella Valley floor and encompasses approximately 400 square miles. Beginning approximately one mile west of the junction of State Highway 111 and Interstate 10, the Whitewater River Subbasin extends southeast approximately 70 miles to the Salton Sea.

The Subbasin is bordered on the southwest by the Santa Rosa and San Jacinto Mountains and is separated from the Garnet Hill, Mission Creek, and Desert Hot Springs Subbasins to the north and east by the Garnet Hill and San Andreas Faults (CDWR 1964). The Garnet Hill Fault, which extends southeasterly from the north side of San Gorgonio Pass to the Indio Hills, is a relatively effective

barrier to lateral groundwater movement from the GH into the Whitewater River Subbasin, with some portions in the shallower zones more permeable. The San Andreas Fault, extending southeasterly from the junction of the Mission Creek and Banning Faults in the Indio Hills and continuing out of the basin on the east flank of the Salton Sea, is also an effective barrier to lateral groundwater movement from the northeast (CDWR 1964).

The subbasin underlies the cities of Palm Springs, Cathedral City, Rancho Mirage, Palm Desert, Indian Wells, La Quinta, Indio, and Coachella, and the unincorporated communities of Thousand Palms, Thermal, Bermuda Dunes, Oasis, and Mecca. From about Indio southeasterly to the Salton Sea, the subbasin contains increasingly thick layers of silt and clay, especially in the shallower portions of the subbasin. These silt and clay layers, which are remnants of ancient lake bed deposits, impede the percolation of water applied for irrigation and limit groundwater replenishment opportunities to the westerly fringe of the subbasin (CDWR 1964).

In 1964, CDWR estimated that the five subbasins that make up the Coachella Valley Groundwater Basin contained a total of approximately 39.2 million AF of water in the first 1,000 feet below the ground surface; much of this water originated as runoff from the adjacent mountains. Of this amount, approximately 28.8 million AF of water was stored in the overall Whitewater River Subbasin (CDWR 1964). However, the amount of water in the Whitewater River Subbasin has decreased over the years because it has developed to the point where significant groundwater production occurs (CVWD 2012). The natural supply of water to the northwestern part of the Coachella Valley is not keeping pace with the basin outflow, due mainly to large consumptive uses created by the resort-recreation economy and permanent resident population in the northwestern Whitewater River Subbasin, and large agricultural economy in the southeastern Whitewater River Subbasin. Imported SWP water allocations are exchanged for Colorado River water and utilized for replenishment in the westerly portion of the Whitewater River Subbasin to replace consumptive uses created by the resort recreation economy and permanent resident population.

The Whitewater River Subbasin is not currently adjudicated. From a management perspective, CVWD divides the portion of the subbasin within its service area into two AOBs designated the West Whitewater River Subbasin AOB and the East Whitewater River Subbasin AOB. The dividing line between these two areas is an irregular line trending northeast to southwest between the Indio Hills north of the City of Indio and Point Happy in La Quinta (see paragraph e.5 below for the history of this division). The West Whitewater River Subbasin Management Area is jointly managed by CVWD and DWA under the terms of the 2014 Whitewater Water Management Agreement. The East Whitewater River Subbasin AOB is managed by CVWD (CVWD 2012).

Hydrogeologically, the Whitewater River Subbasin is divided into four subareas: the Palm Springs, Thermal, Thousand Palms, and Oasis Subareas. The Palm Springs Subarea is the forebay or main area of replenishment to the subbasin, and the Thermal Subarea is the pressure or confined area within the basin. The other two subareas are peripheral areas having unconfined groundwater conditions.

1) Palm Springs Subarea

The triangular area between the Garnet Hill Fault and the east slope of the San Jacinto Mountains southeast to Cathedral City is designated the Palm Springs Subarea. Groundwater is unconfined in this area. The Coachella Valley fill materials within the Palm Springs Subarea are essentially heterogeneous alluvial fan deposits with little sorting and little fine grained material content. The thickness of these water-bearing materials is not known; however, it exceeds 1,000 feet. Although no lithologic distinction is apparent from well drillers' logs, the probable thickness of recent deposits suggests that Ocotillo conglomerate underlies recent fanglomerate in the subarea at depths ranging from 300 feet to 400 feet.

Natural replenishment to the aquifer in the Whitewater River Subbasin occurs primarily in the Palm Springs Subarea. The major natural sources include infiltration of stream runoff from the San Jacinto Mountains and

the Whitewater River, and subsurface inflow from the San Gorgonio Pass Subbasin and GH. Deep percolation of direct precipitation on the Palm Springs Subarea is considered negligible as it is consumed by evapotranspiration (CDWR 1964).

2) Thermal Subarea

Groundwater of the Palm Springs Subarea moves southeastward into the interbedded sands, silts, and clays underlying the central portion of the Coachella Valley. The division between the Palm Springs Subarea and the Thermal Subarea is near Cathedral City. The permeabilities parallel to the bedding of the deposits in the Thermal Subarea are several times the permeabilities perpendicular to the bedding and, therefore, movement of groundwater parallel to the bedding predominates. Confined or semi confined groundwater conditions are present in the major portion of the Thermal Subarea. Movement of groundwater under these conditions is present in the major portion of the Thermal Subarea and is caused by differences in piezometric (pressure) level or head. Unconfined or free water conditions are present in the alluvial fans at the base of the Santa Rosa Mountains, such as the fans at the mouth of Deep Canyon and in the La Quinta area.

Sand and gravel lenses underlying this subarea are discontinuous, and clay beds are not extensive. However, two aquifer zones separated by a zone of finer-grained materials were identified from well logs. The fine grained materials within the intervening horizontal plane are not tight enough or persistent enough to completely restrict the vertical interflow of water, or to warrant the use of the term "aquiclude". Therefore, the term "aquitard" is used for this zone of less permeable material that separates the upper and lower aquifer zones in the southeastern part of the Valley.

The lower aquifer zone, composed of part of the Ocotillo conglomerate, consists of silty sands and gravels with interbeds of silt and clay. It

contains the greatest quantity of stored groundwater in the Coachella Valley Groundwater Basin, but serves only that portion of the Valley easterly of Washington Street. The top of the lower aquifer zone is present at a depth ranging from 300 feet to 600 feet below the surface. The thickness of the zone is undetermined, as the deepest wells present in the Coachella Valley have not penetrated it in its entirety. The available data indicate that the zone is at least 500 feet thick and may be in excess of 1,000 feet thick.

The aquitard overlying the lower aquifer zone is generally 100 feet to 200 feet thick, although in small areas on the periphery of the Salton Sea it is more than 500 feet thick. North and west of Indio, in a curved zone approximately one mile wide, the aquitard is apparently lacking and no distinction is made between the upper and lower aquifer zones.

Capping the upper aquifer zone in the Thermal Subarea is a shallow fine grained zone in which semi-perched groundwater is present. This zone consists of recent silts, clays, and fine sands and is relatively persistent southeast of Indio. It ranges from zero to 100 feet thick and is generally an effective barrier to deep percolation. However, north and west of Indio, the zone is composed mainly of clayey sands and silts, and its effect in retarding deep percolation is limited. The low permeability of the materials southeast of Indio has contributed to irrigation drainage problems in the area. Semi-perched groundwater has been maintained by irrigation water applied to agricultural lands south of Point Happy, necessitating the construction of an extensive subsurface tile drain system (CDWR 1964).

The Thermal Subarea contains the division between CVWD's west and east AOBs of the Whitewater River (Indio) Subbasin, which is more fully described in paragraph e.5 below.

The imported Colorado River supply through the Coachella Canal is used mainly for irrigation in the easterly portion of the Whitewater River

Subbasin. Annual deliveries of Colorado River water through the Coachella Canal of approximately 300,000 AF are a significant component of southeastern Coachella Valley hydrology. A smaller portion of the Coachella Canal water supply is used to offset groundwater pumping by golf courses in the westerly portion of the Whitewater River Subbasin.

CVWD recently completed a study to evaluate the entire Coachella Valley Groundwater Basin. This led to the development and adoption of the 2010 CVWMP Update. Using state-of-the-art technology, CVWD developed and calibrated a peer-reviewed, three-dimensional groundwater model (Fogg 2000) that is based on data from over 2,500 wells, and includes an extensive database of well chemistry reports, well completion reports, electric logs, and specific capacity tests. This model improved on previous groundwater models, and incorporates the latest hydrological evaluations from previous studies conducted by CDWR and USGS to gain a better understanding of the hydrogeology in this subbasin and the benefits of water management practices identified in the CVWMP.

3) Thousand Palms Subarea

The small area along the southwest flank of the Indio Hills is named the Thousand Palms Subarea. The southwest boundary of the subarea was determined by tracing the limits of distinctive groundwater chemical characteristics. The major aquifers of the Whitewater River Subbasin are characterized by calcium bicarbonate; but water in the Thousand Palms Subarea is characterized by sodium sulfate (CDWR 1964).

The differences in water quality suggest that replenishment to the Thousand Palms Subarea comes primarily from the Indio Hills and is limited in supply. The relatively sharp boundary between chemical characteristics of water derived from the Indio Hills and groundwater in

the Thermal Subarea suggests there is little intermixing of the two waters.

The configuration of the water table north of the community of Thousand Palms is such that the generally uniform, southeasterly gradient in the Palm Springs Subarea diverges and steepens to the east along the base of Edom Hill. This steepened gradient suggests a barrier to the movement of groundwater: possibly a reduction in permeability of the water-bearing materials, or possibly a southeast extension of the Garnet Hill Fault. However, such an extension of the Garnet Hill Fault is unlikely. There is no surface expression of such a fault, and the gravity measurements taken during the 1964 CDWR investigation do not suggest a subsurface fault. The residual gravity profile across this area supports these observations. The sharp increase in gradient is therefore attributed to lower permeability of the materials to the east.

Most of the Thousand Palms Subarea is located within the westerly portion of the Whitewater River Subbasin. Groundwater levels in this area show similar patterns to those of the adjacent Thermal Subarea, suggesting a hydraulic connectivity (CDWR 1964).

4) Oasis Subarea

Another peripheral zone of unconfined groundwater that is different in chemical characteristics from water in the major aquifers of the Whitewater River Subbasin is found underlying the Oasis Piedmont slope. This zone, named the Oasis Subarea, extends along the base of the Santa Rosa Mountains. Water-bearing materials underlying the subarea consist of highly permeable fan deposits. Although groundwater data suggest that the boundary between the Oasis and Thermal Subareas may be a buried fault extending from Travertine Rock to the community of Oasis, the remainder of the boundary is a lithologic change from the coarse fan deposits of the Oasis Subarea to the interbedded sands, gravel, and silts of the Thermal Subarea. Little information is available as to the

thickness of the water-bearing materials, but it is estimated to be in excess of 1,000 feet. Groundwater levels in the Oasis Subarea have exhibited similar declines as elsewhere in the subbasin due to increased groundwater pumping to meet agricultural demands on the Oasis slope (CDWR 1964).

5) East/West AOB Division

The Thermal Subarea (see paragraph e.2 above) contains the division between the westerly and easterly portions of the Whitewater River Subbasin (CVWD's West Whitewater River Subbasin AOB and East Whitewater River Subbasin AOB). This division constitutes the southern boundary of the management area governed by the Management Agreement between CVWD and DWA.

The boundary between these two Management Areas extends from Point Happy (a promontory of the Santa Rosa Mountains between Indian Wells and La Quinta) northeasterly, generally along Washington Street, to a point on the San Andreas Fault intersecting the northerly prolongation of Jefferson Street in Indio.

The boundary was originally defined primarily on the basis of differing groundwater levels resulting from differences in groundwater use and management northerly and southerly of the boundary. Primarily due to the application of imported water from the Coachella Canal, and an attendant reduction in groundwater pumpage, the water levels in the area southeasterly from Point Happy (the East Whitewater River Subbasin Management Area) rose until the early 1970s, while groundwater levels northwesterly from Point Happy (the WWR Management Area) were dropping due to continued development and pumping. This was stated by Tyley (USGS 1974) as follows:

"The south boundary is an imaginary line extending from Point Happy northeast to the Little San Bernardino Mountains and was chosen for the

following reasons: (1) North of the boundary, water levels have been declining while south of the boundary, water levels have been rising since 1949 and (2) north of the boundary, ground water is the major source of irrigation water while south of the boundary, imported water from the Colorado River is the major source of irrigation water."

In addition, according to CDWR (1964) and as discussed above, the easterly portion of the Thermal Subarea is distinguished from area north and west of Indio within the Thermal Subarea by the presence of several relatively impervious clay layers (aquitards) lying between the ground surface and the main groundwater aquifer, creating confined and semi-confined aquifer conditions (see Figure III-2). These conditions were characterized by Tyley as "artesian conditions" southerly of the south boundary.

Groundwater levels northerly of the boundary have been stable or increasing since the 1970s (per recorded measurements of USGS, DWA, and CVWD wells), except in the greater Palm Desert area, largely due to the commencement of replenishment activities at the Whitewater River Groundwater Replenishment Facility in 1973. Groundwater levels in the greater Palm Desert area continue to decline, but at a reduced rate as a result of the groundwater replenishment program. Differences between the East Whitewater River Subbasin Management Area and WWR Management Area also persist in terms of management of the groundwater replenishment program and by groundwater usage (there is significantly more agricultural use in CVWD's East Whitewater River Subbasin AOB than in the WWR Management Area).

6) Summary

The Whitewater River Subbasin consists of four subareas: the Palm Springs, Thermal, Thousand Palms, and Oasis Subareas. The Palm Springs Subarea is the forebay or main area of replenishment to the subbasin, and the Thermal Subarea includes the pressure or confined area

within the basin. The Thousand Palms and Oasis Subareas are peripheral areas having unconfined groundwater conditions. From a management perspective, the Whitewater River Subbasin is divided into a westerly and easterly portion, with the dividing line extending from Point Happy in La Quinta to the northeast, terminating at the San Andreas Fault and the Indio Hills at Jefferson Street.

Potable groundwater is not readily available within the following areas in the Coachella Valley: Indio Hills, Mecca Hills, Barton Canyon, Bombay Beach, and Salton City. Water service to these areas is derived from groundwater pumped from adjacent basins.

B. THE GROUNDWATER REPLENISHMENT AND ASSESSMENT PROGRAM

DWA's Groundwater Replenishment and Assessment Program was established to augment groundwater supplies and arrest or retard declining water table conditions within the Coachella Valley Groundwater Basin, specifically within the WWR, MC, and GH AOBs (see **Figure 1**).

1. Water Management Areas

Pursuant to the Water Management Agreements between CVWD and DWA, the Water Management Areas encompass the Westerly Portion of the Whitewater River Subbasin, a portion of the San Gorgonio Pass Subbasin, and the entire MC and GH (except three square miles in the Painted Hills area and a small portion that lies within San Bernardino County) within the Coachella Valley Groundwater Basin (see **Figure 1**).

- <u>The West Whitewater River Subbasin (WWR) Management Area</u>

  CVWD and DWA have recognized the need to manage the westerly portion of the Whitewater River Subbasin as a complete unit rather than as individual segments underlying the individual agencies' boundaries. This management area consists of the Palm Springs and Thousand Palms Subareas and the westerly portion of the Thermal Subarea, which is experiencing a significantly declining water table. The management area was established to encompass the area of groundwater overdraft as

evidenced by declining water table conditions, and includes areas within both CVWD and DWA boundaries. The easterly boundary of the WWR Management Area extends from Point Happy (a promontory of the Santa Rosa Mountains between Indian Wells and La Quinta) northeasterly, generally along Washington Street, to a point on the San Andreas Fault intersecting the northerly prolongation of Jefferson Street in Indio.

DWA's WWR AOB is located entirely within the WWR Management Area.

- The Mission Creek Subbasin (MC) Management Area

  CVWD and DWA have recognized the need to manage the MC as a complete unit rather than as individual segments underlying the individual agency's boundaries. This management area consists of the entire MC. DWA's MC AOB is located entirely within the MC Management Area.

- The Garnet Hill Subbasin (GH) Management Area

  CVWD considers the portion of the GH within its boundaries to be a part of its WWR AOB. DWA considers the portion of the GH within its service area to be a separate management area and AOB.

2. Areas of Benefit

The Areas of Benefit (AOBs) for DWA's replenishment program consist of the westerly portion of the Coachella Valley Groundwater Basin, including portions of the Whitewater River Subbasin, MC, GH, and tributaries thereto, situated within DWA's service area boundary (see **Figure 2**). DWA has three AOBs within its replenishment program: the West Whitewater River Subbasin (WWR) AOB, the Mission Creek Subbasin (MC) AOB, and the Garnet Hill Subbasin (GH) AOB.

DWA's **WWR AOB** consists of that portion of the WWR Management Area situated within DWA's service area boundary (including a portion of the San Gorgonio Pass Subbasin).

DWA's **MC AOB** consists of that portion of the MC Management Area situated within DWA's service area boundary.

DWA's **GH AOB** consists of that portion of the GH Management Area situated within DWA's service area boundary.

The AOBs for CVWD's replenishment program consist of the portions of the Whitewater River Subbasin, MC, and GH within CVWD's boundary. CVWD has a total of three AOBs within its groundwater replenishment program: the CVWD MC AOB; the CVWD WWR AOB; and the East Whitewater River Subbasin AOB. CVWD's WWR AOB includes the portion of the GH within CVWD's service area (see **Figure 2**).

Within DWA's WWR AOB, there are seven stream diversions on the Whitewater River and its tributaries, five by DWA (two on Chino Creek, one on Snow Creek, one on Falls Creek, and one by the former Whitewater Mutual Water Company, which has been acquired by DWA), one by the Wildlands Conservancy (formerly the Whitewater Trout Farm) which is used for conservation and educational purposes, and one by CVWD at the Whitewater River Replenishment Facility; the latter three being on the Whitewater River itself. There are no stream diversions within the MC or GH Areas of Benefit. DWA's WWR AOB also includes subsurface tributary flows from the San Gorgonio Pass Subbasin located to the west.

While the replenishment assessments outlined on the following pages are based on and limited to water production within DWA's AOBs, available water supply, estimated water requirements, and groundwater replenishment are referenced herein to the entire WWR Management Area, MC Management Area, and GH Management Area. The WWR, MC, and GH Management Areas are replenished jointly by CVWD and DWA for water supply purposes, and the two agencies jointly manage the imported water supplies within said Management Areas.

3. Water Management Agreements

The replenishment program was implemented pursuant to a joint Water Management Agreement for the WWR Management Area ("Whitewater River Subbasin Water

Management Agreement", executed July 1, 1976 and amended December 15, 1992 and July 15, 2014) between CVWD and DWA. Later, a similar program was implemented within the MC Management Area pursuant to a similar joint Water Management Agreement ("Mission Creek Subbasin Water Management Agreement", executed April 8, 2003 and amended July 15, 2014). Currently, there is no Water Management Agreement between CVWD and DWA specifically for the GH Management Area because direct artificial groundwater replenishment has not been implemented within the subbasin. However, groundwater in the GH Management Area is managed under the provisions of the Whitewater River and Mission Creek Subbasin Water Management Agreements.

CVWD and DWA entered into a Settlement Agreement with MSWD in December 2004, which affirmed the water allocation procedure that had been established earlier by CVWD and DWA, and which established a Management Committee, consisting of the General Managers of CVWD, DWA, and MSWD, to review production and recharge activities. The Addendum to the Settlement Agreement states that the water available for recharge each year shall be divided between the WWR Management Area and the MC Management Area proportionate to the previous year's production from within each management area (see **Appendix B)**.

Conditions of the Settlement Agreement and Addendum between DWA, CVWD, and MSWD state that DWA and CVWD have the authority to levy replenishment assessments on water produced from subbasins of the Upper (Western) Coachella Valley Groundwater Basin within DWA and CVWD's Areas of Benefit, if found that recharge activities benefit those subbasins.

The Management Committee engaged MWH to prepare the MC/GH WMP, which was completed in January 2013. According to the MC/GH WMP, the GH benefits from the recharge activities in both the MC and Whitewater River Subbasin. It benefits from the recharge activities in the MC via subsurface flow across the Banning Fault, and from the recharge activities in the westerly portion of the Whitewater River Subbasin via: (a) infiltration from the Whitewater River channel, which carries imported water from the Colorado River Aqueduct to the replenishment facilities within the Whitewater River Subbasin, and (b) from subsurface flow across the Garnet Hill Fault at the northerly end of the GH during major recharge events that significantly raise the groundwater level in

the vicinity of the Whitewater River Replenishment Facility. Exact quantities of replenishment benefit from the MC and Whitewater River Subbasin to the GH cannot be ascertained at this time with currently available hydrologic data.

The Water Management Agreements call for maximum importation of SWP Contract Table A water allocations (formerly "entitlements") by CVWD and DWA for replenishment of groundwater basins or subbasins within defined Water Management Areas. The Agreement also requires collection of data necessary for sound management of water resources within these same Water Management Areas.

4. Groundwater Overdraft

CDWR Bulletin 160-09 (2009 California Water Plan Update) defines "Groundwater overdraft" as:

> *"…the condition of a groundwater basin in which the amount of water withdrawn by pumping exceeds the amount of water that recharges the basin over a period of years, during which the water supply conditions approximate average conditions."*

According to CDWR Bulletin 118-80 (Groundwater Basins in California):

> *"Overdraft is characterized by groundwater levels that decline over a period of years and never fully recover, even in wet years. Overdraft can lead to increased extraction costs, land subsidence, water quality degradation, and environmental impacts."*

For purposes of this report, the term "gross overdraft" refers to groundwater extractions or water production in excess of natural groundwater replenishment or recharge, as an annual rate in AF/Yr, and "cumulative overdraft" refers to the cumulative gross overdraft in AF over the history of an aquifer. The term "net overdraft" refers herein to gross overdraft offset by artificial replenishment.

The initial Water Management Agreement was developed following numerous investigations regarding the groundwater supply within the Coachella Valley; said

investigations are addressed in DWA's previous reports (*Engineer's Report on Groundwater Replenishment and Assessment Program for the Whitewater River Subbasin* for the years 1978/1979 through 1983/1984). These investigations all concluded that gross overdraft (groundwater extractions or water production in excess of natural groundwater replenishment and/or recharge) existed within the Coachella Valley Groundwater Basin and its subbasins.

5. Groundwater Replenishment

a. Summary

Since 1973, CVWD and DWA have been using Colorado River water exchanged for SWP water (Table A water allocations and supplemental water as available) to replenish groundwater in the Coachella Valley Groundwater Basin within the WWR Management Area (including a portion of the San Gorgonio Pass Subbasin), the MC Management Area, and the MC Management Area. The two agencies are permitted by law to replenish the groundwater basins and to levy and collect water replenishment assessments from any groundwater extractor or surface water diverter (aside from exempt producers) within their jurisdictions who benefits, such as those within the GH and San Gorgonio Pass Subbasin, from replenishment of groundwater.

b. History

DWA and CVWD completed construction of the Whitewater River Replenishment Facility in 1973 and the Mission Creek Replenishment Facility in 2002, and recharge activities commenced within each respective subbasin upon completion of the facilities. Annual recharge quantities are set forth in **Exhibit 6**.

From 1973 through 2017, CVWD and DWA have replenished the WWR and MC Management Areas with approximately 3,481,276 AF (3,318,182 AF to WWR Management Area and 159,561 AF to MC Management Area). Of this total, 3,223,627 AF consisted of exchange deliveries (Colorado River water exchanged

for SWP water, including advance deliveries) and 3,806,172 AF consisted of exchange deliveries and advance deliveries converted to exchange deliveries, but excluding advance deliveries not yet converted to exchange deliveries. See **Exhibit 6**.

Between October 1984 and December 1986, MWD initially provided about 466,000 AF of advance delivered water for future exchange with CVWD and DWA that was used to replenish the WWR Management Area. This initial quantity of advanced delivered water has been augmented several times since then (with a portion on the augmented supply delivered to the Mission Creek Replenishment Facility), and the total quantity of advance delivered water is currently 1,152,351 AF. During drought conditions, MWD has periodically met exchange delivery obligations with water from its advance delivery account. By December 2017, MWD had converted approximately 827,243 AF of advance delivered water to exchange water deliveries, leaving a balance of approximately 325,108 AF in MWD's advance delivery account (see **Exhibit 6**, included at the end of this report, for an accounting of exchange and advance deliveries).

c. Table A Water Allocations and Deliveries

SWP Table A water allocations are based primarily on hydrologic conditions and legal constraints, and vary considerably from year to year. In 2017, the final allocation was 85% of maximum Table A allocations. However, the Table A water deliveries during 2017 were approximately 34% of maximum Table A allocations, with the remainder delivered in 2018 as Article 56 carry-over water and flexible storage pay-back at Lake Perris. As of the writing of this report, Table A water deliveries in 2018 are projected to be 20% of maximum Table A allocations. Long-term average Table A allocations are currently predicted to be approximately 62% of maximum Table A allocations.

A portion of Table A allocations for a given year are occasionally carried over into the following year under Article 56 of the SWP Contract. In 2018, 25,435 AF of Article 56 water carried over from 2017 has been delivered to CVWD and DWA.

Even though CVWD and DWA have requested and will continue to request their maximum annual Table A allocations, the "Probable Table A Water Allocations" and "Probable Table A Water Deliveries" have been adjusted herein for long-term reliability for estimating purposes. In previous reports, the Probable Table A Water Allocations have been assumed herein to be equal to the maximum Table A Water allocations with the MWD transfer portion reduced by a calculated factor to represent a long-term average transfer quantity with possible recalls by MWD pursuant to the 2003 Exchange Agreement and its implementation. According to communications from MWD management, it is unlikely that MWD will make any recalls for the foreseeable future; therefore, this factor has not been applied to future estimates. "Probable Table A Water Deliveries" are herein assumed to be 62% of the aforementioned Probable Table A Water Allocations, based on estimated SWP reliability.

From 1973 through 2003, CVWD and DWA had SWP maximum annual Table A allocations of 23,100 AF and 38,100 AF, respectively. To meet projected water demands and to alleviate cumulative gross overdraft conditions, CVWD and DWA have secured additional SWP Table A water allocations, increasing their combined maximum Table A water allocations from 61,200 AF/Yr in 2003 to 194,100 AF/Yr beginning in 2010. CVWD and DWA's current Table A allocations are described in additional detail in the following paragraphs.

1) Tulare Lake Purchase

CVWD obtained an additional 9,900 AF/Yr of Table A water allocation from Tulare Lake Basin Water Storage District, another State Water Contractor, thus increasing its annual Table A water allocation to 33,000 AF/Yr, effective January 1, 2004.

2) 2003 Exchange Agreement

In 2003, CVWD and DWA obtained a further 100,000 AF/Yr (88,100 AF/Yr for CVWD and 11,900 AF/Yr for DWA) of Table A

water allocation through a new exchange agreement (the 2003 Exchange Agreement) among CVWD, DWA, and MWD (all State Water Contractors). The new exchange agreement, which became effective January 1, 2005, permits MWD to call-back or recall the assigned annual Table A water allocation of 100,000 AF/Yr in 50,000 AF/Yr increments during periods of constrained, limited, or low water supply conditions; however, it gives CVWD and DWA the opportunity to secure increased quantities of surplus water in addition to increased quantities of Table A water during normal or high water supply conditions. MWD must notify CVWD and DWA of its intentions regarding call-back or recall of the 100,000 AF or 50,000 AF increment thereof.

In implementing the 2003 Exchange Agreement, MWD advised CVWD and DWA that it would probably recall the 100,000 AF/Yr assigned to the two Coachella Valley agencies from 2005 through 2009. In fact, it did recall the full 100,000 AF/Yr in 2005, but it has not recalled any water since that time. According to communications with MWD management, it is unlikely that MWD will recall any water in the foreseeable future.

3) Kern County/Tulare Lake Purchase

In 2010, CVWD and DWA negotiated transfer of an additional 16,000 AF/Yr (12,000 AF/Yr for CVWD and 4,000 AF/Yr for DWA) of Table A water allocation from Kern County Water Agency and an additional 7,000 AF/Yr (5,250 AF/Yr for CVWD and 1,750 AF/Yr for DWA) from Tulare Lake Basin Water Storage District, both State Water Contractors.

d. Supplemental Water

Any surplus water secured by CVWD and DWA is exchanged for a like quantity of Colorado River Water. Charges for surplus water are allocated between CVWD and DWA in accordance with the terms of the Water Management

Agreements. DWA secures funds for its allocated charges for surplus water payments from its Reserve for Additional Water Reserve Account.

1) Turn-Back Water Pool Water

From 1996 through 2017, CVWD and DWA jointly obtained 297,841 AF of water under CDWR's Turn-Back Water Pool Program, which was exchanged for a like quantity of Colorado River Water and delivered to the Whitewater River and Mission Creek Replenishment Facilities.

Turn-Back Water Pool water was originally Table A water scheduled for delivery to other State Water Contractors, but those Contractors subsequently determined that the water was surplus to their needs. Surplus water in the Turn-Back Water Pool Program is allocated between two pools based on time: Pool A water must be secured by March 1 of each year and Pool B water must be secured between March 1 and April 1 of each year. The charge for Pool A water is higher than the charge for Pool B water.

Since fiscal year 1999/2000, requests for Turn-Back Water Pool water have exceeded water available. Quantities of Pool A and Pool B water purchased by CVWD and DWA are shown in **Exhibit 6**.

In 2017, DWA and CVWD were allocated 1,131 AF of SWP surplus water under the Turn-Back Water Pool Program. Based on current projections, CVWD and DWA will not receive any Pool A or Pool B water in 2018.

2) Flood Water

In 1997 and 1998, CVWD and DWA jointly obtained 47,286 AF of Kaweah River, Tule River, and Kings River flood flow water, which was also exchanged for a like quantity of Colorado River water delivered to

the Whitewater River Replenishment Facility. Currently, the availability of flood water in 2018 is uncertain.

3) Article 21 Surplus Water

From 2000 through 2011, CVWD and DWA obtained 42,272 AF of Article 21 surplus water and, similarly, that water was also exchanged for a like quantity of Colorado River water which was delivered to the Whitewater River Replenishment Facility. No Article 21 water has been delivered to the Coachella Valley since 2011. It is unlikely that DWA and CVWD will receive Article 21 water in 2018.

4) Yuba River Accord and Other Water

In 2008, CVWD and DWA obtained 1,836 AF of water under the terms of the Yuba River Accord (then newly-ratified). In 2009 and 2012, CVWD and DWA obtained 3,482 AF and 1,188 AF, respectively, of water under the Yuba River Accord and other conservation/transfer agreements. No water was obtained in 2010 or 2011 under the Yuba River Accord. In 2014 and 2015, respectively, CVWD and DWA jointly obtained 1,213 AF and 426 AF of water under the Yuba River Accord. Up to approximately 100,000 AF of water under the Yuba River Accord is estimated to be available for 2018, of which DWA and CVWD have requested 692 AF and 1,718 AF, respectively.

5) Multi-Year Water Pool

In 2012, the State Water Contractors began discussions regarding options for expanding the water market within the confines of the existing SWP Contracts. The Contractors and CDWR developed a demonstration program called the 2013-2014 Multi-Year Water Pool (MYWP) Demonstration Program, whereby participating buyers and sellers would commit to buying water from the pool or selling water into the pool during calendar years 2013 and 2014. This MYWP Demonstration

Program was designed to allow water-short State Water Contractors to purchase SWP water from other willing State Water Contractors, for two consecutive years, at a reasonable cost. Price and acre-foot amounts would vary as a function of the June 1 SWP allocation of water available each year.

The MYWP Demonstration Program is separate from the single year Turn-Back Pool program, and was developed to address issues with the single year Turn-Back Pool program resulting from low pricing.

In February 2015, in response to continuing dry conditions statewide, CDWR began administering a 2015-2016 MYWP Demonstration Program.

MWD requested that DWA participate in the 2015-2016 MYWP Demonstration Program on their behalf. They requested that DWA request up to 1,000 AF in 2015 and 5,000 AF in 2016. MWD will accept delivery of this water and DWA will pay CDWR the cost of the water and its delivery (transportation). If MWD chooses to keep this water and not exchange it, they will reimburse DWA the cost of the water and the cost of transportation. If MWD chooses to credit the water against the advanced delivery account balance, or deliver the water to the Replenishment Facility, they will reimburse DWA only the cost of the water, and DWA will be responsible for the typical costs associated with Table A water deliveries.

So far, 633 AF of water (67 AF in 2015 and 566 AF in 2016) have been delivered to MWD under the 2015-2016 MYWP Demonstration Program, and DWA was reimbursed by MWD for same.

e. Past Year Water Deliveries

Total artificial recharge (to both the Whitewater River and Mission Creek Replenishment Facilities) for 2017 was 395,242 AF (including CVWD's MWD

Quantitative Settlement Agreement purchases). 385,994 was delivered to the Whitewater River Replenishment Facility and 9,248 AF was delivered to the Mission Creek Replenishment Facility. 35,000 AF were delivered under CVWD's Second Supplemental Agreement to their Delivery and Exchange Agreement for the Delivery of 35,000 AF, dated June 14, 2013 (see **Exhibit 6**).

f. Water Available in Current Year

The estimated quantity of water available for artificial recharge in the Upper Coachella Valley during 2018, based on delivery of 20% of the maximum Table A allocation, is as follows: 38,820 AF of Table A water (20% allocation) plus 97,050 AF of Article 56 carry-over water. The estimated quantity of supplemental water is as follows: 0 AF of Turn-Back Pool water, 0 AF of Article 21 water, 2,410 AF of Yuba water, and [XXX] AF of non-SWP water (CVWD), minus [XXX] AF of Table A water to be carried over to 2019, for a grand total of approximately [XXX] AF. A total of [XXX] AF of Colorado River water has already been delivered to the Whitewater River Replenishment Facility during the first three months of 2018.

g. Historic Effects of Artificial Replenishment on Aquifer

Prior to recharge activities in the Whitewater River Subbasin and MC, water levels were declining steadily in those subbasins as well as the GH. As shown in **Exhibits 1, 2, and 3**, after recharge activities commenced in 1973, and specifically after the three large recharge events listed below, groundwater levels in all three subbasins have risen substantially.

- 1985 - 1987: 655,000 AF Recharged
- 1995 - 2000: 609,000 AF Recharged
- 2009 - 2012: 760,000 AF Recharged

Exhibit 1 includes hydrographs for a collection of groundwater wells within the Whitewater River Subbasin (see **Figure 2** for the locations of the wells) in comparison with the total annual quantities of water delivered to the Whitewater

River Replenishment Facility. This comparison clearly indicates that the recharge program has benefitted wells within the subbasin.

MSWD's Wells 25 and 26 are located upstream of the Whitewater River Replenishment Facility overlying the portion of the San Gorgonio Pass Subbasin, a tributary to the Whitewater River Subbasin, within the management area. Similar to other wells in the management area, water levels in these wells were also declining prior to groundwater recharge, and water levels in these wells rose by about 80 feet each after recharge commenced in the 1980s, and also rose following the other significant recharge events.

Exhibit 2 includes hydrographs for a selection of groundwater wells owned and operated by MSWD and the Mission Creek Monitoring Well located at the Mission Creek Replenishment Facility (see **Figure 2** for the locations of the wells), in comparison with the total annual quantities of water delivered to the Mission Creek Replenishment Facility. The comparison clearly indicates that the recharge program has benefitted the wells within the subbasin, especially the wells near the spreading basins. The magnitude of the response to the groundwater recharge is inversely proportional to the distance the wells are located from the Replenishment Facility.

Exhibit 3 includes hydrographs from a collection of groundwater wells within the Garnet Hill Subbasin (see **Figure 2** for the locations of the wells) including one well owned by MSWD in comparison with both the replenishment quantities replenished by the Whitewater River and Mission Creek Replenishment Facilities. Groundwater levels in the Garnet Hill Subbasin responded rapidly when replenishment activities commenced at the Whitewater River Replenishment Facility in the 1970s.

Water levels in the wells closest to the Whitewater River Replenishment Facility rose approximately 400 feet in the late 1980s and nearly 200 feet following each significant recharge event to the WWR Management Area. The most significant response to groundwater recharge in the WWR Management Area is observed in the wells located closest to the Replenishment Facility. The degree of benefit

observed from recharge decreases the farther the well is from the Replenishment Facility. Well locations are shown on **Figure 2**.

Although artificial replenishment with imported water, augmenting natural replenishment, has met increasing average annual groundwater demands during the past 30 years, it has not, for all practical purposes, reduced or diminished cumulative gross groundwater overdraft within the Coachella Valley Groundwater Basin, which existed prior to artificial replenishment of the groundwater basin. In effect, the groundwater overdraft condition that existed prior to imported water becoming available for groundwater replenishment has not been significantly altered, but the trend has been arrested. Although current groundwater levels have generally stabilized in the subbasins within the management areas, current cumulative gross overdraft (not yet offset by cumulative artificial recharge) is estimated at roughly 3,876,000 AF in the WWR Management Area and 262,000 AF in the MC Management Area. Cumulative net overdraft, (overdraft offset by artificial replenishment) is currently estimated at 624,000 AF in the WWR Management Area and 105,000 AF in the MC Management Area.

CDWR has been unable to deliver full annual Table A water allocations for the past decade, with the exception of 2006 where 100% was delivered to Contractors. Had CVWD and DWA been able to obtain and exchange their maximum Table A quantities during that time period, cumulative groundwater overdraft would be significantly less and groundwater levels would be correspondingly higher.

h. Meeting Future Water Requirements

Historic and projected water supplies and water requirements for the WWR and MC Management Areas are set forth in **Figures 3 and 4**. Projected water supplies include SWP supplies, estimated natural inflow, and estimated non-consumptive return. Historic and projected water requirements include historic and projected groundwater production, and estimated natural outflow.

The projected water supply curves shown in **Figures 3 and 4**, are based on the estimates for the natural inflow to the WWR and MC Management Areas, continuing artificial recharge, non-consumptive return, and groundwater in storage, if necessary. Artificial recharge is based on the 2013 SWP reliability projections (based on existing conditions) excluding all potential surplus water deliveries which may become available during any particular year.

In contrast to the data presented in past Engineer's Reports, which relied primarily on the linear regression of the previous 10-year period of recorded groundwater production, projected water requirements (demands) through 2035 for the WWR and MC Management Areas (also shown in **Figures 3 and 4**) are based on the water balance model utilized in the 2010 Update to the Coachella Valley Water Management Plan and the 2014 Status Report prepared by MWH (and others), and the Groundwater Flow Model for the Mission Creek and Garnet Hill Subbasins Water Management Plan (MC/GH WMP) prepared by Psomas. As shown in the figures, the projected requirements are largely offset by probable supplies; however, the cumulative annual change in storage will remain in the negative through at least 2030 under currently projected conditions.

Based on the production relationship between the WWR Management Area and the MC Management Area, in accordance with the Mission Creek Groundwater Replenishment Agreement, about 92% of imported water deliveries in 2018 will be directed to the WWR Management Area and 8% to the MC Management Area based on 2017 production (see **Exhibit 5**). For future years, the percentage of the total production is expected to range from 87% to 81% in the WWR Management Area and 12% to 19% in the MC Management Area through 2035 due to increased production (increased demands) in the MC Management Area due to anticipated population growth (MWH 2011, MWH 2013).

i. Adequacy of Current Supplies, Water Conservation, and Future Prospects

1) State Water Project Improvements

Continuous availability of SWP allocations will require complete development of the SWP, which currently has only about half of the water supply capacity needed to meet maximum Table A obligations during times of drought. Available water supplies are being further threatened by new and increasing constraints on the development of new water supply facilities and on the operation of existing facilities. In particular, the Wanger decisions regarding protection of the Delta smelt, concerns about reliability of the Delta levees, and other concerns led the CDWR to issue a revision in June 2012 of *The State Water Project Reliability Report 2009*, dated August 2010, wherein the long-term reliability of SWP supplies was reduced from an estimated 75% to 85% of maximum Table A allocations to approximately 60% of maximum allocations. The 2013 SWP Final Reliability Report, dated December 2014, further reduced the long-term reliability of SWP supplies to 58%. Without the construction of additional Sacramento-San Joaquin Delta facilities and certain water storage reservoirs, the water supply capability of the SWP will remain limited and State Water Contractors will have to share reduced quantities of available supplies, especially during droughts.

With continued progress in the completion of California WaterFix (formerly known as the Bay Delta Conservation Plan (BDCP)), the balance between more reliable SWP water supplies and ecosystem restoration will be increased. The BDCP was a long-term conservation strategy designed to set forth actions required for a healthy Delta that will be implemented over the next 50 years, with an estimated cost of about $20 billion. California WaterFix is a refinement of the BDCP that involves a shorter term of implementation and incidental take authorization, and a narrowing of scope: the principal habitat restoration

effort of the BDCP has been isolated as a separate program called "California EcoRestore."

California WaterFix itself involves the construction and operation of new water diversion facilities near Courtland to convey water from the Sacramento River through two tunnels to the existing state and federal pumping facilities near Tracy. In addition to other federal, state, and local approvals, California WaterFix requires changes to the water rights permits for the SWP and the federal Central Valley Project to authorize the proposed new points of water diversion and rediversion.

Currently, the capital cost of the full California WaterFix Project is estimated at about $17 billion for two tunnels. On February 6, 2018, due to difficulties in raising funds for the project, DWR announced that the project would initially be reduced in scope to a single tunnel, at cost of $10.7 billion. On April 10, 2018, MWD announced that it would provide the balance of the funds necessary to complete the original two-tunnel project. Eventually, SWP water supply reliability, quality, and delivered quantities and the overall health of the Delta may improve; however, it is unlikely that the costs for Delta improvements will be allocated to the State Water Contractors before 2020.

2) California Drought

In addition to the existing restrictions on water supplies from the SWP, California has just experienced over four consecutive years of severe drought. The four-year period between fall 2011 and fall 2015 was the State's driest since record keeping began in 1895. High temperatures worsened its effects, with 2014 and 2015 being the two hottest years in the State's recorded history. In late 2016 and early 2017, a series of winter storms produced record-level rainfall, resulting in the Governor's declaration ending the statewide drought emergency. Additionally, the US Drought Monitor report for California showed that DWA went from

"Exceptional Drought", the most severe categorization, to "Abnormally Dry", the least severe.

During the course of the drought, the state implemented a number of mandatory water conservation measures. On January 17, 2014, Governor Jerry Brown, prompted by record dry conditions in California, proclaimed a drought state of emergency, followed by several executive orders continuing the state of emergency and extending government assistance. On April 25, 2014, the Governor issued a proclamation of a continued state of emergency based on drought conditions. Subsequently, in July 2014, the Office of Administrative Law approved emergency regulations mandating water conservation measures set forth by the State Water Resources Control Board (SWRCB).

On April 1, 2015, Governor Brown issued Executive Order B-29-15, finding that drought conditions persisted, and ordering that the SWRCB impose mandatory water use restrictions in order to achieve a statewide 25% reduction in potable urban water usage (as compared to usage in 2013) from June 2015 through February 2016.

In order to reach the statewide 25% reduction mandate, the SWRCB assigned each urban water supplier a conservation standard that ranged between 4% and 36%, based on the supplier's residential gallons per capita per day water use for the months of July through September 2014. The SWRCB tasked DWA, CVWD, and MSWD to reduce potable urban water use within their service areas, ultimately by 32%, 32%, and 24%, respectively. Actual cumulative statewide water use reductions generally complied with the Governor's 25% reduction mandate through May 2016. As of May 2016, DWA achieved a 27% cumulative water savings, CVWD a 26% savings, and MSWD a 19% savings.

On May 9, 2016, the Governor issued another executive order establishing a new water use efficiency framework for California. The order established longer-term water conservation measures, including

permanent monthly water use reporting, new urban water use targets customized to fit the unique conditions of each water supplier, requirements to reduce system leaks and eliminate clearly wasteful practices, strengthen urban drought contingency plans, and improve agricultural water management and drought plans. The framework was prepared by DWR, SWRCB, California Public Utilities Commission, California Department of Food and Agriculture and California Energy Commission with the assistance of two stakeholder groups: The Urban Advisory Group and the Agricultural Advisory Group.

On May 18, 2016, the SWRCB adopted a statewide water conservation approach (effective from June 2016 through January 2017) that replaced the prior percentage reduction-based water conservation standard with a localized Water Supply Reliability Certification and Data Submission (which was commonly called the "stress test" approach) that mandates urban water suppliers act to ensure at least a three-year supply of water to their customers under drought conditions similar to those experienced from 2012 through 2015. Cumulative, statewide water conservation figures dropped to approximately 18% over the summer of 2016, but began to increase again in the fall.

In response to the "stress test" regulation, DWA, CVWD, and MSWD all self-certified that sufficient water had been identified to meet all anticipated demands with existing conservation programs and plans in place, effectively placing their local conservation targets at 0%. Despite passing the stress test, DWA elected to retain a 10% to 13% conservation target for its customers for the purposes of long-term sustainability.

Based on reports to the SWRCB, DWA's cumulative water savings (as compared to 2013) through January 2017 was 23.9%, that of CVWD 22.6%, and that of MSWD 16.9%.

The winter storms of late 2016 and early 2017 resulted in the removal of the "exceptional drought" designation from the State's drought monitor.

As of March 7, 2017, about 76% of the State was identified as drought-free; and, on April 7, 2017, after 22 months of restrictions, Governor Brown proclaimed an end to the drought state of emergency, with the exception of Fresno, Kings, Tulare, and Tuolumne Counties. Water reporting requirements and prohibitions on wasteful practices remain in place.

During 2017, several pieces of legislation were proposed to implement the Governor's Framework. At the end of the session, two bills, AB 1668 (Friedman) and SB 606 (Hertzberg/Skinner/Friedman) were held, making them two-year bills. CVWD will continue to stay engaged in the regulatory activity related to this legislation in 2018.

The calendar year 2017 turned out to be the third hottest year in the State's recorded history after 2014 and 2015; and it had the hottest summer in the State's recorded history. However, the 2016-2017 water year was the second wettest water year in California history, exceeded in total runoff only by the 1982-1983 water year. DWR's eight-station precipitation index for 2016-2017 (which tracks conditions in the largest Central Valley watersheds important for water supplies) set a new record of nearly 95 inches, as compared to the long-term average of 50 inches. The record precipitation of 2016-2017 led to record deliveries of State Water Project Exchange Water at the Whitewater River Replenishment Facility during 2017. However, despite a promising beginning to the water year in late 2017, rainfall in the early months of 2018 has been below average; and dry conditions are beginning to resume. According to the National Integrated Drought Information System, as of April 12, 2018, about 66% of the State is experiencing "abnormally dry" conditions, and about 37% of the State is experiencing moderate to severe drought conditions.

3) State Water Project Long-Term Reliability Estimates

The 2013 *SWP Final Reliability Report*, dated December 2014, estimated the long-term reliability of SWP supplies at 58% of maximum Table A Amounts, projected through the year 2033. In July of 2015, DWR issued the 2015 SWP Deliverability Capability Report. Beginning with said Report, DWR stopped making long-term future reliability projections, and instead evaluated the SWP's delivery capability ("deliverability") based on existing and historical conditions. Said report estimated the median deliverability of SWP supplies at approximately 64%, and long-term deliverability (82 year average value) at 62% of maximum Table A Amounts 50% of the time over the historic long-term (based on a computer model simulation of hydrologic conditions from 1922-2003). DWR explicitly stated in the 2015 Report that said report's estimates were based on existing and historical conditions and were not intended as future projections. For this reason, and also because the 2015 Report did not consider the very low water supply allocations that occurred during the drought years of 2013, 2014 and 2015, the long-term SWP reliability figure of 58% was cited in the 2015-2016, 2016-2017, and 2017-2018 Engineer's Reports rather than the 62% long-term deliverability figure presented in DWR's 2015 Delivery Capability Report.

In March of 2018, DWR issued its final 2017 Delivery Capability Report, which includes an evaluation of deliveries through calendar year 2016. The 2017 Report continues to use the same 82-year hydrologic record used for the 2015 Report (1922 through 2003) for its computer model simulations of potential hydrologic conditions (runoff and precipitation patterns) for long-term average delivery, and deliveries during typical wet years and typical dry years. However, the analysis accounts for land use, upstream flow regulations, and sea levels characteristic of 2017, and DWR judges this 82-year period to be sufficient to provide a reasonable range of potential hydrologic conditions from wet years to critically dry years. The 2017 Report estimates the long-term average deliverability at 62% of maximum Table A Amounts, the same figure as presented in the 2015 Report. Because the 2017 Report incorporates recent drought-related data pertaining to

low allocations in the years 2013-2015, the 62% long-term average deliverability figure set forth in said report is used in this Engineer's Report.

4) Conclusion

In conclusion, the Coachella Valley Groundwater Basin (and its subbasins) is in an overdraft condition and will most likely remain so, even with the importation and exchange of available SWP water, until a higher proportion of the maximum SWP Table A allocations becomes available. With maximum Table A allocations, recharge in the WWR and MC Management Areas would offset the current annual overdraft, although overdraft in future years is virtually unpredictable, due to the difficulty of projecting long-term growth and reliability of SWP supplies.

6. Replenishment Assessment

For the WWR Management Area, DWA began its groundwater assessment program in fiscal year 1978/1979 and CVWD began its groundwater assessment program in fiscal year 1980/1981. For the MC Management Area, the two agencies initiated their groundwater assessment programs simultaneously in fiscal year 2003/2004. The two agencies are not required to implement the assessment procedure jointly or identically; however, they have each continuously levied an annual assessment on water produced within their respective jurisdictions since inception of their groundwater assessment programs.

Since the 2013 MC/GH WMP demonstrates that the GH benefits from the groundwater replenishment activities in the two adjacent subbasins, pursuant to the 2004 Settlement Agreement between CVWD, DWA, and MSWD; DWA and CVWD have the authority establish a groundwater assessment program for the GH. DWA's replenishment assessment program was initiated in this subbasin in fiscal year 2015/2016. Currently, there is no assessable production in the Garnet Hill Subbasin within CVWD's WWR AOB.

Desert Water Agency Law requires the filing of an engineer's report regarding the Replenishment Program before DWA can levy and collect groundwater replenishment assessments. The report must address the condition of groundwater supplies, the need for groundwater replenishment, the Areas of Benefit, water production within said Areas of Benefit, and replenishment assessments to be levied upon said water production. It must also contain recommendations regarding the replenishment program. This report has been prepared in accordance with these requirements.

CHAPTER III
WHITEWATER RIVER SUBBASIN
PRODUCTION AND REPLENISHMENT

CHAPTER III
WEST WHITEWATER RIVER SUBBASIN MANAGEMENT AREA
PRODUCTION AND REPLENISHMENT

A. GROUNDWATER PRODUCTION

Annual water production (groundwater extractions plus surface water diversions) within the West Whitewater River Subbasin (WWR) Management Area averaged about 93,000 AF from 1965 through 1967, and then increased to approximately 187,000 AF in 1990. It then decreased to approximately 174,000 AF in 1991, coincident with the initiation of significant deliveries of recycled water by CVWD and DWA to irrigation users within the Management Area (which had the effect of temporarily reversing the trend toward steadily increasing production of groundwater therein).

Due to development, production increased sharply to about 187,000 AF in 1997 and to about 208,000 AF in 1999. It then averaged about 211,000 AF during the three-year period 2000 through 2002 and remained relatively stable through 2007, probably as a result of water conservation and increased use of recycled water, and (within CVWD's AOB) conversion of agricultural land to residential development, which leveled off in 2000. Production has decreased following 2007 due to poor economic conditions reducing demands for construction water and water conservation programs implemented by both agencies.

During the past five calendar years (2013 through 2017), average annual water production within the WWR Management Area has been about 162,000 AF/Yr, approximately three-fourths of which took place within CVWD's AOB and approximately one-fourth within DWA's AOB. Current (2017 calendar year) and historic groundwater production and surface water diversion data for the WWR Management Area is set forth in **Table 1**.

B. NATURAL RECHARGE

Natural recharge includes precipitation, surface water runoff, and subsurface inflow. It is currently estimated that natural inflow into the WWR Management Area is approximately 52,000 AF/Yr, while natural outflow is currently estimated at approximately 22,600 AF/Yr (MWH 2011). Thus, approximately 29,400 AF (natural inflow less natural outflow) of natural, or native, groundwater is available for water supply each year.

C. NON-CONSUMPTIVE RETURN

Consumptive use of water represents the use of water that is not returned to the aquifer (for example, water that is evapotranspirated into the atmosphere, water that is incorporated into biomass or manufactured products, and water that is exported). Non-consumptive return water is water that is ultimately returned to the aquifer after use (for example, irrigation water percolating beyond the root zone or treated wastewater discharged to percolation ponds or leach fields) or water used for public parks or golf course irrigation (wastewater recycled for irrigation use). Although non-consumptive return in the WWR Management Area has been estimated at approximately 40% (USGS 1974) and 35% (USGS 1992), CVWD's 2010 Update to the Coachella Valley Water Management Plan (and 2014 Status Report to that plan) incorporated groundwater modeling by MWH (now a part of Stantec) which projected that non-consumptive return may decrease from 35% to approximately 30% through 2035 based on the effects of implementing water conservation measures, such as turf removal and more efficient irrigation practices. According to the model, the overall non-consumptive return for 2017 was projected to be approximately 33%. However, MWH and Krieger & Stewart have recently conducted efforts to more accurately characterize non-consumptive return by quantifying water use categories; with estimates made for water percolated via agricultural and landscaping irrigation return, wastewater treatment plant and septic tank discharge, and water recycling activities within each Management Area of the Coachella Valley, and considering such factors as transfers of produced water between subbasins. This effort has resulted in a current estimate for non-consumptive use within the WWR Management Area of approximately 32% of total estimated groundwater production, which percentage is used herein.

D. ARTIFICIAL REPLENISHMENT

Total artificial replenishment (to both the WWR and MC Management Areas) for 2017 was 395,242 AF (including CVWD's MWD Quantitative Settlement Agreement purchases). Of this quantity, 385,994 AF were delivered to the Whitewater River Replenishment Facility (the largest annual delivery to Whitewater in history), and 9,248 AF were delivered to the Mission Creek Replenishment Facility. 35,000 AF of this quantity were delivered under CVWD's Second Supplemental Agreement to their Delivery and Exchange Agreement for the Delivery of 35,000 AF, dated June 14, 2013. (see **Exhibit 6**).

E. GROUNDWATER IN STORAGE

Average annual reported production within the WWR Management Area of 162,000 AF for the past five years (including approximately 500 AF of annual production by minimal pumpers) has been met with approximately 29,400 AF of net natural recharge, approximately 49,800 AF of non-consumptive return, and 88,700 AF of net artificial recharge (less evaporative losses), resulting in a net increase in groundwater in storage of about 5,900 AF/Yr over the past five years.

F. OVERDRAFT STATUS

Based on information contained in USGS Water Resources Investigations 77-29 and 91-4142, average gross annual groundwater overdraft within the WWR Management Area of the Coachella Valley Groundwater Basin began in the 1950s and was estimated to be 30,000 AF/Yr during the late 1960s and early 1970s. It is now estimated to be as much as three times greater. Gross groundwater overdraft within the WWR Management Area (excluding artificial recharge) is now estimated to have averaged approximately 87,000 AF/Yr over the last five years. Since 1956, cumulative gross overdraft (net pumpage minus net natural recharge) is currently estimated at approximately 3,875,000 AF, and cumulative net overdraft (cumulative gross overdraft offset by artificial recharge) is currently estimated to be about 624,000 AF.

CHAPTER IV
MISSION CREEK SUBBASIN
PRODUCTION AND REPLENISHMENT

CHAPTER IV
MISSION CREEK SUBBASIN MANAGEMENT AREA
PRODUCTION AND REPLENISHMENT

A. GROUNDWATER PRODUCTION

Annual water production (groundwater extractions) within the Mission Creek Subbasin (MC) Management Area increased from an average of approximately 500 AF/Yr in the late 1950s and 1960s to approximately 2,300 AF/Yr in 1978. It increased relatively steadily since then to approximately 17,400 AF/Yr in 2006, then began dropping slightly as a result of declining economic conditions to about 16,400 AF/Yr in 2007, 15,800 AF/Yr in 2008, 15,100 AF/Yr in 2009, 14,300 in 2010, 14,200 in 2011, and 13,000 in 2015. Annual groundwater production within the MC Management Area has resulted in cumulative long-term groundwater overdraft, as evidenced by the steady decline of groundwater levels within the MC prior to commencement of recharge activities.

During the past five calendar years (2013 through 2017), average annual reportable water production within the MC Management Area has been about 14,000 AF/Yr; approximately two-thirds of which took place within DWA's AOB and approximately one-third within CVWD's AOB. Current (2017 calendar year) and historic groundwater production and surface water diversion data for the MC Management Area is set forth in **Table 1**.

B. NATURAL RECHARGE

Natural recharge includes precipitation, surface water runoff, and subsurface inflow. As discussed in past reports, it is currently estimated that natural inflow and surface recharge of the MC has averaged approximately 3,500 to 10,800 AF/Yr over the long term. Most estimates of natural outflow from the MC equal or exceed the corresponding estimates of natural inflow.

The most recent estimate for natural inflow into the MC was prepared by Psomas for the MC/GH WMP prepared by MWH in January 2013. Psomas estimated said natural inflow at approximately 9,340 AF/Yr, consisting of approximately 7,500 AF/Yr from mountain front runoff and precipitation under average conditions and approximately 1,840 AF/Yr from flows across the Mission Creek Fault from the Desert Hot Springs Subbasin. This estimate falls within the range of average natural inflow previously cited herein.

Psomas estimated natural outflow at approximately 6,000 AF/Yr, consisting of 4,000 AF/Yr of subsurface flow from the Banning Fault to the GH, 900 AF/Yr of evapotranspiration, and 1,100 AF/Yr of flow through semi-water bearing rocks, known as the Indio Hills, at the southeastern end of the MC.

C. NON-CONSUMPTIVE RETURN

Consumptive use and non-consumptive return are discussed in **Chapter III, Section C**. Within the MC Management Area, non-consumptive return is currently estimated at approximately 32% of total estimated production, or about 5,000 AF/Yr (average for the past five years).

D. ARTIFICIAL REPLENISHMENT

Total artificial replenishment (to both the WWR and MC Management Areas) for 2017 was 395,242 AF (including CVWD's MWD Quantitative Settlement Agreement purchases). Of this quantity, 9,248 AF were delivered to the Mission Creek Replenishment Facility. (see **Exhibit 6**).

Based on the production relationship between the Whitewater River Subbasin and the MC, in accordance with the Mission Creek Groundwater Replenishment Agreement, about 92% of imported water deliveries in 2018 will be directed to the WWR Management Area and 8% to the MC Management Area based on 2017 production (see **Exhibit 5**). For future years, the percentage of the total production is expected to range from 87% to 81% in the WWR Management Area and 12% to 19% in the MC Management Area through 2035 due to increased production (increased demands) in the MC Management Area due to anticipated population growth (MWH 2011, MWH 2013).

E. GROUNDWATER IN STORAGE

Average annual reported production within the entire MC Management Area of 14,000 AF for the past five years (including approximately 500 AF of annual production by minimal pumpers) has been met with approximately 3,300 AF of net natural recharge, approximately 5,000 AF of non-consumptive return, and 3,100 AF of net artificial recharge (less evaporative losses),

resulting in a net decrease in groundwater in storage of about 2,600 AF/Yr over the past five years.

The change in groundwater storage within DWA's MC AOB has also been estimated using changes in measured static water levels in wells within the AOB. Using the average static water levels in the wells in DWA's AOB, the average annual reduction in stored groundwater was 3,600 AF/Yr from 1955 through 2017, and 2,400 AF/Yr from 1998 through 2017 (see **Exhibit 4**).

F. OVERDRAFT STATUS

Gross groundwater overdraft within the MC (excluding artificial recharge) is now estimated at approximately 6,000 AF/Yr during the last five years. Since 1978, cumulative gross overdraft (net pumpage minus net natural recharge) is currently estimated at approximately 262,000 AF, and cumulative net overdraft (cumulative gross overdraft offset by artificial recharge) is currently estimated to be about 105,000 AF.

CHAPTER V
GARNET HILL SUBBASIN
PRODUCTION AND REPLENISHMENT

CHAPTER V
GARNET HILL SUBBASIN MANAGEMENT AREA
PRODUCTION AND REPLENISHMENT

A. GROUNDWATER PRODUCTION

During the past five calendar years (2013 through 2017), average annual water production within the Garnet Hill Subbasin (GH) Management Area has been about 310 AF/Yr; most, if not all, of which took place within DWA's GH AOB. There are no reporting groundwater pumpers within CVWD's service area in the GH, which is within CVWD's WWR AOB. Current (2017 calendar year) and historic groundwater production and surface water diversion data for the GH Management Area (DWA's GH AOB) are set forth in **Table 1**.

B. NATURAL RECHARGE

Natural recharge includes precipitation, surface water runoff, and subsurface inflow. The GH is separated from the Whitewater River Subbasin to the south by the Garnet Hill Fault and from the MC to the north by the Banning Fault.

As stated in the MC/GH WMP, the principle form of natural recharge within the GH comes from mountain-front runoff derived from precipitation and snow melt, as well as return flow from water use.

The GH receives no direct artificial recharge; however, it does receive artificial recharge via infiltration from the Whitewater River channel on the west end of the subbasin, subsurface flows from the MC, and subsurface flows from the Whitewater River Subbasin when water levels are high due to large volumes of artificial recharge at the Whitewater River Replenishment Facility (MWH 2013).

The estimated flow across the Banning Fault from the MC to the GH ranges from approximately 2,000 AF/Yr (Tyley 1974) to 8,250 AF/Yr (Psomas, 2010, based on pre-development, steady-state conditions). The outflow to the Whitewater River Subbasin is estimated to be approximately 4,000 AF/Yr (Psomas 2012, based on then current conditions).

C. NON-CONSUMPTIVE RETURN

Consumptive use and non-consumptive return are discussed in **Chapter III, Section C**. Within the GH Management Area, non-consumptive return is currently estimated at approximately 20% of production, or about 62 AF/Yr.

D. ARTIFICIAL REPLENISHMENT

Direct artificial groundwater replenishment has not yet been implemented within the GH. However, the 2013 MC/GH WMP has shown that the GH benefits from replenishment activities within both the Whitewater River Subbasin and the MC.

E. GROUNDWATER IN STORAGE

The quantity of groundwater in storage within the GH in 1974 was estimated to be approximately 1,520,000 AF (USGS 1974). Production in the subbasin has been limited, so groundwater in storage has not decreased significantly.

With minimal pumping occurring within the subbasin, cumulative groundwater storage in the GH was generally based on wet and dry periods and the introduction of imported water to the Coachella Valley. Changes in storage can be attributed to the rise and fall in the recorded groundwater levels observed in wells throughout the GH.

The recharge program in the WWR Management Area began in 1973, which resulted in rising water levels within the GH in rough proportion to the quantities recharged. Higher water levels in the WWR Management Area reduce the outflow from the GH across the Garnet Hill Fault, increasing storage volume in the GH.

F. OVERDRAFT STATUS

As part of the Coachella Valley Groundwater Basin, the GH is presumed to be in a state of overdraft since it is reliant on flows from the Whitewater River Subbasin and the MC for replenishment, in accordance with the conclusions set forth in the MC/GH WMP.

CHAPTER VI
REPLENISHMENT ASSESSMENT

CHAPTER VI
REPLENISHMENT ASSESSMENT

Desert Water Agency Law, in addition to empowering DWA to replenish groundwater basins and to levy and collect water replenishment assessments within its areas of jurisdiction, defines production and producers for groundwater replenishment purposes as follows:

> Production: The extraction of groundwater by pumping or any other method within the Agency, or the diversion within the Agency of surface supplies which naturally replenish the groundwater supplies within the Agency and are used therein.
>
> Producer: Any individual, partnership, association, group, lessee, firm, private corporation, public corporation, or public agency including, but not limited to, the DWA, that extracts or diverts water as defined above.

Producers that extract or divert 10 AF of water or less in any one year are considered minimal producers, and their production is exempt from assessment.

Desert Water Agency Law also states that assessments may be levied upon all water production within an AOB, provided assessment rates are uniform throughout. Pursuant to Desert Water Agency Law, the amount of any replenishment assessment cannot exceed the sum of certain SWP charges, specifically, the Delta Water Charge, the Variable OMP&R Component of the SWP Transportation Charge (Variable Transportation Charge), and the Off-Aqueduct Power Component of the SWP Transportation Charge (Off-Aqueduct Power Charge), pursuant to the Contract between DWA and the State of California. The aforesaid charges are set forth in each year's CDWR *Bulletin on the State Water Project* (CDWR Series 132, Appendix B, Tables B-16B, B-18, and B-21).

Prior to 2002, groundwater replenishment with Colorado River Water (exchanged for SWP water) had been limited to recharge of the West Whitewater River Subbasin (WWR) Management Area. In 2002, DWA and CVWD commenced recharge activities in the Mission Creek Subbasin (MC) Management Area, in addition to continuing their ongoing activities in the WWR Management Area. The Areas of Benefit for Groundwater Replenishment and Assessment herein consist of those portions of the West Whitewater River Subbasin Management Area (including a portion of the San Gorgonio Pass Subbasin

and tributaries thereto), the MC Management Area, and the Garnet Hill Subbasin (GH) Management Area, situated within DWA's service area boundary (**Figure 2**).

The groundwater replenishment assessment and replenishment assessment rate for 2018/2019 is based on the following:

1. All groundwater production within DWA and MSWD, with certain exceptions, is metered, and all assessable surface water diversions within DWA are metered or measured. There are no surface water diversions within the MC AOB or GH AOB.

2. The Delta Water Charge, the Variable Transportation Charge, and the Off-Aqueduct Power Charge, as set forth in Appendix B of CDWR Bulletin 132 and hereafter referred to as Applicable SWP Charges.

3. The proportionate share of the Applicable SWP Charges allocable to CVWD and DWA in accordance with the Water Management Agreements between CVWD and DWA (Water Management Agreement for the Whitewater River Subbasin executed July 1, 1976 and amended December 15, 1992, and the Water Management Agreement for the Mission Creek Subbasin executed April 8, 2003; both amended July 15, 2014), hereafter referred to as Allocated SWP Charges. (The applicable charges are essentially apportioned between CVWD and DWA in accordance with relative water production within those portions of each entity lying within the applicable Water Management Areas, either the Whitewater River Subbasin, the Mission Creek Subbasin, the Garnet Hill Subbasin, and a portion of the San Gorgonio Pass Subbasin.)

4. Certain charges or costs other than those derived pursuant to items 1, 2, and 3 above. Such additional charges may be offset from time to time by discretionary reductions.

The replenishment assessment rate comprises two components: (1) the Allocated SWP Charges attributable to the estimated annual Table A allocation, and (2) certain other charges or costs related to groundwater recharge, such as those for reimbursement of past surplus water charges for which assessments had not been levied.

The replenishment assessment rate, when applied to estimated assessable production (all production, excluding that which is exempt, within the AOB), results in a replenishment assessment which must not

exceed the maximum permitted by Desert Water Agency Law (the Applicable SWP Charges). Due to the interdependent nature of the imported water supply for the WWR Management Area (including a portion of the San Gorgonio Pass Subbasin), MC Management Area, and GH Management Area, the Allocated SWP Charges component of the replenishment assessment rate is uniform throughout the WWR Subbasin AOB, MC AOB, and GH AOB; however, due to the independent and separate nature of various other aspects of the groundwater replenishment program within the WWR AOB (including a portion of the San Gorgonio Pass Subbasins), MC AOB, and GH AOB, the other charges and costs component need not be uniform; they are specific to each AOB.

A. ACTUAL 2017 WATER PRODUCTION AND ESTIMATED 2018/2019 ASSESSABLE WATER PRODUCTION

Estimated assessable production within DWA's WWR AOB (including a portion of the San Gorgonio Pass Subbasin), MC AOB, and GH AOB consist of groundwater extractions from the groundwater subbasins and diversions from streams (Snow, Falls, and Chino Creeks) in the tributary watersheds. Estimated assessable groundwater production is based on water production which, with the exception of Bel Air Greens, whose well has not been metered or measured nor assessed, and Whitewater Ranch, whose wells are metered and measured but not assessed. Bel Air Greens and Whitewater Ranch wells are located within the Agua Caliente Band of Cahuilla Indian Reservation. DWA staff read and record metered water production quantities with the exception of the wells owned by MSWD and the Indigo Power Plant, which are reported to DWA. As discussed in previous reports, the past water production for Bel Air Greens has been estimated at 127 AF/yr. The Bel Air Greens golf course is now closed, and the property is currently being sold for residential and hotel development.

The effective replenishment assessment rate for Table A water is based on DWA's estimated Allocated SWP Charges for the current year (based on CDWR's projections for the assessment period) divided by the estimated assessable production for the assessment period, as set forth in **Table 6**. Historically, the estimated assessable production has been based on the assessable production for the previous year; however, production during 2015 and 2016 was unusually low due to mandatory water conservation measures imposed as a result of the Governor's April 1, 2015 executive order mandating water restrictions on urban water use statewide, and demanding a 32% reduction in water use within DWA. Only a portion of the effects of these severe water restrictions are anticipated to be permanent; therefore, for 2016/2017, DWA elected

to estimate assessable groundwater production based on the 2014 assessable groundwater production minus a factor of 10% to account for the effects of permanent water conservation measures. However, since the State urban water use restrictions were based on water usage in 2013 as a baseline, DWA elected, for 2017/2018 and 2018/2019, to estimate assessable groundwater production based on the 2013 assessable groundwater production minus a factor to account for the effects of permanent water conservation measures. For 2017/2018, the factor was 15%; for 2018/2019 the factor is 13%, and is applied only to producers within the West Whitewater River Subbasin AOB. Anticipated production within MC and GH is estimated based on 2017 production.

Estimated assessable water production is set forth in **Table 2**.

In 2017, actual reported production within CVWD's AOB within the WWR Management Area was about 3.5 times that within DWA's AOB, 120,383 AF versus 34,689 AF, whereas actual production within DWA's AOB within the MC Management Area was about 2.2 times that within CVWD's AOB, 9,250 AF versus 4,281 AF. Production within DWA's GH AOB accounts for 100% of the total production, at 471 AF. DWA's 2017 actual production accounts for approximately 26.3% of the 169,074 AF combined total of water produced within the Management Areas that year.

B. WATER REPLENISHMENT ASSESSMENT RATES

The water replenishment assessment rates consist of two components, one being attributable to SWP annual Table A water allocations, and the other being attributable to other charges or costs necessary for groundwater replenishment. Each component is discussed below.

1. Component Attributable to SWP Table A Water Allocation Charges

In accordance with the current 2014 Water Management Agreement, CVWD and DWA combine their SWP Table A water allocations, exchange them for Colorado River water, and replenish the WWR and MC Management Areas with exchanged Colorado River water. CVWD and DWA each assume the full burden for portions of their respective Fixed State Water Project Charges (Capital Cost Component and Minimum Operating Component of Transportation Charge); however, the two agencies share their Applicable

SWP Charges (Delta Water, Variable Transportation, and Off-Aqueduct Power Charges) on the basis of relative production.

Although DWA could base its replenishment assessment rate on its Applicable SWP Charges, it only needs to recover its share (based on relative production) of the combined Applicable SWP Charges for both CVWD and DWA (i.e. its Allocated SWP Charges). CVWD makes up the difference in accordance with the Water Management Agreement.

The Applicable SWP Charges for CVWD and DWA for Table A water are set forth in **Tables 3 and 4**, respectively. Unit Charges for Delta Water, Variable Transportation, and Off-Aqueduct Power Charges are based on estimates presented in Appendix B of CDWR Bulletin 132-17.

Since CDWR has been unable to deliver maximum Table A allocations for 17 of the past 18 years, the amounts of the Applicable SWP Charges for 2018/2019 and future years are computed based on a long-term SWP reliability factor applied to the maximum SWP allocations. From 2013 through 2017, a factor of 58% was applied; a factor of 62% is being applied in 2018.

Since the 2003 Exchange Agreement allows MWD to call-back or recall the 100,000 AF of Table A allocation it transferred to CVWD and DWA, the amounts of the Applicable SWP Charges from 2004/2005 through 2017/2018 and future years have been computed with the MWD transfer portion being further reduced by another long-term reliability factor to account for possible future recalls pursuant to the 2003 Exchange Agreement (typically 35%). However, according to MWD management, it is unlikely that MWD will recall any water for the foreseeable future. Therefore, commencing with this report, it is assumed that MWD will not recall any of its transfer portion. This change has the effect of increasing the estimated delivery of State Project water for future years, including the 2018/2019 fiscal year, thus raising the replenishment assessment rate necessary to cover anticipated importation costs.

The derivations of the Applicable SWP Charges are set forth in **Tables 3 and 4**. The "Maximum Table A Water Allocation" shown in **Tables 3 and 4** is the currently existing Table A Water Allocation per CDWR Bulletin 132-17, Appendix B, Table B-4

(contractual quantities based on requests for same by CVWD and DWA) with no reliability factors being applied. The "Probable Table A Water Allocation" is the currently existing Table A Water Allocation. The MWD reliability factor was formerly applied to the Probable Table A Allocation column to reflect the long-term average with probable recalls by MWD, pursuant to the remaining years of the 2003 Exchange Agreement and its implementation. The "Probable Table A Water Delivery" is based on 62% reliability of the probable Table A Water allocation.

It should be noted that the increase of the SWP reliability factor from 58% to 62% and the elimination of the MWD reliability factor will result in higher estimates for future deliveries--including for 2018/2019--than previously projected during the Proposition 218 proceedings; and, consequently, higher estimates for effective Table A assessment rates.

Applicable SWP Charges proportioned in accordance with the Water Management Agreement, more particularly in accordance with relative production within CVWD and DWA, yield Allocated SWP Charges. Over the past five years, 2013 through 2017, DWA has been responsible for approximately 21.9% of the water produced within the WWR Management Area, and 68.6% of water produced from the MC Management Area.

In the past, Allocated SWP Charges have been apportioned to CVWD and DWA based on production from the WWR Management Area. Since 2003/2004, Allocated SWP Charges have been apportioned to CVWD and DWA based on production from the combined WWR and MC Management Areas. In 2017, DWA was responsible for approximately 26.3% of the combined water production within the Management Areas. On the assumption that DWA's relative production for 2018 and thereafter will be about the same as for 2017, DWA's share of the combined Applicable SWP Charges (i.e. Allocated Charges) for the next 18 years will be as set forth in **Table 5**.

Table 5 shows that DWA's estimated Allocated Charges (its share of combined Applicable Charges for Table A water) are anticipated to increase by about 42% between 2017 and 2018, decrease by about 3% between 2018 and 2019 and increase by about 5% between 2019 and 2020. DWA's estimated Allocated Charges will change as estimates presented in future annual editions of CDWR Bulletin 132 change.

Table 5 also shows that DWA's estimated 2018 Allocated Charges are about 91% of DWA's estimated Applicable Charges. Since water replenishment assessments must be used for groundwater replenishment purposes only, implementation of the maximum permissible replenishment assessment rate based on DWA's Applicable Charges would result in the collection of excess funds that would have to be applied to replenishment charges during subsequent years.

Rather than collect excess funds one year and apply the excess funds to replenishment charges in subsequent years, DWA attempts to establish from year to year the replenishment assessment rate that will result in collection of essentially the funds necessary to meet its annual groundwater replenishment charges. DWA therefore bases the Table A portion of its replenishment assessment on estimated Allocated Charges, rather than estimated Applicable Charges.

Pursuant to current Desert Water Agency Law, the maximum permissible replenishment assessment rate that can be established for fiscal year 2018/2019 is $217.12/AF, based on DWA's estimated Applicable Charges (Delta Water Charge, Variable Transportation Charge, and Off-Aqueduct Power Charge) of $10,014,300 (average of estimated 2018 and 2019 Applicable Charges) and estimated 2018/2019 combined assessable production of 43,700 AF within the WWR, MC, and GH AOBs.

The effective replenishment rate is based on DWA's estimated Allocated SWP Charges for the current year, as computed using CDWR's projected Applicable SWP Charges, divided by the estimated assessable production for the assessment period (based on the assessable production for the previous calendar year), as set for in **Table 6**.

According to the terms of the Water Management Agreement between DWA and CVWD, and based on DWA's estimated 2018/2019 Allocated Charges of $9,140,690 and estimated 2018 calendar year assessable production (shown in **Table 6** as estimated 2018/2019 assessable production) of 43,700 AF within the Whitewater River, MC, and GH, the effective replenishment assessment rate component for Table A water for the 2018/2019 fiscal year is $198/AF. **Table 7** includes DWA's historical estimated, actual effective, and estimated projected replenishment assessment rates.

Tables 3 through 7 include future projections through 2035. These projections are based on a number of assumptions regarding factors that can be highly variable and difficult to predict, such as development, conservation, and, as mentioned, State Water Project reliability and cost factors. Actual values in the future may be substantially different than as shown in these tables.

2. Component Attributable to Other Charges and Costs Necessary for Groundwater Replenishment

Charges and costs necessary for groundwater replenishment could include the costs for reimbursement for past SWP Table A water allocations and surplus water allocations for which insufficient assessments had been levied, acquisition or purchases of water from sources other than the SWP, the cost of importing and recharging water from sources other than the SWP, and the cost of treatment and distribution of reclaimed water.

Currently, other charges and costs are being limited to past SWP water payments for which assessments have not been levied. Due to increases in SWP costs, DWA elected last year to transfer the deficit resulting from past payments for which assessments have not been levied to reserve account(s).

Since 1996, CVWD and DWA have obtained surplus SWP water, when available, to supplement deliveries of Table A water (see **Chapter II, Section B.5.d**). DWA currently pays charges for surplus water with funds from its Unscheduled State Water Project Deliveries Reserve Account, rather than from funds raised directly through replenishment assessment levies.

The charges levied on the producers within the GH AOB are assessed as part of the replenishment programs for the WWR and MC Management Areas based on the proportional production, in accordance with the Mission Creek Subbasin Settlement Agreement discussed in **Chapter II, Section B.3**. As shown in **Exhibit 5**, the portion of total production within the Whitewater River Subbasin and MC was approximately 92% and 8% respectively for 2017. Therefore, since there is no direct replenishment program for the GH, and since it benefits from both replenishment programs, the total production

within the GH will be assessed as a proportion of the total production within those subbasins. For example, the total assessable production within the GH was 470 AF in 2017. Of that 470 AF, 92% (432 AF) is assessed as part of the Whitewater River Subbasin, and 8% (38 AF) as part of the MC.

3. Proposition 218 Proceedings

DWA held Proposition 218 proceedings in the winter of 2016, including a public hearing on December 15, 2016. During the public hearing, DWA received comments and tallied protests regarding the proposed replenishment assessment rate ranges for the next five years, as shown in the table below.

Fiscal Year	Anticipated Adoption Date	Rate Range ($/AF)
2017/2018	July 1, 2017	$110.00 to $130.00
2018/2019	**July 1, 2018**	**$120.00 to $140.00**
2019/2020	July 1, 2019	$125.00 to $155.00
2020/2021	July 1, 2020	$130.00 to $165.00
2021/2022	July 1, 2021	$130.00 to $175.00

Protests were received from less than 50% of the affected parcels.

On December 4, 2017, the California Supreme Court held, in the case of *City of San Buenaventura v. United Water Conservation District*, that groundwater pumping charges are not property-related charges subject to Proposition 218. However, current regulations developed to codify the Sustainable Groundwater Management Act (SGMA) still state that a Groundwater Sustainability Agency that adopts a groundwater sustainability plan may impose fees to fund the costs of groundwater management, but such fees "shall be adopted" in accordance with Proposition 218. If the SGMA regulations are amended to remove this requirement, future Proposition 218 proceedings for DWA's groundwater replenishment assessment may not be necessary.

4. Proposed 2018/2019 Replenishment Assessment Rates

As shown in **Table 6**, the estimated effective Table A Assessment Rate is $198/AF, which includes consideration of an increase of the SWP reliability factor from 58% to 62%, and the elimination of the separate MWD reliability factor (MWD reliability factor effectively set to 100%, but still subject to the 62% SWP reliability factor). However, this rate exceeds the maximum rate of $140/AF established in the Proposition 218 proceedings for 2018/2019. Therefore, as shown in **Table 7**, the recommended replenishment assessment rates proposed for 2018/2019 are:

- **$140.00/AF** for the West Whitewater River Subbasin (WWR) AOB,
- **$140.00/AF** for the Mission Creek Subbasin (MC) AOB, and
- **$140.00/AF** for the Garnet Hill Subbasin (GH) AOB.

Historic replenishment assessment rates for both DWA and CVWD within the Whitewater River Subbasin are included in **Exhibit 7**.

C. ESTIMATED WATER REPLENISHMENT ASSESSMENTS FOR 2018/2019

The maximum replenishment assessment that can be levied by DWA for combined estimated production of 43,700 AF (see **Table 2**) within the WWR, MC, and GH AOBs based on a replenishment assessment rate of $140.00/AF is approximately $6,049,400 ($4,757,200 in the WWR AOB, $1,295,000 in the MC AOB, and $65,800 in the GH AOB).

DWA will continue to be the major producer within the WWR AOB, with assessable production of approximately 32,490 AF; seven other producers will be responsible for the remaining 1,490 AF of estimated assessable production. DWA will also be the major assessee with an estimated replenishment assessment of $4,548,600. The seven other producers will be responsible for the remaining $208,600. DWA will therefore be responsible for approximately 96% of both the estimated assessable water production and the estimated replenishment assessment for the WWR AOB; the other seven producers will be responsible for the remaining 4%.

MSWD will be the major producer within the MC AOB, with assessable production of approximately 7,210 AF; four other producers will be responsible for the remaining 2,040 AF of

estimated assessable production. MSWD will also be the major assessee with an estimated replenishment assessment of $1,009,400. The four other producers will be responsible for the remaining $285,600. MSWD will be responsible for approximately 78% of both the estimated assessable water production and the estimated replenishment assessment in the MC AOB; the other four producers will be responsible for the remaining 22%.

MSWD and the Indigo Power Plant are the major producers in the GH AOB, with assessable production of approximately 450 AF and 20 AF, respectively. MSWD will also be the major assessee with an estimated replenishment assessment of $63,000, while the Indigo Power Plant is responsible for the remaining $2,800. MSWD will be responsible for approximately 96% of both the estimated assessable water production and the estimated replenishment in the GH AOB; Indigo Power Plant will be responsible for the remaining 4%.

CHAPTER VII
BIBLIOGRAPHY

CHAPTER VII
BIBLIOGRAPHY

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FIGURES

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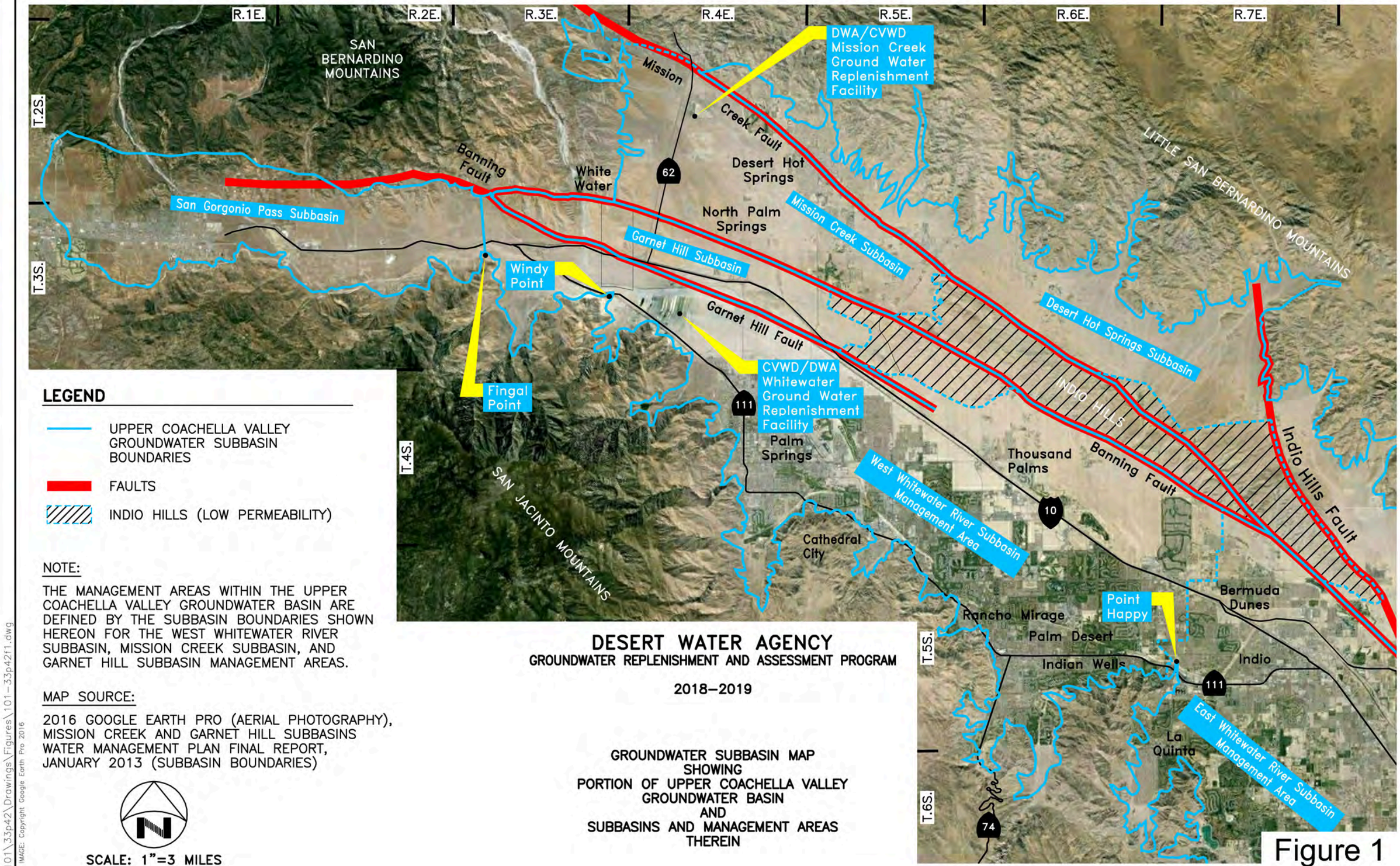

LEGEND

- UPPER COACHELLA VALLEY GROUNDWATER SUBBASIN BOUNDARIES
- FAULTS
- INDIO HILLS (LOW PERMEABILITY)

NOTE:

THE MANAGEMENT AREAS WITHIN THE UPPER COACHELLA VALLEY GROUNDWATER BASIN ARE DEFINED BY THE SUBBASIN BOUNDARIES SHOWN HEREON FOR THE WEST WHITEWATER RIVER SUBBASIN, MISSION CREEK SUBBASIN, AND GARNET HILL SUBBASIN MANAGEMENT AREAS.

MAP SOURCE:

2016 GOOGLE EARTH PRO (AERIAL PHOTOGRAPHY), MISSION CREEK AND GARNET HILL SUBBASINS WATER MANAGEMENT PLAN FINAL REPORT, JANUARY 2013 (SUBBASIN BOUNDARIES)

SCALE: 1"=3 MILES

DESERT WATER AGENCY

GROUNDWATER REPLENISHMENT AND ASSESSMENT PROGRAM

2018–2019

GROUNDWATER SUBBASIN MAP
SHOWING
PORTION OF UPPER COACHELLA VALLEY
GROUNDWATER BASIN
AND
SUBBASINS AND MANAGEMENT AREAS
THEREIN

Figure 1

DESERT WATER AGENCY
GROUNDWATER REPLENISHMENT AND ASSESSMENT PROGRAM

2018–2019

GROUNDWATER SUBBASIN MAP SHOWING GROUNDWATER RECHARGE AREAS OF BENEFIT (EITHER DIRECT OR INDIRECT) AND SELECTED GROUNDWATER WELLS

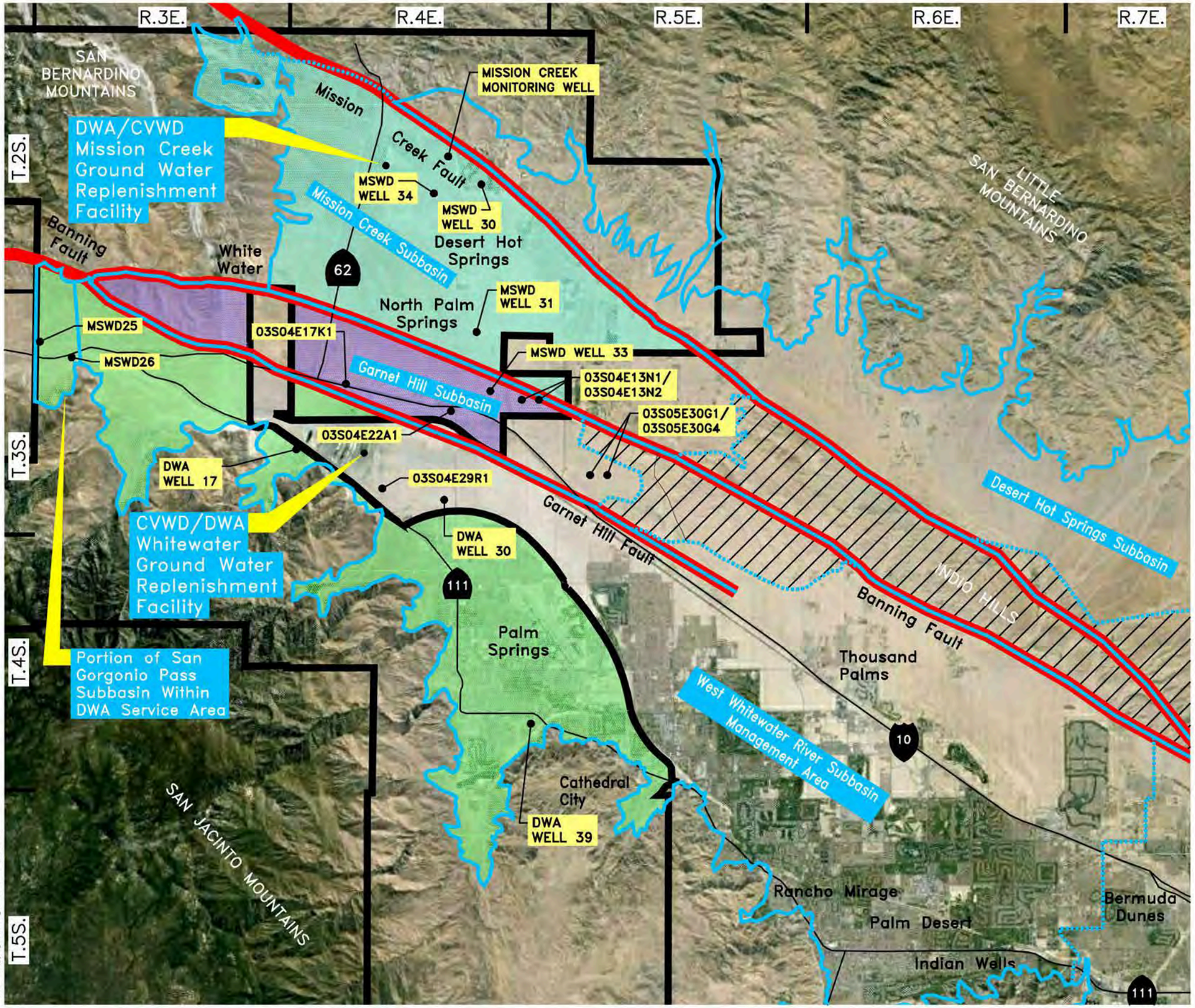

IMAGE: Copyright Google Earth Pro 2016

LEGEND

- DWA BOUNDARY
- UPPER COACHELLA VALLEY GROUNDWATER SUBBASIN BOUNDARIES
- FAULTS

UPPER COACHELLA VALLEY GROUNDWATER SUBBASIN AREAS OF BENEFIT WITHIN DWA

- DWA WHITEWATER RIVER SUBBASIN AREA OF BENEFIT
- DWA MISSION CREEK SUBBASIN AREA OF BENEFIT
- DWA GARNET HILL SUBBASIN AREA OF BENEFIT
- INDIO HILLS (LOW PERMEABILITY)
- GROUNDWATER WELL

MAP SOURCE:

2016 GOOGLE EARTH PRO (AERIAL PHOTOGRAPHY), MISSION CREEK AND GARNET HILL SUBBASINS WATER MANAGEMENT PLAN FINAL REPORT, JANUARY 2013 (SUBBASIN BOUNDARIES)

SCALE: 1"=2.5 MILES

Figure 2

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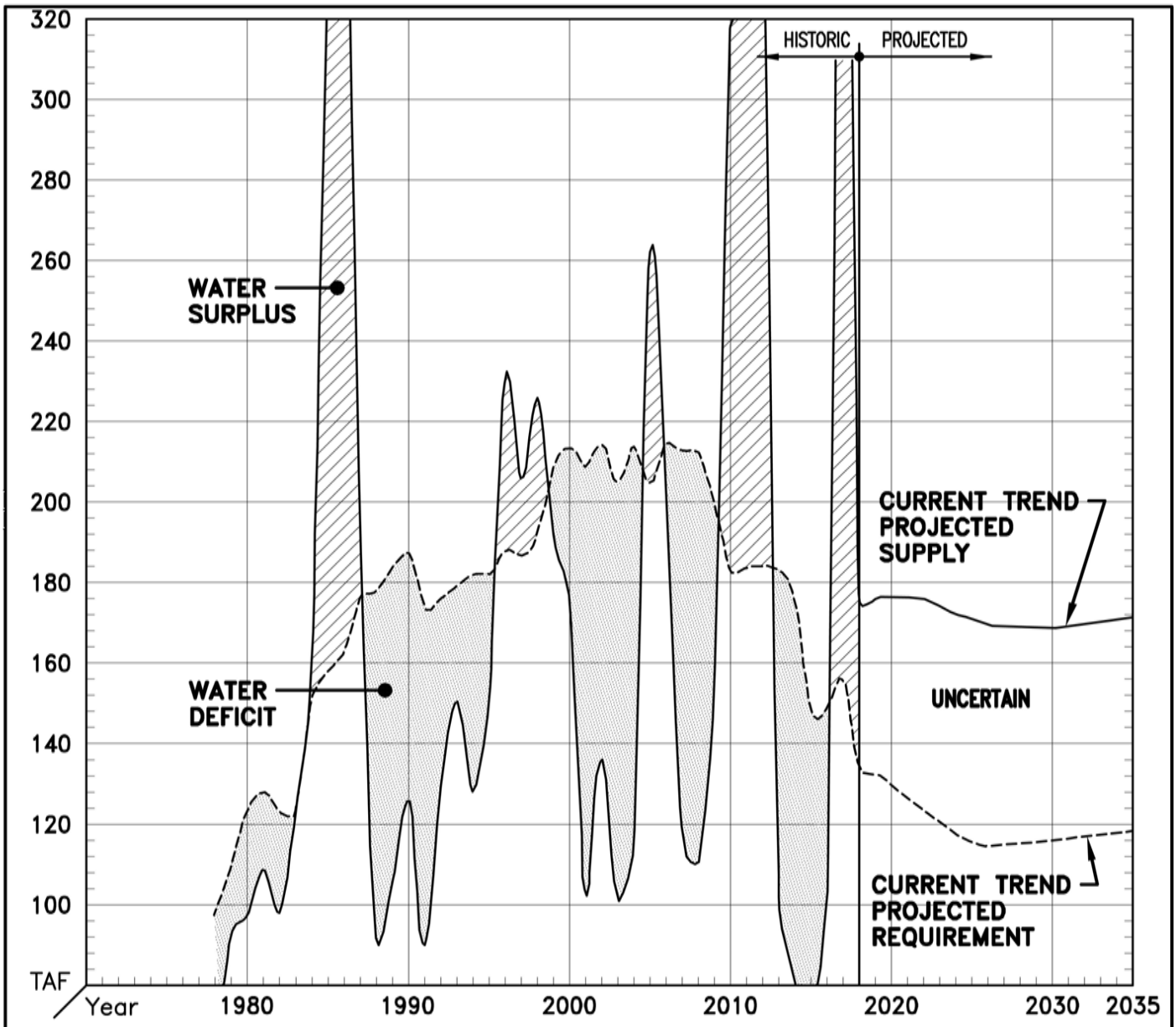

YEARS	1980	1990	2000	2010	2020	2030	2035
NET INFLOW (ACRE FEET)	98,000	125,800	174,500	317,100	176,739	1687,609	171,683
NONCONSUMPTIVE RETURN	43,200	65,700	74,500	64,300	42,000	37,000	38,000
NET ARTIFICIAL RECHARGE	25,800	31,100	71,000	223,800	101,100	95,900	95,100
NET NATURAL INFLOW	29,000	29,000	29,000	29,000	33,639	35,709	38,583

NOTES:

1. PROJECTED WATER REQUIREMENTS ARE BASED ON THE PROJECTIONS SET FORTH IN THE 2010 UPDATE TO THE COACHELLA VALLEY WATER MANAGEMENT PLAN, AND THE 2014 STATUS UPDATE (CVWD & MWH).
2. PROJECTED ARTIFICIAL RECHARGE IS BASED ON PROBABLE DELIVERIES ESTIMATED USING 62% RELIABILITY OF STATE WATER PROJECT WATER BASED ON 2013 STATE WATER PROJECT RELIABILITY REPORT AND 100% LONG-TERM AVERAGE OF MWD TRANSFERS PURSUANT TO THE 2003 EXCHANGE AGREEMENT AND ITS IMPLEMENTATION.
3. WATER SUPPLY IS BASED ON NON-CONSUMPTIVE RETURN, NATURAL INFLOW AND PROBABLE DELIVERIES DESCRIBED ABOVE.

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DESERT WATER AGENCY

HISTORIC AND PROJECTED WATER REQUIREMENTS AND WATER SUPPLIES FOR THE WEST WHITEWATER RIVER SUBBASIN MANAGEMENT AREA

FIGURE 3

SCALE: N/A DATE: 04/04/18 DRAWN BY: MRN CHECKED BY: DFS W.O.: 101-33.42

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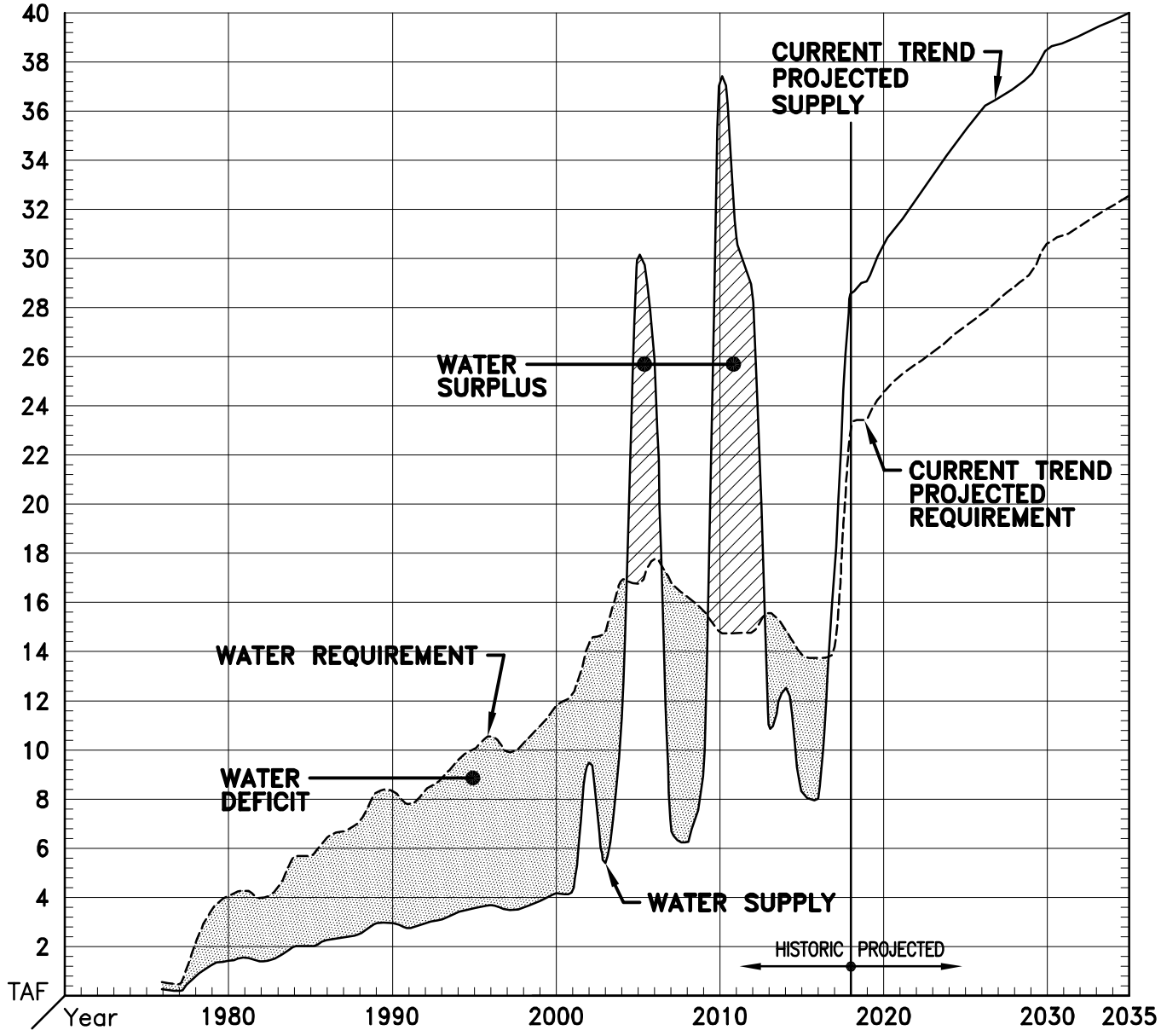

YEARS	1980	1990	2000	2010	2020	2030	2035
NET INFLOW (ACRE FEET)	1,400	2,900	4,100	37,700	30,500	38,400	39,900
NONCONSUMPTIVE RETURN	1,400	2,900	4,100	5,200	7,600	9,500	10,100
NET ARTIFICIAL RECHARGE	0	0	0	32,500	18,900	24,600	25,500
NET NATURAL INFLOW	–	–	–	–	4,000	4,300	4,300

NOTES:

1. PROJECTED WATER REQUIREMENTS ARE BASED ON PROJECTIONS PER THE 2013 MISSION CREEK/GARNET HILL SUBBASIN WATER MANAGEMENT PLAN BY MWH.
2. PROJECTED ARTIFICIAL RECHARGE IS BASED ON PROBABLE DELIVERIES ESTIMATED USING 62% RELIABILITY OF STATE WATER PROJECT WATER BASED ON 2013 STATE WATER PROJECT RELIABILITY REPORT AND 100% LONG–TERM AVERAGE OF MWD TRANSFERS PURSUANT TO THE 2003 EXCHANGE AGREEMENT AND ITS IMPLEMENTATION.
3. WATER SUPPLY IS BASED ON NON–CONSUMPTIVE RETURN, NATURAL INFLOW AND PROBABLE DELIVERIES DESCRIBED ABOVE.

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DESERT WATER AGENCY

HISTORIC AND PROJECTED WATER REQUIREMENTS AND WATER SUPPLIES FOR THE MISSION CREEK SUBBASIN MANAGEMENT AREA

FIGURE 4

SCALE: N/A DATE: 04/12/18 DRAWN BY: MRN CHECKED BY: DFS W.O.: 101–33.42

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TABLES

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TABLE 1
DESERT WATER AGENCY
HISTORIC REPORTED WATER PRODUCTION FOR REPLENISHMENT ASSESSMENT FOR
DESERT WATER AGENCY AND COACHELLA VALLEY WATER DISTRICT
WEST WHITEWATER RIVER SUBBASIN (WWR) AND MISSION CREEK SUBBASIN (MC) , AND GARNET HILL SUBBASIN (GH) MANAGEMENT AREAS

	CVWD PRODUCTION		DWA PRODUCTION						COMBINED CVWD & DWA PRODUCTION						WWR PRODUCTION PERCENTAGES		COMBINED WWR, MC, GH PRODUCTION PERCENTAGES		MC PRODUCTION PERCENTAGES	
	GWE		GWE			SWD	TOTAL	TOTAL	WWR			MC	GH							
YEAR	WWR AF	MC AF	WWR AF	MC AF	GH AF	WWR AF	WWR AF	COMB AF	GWE AF	SWD AF	TOTAL AF	TOTAL AF	TOTAL AF	COMB AF	CVWD	DWA	CVWD	DWA	CVWD	DWA
1978	61,172		28,100			8,530	36,630	36,630	89,272	8,530	97,802			97,802	62.55%	37.45%				
1979	72,733		29,393			7,801	37,194	37,194	102,126	7,801	109,927			109,927	66.16%	33.84%				
1980	84,142		32,092			7,303	39,395	39,395	116,234	7,303	123,537			123,537	68.11%	31.89%				
1981	86,973		33,660			7,822	41,482	41,482	120,633	7,822	128,455			128,455	67.71%	32.29%				
1982	83,050		33,382			6,512	39,894	39,894	116,432	6,512	122,944			122,944	67.55%	32.45%				
1983	84,770		33,279			6,467	39,746	39,746	118,049	6,467	124,516			124,516	68.08%	31.92%				
1984	104,477		38,121			7,603	45,724	45,724	142,598	7,603	150,201			150,201	69.56%	30.44%				
1985	111,635		39,732			7,143	46,875	46,875	151,367	7,143	158,510			158,510	70.43%	29.57%				
1986	115,185		40,965			6,704	47,669	47,669	156,150	6,704	162,854			162,854	70.73%	29.27%				
1987	125,229		44,800			5,644	50,444	50,444	170,029	5,644	175,673			175,673	71.29%	28.71%				
1988	125,122		47,593			5,246	52,839	52,839	172,715	5,246	177,961			177,961	70.31%	29.69%				
1989	129,957		47,125			5,936	53,061	53,061	177,082	5,936	183,018			183,018	71.01%	28.99%				
1990	136,869		45,396			5,213	50,609	50,609	182,265	5,213	187,478			187,478	73.01%	26.99%				
1991	126,360		42,729			4,917	47,646	47,646	169,089	4,917	174,006			174,006	72.62%	27.38%				
1992	128,390		42,493			4,712	47,205	47,205	170,883	4,712	175,595			175,595	73.12%	26.88%				
1993	131,314		41,188			6,363	47,551	47,551	172,502	6,363	178,865			178,865	73.42%	26.58%				
1994	134,223		42,115			5,831	47,946	47,946	176,338	5,831	182,169			182,169	73.68%	26.32%				
1995	134,580		41,728			5,809	47,537	47,537	176,308	5,809	182,117			182,117	73.90%	26.10%				
1996	137,410		45,342			5,865	51,207	51,207	182,752	5,865	188,617			188,617	72.85%	27.15%				
1997	137,406		43,658			5,626	49,284	49,284	181,064	5,626	186,690			186,690	73.60%	26.40%				
1998	142,620		41,385			7,545	48,930	48,930	184,005	7,545	191,550			191,550	74.46%	25.54%				
1999	157,148		44,350			6,941	51,291	51,291	201,498	6,941	208,439			208,439	75.39%	24.61%				
2000	161,834		44,458			6,297	50,755	50,755	206,292	6,297	212,589			212,589	76.13%	23.87%				
2001	159,767		44,112			4,928	49,040	49,040	203,879	4,928	208,807			208,807	76.51%	23.49%				
2002	163,185	4,371	46,004	9,597		4,221	50,225	59,822	209,189	4,221	213,410	13,968		227,378	76.47%	23.53%	73.69%	26.31%	31.29%	68.71%
2003	156,185	4,425	43,463	10,073		4,627	48,090	58,163	199,648	4,627	204,275	14,498		218,773	76.46%	23.54%	73.41%	26.59%	30.52%	69.48%
2004	159,849	4,628	48,093	11,920		4,758	52,851	64,771	207,942	4,758	212,700	16,548		229,248	75.15%	24.85%	71.75%	28.25%	27.97%	72.03%
2005	153,462	4,247	46,080	12,080		4,799	50,879	62,959	199,542	4,799	204,341	16,327		220,668	75.10%	24.90%	71.47%	28.53%	26.01%	73.99%
2006	160,239	4,757	48,967	12,608		4,644	53,611	66,219	209,206	4,644	213,850	17,365		231,215	74.93%	25.07%	71.36%	28.64%	27.39%	72.61%
2007	157,487	4,547	50,037	11,862	516	3,490	53,527	65,905	207,524	3,490	211,014	16,409	516	227,423	74.63%	25.37%	71.25%	28.98%	27.71%	72.29%
2008	161,695	4,543	45,405	11,232	330	3,593	48,998	60,560	207,100	3,593	210,693	15,775	330	226,468	76.74%	23.26%	73.40%	26.74%	28.80%	71.20%
2009	155,793	4,813	41,913	10,295	357	1,443	43,356	54,008	197,706	1,443	199,149	15,108	357	214,257	78.23%	21.77%	74.96%	25.21%	31.86%	68.14%
2010	141,481	4,484	39,352	9,820	288	1,582	40,934	51,042	180,833	1,582	182,415	14,304	288	196,719	77.56%	22.44%	74.20%	25.95%	31.35%	68.65%
2011	141,028	4,653	40,071	9,607	497	1,724	41,795	51,899	181,099	1,724	182,823	14,260	497	197,083	77.14%	22.86%	73.92%	26.33%	32.63%	67.37%
2012	141,379	4,582	39,507	9,634	177	2,222	41,729	51,540	180,886	2,222	183,108	14,216	177	197,323	77.21%	22.79%	73.97%	26.12%	32.23%	67.77%
2013	143,108	4,415	37,730	10,341	202	1,802	39,532	50,075	180,838	1,802	182,640	14,756	202	197,396	78.36%	21.64%	74.73%	25.37%	29.92%	67.34%
2014	136,027	4,154	36,372	9,937	239	1,787	38,159	48,335	172,399	1,787	174,186	14,091	239	188,517	78.09%	21.91%	74.36%	25.64%	29.48%	70.52%
2015	115,558	4,090	30,332	8,927	334	1,539	31,871	41,132	145,890	1,539	147,429	13,017	334	160,780	78.38%	21.62%	74.42%	25.58%	31.42%	68.58%
2016	115,659	4,175	30,408	9,044	297	2,031	32,439	41,780	146,067	2,031	148,098	13,219	297	161,614	78.10%	21.90%	74.15%	25.85%	31.58%	68.42%
2017	120,383	4,281	32,693	9,250	471	1,996	34,689	44,410	153,076	1,996	155,072	13,531	471	169,074	77.63%	22.37%	73.73%	26.27%	31.64%	68.36%

NOTES:

Cumulative CVWD and DWA West Whitewater River Subbasin Management Area production 2013 through 2017: 807,426 AF
Cumulative CVWD and DWA Mission Creek Subbasin Management Area production 2013 through 2017: 68,614 AF
Average annual CVWD and DWA West Whitewater River Subbasin Management Area production 2013 through 2017: 161,490 AF
Average annual CVWD and DWA Mission Creek Subbasin Management Area production 2013 through 2017: 13,720 AF
Average annual DWA West Whitewater River Subbasin Area of Benefit production 2013 through 2017: 35,338 AF
Average annual DWA Mission Creek Subbasin Area of Benefit production 2013 through 2017: 9,500 AF
Average DWA West Whitewater River Subbasin Area of Benefit production percentage 2013 through 2017: 21.89%
Average DWA Mission Creek Subbasin Area of Benefit production percentage 2013 through 2017: 68.64%

ABBREVIATIONS:

GWE = Groundwater Extractions
SWD = Surface Water Diversions
COMB = Combined

TABLE 2
DESERT WATER AGENCY
GROUNDWATER REPLENISHMENT AND ASSESSMENT PROGRAM
ESTIMATED WEST WHITEWATER RIVER SUBBASIN, MISSION CREEK SUBBASIN, AND GARNET HILL SUBBASIN AREAS OF BENEFIT
WATER PRODUCTION AND ESTIMATED WATER REPLENISHMENT ASSESSMENTS
2018/2019

ESTIMATED COMBINED AREA OF BENEFIT
ASSESSABLE WATER PRODUCTION AND WATER REPLENISHMENT ASSESSMENTS

Area of Benefit	Estimated Assessable Water Production AF	Water Replenishment Assessment Rate $/AF	Water Replenishment Assessment $	Water Replenishment Assessment Percent
West Whitewater River Subbasin AOB	33,980	$140.00	$4,757,200	78%
Mission Creek Subbasin AOB	9,250	$140.00	$1,295,000	21%
Garnet Hill Subbasin AOB	470	$140.00	$65,800	1%
Combined AOBs	43,700		$6,118,000	100%

ESTIMATED WEST WHITEWATER RIVER SUBBASIN, MISSION CREEK SUBBASIN, AND GARNET HILL SUBBASIN AREAS OF BENEFIT
WATER PRODUCTION AND WATER REPLENISHMENT ASSESSMENTS

Producer	2017 Water Production (1) Groundwater Extraction AF	Surface Water Diversion AF	Combined Water Production AF	Estimated 2018/2019 Assessable Water Production AF[3]	Estimated Water Replenishment Assessment @ $140/AF $	Percent
West Whitewater River Subbasin AOB						
Desert Water Agency (Chino, Falls, Snow Creeks)	31,330.14	1,396	32,726	32,490	$4,548,600	95.62%
Desert Water Agency (Whitewater) EXEMPT	0.00	601	601	0	$0	0.00%
Caltrans Rest Stop	39.22	0	39	40	$5,600	0.12%
Canyon Country Club	0.00	0	0	0	$0	0.00%
Palm Springs Country Club	0.00	0	0	0	$0	0.00%
Desert Oasis Golf Management - Welk Resort	344.07	0	344	340	$47,600	1.00%
Los Compadres	40.24	0	40	40	$5,600	0.12%
Mission Springs Water District (Wells 25 & 25A and 26 &26A)	155.72	0	156	150	$21,000	0.44%
Seven Lakes Country Club	174.59	0	175	170	$23,800	0.50%
Bel Air Greens	0.00 [2]	0	0	150 [2]	$21,000	0.44%
Escena	609.24	0	609	600	$84,000	1.77%
Palm Springs Village	0.00	0	0	0	$0	0.00%
Palm Springs West	0.00	0	0	0	$0	0.00%
Subtotal	32,693.22	1,996	34,689	33,980	$4,757,200	100.00%
Mission Creek Subbasin AOB						
Mission Springs Water District	7,207	0	7,207	7,210	$1,009,400	77.95%
Hidden Springs Country Club	402	0	402	400	$56,000	4.32%
Mission Lakes Country Club	1,006	0	1,006	1,010	$141,400	10.92%
Sands RV Resort	364	0	364	360	$50,400	3.89%
CPV-Sentinel	271	0	271	270	$37,800	2.92%
Subtotal	9,250.19	-	9,250	9,250	$1,295,000	100.00%
Garnet Hill Subbasin AOB						
Mission Springs Water District	449	0	449	450	$63,000	95.74%
Indigo Power Plant	22	0	22	20	$2,800	4.26%
Subtotal	470	0	471	470	$65,800	100.00%
Total	42,414	1,996	44,410	43,700	$6,118,000	

[1] 2017 Metered water production rounded to nearest acre foot, except for Exempt Production and Estimated Production.
[2] Bel Air Greens is closed, but is currently in the planning process for conversion to a hotel and residential development. In 2018, approximately 150 AF of water from the well is anticipated to be used for construction and landscape irrigation.
[3] WWR Proportioned to 2013 Production minus 13% conservation; MC and GH based on 2017 Production, all rounded to nearest 10 AF.
* Exempt Production (10 AF or less).

TABLE 3
COACHELLA VALLEY WATER DISTRICT
APPLICABLE STATE WATER PROJECT CHARGES[1]

	Table A Water Allocation		Probable Table A Water Delivery[3]	Delta Water Charge		Variable Transportation Charge		Off-Aqueduct Power Charge		CVWD Applicable Table A Charges	
Year	Maximum AF	Probable[2] AF	AF	Amount[4] $	Unit $/AF	Amount[5] $	Unit $/AF	Amount[6] $	Unit $/AF	Amount $	Unit[7] $/AF
2013	138,350	66,539	66,539	2,762,699	41.52	8,406,502	130.96	3,520,765	48.47	14,689,966	220.77
2014	138,350	12,870	12,870	565,894	43.97	2,553,325	209.23	1,021,712	72.25	4,140,931	321.75
2015	138,350	37,596	37,596	2,020,785	53.75	7,634,010	210.12	828,767	20.03	10,483,562	278.85
2016	138,350	69,422	69,422	5,221,923	75.22	10,877,218	161.79	167,265	2.30	16,266,406	234.31
2017	138,350	88,124	88,124	6,069,981	68.88	11,047,030	125.36	137,794	1.56	17,254,805	195.80
2018	138,350	138,350	85,777	9,611,175	69.47	14,095,734	164.33	131,239	1.53	23,838,148	277.91
2019	138,350	138,350	85,777	9,279,115	67.07	13,417,238	156.42	415,161	4.84	23,111,514	269.44
2020	138,350	138,350	85,777	8,975,854	64.88	15,265,733	177.97	11,151	0.13	24,252,738	282.74
2021	138,350	138,350	85,777	9,389,537	67.87	14,812,830	172.69	11,151	0.13	24,213,518	282.28
2022	138,350	138,350	85,777	8,933,879	64.57	15,800,981	184.21	11,151	0.13	24,746,012	288.49
2023	138,350	138,350	85,777	9,167,261	66.26	15,506,766	180.78	11,151	0.13	24,685,178	287.78
2024	138,350	138,350	85,777	9,200,420	66.50	14,894,318	173.64	11,151	0.13	24,105,889	281.03
2025	138,350	138,350	85,777	9,207,859	66.55	15,460,446	180.24	11,151	0.13	24,679,457	287.72
2026	138,350	138,350	85,777	9,209,135	66.56	14,734,773	171.78	11,151	0.13	23,955,059	279.27
2027	138,350	138,350	85,777	9,628,302	69.59	15,340,359	178.84	11,151	0.13	24,979,811	291.22
2028	138,350	138,350	85,777	9,664,328	69.85	14,925,198	174.00	11,151	0.13	24,600,677	286.80
2029	138,350	138,350	85,777	9,702,372	70.13	15,260,586	177.91	11,151	0.13	24,974,109	291.15
2030	138,350	138,350	85,777	9,588,608	69.31	14,827,412	172.86	11,151	0.13	24,427,172	284.78
2031	138,350	138,350	85,777	9,743,996	70.43	16,461,464	191.91	11,151	0.13	26,216,611	305.64
2032	138,350	138,350	85,777	9,941,825	71.86	14,137,765	164.82	11,151	0.13	24,090,741	280.85
2033	138,350	138,350	85,777	10,086,241	72.90	16,358,532	190.71	11,151	0.13	26,455,924	308.43
2034	138,350	138,350	85,777	10,338,546	74.73	14,373,652	167.57	11,151	0.13	24,723,349	288.23
2035	138,350	138,350	85,777	10,405,738	75.21	18,229,328	212.52	11,151	0.13	28,646,217	333.96

(1) As set forth in CDWR Bulletin 132-17, Appendix B (Appendix B).

(2) Probable Table A water allocation is based on currently existing CVWD allocation augmented by TLBWSD, KCWA, and MWD transfers,

(3) Probable Table A water delivery is based on 0.62% reliability of CVWD allocation augmented by TLBWSD, KCWA, and MWD transfers

(4) Amount is based on probable Table A water allocation and Delta Water Charge per Table B-20 (A & B) of Appendix B. From 2018 through 2035, amount is based on State Water Contractors estimates.

(5) Amount is based on probable Table A water delivery and applicable Variable Transportation Unit Charge per Table B-17 of Appendix B.

(6) Amount is based on probable Table A water delivery and Off-Aqueduct Power Unit Charge derived by dividing data in Table B-16B by data in Table B-5B of Appendix B.

(7) Amount of applicable Table A charges divided by probable Table A water delivery.

TABLE 4
DESERT WATER AGENCY
APPLICABLE STATE WATER PROJECT CHARGES[1]

	Table A Water Allocation		Probable Table A Water Delivery[3]	Delta Water Charge		Variable Transportation Charge		Off-Aqueduct Power Charge		DWA Applicable Table A Charges	
Year	Maximum AF	Probable[2] AF	AF	Amount[4] $	Unit $/AF	Amount[5] $	Unit $/AF	Amount[6] $	Unit $/AF	Amount $	Unit[7] $/AF
2013	55,750	20,791	20,791	863,242	41.52	2,722,716	130.96	1,425,559	62.81	5,011,517	241.04
2014	55,750	3,049	3,049	134,065	43.97	637,934	209.23	664,953	198.49	1,436,952	471.29
2015	55,750	11,217	11,217	602,914	53.75	2,356,942	210.12	460,870	37.33	3,420,726	304.96
2016	55,750	21,893	21,893	1,646,791	75.22	3,541,981	161.79	121,834	5.32	5,310,606	242.57
2017	55,750	31,681	31,681	2,182,187	68.88	3,971,460	125.36	118,209	3.73	6,271,856	197.97
2018	55,750	55,750	34,565	3,872,953	69.47	5,680,066	164.33	109,917	3.18	9,662,936	279.56
2019	55,750	55,750	34,565	3,739,145	67.07	5,406,657	156.42	167,295	4.84	9,313,096	269.44
2020	55,750	55,750	34,565	3,616,942	64.88	6,151,533	177.97	4,493	0.13	9,772,968	282.74
2021	55,750	55,750	34,565	3,783,641	67.87	5,969,030	172.69	4,493	0.13	9,757,164	282.28
2022	55,750	55,750	34,565	3,600,027	64.57	6,367,219	184.21	4,493	0.13	9,971,739	288.49
2023	55,750	55,750	34,565	3,694,072	66.26	6,248,661	180.78	4,493	0.13	9,947,226	287.78
2024	55,750	55,750	34,565	3,707,433	66.50	6,001,867	173.64	4,493	0.13	9,713,793	281.03
2025	55,750	55,750	34,565	3,710,431	66.55	6,229,996	180.24	4,493	0.13	9,944,920	287.72
2026	55,750	55,750	34,565	3,710,945	66.56	5,937,576	171.78	4,493	0.13	9,653,015	279.27
2027	55,750	55,750	34,565	3,879,854	69.59	6,181,605	178.84	4,493	0.13	10,065,952	291.22
2028	55,750	55,750	34,565	3,894,371	69.85	6,014,310	174.00	4,493	0.13	9,913,175	286.80
2029	55,750	55,750	34,565	3,909,702	70.13	6,149,459	177.91	4,493	0.13	10,063,654	291.15
2030	55,750	55,750	34,565	3,863,859	69.31	5,974,906	172.86	4,493	0.13	9,843,259	284.78
2031	55,750	55,750	34,565	3,926,475	70.43	6,633,369	191.91	4,493	0.13	10,564,337	305.64
2032	55,750	55,750	34,565	4,006,193	71.86	5,697,003	164.82	4,493	0.13	9,707,689	280.85
2033	55,750	55,750	34,565	4,064,387	72.90	6,591,891	190.71	4,493	0.13	10,660,772	308.43
2034	55,750	55,750	34,565	4,166,057	74.73	5,792,057	167.57	4,493	0.13	9,962,607	288.23
2035	55,750	55,750	34,565	4,193,132	75.21	7,345,754	212.52	4,493	0.13	11,543,380	333.96

(1) As set forth in CDWR Bulletin 132-17, Appendix B (Appendix B).
(2) Probable Table A water allocation is based on currently existing DWA allocation augmented by TLBWSD, KCWA, and MWD transfers
(3) Probable Table A water delivery is based on 0.62% reliability of DWA allocation augmented by TLBWSD, KCWA, and MWD transfers
(4) Amount is based on probable Table A water allocation and Delta Water Charge per Table B-20 (A & B) of Appendix B. From 2018 through 2035, amount is based on State Water Contractors estimates.
(5) Amount is based on probable Table A water delivery and applicable Variable Transportation Unit Charge per Table B-17 of Appendix B.
(6) Amount is based on probable Table A water delivery and Off-Aqueduct Power Unit Charge derived by dividing data in Table B-16B by data in Table B-5B of Appendix B.
(7) Amount of applicable Table A charges divided by probable Table A water delivery.

TABLE 5
DESERT WATER AGENCY
ESTIMATED ALLOCATED STATE WATER PROJECT CHARGES FOR TABLE A WATEI
(PROPORTIONED APPLICABLE CHARGES)[1]

Year	CVWD Applicable Table A Charges[2] $	DWA Applicable Table A Charges[3] $	Combined Applicable Table A Charges $	CVWD Allocated Table A Charges $	DWA Allocated Table A Charges $	DWA Incremental Increase/(Decrease) $	DWA Incremental Increase/(Decrease) %
2013	14,689,966	5,011,517	19,701,484	14,525,904	5,175,580		
						(3,710,270)	(72)
2014	4,140,931	1,436,952	5,577,882	4,112,573	1,465,310		
						2,187,346	149
2015	10,483,562	3,420,726	13,904,288	10,251,631	3,652,656		
						2,015,625	55
2016	16,266,406	5,310,606	21,577,012	15,908,731	5,668,281		
						512,173	9
2017	17,254,805	6,271,856	23,526,661	17,346,207	6,180,454		
						2,620,281	42
2018	23,838,148	9,662,936	33,501,083	24,700,349	8,800,735		
						(282,790)	(3)
2019	23,111,514	9,313,096	32,424,610	23,906,665	8,517,945		
						420,608	5
2020	24,252,738	9,772,968	34,025,706	25,087,153	8,938,553		
						(14,455)	0
2021	24,213,518	9,757,164	33,970,683	25,046,584	8,924,098		
						196,255	2
2022	24,746,012	9,971,739	34,717,751	25,597,398	9,120,353		
						(22,420)	0
2023	24,685,178	9,947,226	34,632,404	25,534,471	9,097,933		
						(213,502)	(2)
2024	24,105,889	9,713,793	33,819,683	24,935,252	8,884,431		
						211,393	2
2025	24,679,457	9,944,920	34,624,377	25,528,553	9,095,824		
						(266,983)	(3)
2026	23,955,059	9,653,015	33,608,074	24,779,233	8,828,841		
						377,681	4
2027	24,979,811	10,065,952	35,045,764	25,839,242	9,206,522		
						(139,733)	(2)
2028	24,600,677	9,913,175	34,513,852	25,447,063	9,066,789		
						137,631	2
2029	24,974,109	10,063,654	35,037,763	25,833,343	9,204,420		
						(201,578)	(2)
2030	24,427,172	9,843,259	34,270,430	25,267,588	9,002,842		
						659,513	7
2031	26,216,611	10,564,337	36,780,948	27,118,593	9,662,355		
						(783,507)	(8)
2032	24,090,741	9,707,689	33,798,430	24,919,583	8,878,848		
						871,708	10
2033	26,455,924	10,660,772	37,116,695	27,366,139	9,750,556		
						(638,555)	(7)
2034	24,723,349	9,962,607	34,685,956	25,573,955	9,112,001		
						1,445,806	16
2035	28,646,217	11,543,380	40,189,596	29,631,789	10,557,807		

(1) Proportioned in accordance with 2017 Water Management Area production percentages; CVWD is responsible for 73.73% and DWA is responsible for 26.27% of total combined production for the Whitewater River, Mission Creek, and Garnet Hill Subbasins (see **Table 1**).
(2) From Table 3.
(3) From Table 4.

TABLE 6
DESERT WATER AGENCY
PROJECTED EFFECTIVE REPLENISHMENT ASSESSMENT RATES
PURSUANT TO WATER MANAGEMENT AGREEMENTS BETWEEN
COACHELLA VALLEY WATER DISTRICT AND DESERT WATER AGENCY

Year		DWA Allocated Table A Charges [1] $	Estimated Assessable Production[2] AF	Estimated Effective Table A Assessment Rate[3] Fiscal Year $/AF	Table A Assessment Rate $/AF
2013/2014		3,320,445	50,580	65.65	92.00
2014/2015		2,558,983	48,980	52.25	102.00
2015/2016		4,660,469	47,430	98.26	102.00
2016/2017		5,924,368	40,150	147.56	102.00
2017/2018		7,490,595	43,810	170.98	120.00
2018/2019	(4)	8,659,340	43,700	198.15	198.00
2019/2020	(4)	8,728,249	44,746	195.06	195.00
2020/2021	(4)	8,931,326	44,688	199.86	200.00
2021/2022	(4)	9,022,226	44,403	203.19	203.00
2022/2023	(4)	9,109,143	44,117	206.48	206.00
2023/2024	(4)	8,991,182	43,831	205.13	205.00
2024/2025	(4)	8,990,128	43,671	205.86	206.00
2025/2026	(4)	9,151,173	43,643	209.68	210.00
2026/2027	(4)	9,017,682	43,868	205.56	206.00
2027/2028	(4)	9,136,656	44,343	206.05	206.00
2028/2029	(4)	9,135,605	44,817	203.84	204.00
2029/2030	(4)	9,103,631	45,503	200.07	200.00
2030/2031	(4)	9,332,599	46,137	202.28	202.00
2031/2032	(4)	9,270,602	46,508	199.33	199.00
2032/2033	(4)	9,314,702	46,879	198.70	199.00
2033/2034	(4)	9,431,279	47,249	199.61	200.00
2034/2035	(4)	9,834,904	47,617	206.54	207.00

(1) From Table 5.
(2) Projections based on model runs for Coachella Valley 2010 Water Management Plan and 2014 Water Management Plan Status Update.
(3) Necessary to pay DWA's estimated (projected) Allocated Table A Charges.

TABLE 7
DESERT WATER AGENCY
WEST WHITEWATER RIVER SUBBASIN, MISSION CREEK SUBBASIN, AND GARNET HILL SUBBASIN AREAS OF BENEFIT
HISTORIC AND PROPOSED REPLENISHMENT ASSESSMENT RATES

	Assessment Rate							Assessments										Payments Made	Surplus (Deficit)	
		WRS		MCS		GHS		Estimated[3] $			Levied[4] $			Collected[5] $				Delinquent[6] $					
Fiscal Year	Table A Allocation $/AF	Other Charges or Costs[1] $/AF	Total[2] $/AF	Other Charges or Costs[1] $/AF	Total[2] $/AF	Other Charges or Costs[1] $/AF	Total[2] $/AF	WRS	MCS	GHS	WRS	MCS	GHS	WRS	MCS	GHS	TOTAL	WRS	MCS	GHS	Table A $	Annual $	Cumulative[7] $
13/14	111.00	(19.00)	92.00	(19.00)	92.00			3,779,360	785,587		3,809,930	785,587		3,809,930	785,587		4,595,517	0	0		6,078,542	(1,483,025)	(24,151,461)
14/15	106.00	(4.00)	102.00	(4.00)	102.00			3,684,919	756,041		3,684,919	561,213		3,684,919	561,213		4,246,132	0 [10]	0		3,798,705	447,427	(23,704,034)
15/16	112.00	(10.00)	102.00	(10.00)	102.00	(10.00)	102.00	3,846,970	989,318	24,480	3,243,582	711,876	0	3,243,582	711,876	0	3,955,458	0	0	0	7,304,465	(3,349,007)	(27,053,041)
16/17	102.00	0.00	102.00	0.00	102.00	0.00	102.00	3,443,112	892,273	31,235	3,443,112	892,273	31,235	3,577,041	748,643	0	4,325,684	0	0	0	3,782,326	543,358	543,358
17/18	120.00	0.00	120.00	0.00	120.00	0.00	120.00	3,410,450	1,583,978	34,771	3,410,450 [9]	1,583,978	34,771	2,407,364	506,457	34,771	2,948,592	0	0	0	7,490,595 [11]	(4,542,002)	(3,998,644)
18/19	198.00	(58.00)	140.00	(58.00)	140.00	(58.00)	140.00	3,919,488	2,151,987	46,525	3,919,488	2,151,987	46,525	3,919,488	2,151,987	46,525	6,118,000	0			8,659,340	(2,541,340)	(6,539,984)
19/20	195.00	(40.00)	155.00	(40.00)	155.00	(40.00)	155.00	4,362,613	2,520,342	52,700	4,362,613	2,520,342	52,700	4,362,613	2,520,342	52,700	6,935,655	0			8,728,249	(1,792,594)	(8,332,578)
20/21	200.00	(35.00)	165.00	(35.00)	165.00	(35.00)	165.00	4,544,134	2,773,364	56,100	4,544,134	2,773,364	56,100	4,544,134	2,773,364	56,100	7,373,598	0			8,931,326	(1,557,728)	(9,890,306)
21/22	203.00	(28.00)	175.00	13.55	175.00	13.55	175.00	4,708,466	3,002,544	59,500	4,708,466	3,002,544	59,500	4,708,466	3,002,544	59,500	7,770,510	0			9,022,226	(1,251,716)	(11,142,022)
22/23	206.00	13.55	219.55	13.55	219.55	13.55	219.55	5,767,735	3,843,464	74,647	5,767,735	3,843,464	74,647	5,767,735	3,843,464	74,647	9,685,845	0			9,109,143	576,702	(10,565,319)
23/24	206.00	13.55	219.55	13.55	219.55	13.55	219.55	5,628,349	3,920,040	74,647	5,628,349	3,920,040	74,647	5,628,349	3,920,040	74,647	9,623,036	0			8,991,182	631,854	(9,933,466)
24/25	206.00	13.55	219.55	13.55	219.55	13.55	219.55	5,516,647	3,996,689	74,647	5,516,647	3,996,689	74,647	5,516,647	3,996,689	74,647	9,587,983	0			8,990,128	597,855	(9,335,610)
25/26	210.00	13.55	223.55	13.55	223.55	13.55	223.55	5,530,869	4,149,439	76,007	5,530,869	4,149,439	76,007	5,530,869	4,149,439	76,007	9,756,315	0			9,151,173	605,142	(8,730,468)
26/27	210.00	13.55	223.55	13.55	223.55	13.55	223.55	5,499,488	4,231,260	76,007	5,499,488	4,231,260	76,007	5,499,488	4,231,260	76,007	9,806,754	0			9,017,682	789,072	(7,941,396)
27/28	210.00	13.55	223.55	13.55	223.55	13.55	223.55	5,523,767	4,313,080	76,007	5,523,767	4,313,080	76,007	5,523,767	4,313,080	76,007	9,912,854	0			9,136,656	776,198	(7,165,197)
28/29	210.00	13.55	223.55	13.55	223.55	13.55	223.55	5,547,963	4,394,900	76,007	5,547,963	4,394,900	76,007	5,547,963	4,394,900	76,007	10,018,870	0			9,135,605	883,266	(6,281,932)
29/30	210.00	13.55	223.55	13.55	223.55	13.55	223.55	5,571,802	4,524,273	76,007	5,571,802	4,524,273	76,007	5,571,802	4,524,273	76,007	10,172,082	0			9,103,631	1,068,451	(5,213,481)
30/31	210.00	13.55	223.55	13.55	223.55	13.55	223.55	5,595,283	4,642,550	76,007	5,595,283	4,642,550	76,007	5,595,283	4,642,550	76,007	10,313,840	0			9,332,599	981,242	(4,232,239)
31/32	210.00	13.55	223.55	13.55	223.55	13.55	223.55	5,618,658	4,702,179	76,007	5,618,658	4,702,179	76,007	5,618,658	4,702,179	76,007	10,396,844	0			9,270,602	1,126,243	(3,105,996)
32/33	210.00	13.55	223.55	13.55	223.55	13.55	223.55	5,641,950	4,761,809	76,007	5,641,950	4,761,809	76,007	5,641,950	4,761,809	76,007	10,479,765	0			9,314,702	1,165,063	(1,940,933)
33/34	210.00	13.55	223.55	13.55	223.55	13.55	223.55	5,664,926	4,821,438	76,007	5,664,926	4,821,438	76,007	5,664,926	4,821,438	76,007	10,562,371	0			9,431,279	1,131,092	(809,841)
34/35	210.00	13.55	223.55	13.55	223.55	13.55	223.55	5,687,671	4,881,067	76,007	5,687,671	4,881,067	76,007	5,687,671	4,881,067	76,007	10,644,745	0			9,834,904	809,841	(0)

(1) Includes discretionary reductions and charges for recovery of past shortfalls.
(2) Recommended assessment rate based on two components: 1) State Water Project Table A water Allocation, and 2) Other Charges or Costs.
(3) Assessments Estimated are based on applicable assessment rate and estimated assessable production from annual report for that year.
(4) Assessments Levied are based on applicable assessment rate and actual assessable production, except for the previous year, current year, and subsequent years where amounts remain estimated.
(5) Assessments Collected are based on payments made for Assessments Levied, except for the previous year, current year, and subsequent years where amounts remain estimated.
(6) Assessments Delinquent are based on Assessments Levied less payments made.
(7) Cumulative assessment balance to be used for future Delta improvements. Estimates of future assessment rates may need to be adjusted in the future to accommodate unknown charges for expanded State Water Project Facilities.
(8) For 2017/2018 and beyond, Assessments Estimated are based on Proposed Assessment Rate and Estimated Assessable Production.
(9) Assessments Levied and Collected are estimated based on first, second and third quarters of assessment period.
(10) Delinquent assessment is estimated based on first, second and third quarters of assessment period.
(11) For 2017/2018 and beyond, Payments Made are estimated based on estimated allocated Table A charges.

EXHIBITS

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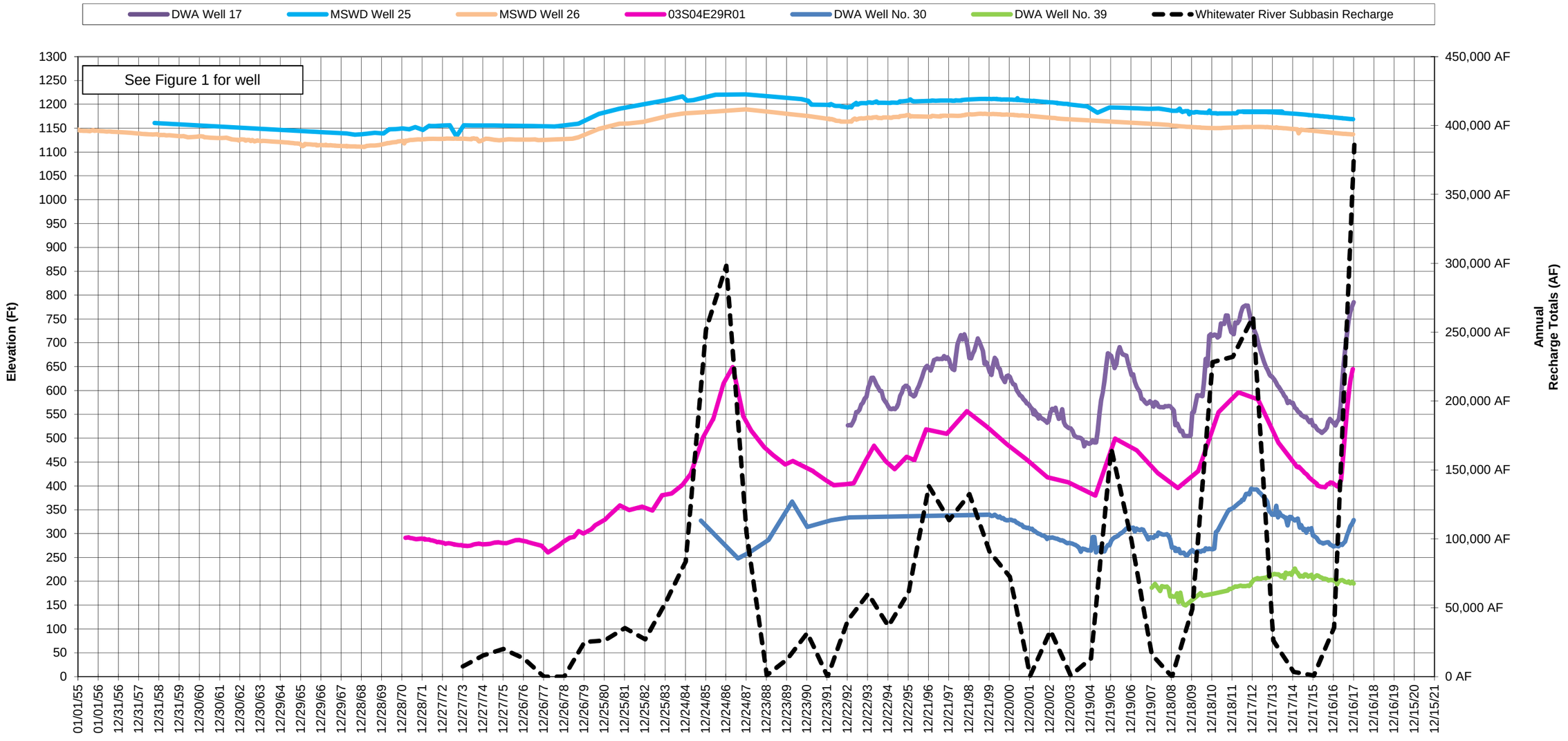
EXHIBIT 1
DESERT WATER AGENCY
WEST WHITEWATER RIVER SUBBASIN MANAGEMENT AREA
RECHARGE QUANTITIES AND GROUNDWATER WELL HYDROGRAPHS



/DFS
101-33P42-HYDROGRAPHS.xlsx/Exhibit1 (4/13/2018)

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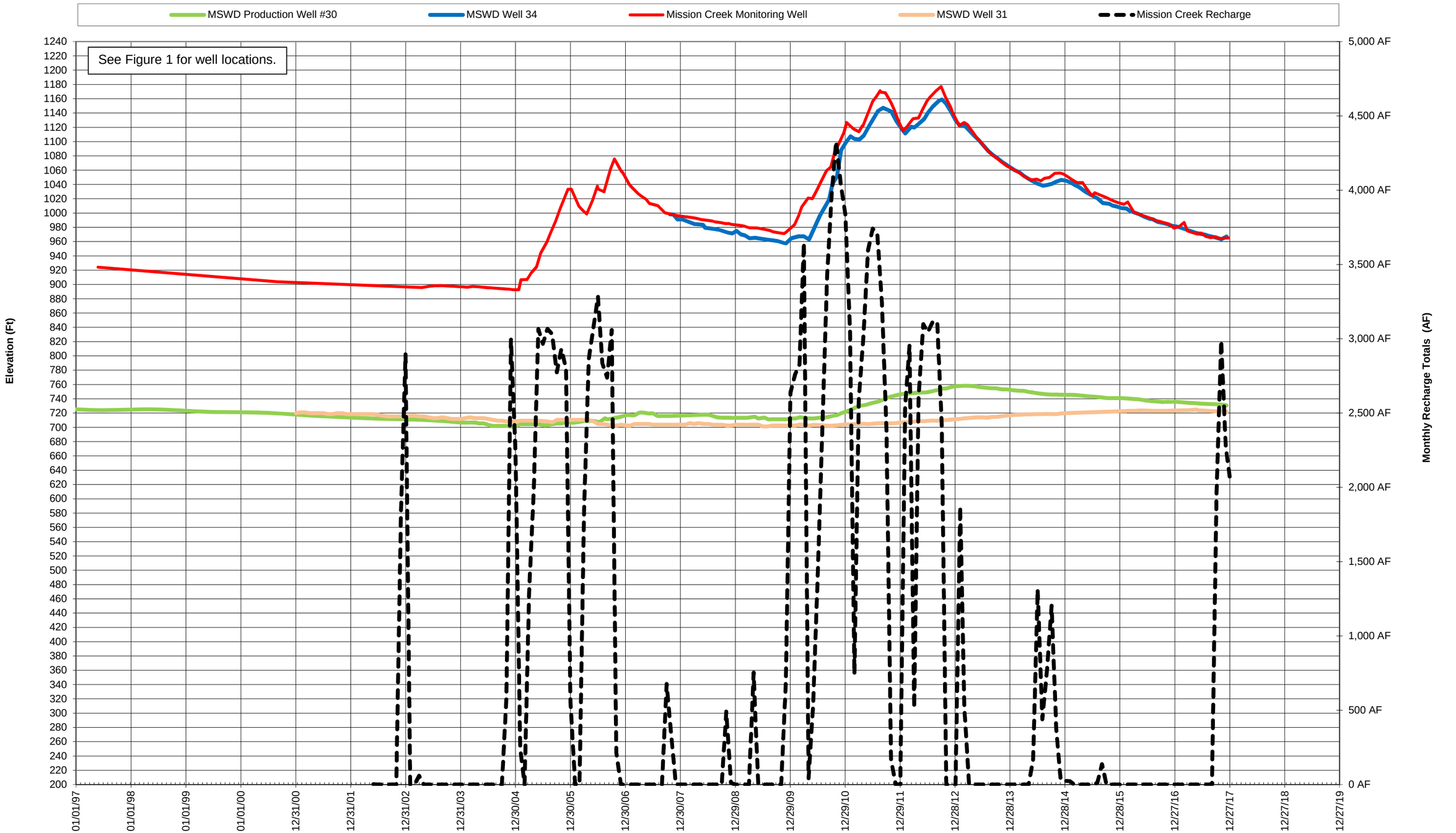
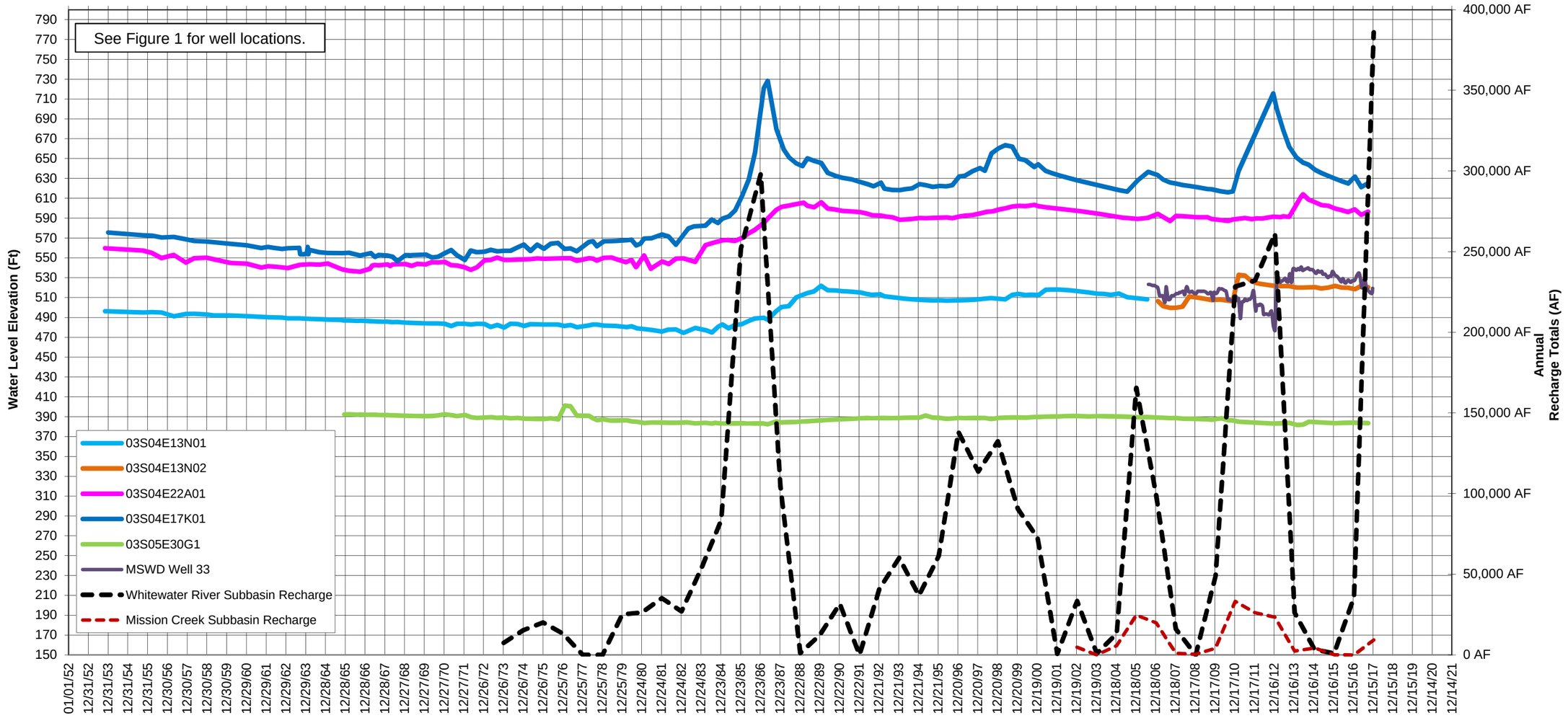
EXHIBIT 2
DESERT WATER AGENCY
MISSION CREEK SUBBASIN MANAGEMENT AREA
RECHARGE QUANTITIES AND GROUNDWATER WELL HYDROGRAPHS



/DFS
101-33P42-HYDROGRAPHS.xlsx/Exhibit2 (4/13/2018)

EXHIBIT 3
GARNET HILL SUBBASIN MANAGEMENT AREA GROUNDWATER WELL HYDROGRAPHS AND
GROUNDWATER RECHARGE QUANTITIES AT WHITEWATER RIVER AND MISSION CREEK REPLENISHMENT FACILITIES



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101-33P42-HYDROGRAPHS.xlsx/Exhibit3 (4/13/2018)

EXHIBIT 4
DESERT WATER AGENCY
MISSION CREEK SUBBASIN AREA OF BENEFIT[1]
HISTORIC VOLUME OF GROUNDWATER IN STORAGE[2]

TIME PERIOD	PRE-1955	1955 - 1978	1979 - 1997	1998 - 2017	**1955 - 2017**
Number of Years		24	19	19	**62**
Water Level Decline, FT[3]		20	30	13	**63**
Period Reduction in Storage, AF		71,200	106,800	46,280	**224,280**
Annual Reduction in Storage, AF/Yr		3,000	5,600	2,400	**3,600**
Change in Storage		0.047	0.074	0.035	**0.148**
Remaining Storage, AF	1,511,800	1,440,600	1,333,800	1,287,520	**1,287,520**

(1) Northwest three-quarters of subbasin: GTC (1979) & SLADE (2000)
(2) Storage loss of 3,560 AF/FT of water level decline: GTC (1979) & SLADE (2000)
(3) Mission Springs Water District Data

EXHIBIT 5
DESERT WATER AGENCY
COMPARISON OF WATER PRODUCTION AND GROUNDWATER REPLENISHMENT
WEST WHITEWATER RIVER SUBBASIN (WWR) AND MISSION CREEK SUBBASIN (MC) MANAGEMENT AREAS

PRODUCTION[1]

	WWR AF		MC AF		TOTAL AF		RATIO OF PRODUCTION	
YEAR	ANNUAL	CUMULATIVE	ANNUAL	CUMULATIVE	ANNUAL	CUMULATIVE	WWR/TOTAL	MC /TOTAL
2002	213,410	213,410	13,968	13,968	227,378	227,378	93.9%	6.1%
2003	204,275	417,685	14,498	28,466	218,773	446,151	93.4%	6.6%
2004	212,700	630,385	16,548	45,014	229,248	675,399	92.8%	7.2%
2005	204,341	834,726	16,327	61,341	220,668	896,067	92.6%	7.4%
2006	213,850	1,048,576	17,365	78,706	231,215	1,127,282	92.5%	7.5%
2007	211,014	1,259,590	16,409	95,115	227,423	1,354,705	92.8%	7.2%
2008	210,693	1,470,283	15,775	110,890	226,468	1,581,173	93.0%	7.0%
2009	199,149	1,669,432	15,108	125,998	214,257	1,795,430	92.9%	7.1%
2010	182,415	1,851,847	14,304	140,302	196,719	1,992,149	92.7%	7.3%
2011	182,823	2,034,670	14,260	154,562	197,083	2,189,232	92.8%	7.2%
2012	183,108	2,217,778	14,216	168,778	197,323	2,386,555	92.8%	7.2%
2013	182,640	2,400,418	14,756	183,534	197,396	2,583,951	92.5%	7.5%
2014	174,186	2,574,604	14,091	197,625	188,278	2,772,229	92.5%	7.5%
2015	147,429	2,722,033	13,017	210,642	160,446	2,932,675	91.9%	8.1%
2016	148,098	2,870,131	13,219	223,861	161,317	3,093,992	91.8%	8.2%
2017	155,072	3,025,204	13,531	237,392	168,604	3,262,595	92.0%	8.0%

RECHARGE (TOTAL)

	WWR AF		MC AF		TOTAL AF		RATIO OF RECHARGE	
YEAR	ANNUAL	CUMULATIVE	ANNUAL	CUMULATIVE	ANNUAL	CUMULATIVE	WWR/TOTAL	MC/TOTAL
2002	33,435	33,435	4,733	4,733	38,168	38,168	14.2%	14.2%
2003	902	34,337	59	4,792	961	39,129	14.0%	6.5%
2004	13,224	47,561	5,564	10,356	18,788	57,917	70.4%	29.6%
2005	165,554	213,115	24,723	35,079	190,277	248,194	87.0%	13.0%
2006	98,959	312,074	19,901	54,980	118,860	367,054	83.3%	16.7%
2007	16,009	328,083	1,011	55,991	17,020	384,074	94.1%	5.9%
2008	8,008	336,091	503	56,494	8,511	392,585	94.1%	5.9%
2009	57,024	393,115	4,090	60,584	61,114	453,699	93.3%	6.7%
2010	228,330	621,445	33,210	93,794	261,540	715,239	87.3%	12.7%
2011	232,214	853,659	26,238	120,032	258,452	973,691	89.8%	10.2%
2012	257,267	1,110,926	23,406	143,438	280,673	1,254,364	91.7%	8.3%
2013	26,620	1,137,546	2,379	145,817	28,999	1,283,363	91.8%	8.2%
2014	3,533	1,141,079	4,325	150,142	7,858	1,291,221	45.0%	55.0%
2015	865	1,141,944	171	150,313	1,036	1,292,257	83.5%	16.5%
2016	35,699	1,177,643	0	150,313	35,699	1,327,956	100.0%	0.0%
2017	385,994	1,563,637	9,248	159,561	395,242	1,723,198	97.7%	2.3%

RECHARGE (SWP EXCHANGE ONLY) [2]

	WWR AF		MC AF		TOTAL AF		RATIO OF RECHARGE	
YEAR	ANNUAL	CUMULATIVE	ANNUAL	CUMULATIVE	ANNUAL	CUMULATIVE	WWR/TOTAL	MC/TOTAL
2002	33,435	33,435	4,733	4,733	38,168	38,168	14.2%	14.2%
2003	902	34,337	59	4,792	961	39,129	14.0%	6.5%
2004	13,224	47,561	5,564	10,356	18,788	57,917	70.4%	29.6%
2005	165,554	213,115	24,723	35,079	190,277	248,194	87.0%	13.0%
2006	98,959	312,074	19,901	54,980	118,860	367,054	83.3%	16.7%
2007	9	312,083	1,011	55,991	1,020	368,074	0.9%	99.1%
2008	0	312,083	0	55,991	0	368,074	n/a	n/a
2009	46,032	358,115	3,336	59,327	49,368	417,442	93.2%	6.8%
2010	209,937	568,052	31,467	90,794	241,404	658,846	87.0%	13.0%
2011	127,214	695,266	20,888	111,682	148,102	806,948	85.9%	14.1%
2012	253,267	948,533	23,406	135,088	276,673	1,083,621	91.5%	8.5%
2013	24,112	972,645	2,379	137,467	26,491	1,110,112	91.0%	9.0%
2014	0	972,645	4,325	141,792	4,325	1,114,437	0.0%	100.0%
2015	0	972,645	171	141,963	171	1,114,608	0.0%	100.0%
2016	699	973,344	0	141,963	699	1,115,307	100.0%	0.0%
2017	350,994	1,324,338	9,248	151,211	360,242	1,475,549	97.4%	2.6%

(1) Production in both DWA and CVWD service areas.
(2) This table excludes all non-SWP supplemental water deliveries such as those made for CPV Sentinel.

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EXHIBIT 6
DESERT WATER AGENCY
SUMMARY OF DELIVERIES TO METROPOLITAN WATER DISTRICT (MWD)
AND TO GROUNDWATER REPLENISHMENT FACILITIES (AF)[1]

BEFORE EXCHANGE AGREEMENT (JULY 1973 - JUNE 1984)

		Delivery to MWD																				Delivery to DWA/CVWD Recharge Facilities									MWD Delivery Surplus/(Deficit) Prior to Exchange and Delivery Agreement	
		SWP Contract Water													Non-SWP Contract Water								From SWP Exchange Account			From Other Accounts						
						SWP Surplus Water									CVWD					DWA													
Year	Table A DWA/CVWD Combined Allocation	Table A Allocation Delivered to MWD	% Delivery to MWD	Carry-Over	Pool A	Pool B	Multi-Year Pool	Article 21	Flood	Yuba	Other	Total	SWP Total	DMB Pacific	Glorious Land Rosedale	Colorado River Credit	Needles	MWD QSA	CPV-Sentinel	Total	WRRF[2]	MCRF[3]	Total	WRRF[2]	MCRF[3]	Total	Total WRRF	Total MCRF	Grand Total	Annual	Cumulative
1973 (Jul-Dec)	14,800	14,800	100%										14,800							14,800	7,475		7,475				7,475		7,475	(7,325)	(7,325)
1974	16,400	16,400	100%										16,400							16,400	15,396		15,396				15,396		15,396	(1,004)	(8,329)
1975	18,000	18,000	100%										18,000							18,000	20,126		20,126				20,126		20,126	2,126	(6,203)
1976	19,600	19,600	100%										19,600							19,600	13,206		13,206				13,206		13,206	(6,394)	(12,597)
1977	21,421	0	0%										0							0	0		0				0		0	0	(12,597)
1978	23,242	25,384	109%										25,384							25,384	0		0				0		0	(25,384)	(37,981)
1979	25,063	25,063	100%										25,063							25,063	25,192		25,192				25,192		25,192	129	(37,852)
1980	27,884	27,884	100%										27,884							27,884	26,341		26,341				26,341		26,341	(1,543)	(39,395)
1981	31,105	31,105	100%										31,105							31,105	35,251		35,251				35,251		35,251	4,146	(35,249)
1982	34,326	34,326	100%										34,326							34,326	27,020		27,020				27,020		27,020	(7,306)	(42,555)
1983	37,547	37,547	100%										37,547							37,547	53,732		53,732				53,732		53,732	16,185	(26,370)
1984 (Jan-Jun)[4]	N/A	25,849	N/A										*25,849*							*25,849*	*50,912*		*50,912*				*50,912*		*50,912*	25,063	(1,307)
1984 Total	40,768	40,768	100%										40,768							40,768	83,708		83,708				83,708		83,708		

WITH EXCHANGE AGREEMENT (JULY 1984 - 2016)

		Delivery to MWD																				Delivery to DWA/CVWD Replenishment Facilities									MWD Exchange and Advance Deliveries				
		SWP Contract Water													Non-SWP Contract Water								From SWP Exchange Account			From Other Accounts									
						SWP Surplus Water									CVWD					DWA																
Year	Table A DWA/CVWD Combined Allocation	Table A Allocation Delivered to MWD	% Delivery to MWD	Carry-Over	Pool A	Pool B	Multi-Year Pool	Article 21	Flood	Yuba	Other	Total	SWP Total	DMB Pacific	Glorious Land Rosedale	Colorado River Credit	Needles	MWD QSA	CPV-Sentinel	Total	WRRF[2]	MCRF[3]	Total	WRRF[2]	MCRF[3]	Total	Total WRRF	Total MCRF	Grand Total	Exchange Deliveries	Advance Deliveries	Advance Deliveries Converted to Exchange Deliveries	Advance Delivery Account[5] Credit/(Debit) Annual	Advance Delivery Account[5] Credit/(Debit) Balance
1984 (Jul-Dec)[5]	N/A	14,919	N/A										*14,919*							*14,919*	*32,796*		*32,796*				*32,796*		*32,796*	32,796	16,570		16,570 [6]	16,570
1985	43,989	43,989	100%										43,989							43,989	251,994		251,994				251,994		251,994	251,994	208,005		208,005	224,575
1986	47,210	47,210	100%										47,210				10,000 [7]			57,210	288,201		288,201	10,000 [7]		10,000	298,201		298,201	288,201	240,991		240,991	465,566
1987	50,931	50,931	100%										50,931							50,931	104,334		104,334				104,334		104,334	104,334	53,403		53,403	518,969
1988	54,652	54,652	100%										54,652							54,652	1,096		1,096				1,096		1,096	1,096			53,556	(53,556)	465,413
1989	58,373	58,373	100%										58,373							58,373	12,478		12,478				12,478		12,478	12,478			45,895	(45,895)	419,518
1990	61,200	61,200	100%										61,200							61,200	31,721		31,721				31,721		31,721	31,721			29,479	(29,479)	390,039
1991	61,200	18,360	30%										18,360							18,360	14		14				14		14	14			18,346	(18,346)	371,693
1992	61,200	27,624	45%										27,624							27,624	40,870		40,870				40,870		40,870	40,870	13,246		13,246	384,939
1993	61,200	61,200	100%										61,200							61,200	60,153		60,153				60,153		60,153	60,153			1,047	(1,047)	383,892
1994	61,200	37,359	61%										37,359							37,359	36,763		36,763				36,763		36,763	36,763			596	(596)	383,296
1995	61,200	61,200	100%										61,200							61,200	61,318		61,318				61,318		61,318	61,318	118			118	383,414
1996	61,200	61,200	100%			103,641						103,641	164,841							164,841	138,266		138,266				138,266		138,266	138,266			26,575	(26,575)	356,839
1997	61,200	61,200	100%			50,000			27,130			77,130	138,330							138,330	113,677		113,677				113,677		113,677	113,677			24,653	(24,653)	332,186
1998	61,200	61,200	100%			75,000			20,156			95,156	156,356							156,356	132,455		132,455				132,455		132,455	132,455			23,901	(23,901)	308,285
1999	61,200	61,200	100%			47,380						47,380	108,580							108,580	90,601		90,601				90,601		90,601	90,601			17,979	(17,979)	290,306
2000	61,200	55,080	90%			9,837		35,640			1 [8]	45,478	100,558							100,558	72,450		72,450				72,450		72,450	72,450			28,108	(28,108)	262,198
2001	61,200	23,868	39%			242						242	24,110							24,110	707		707				707		707	707			23,403	(23,403)	238,795
2002	61,200	42,840	70%		436	819		300				1,555	44,395							44,395	33,435	4,733	38,168				33,435	4,733	38,168	38,168			6,227	(6,227)	232,568
2003	61,200	55,080	90%	(17,867)	457	58		532			2 [8]	1,049	38,262							38,262	902	59	961				902	59	961	961			37,301	(37,301)	195,267
2004	61,200	18,597	30%	17,867		191						191	36,655							36,655	13,224	5,564	18,788				13,224	5,564	18,788	18,788			17,867	(17,867)	177,400
2005	171,100	60,152	35%	27,618	585	3,253						3,838	91,608							91,608	165,554	24,723	190,277				165,554	24,723	190,277	190,277	98,669			98,669	276,069
2006	171,100	171,100	100%									0	171,100							171,100	98,959	19,901	118,860				98,959	19,901	118,860	118,860			52,240	(52,240)	223,829
2007	171,100	102,660	60%		802							802	103,462			16,000 [9] *				119,453	9	1,011	1,020	16,000		16,000	16,009	1,011	17,020	1,020			102,442	(102,442)	121,387
2008	171,100	59,885	35%		151				1,833			1,984	61,869		3,000	8,008 [9] *			8,350 *	81,218	0	0	0	8,008	503 [13]	8,511	8,008	503	8,511	0			64,869	(64,869)	56,518
2009	171,100	57,710	34%		35	58			2,982		500 [10]	3,575	61,285		3,000 *	7,992 [9] *				72,268	46,032	3,336	49,368	10,992	754 [13]	11,746	57,024	4,090	61,114	49,368			11,917	(11,917)	44,601
2010	194,100	97,050	50%	10,730	66	536						602	108,382	8,393 *				10,000 *		126,775	209,937	31,467	241,404	18,393	1,743 [13]	20,136	228,330	33,210	261,540	241,404	133,022		133,022	177,623
2011	194,100	124,156	64%		836	1,666		5,800				8,302	132,458					105,000 *		237,458	127,214	20,888	148,102	105,000	5,350 [13]	110,350	232,214	26,238	258,452	148,102	25,644 [7]		25,644	203,267
2012	194,100	126,166	65%	31,124	431					967		1,398	158,688		4,000 *					162,688	253,267	23,406	276,673	4,000		4,000	257,267	23,406	280,673	276,673	117,985		117,985	321,252
2013	194,100	67,936	35%		230				2,664			2,894	70,830		16,500			2,508 *		89,838	24,112	2,379	26,491	2,508		2,508	26,620	2,379	28,999	26,491			60,839	(60,839)	260,413
2014	194,100	9,706	5%						1,213			1,213	10,919		5,000			3,549 *		19,468	0	4,325	7,858	3,533		3,533	3,533	4,325	11,391	7,858			11,610	(11,610)	248,803
2015	194,100	38,820	20%				67		426			493	39,313		9,500			865 *		49,678	0	171	171	865		865	865	171	1,036	171			48,642	(48,642)	200,161
2016	194,100	74,249	38%				566					566	74,815		16,500			64,135		155,450	699	0	699	35,000 **		35,000	35,699	0	35,699	699			119,751	(119,751)	80,410
2017	194,100	66,805	34%	25,435	1,131						16,776 [11]	17,907	110,147		5,397			35,000		150,544	350,994	9,248	360,242	35,000 **	0	35,000	385,994	9,248	395,242	360,242	244,698		244,698	325,108
TOTALS[11]:	3,891,611	2,309,635	---	94,907	5,160	292,681	633	42,272	47,286	10,085	17,279	415,396	2,819,938	8,393	62,897	32,000	10,000	221,057	8,350	3,162,608	2,717,889	151,211	3,223,627	249,299	8,350	257,649	3,318,182	159,561	3,481,276	3,223,627	########		827,243	---	---

NOTES:
(1) As reported by Metropolitan Water District in its monthly "Exchange Water Delivery in Acre-Feet" reports.
(2) Whitewater River Replenishment Facility
(3) Mission Creek Replenishment Facility
(4) The Advance Delivery Agreement between MWD and CVWD/DWA became effective on 7/1/84; discrepancies in exchange deliveries between MWD and CVWD/DWA after 7/1/84 are adjusted per said agreement.
(5) The effective date of the Advance Delivery Agreement between MWD and CVWD/DWA was 7/1/84.
(6) The first advance delivery figure of 16,570 AF is equal to 32,796 AF of deliveries to CVWD/DWA from 7/84 - 12/84, minus 14,919 AF of deliveries to MWD from 7/84 - 12/84, minus cumulative MWD delivery deficiency of 1,307 AF as of 7/1/84.
(7) 10,000 AF of Needles Water delivered to CVWD in 1986 was credited to the Advance Delivery Account in 2011.
(8) Adjustment for rounding error to reconcile MWD Advance Delivery Account Balance
(9) CVWD's PVID credit
(10) Drought Water Bank
(11) Flexible Storage Payback at Lake Perris
(12) Since 1973
(13) CPV Sentinel
* Not deducted from the Advance Delivery Account
** Added to the Advance Delivery Account
Not included in DWR Bulletin 132-17 Appendix B Table B-5B

EXHIBIT 7
DESERT WATER AGENCY AND COACHELLA VALLEY WATER DISTRICT
COMPARISON OF HISTORIC AND PROPOSED GROUNDWATER REPLENISHMENT
ASSESSMENT RATE FOR THE WEST WHITEWATER RIVER AND MISSION CREEK SUBBASIN AOBS

	DWA		CVWD WEST WHITEWATER		CVWD MISSION CREEK	
YEAR	$/AF	% INCREASE	$/AF	% INCREASE	$/AF	% INCREASE
78/79	$6.81	---	No Assessment	---	No Assessment	---
79/80	$9.00	32%	No Assessment	---	No Assessment	---
80/81	$9.50	6%	$5.66	---	No Assessment	---
81/82	$10.50	11%	$7.43	31%	No Assessment	---
82/83	$21.00	100%	$19.82	167%	No Assessment	---
83/84	$36.50	74%	$33.23	68%	No Assessment	---
84/85	$37.50	3%	$34.24	3%	No Assessment	---
85/86	$31.00	-17%	$21.81	-36%	No Assessment	---
86/87	$21.00	-32%	$19.02	-13%	No Assessment	---
87/88	$22.50	7%	$19.55	3%	No Assessment	---
88/89	$20.00	-11%	$15.96	-18%	No Assessment	---
89/90	$23.50	18%	$19.66	23%	No Assessment	---
90/91	$26.00	11%	$23.64	20%	No Assessment	---
91/92	$31.75	22%	$25.66	9%	No Assessment	---
92/93	$31.75	0%	$28.23	10%	No Assessment	---
93/94	$31.75	0%	$31.05	10%	No Assessment	---
94/95	$31.75	0%	$34.16	10%	No Assessment	---
95/96	$31.75	0%	$37.58	10%	No Assessment	---
96/97	$31.75	0%	$37.58	0%	No Assessment	---
97/98	$31.75	0%	$42.09	12%	No Assessment	---
98/99	$31.75	0%	$47.14	12%	No Assessment	---
99/00	$31.75	0%	$52.80	12%	No Assessment	---
00/01	$33.00	4%	$59.14	12%	No Assessment	---
01/02	$33.00	0%	$66.24	12%	No Assessment	---
02/03	$35.00	6%	$72.86	10%	$59.80	---
03/04	$35.00	0%	$72.86	0%	$59.80	0%
04/05	$45.00	29%	$78.86	8%	$59.80	0%
05/06	$50.00	11%	$78.86	0%	$59.80	0%
06/07	$63.00	26%	$83.34	6%	$65.78	10%
07/08	$63.00	0%	$91.67	10%	$72.36	10%
08/09	$72.00	14%	$93.78	2%	$76.60	6%
09/10	$72.00	0%	$102.45	9%	$87.56	14%
10/11	$82.00	14%	$102.45	0%	$89.75	3%
11/12	$82.00	0%	$107.57	5%	$98.73	10%
12/13	$92.00	12%	$110.26	3%	$98.73	0%
13/14	$92.00	0%	$110.26	0%	$98.73	0%
14/15	$102.00	11%	$110.26	0%	$98.73	0%
15/16	$102.00	0%	$112.00	2%	$112.00	13%
16/17	$102.00	0%	$145.60	30%	$123.20	10%
17/18	$120.00	18%	$189.28 *	30%	$135.52	10%
18/19	$140.00 *	17%	$172.56 *	-9%	$149.07 *	10%

* Proposed replenishment assessment rate

APPENDIX A

APPENDIX A
UPPER COACHELLA VALLEY
MONTHLY AND ANNUAL RECORDED PRECIPITATION DATA
(INCHES)
2017

STATION NAME	WHITEWATER NORTH	SNOW CREEK	DESERT HOT SPRINGS	TACHEVAH DAM	TRAM VALLEY	CATHEDRAL CITY	THOUSAND PALMS	PALM SPRINGS SUNRISE	EDOM HILL	OASIS	MECCA LANDFILL III	THERMAL AIRPORT
LOCATION	WWR	WWR	MC	WWR	WWR	WWR	WWR	WWR	MC	EWR	EWR	EWR
STATION NUMBER	233	207	57	216	224	34	222	442	436	431	432	443
JANUARY	10.40	11.30	3.51	4.73	8.81	2.57	2.12	4.27	2.49	1.41	0.94	1.39
FEBRUARY	2.89	3.41	2.09	1.49	2.68	2.05	1.62	1.74	1.48	0.69	0.50	0.68
MARCH	0.30	0.52	0.01	0.00	0.00	0.00	0.00	0.01	0.00	0.00	0.01	0.01
APRIL	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
MAY	0.03	0.01	0.00	0.00	0.08	0.02	0.02	0.00	0.00	0.02	0.00	0.00
JUNE	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
JULY	0.00	0.00	0.00	0.03	0.00	0.00	0.00	0.02	0.00	0.05	0.06	0.00
AUGUST	0.09	0.09	0.34	0.00	0.56	0.55	0.78	0.93	0.25	0.16	0.01	0.08
SEPTEMBER	0.00	0.02	0.20	1.29	0.81	0.32	0.04	1.71	0.07	0.16	0.39	1.09
OCTOBER	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
NOVEMBER	0.02	0.03	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
DECEMBER	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
TOTAL	13.73	15.38	6.15	7.54	12.94	5.51	4.58	8.68	4.29	2.49	1.91	3.25
AVERAGE: UPPER	8.76											
AVERAGE: LOWER										2.55		
AVERAGE: ALL	7.20											

APPENDIX B

ADDENDUM TO SETTLEMENT AGREEMENT
MANAGEMENT AREA DELIVERIES

The Settlement Agreement between Coachella Valley Water District (CVWD), Desert Water Agency (DWA) and Mission Springs Water District (MSWD) dated December 7, 2004 shall be supplemented by the following Addendum, and thus shall be deemed a part thereof:

The Mission Creek Groundwater Replenishment Agreement provides for the delivery to the Mission Creek Subbasin, for groundwater replenishment, of a proportionate share of the imported water delivered to CVWD and DWA for replenishment of the Upper Coachella Valley Groundwater Basin. To ensure that the Mission Creek Subbasin receives its proportionate share of that water, as set forth in the Mission Creek Replenishment Agreement, and to provide for the monitoring thereof, the following procedures shall be applied:

Each year CVWD and DWA shall calculate the combined total quantity of water produced during the previous year from the Whitewater River Management Area and the Mission Creek Management Area, and from sources tributary to those Management Areas, and shall determine from that the percentages of the total production from those Management Areas and their sources.

Water supplies available to CVWD and DWA each year, through their respective State Water Project Contracts, for the replenishment of those Management Areas will be allocated and delivered to the Management Areas for groundwater replenishment in the same percentages, subject to delivery capability and operational constraints in any particular year.

In the event that additional subbasins benefit from recharge programs within CVWD and DWA boundaries, the respective production and recharge delivery percentages from those management areas in those subbasins shall be included in the above described calculations, allocations, and deliveries.

Production and recharge quantities shall be reviewed by the parties to the Management Committee (MSWD, CVWD and DWA) through the Management Committee process. CVWD and DWA will endeavor to accomplish annual proportionate management area deliveries; however, when constrained by operating limitations, they may over deliver or under deliver water to the management areas from year to year as necessary to obtain as much imported water as may be available. Cumulative water deliveries between or among management areas shall be balanced as and when determined by the Management Committee, but no later than 20 years from the date of the settlement agreement and each 20 years thereafter.

The provisions of this Addendum may be enforced by any party hereto.

IN WITNESS WHEREOF, The Parties have caused this Addendum to be executed by their duly authorized representatives on the date first above written.

MSWD:

Mission Springs Water District,
a California county water district

By _____

Its: President

By _____

Its: Vice President

DWA:

Desert Water Agency,
a public agency of the State of California

By _____

Its: President

By _____

Its: Vice President

CVWD:

Coachella Valley Water District,
a California county water district

By _____

Its: President

By _____

Its: Vice President

DESERT WATER AGENCY
MEDIA INFORMATION
MARCH 2018

DATE	PACKET PAGE	MEDIA SOURCE	ARTICLE
03/06/18	1-2	PRESS ENTERPRISE	Snow Arrives, Hope Stays Away
03/20/18	3-5	THE DESERT SUN	California Farm District Drops Water Lawsuit, Seeking To Settle Dispute
3/23/18	6-8	THE DESERT SUN	Water District Rejects Proposal From Cadiz
3/26/18	9-14	THE DESERT SUN	Critics Charge Farmers On CVWD Board Have Kept East Valley Water Rates Unfairly Low
3/28/18	15-16	LOS ANGELES TIMES	Region May Get Bill For Tunnels
03/20/18	17-21	THE DESERT SUN	Fight Over Water Roils The Imperial Valley

THE PRESS-ENTERPRISE PE.com

SNOW ARRIVES, HOPE STAYS AWAY

DROUGHT

To reach the historic average snowpack, the state would need another four or five storms like last week's to hit by the end of the month

By Ellen Knickmeyer and Rich Pedroncel, March 6, 2018

The Associated Press

Last week's major snowstormsbrought a welcome change to the Sierra Nevada Range — the source of nearly one-third of California'swater — boosting the overallsnowpack by nearly 80 percent. But despite the storms dumping 5 to 8feet of fresh snow, the overall snowpack remains well below normal. On Feb. 26, the statewidesnowpack was at 22 percent of the historic average.

On Monday, it had increased to 37 percent. "We're still far below normal," said Doug Carlson, a spokesman for the California Department of Water Resources.

"Today is barely a third of what it should be on this date. Although the storms were notable compared with the extraordinarily dry month of February, they were not a game changer. Californians are still encouraged to make water conservation a way of life."

The snow water equivalent of the snowpack a week ago, meaning the amount of water in any given area if the snow was all melted, jumped from 5.3 inches on Feb. 26 to 9.5 inches on Monday, an increase of 79.2 percent.

But the historic average is 30 inches by April 1, so the state would need another four or five storms like last week's to reach the historic average by the end of the month. The chances of that are about 1 in 50, according to the National Weather Service office in Reno.

Still, because of the very wet winter last year — the wettest in 20 years — reservoirs around California remain full or near full, giving the state a cushion this summer against major water shortages.

On Monday, 46 of the largest reservoirs in California were at 98.5 percent of their historic average capacity for this date. The largest, Shasta Lake, near Redding, was 76 percent full, with Pardee, the main reservoir for the East Bay Municipal Utility District, at 92 percent; Hetch Hetchy Reservoir in Yosemite National Park was at 80 percent; Los Vaqueros Reservoir in Contra Costa County was at 93 percent; and Diamond Valley Reservoir in Riverside County, a key source of water for Southern California, was at 90 percent full.

"That's the good news," Carlson said. "You have to take everything together to come up with a composite picture. We're not sounding an alarm bell now, but we'd certainly like to see more snow, not only for winter recreation but for all of California throughout the rest of the water year."

The storms, which closed Interstate 80 on Thursday, also delayed the state's March 1 manual snow survey, an event done every month in the winter at Phillips Station off Highway 50, not far from Lake Tahoe.

That event, largely a photo opportunity for TV crews and other media, found that the snow pack was 41 inches deep, or 39 percent of the historic average.

"It's a very promising start for March," said Frank Gehrke, chief of snow surveys for the Department of Water Resources.

Standing in snowshoes with blustery winds whipping around him, Gehrke called the situation "a much happier, rosier picture than a week ago."

Last year at the beginning of March, Phillips Station was at 180 percent ofnormal snowpack. And this year, with a high-pressure ridge blocking many storms and bringing warm weatherfrom December to February, the Sierra was facing one of its driest winters since modern records began in 1950, raising concerns that California might have been heading back into drought conditions this summer.

"It's an encouraging start," Gehrke told reporters. "But we have quite a way to go to get to average." The rest of this week looks mostly sunny across Northern California and the Sierra, although the following week has some potential for new storms in the picture.

The storm also brought much-needed rain across California. In the Bay Area, most cities received between 1 and 1.5 inches. San Jose's total since Oct. 1 increased from 4.8 inches on Feb. 26 to 6.24 inches Monday, leaving the city at 53 percent of normal. Similarly, San Francisco increased from 8.17 inches to 10 inches, and is at 50 percent of normal, and Oakland went from 8.01 inches to 9.41, with a season total at 60 percent of normal.

The outlook remained much drier in Southern California.

On Feb. 26, Los Angeles had only received one major storm in the past 12 months, and was at 18 percent of normal for the winter rainfall total. On Monday, after half an inch of new rain, it climbed slightly to 22 percent of normal.

Desert Sun.
PART OF THE USA TODAY NETWORK

California farm district drops water lawsuit, seeking to settle dispute

Ian James, March 20, 2018

Last year, farmers who lead the irrigation district in Blythe sued the biggest urban water district in the country to challenge what they called a "water grab."

Now the Palo Verde Irrigation District has dropped that lawsuit, looking to smooth the way toward a possible settlement with the Los Angeles-based Metropolitan Water District of Southern California.

It's a dispute over Colorado River water, and it began after Metropolitan spent more than $250 million buying up pieces of farmland across the Palo Verde Valley – and then started renting the land to growers under leases that impose water-saving limits and charge higher rents if farmers fail to cut back.

When the Palo Verde Irrigation District's board members decided to challenge those land deals in court last year, they accused the Metropolitan Water District of engaging in a thinly veiled attempt to take more water from the rural valley, which flanks the Colorado River along California's border with Arizona. Palo Verde argued that with those leases, Met was essentially going beyond a previously negotiated deal in which it's paying farmers to leave some of their lands unplanted and dry each year, and in return takes that water to Southern California cities.

Metropolitan has denied doing anything wrong, and both sides have voiced interest in resolving the dispute.

Palo Verde filed a request to dismiss the case on Friday. The irrigation district's board decided to end the suit ahead of a meeting with Metropolitan officials that's scheduled for March 26, said Bart Fisher, a Palo Verde board member.

"They asked us in December if we would be willing to withdraw the suit so that we could engender more sincere discussion," Fisher said. "We think this is a good time to clear the decks, make a proactive, good-faith step and hopefully have more productive conversations with Met."

When the lawsuit was hanging over the issue, Fisher said, that had limited "the flexibility of the Met policy team to work with us."

With the lawsuit now out of the picture, that moves the issue out of Met's legal office and back into the decision-making arena for the agency's administrators.

Bob Muir, a spokesperson for the Metropolitan Water District, pointed out that the case was "dismissed with prejudice," meaning that it cannot be refiled.

"Metropolitan did not provide PVID with anything for the dismissal," Muir said in an email. "Metropolitan is pleased that these proceedings have concluded. We look forward working cooperatively with PVID moving forward."

Fisher said he hopes the withdrawal of the suit will facilitate dialogue. That doesn't mean the dispute is over, though, and Fisher said there are still other legal actions Palo Verde's board could decide to take if necessary.

Without going into details, he said those potential actions "would directly address the control of water issue."

"We have been hopeful of settling with Metropolitan in a favorable manner, so we look forward to our meetings," Fisher said, "and if we end up failing to come to an agreement, we certainly have other options."

Agriculture is the main industry that drives the economy in Blythe, a city of 13,000 people where other employers include two state prisons and a cluster of motels and fast-food restaurants along Interstate 10.
The farms produce crops including cotton, broccoli, wheat, cantaloupes and honeydew melons. But the No. 1 crop by far is alfalfa. The hay rolls out of the valley on trucks all year long, destined for cows in dairies and feedlots in California, Arizona and countries from Japan to Saudi Arabia.

Since 2005, the Metropolitan Water District has paid farmers a total of about $190 million not to grow crops on thousands of acres in the Palo Verde Valley. Records released by Metropolitan show the agency has paid millions of dollars to the biggest landowners in the area, including several board members of the Palo Verde Irrigation District who originally voted to approve the deal in 2004.

All seven current members of the Palo Verde Irrigation District's Board of Trustees have farmland enrolled in the land-fallowing program and have been benefiting from it, receiving payments for the land they leave dry each year.

Fisher is the second-largest landowner in the valley after Metropolitan. The records show his family company, Fisher Ranch LLC, has been the top recipient of the funds, receiving $27.6 million in payments since 2005 for land left fallow.

Three other Palo Verde board members also have companies that are among the top 10 recipients, according to the records, which The Desert Sun obtained last year in response to a request under the California Public Records Act. The board members include Grant Chaffin, whose farms have received $7 million, Daniel Robinson, whose company has been paid $5.7 million, and Jack Seiler, whose farms have received $5.3 million.

The 35-year land-fallowing agreement has been widely touted as a model of how cities and farming areas in the West can work together to stretch scarce water supplies further while keeping agriculture alive.

As part of the deal, Metropolitan has paid $3.9 million in administrative costs and $6 million for a community improvement fund, which was created in response to concerns about impacts to the economy. The community fund has paid for things like a new roof at a library and new pavement at Blythe's fairgrounds, and has also been used to provide loans to local businesses.

Still, Fisher and other leaders of the district have said they're worried about the future of the farming economy.

Downtown Blythe shows signs of a struggling economy, with shuttered businesses and boarded-up windows along Hobson Way, the main avenue.

In the lawsuit, the Palo Verde Irrigation District had argued that Metropolitan's farm leases could take more farmland out of production for years at a time, leaving a growing patchwork of unused lands. Palo Verde had also accused Met of violating the California Environmental Quality Act with the leases, saying an environmental review should be conducted because drying up more farmland could unleash dust into the air and have a range of other detrimental effects, including harming the economy and threatening the valley's "agricultural character."

Jeffrey Kightlinger, Metropolitan's general manager, has denied the accusations in the lawsuit and said his district wants to continue the longstanding productive relationship it's had with the irrigation district and farmers in the Palo Verde Valley. He has said Metropolitan is looking for new ways to conserve water and promote efficient farming.

"We're trying to find cooperative management programs that work well with farming, and our goal is to have long-term farming be successful, and a water supply, a reasonable water supply to us," Kightlinger told The Desert Sun in September.

While the dispute over the farm leases remains, Fisher said he and other Palo Verde board members are going into next week's talks feeling optimistic.

"Hopefully we'll be able to address the issue and come to a conclusion that satisfies us all," Fisher said. "We don't want to have a damaged relationship that will affect our longer-term program with Metropolitan."

If the two sides end up putting the dispute behind them, that would help bolster their land-fallowing program. It also could help the water agencies cooperate smoothly in negotiations between states on how they might share in water shortages along the Colorado River.

Reservoirs along the river are severely overallocated and at alarmingly low levels after an 18-year run of mostly dry years, which scientists say is being compounded by the effects of global warming.

"There are a lot of issues on the Colorado River. It's very important that California agencies be able to hang together as we carry on discussions with the other states," Fisher said. "So, it's all part of a bigger picture."

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Water district rejects proposal from Cadiz

Company looking to pump from Mojave to sell to cities

Ian James Palm Springs Desert Sun USA TODAY NETWORK, March 23, 2018

A company's controversial plan to sell groundwater from the Mojave Desert ran into new opposition as a Southern California water district voted against the proposal.

The board of the Upper San Gabriel Valley Municipal Water District decided not to approve a nonbinding letter of intent to purchase water from the Cadiz Inc.'s proposed project.

The company is looking to pump as much as 16.3 billion gallons of groundwater a year and pipe it across the desert to sell to cities in Southern California.

During the meeting Tuesday, board member Bryan Urias said lobbyists working for Cadiz had repeatedly contacted him trying to influence his vote. He said he was told, among other things, that "Cadiz will run someone against you, and will be funding them with thousands of dollars."

Urias also said, without giving details, that the people who contacted him had made offers to him if he voted yes and had told him, "Whatever you want, we'll make it happen."

He said he emailed the company "after lobbyists called me and threatened me multiple times."
"I am troubled by some recent attempts to contact me, both directly and through intermediaries, in an effort to influence my vote," Urias said, reading from an email he sent to the company. "The recent barrage of heavy-handed tactics is not only ineffective to the point of verging on being counter-productive, but to the extent it has appeared to offer me some form of pecuniary gain as a quid pro quo in exchange for my vote, it may be illegal."

The Los Angeles-based company strongly denied the accusations.

"Having conducted a prompt investigation of employees, consultants, electronic and telephone records we have found absolutely no evidence of the alleged activity," Courtney Degener, a Cadiz spokesperson, said in an email. "Our company demands compliance with all legal and ethical standards when we engage public officials. No person purporting to represent Cadiz had the authority to engage in any conduct alleged by Director Urias."

Degener said Urias hasn't responded to the company's requests for details or evidence to back his claims.

Cadiz CEO Scott Slater had responded to Urias by email on Friday, asking him to share documentation and telling him: "I can assure you that no person purporting to represent Cadiz has the authority to engage in unethical conduct."

The Monrovia-based water district had previously decided to explore the Cadiz project as an option. But on Tuesday, three board members voted to take no action on the letter of intent, and two others abstained.

Degener called the result disappointing, "especially given that Cadiz was led to believe the item would be continued and subsequently was considered without our full presence."

Cadiz has proposed to pump groundwater on land surrounded by Mojave Trails National Monument. The company owns 34,000 acres in the desert along Route 66 in the Cadiz Valley and surrounding areas.

While pursuing its plan to sell water, Cadiz has been running its wells to irrigate nearly 2,000 acres of farmland.

Conservation groups say if Cadiz is allowed to draw down the aquifer, it would threaten springs and wildlife in the heart of the Mojave Desert. The company denies that, saying its pumping wouldn't harm the environment.

President Barack Obama's administration had hindered the project by ruling that the company would need a new permit to build a water pipeline alongside a railroad.

But in October, President Donald Trump's administration reversed that decision and gave the company a green light. The federal Bureau of Land Management told Cadiz it won't need a permit to build the pipeline along the railroad right-of-way.

Environmental groups are challenging that decision in a lawsuit.

Cadiz has said it plans to move ahead with designing and building the 43-mile pipeline from its property to the Colorado River Aqueduct. Last May, the company said it had lined up $240 million in construction financing from the private equity firm Apollo Global Management.

Opponents of the project praised the decision by the Upper San Gabriel Valley district. The L.A. Department of Water and Power also weighed in against the project in August.

Chris Clarke, manager of the California desert program for the National Parks Conservation Association, said that while the Trump administration has been blocking federal scientists and agencies from reviewing the proposal, "the state of California has repeatedly said 'no'."

The water district's board took the vote after receiving letters opposing Cadiz from California Assembly Speaker Anthony Rendon (D-Lakewood) and Assemblymembers Chris Holden (D Pasadena) and Ed Chau (D–Monterey Park), among others.

"The Cadiz Water Project is a textbook example of doing more harm than good," Rendon said in a statement. He said the project would "jeopardize the water source for threatened species of wildlife and pump water out of a desert environment where groundwater replenishment is limited."

Additionally, Rendon said, the project is "tainted by egregious conflicts of interest within the Trump Administration."

Opponents have voiced concerns about the appointment of David Bernhardt as Trump's deputy Interior secretary. Bernhardt was until recently a partner — along with Slater — in the law firm Brownstein Hyatt Farber Schreck LLP, which owns shares in Cadiz. Some activists have said the government's change in stance under Trump seems to be the result of Bernhardt's influence.

Sen. Dianne Feinstein has long fought the Cadiz project. Last year, Gov. Jerry Brown and Lt. Gov. Gavin Newsom voiced support for a bill that would have required state officials to conduct an additional environmental review.

The project went through an earlier review during 2011and 2012 in which the lead agency was Orange County's Santa Margarita Water District. The Center for Biological Diversity and other groups challenged the validity of that environmental review but lost in court.

The project's supporters include gubernatorial candidate and former L.A. Mayor Antonio Villaraigosa, Rep. Paul Cook (R-Apple Valley), Rep. Jim Costa (D-Fresno), Rep. Duncan Hunter (R-Alpine) and Dana Rohrabacher (R-Costa Mesa), and a list of business associations and labor groups.

California lawmakers who've supported the project include Bill Brough (R-Dana Point), Eduardo Garcia (DCoachella) and Chad Mayes (R-Yucca Valley), among others.

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Critics charge farmers on CVWD board have kept east valley water rates unfairly low

Ian James, The Desert Sun, March 26, 2018

Mark Johnson worked for years as engineering director at the Coachella Valley Water District. Now that he's retired, he's criticizing the district's policies, saying the system of water rates and taxes should be overhauled.

The Coachella Valley Water District's board is considering raising the rates it charges farmers, golf courses and other well owners based on how much groundwater they pump.

That upcoming decision has brought criticism of the stark, longstanding difference between the relatively low rates paid by well owners in the east valley, including the area's farmers, and the much higher rates for well owners in the cities of the west valley.

Some critics argue that the rates in the east valley have been kept unduly low by board members whose farming businesses benefit from those lower rates. In the past week, the three CVWD board members who work in agriculture have faced questions about potential conflicts of interest as they prepare to decide on the rates.

Randy Roberts, a critic of CVWD who lives in Palm Desert, spoke at a meeting on Wednesday and called for three of the five board members — John Powell, Jr., Peter Nelson and Anthony Bianco — to recuse themselves from discussions about the groundwater-pumping rates in the area of the east valley dubbed the East Whitewater River Sub-basin. He said the proposed rate increase, which would keep rates much lower in the east valley than in the west valley, is an example of "self-dealing" by board members who run agricultural businesses.

"These proposals are a sham that only benefit Big Ag and in particular our three board members. That's why I'm requesting recusal," Roberts said. "The intent of my request is to ensure board members do not profit illegally or unethically from decisions they make."

Powell, the board president, said he and other board members don't face conflicts in their decisions on rates.

District Counsel Jeff Ferre agreed and said this sort of rate-setting decision falls under an exception in California ethics regulations that says public officials don't need to recuse themselves when the financial effect on their interests is "indistinguishable" from its effect on the public in general.

Roberts presented the district with a letter detailing various decisions that he thinks point to mismanagement and potential violations of conflict-of-interest rules.

"I ask the board to hire an independent outside legal team to determine if there has been malfeasance and what the appropriate remedies should be," Roberts said. As he left the meeting, he said he's examined the district's finances and the rates in the east valley are "unfairly low."

"They're not paying their fair share," Roberts said. "In reality, all of our rates go up because we have to subsidize it."

Ferre said the proper procedures are being followed and no independent review is necessary.

The debate about possible conflicts of interest has grown after Powell sought an opinion from California's Fair Political Practices Commission on a separate issue: whether the law bars him from taking part in voting on a proposed pipeline that would carry Colorado River water to farmlands in Oasis.

In October, Ferre recommended that Bianco, Nelson and Powell recuse themselves from discussions of the project because they all own or work for businesses that would get water from the pipeline.

The three left the room, and an employee drew a name from a hat to choose which of the three could rejoin the board so there would be a quorum to consider the proposal.

It turned out to be Powell, and that means he'll be able to vote on the project if it comes up again.

Though the procedure is allowed under California law in such circumstances, it was controversial. The proposed $58 million plan is on hold for now and isn't in the district's five-year spending plan. It's not clear when it might come up again.

After the October name-drawing, Powell said he heard that a group of constituents doubted that any of the board members actually had a conflict that would preclude them from voting on creating an assessment district for the pipeline. So, he wrote to the Fair Political Practices Commission, which enforces conflict-of-interest laws, to ask.

In a Feb. 16 response, the commission's lawyers told Powell that the law "prohibits you from taking part in those decisions because they would have a reasonably foreseeable material financial effect on your real property interest."

Powell is president and CEO of Peter Rabbit Farms and has farmland that would get water from the pipeline if it's built. He said he also spoke with a commission official, who confirmed verbally that the name-drawing procedure was done properly. That wasn't mentioned in the letter.

During the meeting, Roberts quoted from the commission's letter and said it's "absolutely applicable" to rate-setting, and that board members should declare the "potential impact" their decisions will have on their financial interests.

Ferre disagreed, saying in an email that the commission's letter focuses on the Oasis pipeline question and doesn't apply to decisions on rates. He said the so-called "public generally exception" in state regulations applies when elected officials set rates in districts where they live and work.

"If the decision effects all customers the same way, the exception applies," Ferre said in an email. "There is no conflict according to this long-established exception."

Jay Wierenga, communications director for the Fair Political Practices Commission, said the commission doesn't comment on specific situations or people.

Different rates in different areas

CVWD's board members plan to decide soon on increasing the so-called "Replenishment Assessment Charge," or RAC rates, starting in July. The rates are paid by well owners that pump more than 25 acre-feet, or 8.1 million gallons, of water per year, and they're intended to cover the costs of imported water and facilities where water flows into ponds and replenishes the aquifer.

The water district, the largest in the Coachella Valley, has long divided its territory into three different "areas of benefit" and charged well owners different groundwater replenishment rates in each one.

In the Mission Creek Sub-basin near Desert Hot Springs, the rate is $135.52 for each acre-foot, or 325,851 gallons. In the West Whitewater River Sub-basin, the rate is now $143.80 per acre-foot. CVWD's staff has proposed raising both of those rates under a previously approved schedule of increases. How much those rates might go up this year isn't clear.

In the East Whitewater area, in contrast, well owners now pay $66 an acre-foot – less than half as much as the other areas.

The CVWD staff presented a proposal last week to raise the East Whitewater rate $7 a year for the next five years, which would mean an increase to $73 this July. The district's managers say those rate increases are based on a 2016 rate study.

The agency is preparing to mail out notices explaining the proposed rates increases to east valley property owners, including the 337 customers that pump groundwater from wells and pay the rates. Customers include the cities of Indio and Coachella, which pump water to supply domestic customers, as well as golf courses, homeowners' associations and farms that produce crops including grapes, lemons, dates, carrots and peppers.

In addition to pumping groundwater, the valley's growers use Colorado River water, which flows through the Coachella branch of the All-American Canal to an irrigation system that fans out across fields from Coachella to the north shore of the Salton Sea.

Local districts have been using imported water to recharge the aquifer near Palm Springs since 1973, and well owners in the western portion of the valley have paid rates to cover the costs.

Up until the 2000s, though, the district didn't replenish the aquifer in the east valley and didn't charge well owners for the groundwater they pumped. That changed starting in 2004, when CVWD started charging $4.86 an acre-foot in the east valley.

That rate gradually climbed to $17 an acre-foot by 2009, when the district began recharging the aquifer at the newly built Thomas E. Levy Groundwater Replenishment Facility in south La Quinta, a series of ponds where Colorado River water seeps into the ground. Since then, rates have gone up $7 each year.

The latest proposal of continuing to raise rates $7 a year in the east valley fits with a previous negotiated agreement that the district had with a committee of stakeholders, CWVD General Manager Jim Barrett said. The way those increases have worked, Barrett said, is that the district has revisited the finances each year and any expenses that haven't been covered by the $7-a-year increase "were basically rolled forward" to be covered in future years.

In 2013, CVWD's board chose to use $60.3 million from the Domestic Water Fund to provide a loan to the East Whitewater fund. That loan has been used to pay for construction costs of the groundwater replenishment facility in La Quinta, and the funds are being gradually paid back.

"The fund seems to be fairly well balanced," Powell said. "We're paying back the loan to domestic that was used to finance the purchase of the land and the construction."

Powell said he plans to consider input from customers before deciding whether to support the staff's recommended rate increase or propose a different approach.

At a meeting on Tuesday, the board will consider sending out notices of the possible rate increases for east valley well owners. People will be able to file a protest and speak at a May 22 hearing before the board votes on the rate increase.

Powell said it makes sense to a have different rates in the east valley and the west valley because there's a huge difference in costs between the Colorado River water that comes via canal to the east valley and the district's contract for much more expensive water from the State Water Project in the west valley. Because the canals and pipelines of the State Water Project don't reach the Coachella Valley, local agencies trade their allotments to the Metropolitan Water District for equivalent amounts of water — "bucket for bucket" — from the Colorado River Aqueduct.

"The main driver is the cost of the water: very different in the west than in the east," Powell said in an interview. Because the water in the west valley costs about 10 times more, that makes for different rates — and he insisted the system makes sense.

"I don't understand why someone would make the argument that a customer in Mecca would have to pay the same as a pumper in Rancho Mirage," Powell said. "A pumper in Mecca benefits very little from activities in Whitewater and frankly, a pumper in Rancho Mirage benefits very little from replenishment activities in La Quinta."

Powell accused Roberts of making "irresponsible statements" about a potential conflict of interest.

"I don't use my own personal situation to make decisions," Powell said.

Bianco deferred questions about the accusations to Ferre, who said there is no disqualifying conflict.

Bianco, who was elected in 2016, manages the company Anthony Vineyards, which produces table grapes. A 2013 CVWD document listed the company as the largest agricultural groundwater user in the east valley, pumping about 7,500 acre-feet per year, which at the time translated into an estimated annual assessment of $338,274.

As for possible rate increases, Bianco said he's looking at multiple alternatives.

"One that I have directed staff to look at is not raising rates in the west or east. And starting in 2020 put together some long term financing that will spread the costs out over many years," Bianco said in an email. "I look forward to analyzing this option more fully, both myself and with my colleagues on the board. I believe this could be the best option for CVWD customers, but I won't know until I get to see it in detail."

Rates called 'unfair'

Roberts pointed to a list of financial decisions by the board that he finds troubling.

Among them, during a March 2015 meeting, CVWD's staff made a presentation raising the idea of consolidating rates for all three areas into a single rate.

The presentation said the East Whitewater Replenishment Fund "has never fully recovered its costs due to its rate structure." It said the district's use of funds from the State Water Project tax, which is listed on property tax bills simply as "Coachella Valley Water District," has enabled the East Whitewater Replenishment Fund to have enough to pay down the loan from the Domestic Water Fund for the construction of the La Quinta replenishment facility.

The presentation said a legal opinion from CVWD's attorneys at the time concluded the State Water Project tax — which is set at 10 cents per $100 of assessed property value — "can only be used" to pay invoices for water from the State Water Project.

CVWD officials said later, however, that they're properly using those tax revenues. Powell has said that using the funds for the costs of replenishing groundwater in the east valley is legal and fair — a stance that has provoked debate.

The CVWD staff's March 2015 presentation listed proposed rate increases that would have created a single, consolidated rate of $116 per acre-foot by 2018 — 43 percent higher than the $66 that well owners in the east valley are now paying.

The board decided against consolidating rates, however, and chose to continue managing the three areas separately.

Roberts accused CVWD of undercharging in the east valley, saying the growers on the board had kept the rates artificially low "so they can get their water as cheap as possible."

During last week's meeting, he read from a document that CVWD released in July 2015 explaining the increase that year, which raised the rate for east valley well owners to $59 per acre-foot. The document touched on the possibility of future rate increases, saying: "Because much of the costs of constructing and operating groundwater replenishment facilities in eastern Coachella Valley have been deferred, significant RAC increases are needed to ensure the charges are equitable and represent what it costs CVWD to deliver groundwater replenishment to the East Valley."

Summing up the situation, Roberts said the CVWD board "cannot make the East Whitewater Replenishment Fund work without raising their personal RAC rates."

"This they refuse to do, and pass it on to everyone else," Roberts said. "Instead, the board votes their personal windfall financial enrichment."

While the board members strongly deny that's the case, Roberts isn't alone in criticizing the rates and the way the district is managing its finances.

Mark Johnson, CVWD's former engineering director, has said the district should move toward universal rates and taxes across the Coachella Valley.

Since his retirement in 2016, Johnson has become a vocal critic, writing a blog on local water issues. He argues that farmers are being undercharged and homeowners are being overcharged. He's also said the CVWD board is "fraught with conflict issues."

Johnson said he's sees a problem in looking at his own water bill for his home in La Quinta. Like all CVWD domestic customers, a portion of his bill is a groundwater replenishment rate that blends together the district's costs for wells across the valley.

"I'm paying almost double through my water bill the Replenishment Assessment Charge than an agricultural pumper, and it's just not fair," Johnson said.

As Johnson sees it, the district should have one single groundwater replenishment rate for all well owners.
"Everybody pays the same, and that would eliminate this territorial stuff, who gets which water, because it's all interconnected," Johnson said. He's advocating a list of changes to rates and fees that he says would make the system fair.

"I believe there have been conflicts of interest that resulted in unfair water rates, charges and taxes. Whether they're legally conflicts, I don't know. But morally, they are," Johnson said. Referring to the board members who work in agriculture, he pointed out that they represent big farming operations "where these decisions are impacting the bottom line of their companies."

In a letter to the board last week, Johnson detailed his proposals. In addition to moving to a single rate for all groundwater pumpers, he proposed that State Water Project tax revenues only go toward State Water Project bills; that the property tax be based on acreage rather than assessed property value so that agricultural landowners would pay more; and, among other things, that there be one rate for Colorado River water delivered via canal rather than the current system, in which agricultural customers are charged a third of the "class 2" rates paid by golf courses and other non-ag customers in the east valley.

These approaches, Johnson wrote, would "eliminate the existing unfair, inequitable and discriminatory water taxes, rates and charges and the obvious conflicts of interest that led to this situation."

There will be more debate before the CVWD board decides how much — and whether — to raise groundwater pumping rates this year.

Board member Patrick O'Dowd said during last week's meeting that he disagrees with using funds from the State Water Project tax to supplement the East Whitewater Replenishment Fund.

Since "it's one aquifer," O'Dowd said, the costs of importing water to replenish it should be spread across the entire district.

Los Angeles Times

Region may get bill for tunnels

Southland's MWD might pay for tunnels Southland's MWD is looking into financing delta water project on its own, hoping other agencies pay up later.

By Bettina Boxall, March 28, 2018

Southern California's biggest water agency is considering picking up most of the bill for overhauling the state's waterworks without any guarantee that it will eventually recoup its additional, multibillion-dollar investment.

At a board workshop Tuesday, officials of the Metropolitan Water District of Southern California outlined ways in which the agency could finance the construction of two giant water tunnels under the Sacramento-San Joaquin Delta.

Underlying the plan is an assumption that the San Joaquin Valley agricultural districts that have refused to share in the upfront costs of the mammoth construction project would be willing to buy into it when the project is finished.

But those big irrigation districts have yet to commit to future water purchases, leaving open the possibility that the MWD — and by extension ratepayers from Los Angeles to San Diego — will be stuck with a roughly $11-billion bill for the project known as California WaterFix.

The MWD's board voted last fall to invest $4.3 billion in the twin tunnel project, which proponents say is necessary to sustain water deliveries to San Joaquin Valley agriculture and Southland cities.

But after valley growers said they couldn't afford the project, the state decided to press ahead with a less-costly, one-tunnel version financed by the MWD and the other, largely urban districts that get delta supplies from the State Water Project.

Not long after the state's February announcement, some MWD board members floated an idea to keep alive the two-tunnel version, which they believe would be more beneficial. They proposed that the MWD pick up agriculture's unfunded portion, which amounts to roughly a third of the project's total $17-billion cost.

Under the scenario outlined by MWD staff Tuesday, the agency would recover that extra investment by selling tunnel capacity to agricultural irrigation districts when WaterFix is built.

The supposition is that once supplies start flowing through the tunnels, the project will be more attractive to growers who by then will also be facing new limits on groundwater pumping they traditionally rely on to carry them through droughts.

"Their problem is cash flow" during the years of construction, MWD Assistant General Manager Roger Patterson told the board.

He added that the MWD is hoping those districts will soon sign purchase agreements that bind them to future buy-ins.

But it's unlikely growers will do that before the board votes on whether it should more than double its investment in WaterFix.

The staff is planning to offer two options for a board vote next month: Add $1 billion more to the MWD's 2017 funding commitment and move ahead with one tunnel, or throw roughly $5.5 billion more into the WaterFix pot and build two tunnels. The latter would push the agency's total financing to nearly $11 billion.

If the MWD is unable to eventually sell that extra project share, WaterFix would add nearly $60 a year to household water costs in the agency's service area, according to staff calculations. Paying for one tunnel would increase annual household bills by half that amount.

Financing WaterFix to the tune of $11 billion would also have twice the effect on the agency's overall budget, increasing it by 2.2% a year, compared with 1.1% for one tunnel.

Board members peppered the staff with questions about contract details and how the MWD's investment would be protected.

The most skeptical members were from Los Angeles and the San Diego County Water Authority. Mayor Eric Garcetti, who appoints L.A.'s representatives, last year said he supported one — but not two — delta tunnels.

Board Vice Chairman John Murray Jr. of Los Angeles noted that city policy calls for L.A. to reduce its use of imported water and boost local supplies, such as recycled water. Others wondered if paying so much for WaterFix would decrease investments in developing alternative sources.

MWD officials have said that Southern California needs to both maintain its delta imports and develop regional supplies, adding that the agency will continue to subsidize local programs.

In public comments, opponents repeated arguments against the tunnels. MWD's billions would be better spent developing regional water sources, they said, adding that the project will drive up water rates, and they accused MWD of cherry-picking data to exaggerate projected tunnel deliveries.

Murray also noted that some water experts say a second tunnel is not worth the extra cost since one tunnel would provide many of the same benefits as two. The project is intended to lessen the ecological harm of massive withdrawals from the delta's southern portion by partially supplying delta pumps with tunnel water diverted from the Sacramento River in the delta's northern reach.

Patterson disagreed that one tunnel was enough. "I don't think one does the job of two," he said after the workshop.

Two tunnels, he said, would provide more flexibility in operating the big government projects that export water from the delta, would be able to capture more water during storm flows and would do more to lessen the harmful environmental effects of the delta operations.

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Fight over water roils the Imperial Valley
COLORADO RIVER

Farmers go up against irrigation district after judge's ruling

Ian James, March 30, 2018

A legal fight over water rights is heating up in the Imperial Valley, pitting farmers against their own irrigation district in a struggle for control of the biggest water entitlement along the Colorado River.

A judge's ruling has forced the Imperial Irrigation District to repeal its plan for apportioning water, which had set limits on how much water individual growers could use on their fields.

The case has also touched off heated arguments at meetings — and sharply worded letters between lawyers — about landowners' water rights and the role the district should play as a "trustee" in divvying up and delivering water. While some farmers suggest the two sides should settle the dispute, others argue the differences are too substantial to reach an agreement and will need to be decided by a California appeals court.

Michael Abatti, the farmer who sued the district to challenge its water apportionment plan, stood at a meeting on Tuesday and told the IID board he strongly disagrees with the agency's statement in a recent letter that it has "broad powers" to determine how much water is distributed to growers.

"There are no ongoing settlement discussions," Abatti said, reading his written response to the board. "Given the many significant differences between what we believe to be the district's duties to its landowners, and what the district believes those duties to be, it appears unlikely that any settlement can be achieved."

Abatti, a former IID board member, criticized the agency's elected leaders for choosing to appeal the court's decision, saying they're doing it "presumably because they believe there are no legal limits to their authority to apportion water."

The dispute has created new uncertainty about how water will be managed in the Imperial Valley, and it's likely to further complicate long-stalled negotiations among agencies in California, Arizona and Nevada on a proposed plan to cope with shortages along the Colorado River.

The river has dwindled during an 18year run of mostly dry years, and the water rights system has continually doled out more water than the river's total flow, pushing the level of Lake Mead near a point that would trigger cutbacks in water deliveries — which would hit Arizona and Nevada first.

The lawsuit doesn't deal with those larger issues, though. It focuses on local disagreements over whether individual farmers hold rights to a certain quantity of water, how far the IID's powers extend and how the agency should be managing its share of the Colorado River.

The case has elicited arguments stretching back over a century of western water law, from the 1922 Colorado River Compact to a 1980 U.S. Supreme Court decision, Bryant v. Yellen, in which the justices said Imperial Valley landowners "have a legally enforceable right, appurtenant to their lands, to continued service" by the irrigation district.

The Imperial Valley enjoys some of the oldest rights to Colorado River water, which began flowing to the area via canal in 1901 and turned this swath of the Sonoran Desert into a lush, green agricultural powerhouse.

Farming drives the local economy, contributing an estimated $4.5 billion annually in economic output and spending by ag companies and employees. The valley produces crops including alfalfa, wheat, lettuce, broccoli, onions, carrots, sugar beets, cauliflower, cabbage, Brussels sprouts and cantaloupes, among others.

The irrigation district supplies about 530 agricultural customers, delivering water through a network of canals and pipes that fan out across the valley like the lines on a circuit board.

The amount of water the district delivers is subject to an overall annual cap. When there are overruns, as happened in 2011 and 2012, the district is required to pay back the difference by taking less during subsequent years.

Responding to the two consecutive years of overruns, the IID board adopted its so-called Equitable Distribution Plan in 2013 in an attempt to stay within the annual limit. The district's officials used what they called a "hybrid" method, basing the per-acre water limits partly on each farmer's historical water use and partly on a standard amount applied to all growers.

A month after the plan was approved, Abatti filed his lawsuit to challenge it in Imperial County Superior Court. He argued the plan should be thrown out because it prioritized other water users over farmers and because it failed to apportion water among growers based on how much they used historically and without considering factors such as the types of crops grown.

In a decision in August, Judge L. Brooks Anderholt agreed. He said in his ruling that the IID's plan prioritizes other groups of water users and "apportions water to municipal users, industrial users, feed lots, dairies, fish farms, and environmental water users before farmers." He said the plan "disadvantages farmers, who should not be treated differently and with a lesser priority."

Anderholt ordered the district to repeal the plan and said the agency should instead apportion water based on historical water use. He cited the 1980 Supreme Court ruling and said IID "holds mere legal title to the water rights and the users own the equitable and beneficial interest" in the water rights, which he stressed are tied to their lands.

Responding to the ruling, the district's board voted last month to repeal the plan. That's left growers, at least temporarily, without a plan limiting how much water they're supposed to use.

'It's going to be complicated'

The district still has an overall water cap of 3.1 million acre-feet per year — about 1 trillion gallons — which includes water IID is selling to Southern California cities under transfer deals.

But the district has consistently underused water between 2013 and 2017, with annual underruns varying between 797 acre-feet and 97,188 acrefeet. All of that water — about 264,000 acre-feet during the past five years — has gone free-of-charge to the next water rights holder in line: the Metropolitan Water District of Southern California, which supplies about half the state's population in counties from San Diego to Ventura.

Some farmers say there's always a worry that if the Imperial Valley continually has those underruns, Metropolitan may begin to depend on that extra water.

Yet, the lack of a water distribution plan could soon lead to the opposite problem. Michael Cohen, a water researcher with the Pacific Institute, said without the clear water allocation plan, farmers now have more ability to order additional water for their crops, even if the district is approaching its overall annual limit.

"It suggests that IID will experience overruns again," Cohen said, because the agency "now lacks the authority to deny irrigators water, at least within the general bounds of 'historic use.'" The Equitable Distribution Plan was designed so that it would kick in during a year when demand for water exceeded the available supply.

Several farmers said as far as they've heard, everyone has gotten the water they needed. The plan established a local water bank, and the district urged growers who didn't need some of the water they were allocated to put it into the bank.

"If you needed extra water on your farm, all you had to do was call the district and order extra water," farmer Al Kalin said. "But Judge Anderholt's ruling called a change to all that."

To make a new allocation system work, Kalin said, farmers will need to be able to again use the water bank. He said another complication in developing a new plan is that if it's based on farmers' history of water use, it'll be important to adjust for errors that have left some growers with unduly small amounts.

Kevin Kelley, IID's general manager, said the old method of apportioning water worked.

"A replacement program is needed but it's going to be complicated," Kelley said. The district's officials talked with the valley's water users for months to develop the 2013 plan, he said, and they'll need to start the same sort of process again.

Kelley said the district will stay engaged in Colorado River negotiations, "but there's no doubt that this ruling introduces a whole new complexity that we'll have to deal with."

On Feb.16, the leaders of three groups representing most of the valley's farmers wrote to the IID board and Abatti urging them to dismiss their appeals and asking the district to prepare a new water distribution plan in line with the court ruling.

The three groups — Imperial Valley Water, the Imperial County Farm Bureau and the Imperial Valley Vegetable Growers Association — said dropping the appeals would avoid the risk that an appeals court decision could "severely limit or damage those water rights."

"We ask that IID begin to work with agricultural users and others on a fair and equitable water apportionment plan," the groups said in the letter, which was signed by farmers Craig Elmore, Jack Vessey and Tom Brundy. They said the court ruling provides a "basic outline" for coming up with a fair method of apportioning water.

While both IID and Abatti have said they're going forward with appeals, an El Centro lawyer representing seven other farmers has weighed with a series of letters questioning the IID's position on water rights. Attorney Lowell Sutherland said in an interview by phone that the farmers he represents have concerns about water rights and generally support Abatti's position in the lawsuit.

Sutherland called IID water plan flawed and referred to parts of the Supreme Court's 1980 ruling that said the water rights are held in trust by the IID for landowners and are tied to the land

.

"If you sell the land, whoever buys the land gets the water right," Sutherland said. "But the right itself can't be separated from the land, and that's what it means when it says it's 'appurtenant to the land.'" Sutherland said the farmers he represents agree with Anderholt's ruling that industrial water customers or other categories of users shouldn't be prioritized ahead of agriculture. That issue would come to the forefront if there's eventually a water shortage.

"The principle that we believe should be applied if there's a shortfall is that, with the exception of cities, everybody takes a hit equally. Everybody's got to tighten their belt one notch — or two notches or three notches, however the shortage is," Sutherland said. "No landowner should be singled out as having preference over the others."

97 percent of the water

IID General Counsel Frank Oswalt responded to Sutherland's questions in a March 22 letter, saying the Supreme Court's ruling 38 years ago is "is among many case decisions recognizing that it is IID that is the water right holder."

Oswalt wrote there is a "permanent, legally enforceable, vested equitable right to receive water service from IID," but that the right "is not to a specific amount of water every year," since that may vary.

"IID is necessarily vested with broad discretion in carrying out its powers and duties and it is precisely because Judge Anderholt took the position that the district did not have that discretion... that the IID Board is obligated to challenge his decision," Oswalt said. "There is no reason to suggest that providing water to municipal and industrial uses will cause harm to the agricultural community, which currently receives approximately 97 percent annually of the water... There should not be conflict among water users."

That letter prompted debate at Tuesday's meeting.

Abatti started the discussion, accusing Oswalt of raising "a new legal theory" that contradicts the district's longstanding recognition of landowners' ownership of water rights.

He also pointedly addressed the board members' political future. If the IID board succeeds in their appeal, Abatti said, "their suggestion that those unhappy with their methods of apportionment should vote them out of office may be the only recourse."

In the upcoming June 5 elections, three IID board members are running for re-election: Juanita Salas, James Hanks and Norma Sierra Galindo.

As the debate continued, Hanks and board member Bruce Kuhn were questioned by other farmers.

They included Larry Cox and Jimmy Abatti — Michael's brother and president of the Imperial County Farm Bureau.

Kuhn said if he had written the IID's letter, he would have worded it differently.

"But to say that this board is antifarming, no. Nothing is further from the truth," Kuhn said. "I don't know anyone up here that's anti-ag. ... And I really feel bad that it's come to this."

Cox said farmers have had a good working relationship with the district's board but that in various court documents, "the IID's lawyers did come off as anti-ag."

The back-and-forth between the farmers and board members touched on past legal fights in the valley as well as a 2003 water transfer agreement. Under that deal, which the IID board approved under pressure from state and federal officials, the district is selling increasing amounts of water to cities in San Diego County and the Coachella Valley.

During the first 15 years of the deal, farmers were paid to leave some of their lands unplanted and fallow — at the height of the program as much as 35,000 acres a year out of the valley's more than 440,000 acres of farmland. That fallowing program ended last year, and the district is now focusing on a different program that pays farmers for conservation measures that help free up water.

Cox asked whether farmers should be concerned about the possibility of a future IID board deciding to take some of the agricultural water and sending it to other types of businesses.

"I do not think we should be concerned. I think that there's ample water for farming and I believe that there'll be ample water for industry as it comes in here," Kuhn said. "I think there's ample water for all that are here."

When Kuhn touched on what the Supreme Court ruling said about farmers' water rights, Cox asked: "Is there an amount that goes along with that right to service? "

"You have an absolute right to water, as long as you use it reasonably and beneficially," Kuhn said.

"Could future events change that? Maybe. Maybe we could get a decree from the federal government, from the secretary of the Interior, that we have to do something. We can't rule that out."

Seeming frustrated with the answer, Cox said: "A continued right to service doesn't do us any good if it's not enough water to farm with." The IID board, he added, already voted to reduce the amount of water for agriculture under the apportionment, "and what's to keep the board from doing it again in another way?"

Hanks, the board's president, said he'd prefer to talk over the disagreements in a more amicable way — at least until the lawyers get involved.

"When we get a letter threatening us that we're going to be sued," Hank said, "I'm going to get a lawyer to respond to that."

"And you know what? It doesn't do any of us good in the state of California to have this debate, to handle it this way," Hanks said. "The judge made a ruling and it's kind of tied everybody's hands, so we're all trying to work through that."

The IID recently made a settlement offer to Abatti, and his lawyer rejected that offer in a letter on Monday. Kelley, the general manager, said after the meeting that depending how the case plays out it, there's a chance it might bring "unintended consequences" that would be harmful for the Imperial Valley.

"It's a very risky and potentially reckless dispute, because while we're sitting down here shooting at each other, others outside this valley are watching it all play out," Kelley said. "There's always the chance that peace will break out, reason will prevail."

DESERT WATER AGENCY

OUTREACH & CONSERVATION ACTIVITIES

March 2018

Activities:

3/01 Ashley Metzger was on a live segment with KESQ TV about the butterfly garden mural painting.

3/01 Ashley Metzger was interviewed on the Joey English radio show.

3/02 Ashley Metzger presented to the 6th grade science class at St. Theresa school.

3/03 Ashley Metzger helped lead the CV Water Counts Academy tour along with Coachella Valley Water District.

3/08 Ashley Metzger attended the ONE-PS meeting.

3/08 Ashley Metzger was on a live segment with KESQ TV about the Sierra snowpack.

3/09 Ashley Metzger and Vicki Petek conducted a water audit for Coco Cabana.

3/10 DWA provided coolers and cups for the RX for Success event at the Palm Springs Stadium.

3/10 Vicki Petek staffed a table and provided water and information at the Palm Springs Farmer's Market.

3/10 Vicki Petek staffed a DWA conservation station at Lowe's and Home Depot.

3/10 Ashley Metzger and the Palm Springs High School Garden Club were interviewed by KMIR TV while planting the butterfly garden.

3/14 Ashley Metzger presented at a synthetic turf conference in Rancho Mirage.

3/15 Ashley Metzger was interviewed by Gene Nichols with K-News about the butterfly garden.

3/15 Ashley Metzger was on a live segment with KESQ TV about Desert Horticultural Society's Desert Garden Tour.

3/16 Ashley Metzger attended Leadership Coachella Valley.

3/17 DWA provided the water trailer for Palm Springs SunUp Rotary's 8th Annual Chalk Art Festival at Palm Springs High School.

3/18 DWA provided the water trailer and information at Desert Horticultural Society's Desert Garden Tour registration.

3/21 Vicki Petek completed 3 turf buy-back post inspections.

3/22 Ashley Metzger was on a live segment with KMIR TV about the Butterfly Block Party.

3/22 Ashley Metzger was on a live segment with KESQ TV about the Butterfly Block Party.

3/24 DWA provided the water trailer and information at the ONE-PS 11th Annual Picnic & Expo at Ruth Hardy Park.

3/25 DWA hosted the Butterfly Block Party to launch the new pollinator garden and wall mural.

3/27 Ashley Metzger presented with CVWD at the Association of Environmental Professional conference in Rancho Mirage.

3/28 Ashley Metzger and Suzie Tolksdorf attended the Family Fun Fest at Palm Springs Stadium and DWA provided the water trailer.

3/28 Ashley Metzger attended and presented at the Four Seasons NORG Annual Meeting.

3/29 Ashley Metzger was on a live segment with KESQ TV about spring break water experiments.

3/31 DWA provided the water trailer, igloos, bottles and cups to the Palm Springs Marathon Runners Run for Ike 5K.

Public Information Releases/eBlasts:

March 2:– Alert: Hit hydrant causes flooding and temporary road closure on San Rafael approx. 1000' west of Indian Cyn – Nextdoor

March 19: Spring Tour! A few seats left (April 4, 8 AM) – Nextdoor

March 21: DWA hosts Spring Tour on April 4 – Website

March 27: Desert Water Agency Unveils Butterfly Garden, Hosts Block Party – Press Release, Website, Social

March 28: Desert Water Agency work at Los Pueblos – Nextdoor

March 28: Desert Water Agency work at Villas de las Flores - Nextdoor

March 28: DWA work at Vista Los Robles – Nextdoor

March 28: DWA work at The Fairways – Nextdoor

Upcoming Events

April 4: 8:00 to 11:00 & 1:00 to 4:00 – DWA Spring Facilities Tour

April 8: 8:00 to 4:00 – DWA (water trailer) at Opera in the Park, Sunrise Park

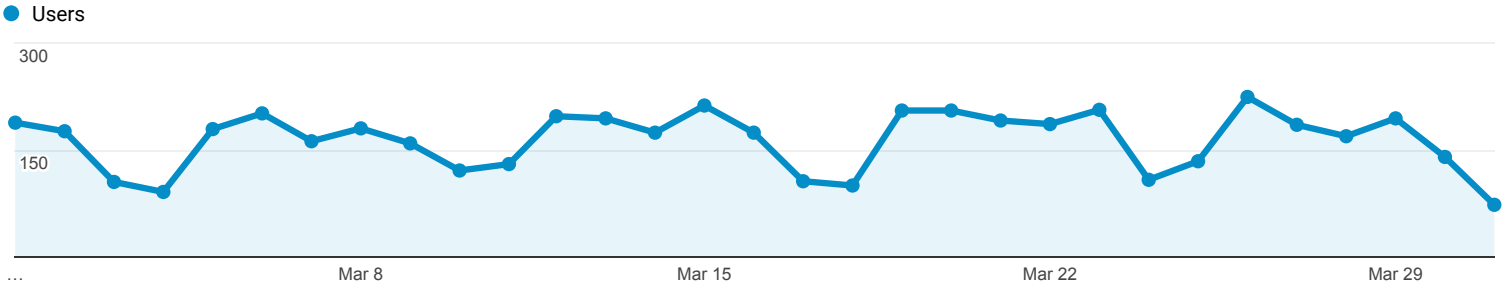
April 24-26: Colorado River Tour

Audience Overview

All Users
100.00% Users

Mar 1, 2018 - Mar 31, 2018

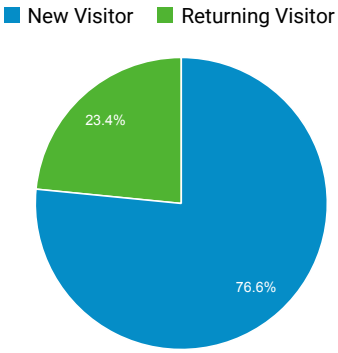
Overview



Users	New Users	Sessions
4,290	3,571	5,450

Number of Sessions per User	Pageviews	Pages / Session
1.27	13,218	2.43

Avg. Session Duration	Bounce Rate
00:01:49	45.08%



	Language	Users	% Users
1.	en-us	4,029	93.92%
2.	en-ca	123	2.87%
3.	en-gb	40	0.93%
4.	en-au	9	0.21%
5.	es-xl	9	0.21%
6.	ko	9	0.21%
7.	en	5	0.12%
8.	en-za	5	0.12%
9.	es-us	5	0.12%
10.	de-de	4	0.09%

DESERT WATER

Desert Water Agency
Facebook Analytics
March 2018

Actions on Page
March 9 - April 5

2
Total Actions on Page ▲100%

Page Views
March 9 - April 5

189
Total Page Views ▲4%

Page Previews
March 9 - April 5

21
Page Previews ▲24%

Page Likes
March 9 - April 5

6
Page Likes ▼57%

Reach
March 9 - April 5

10,068
People Reached ▲263%

Recommendations
March 9 - April 5

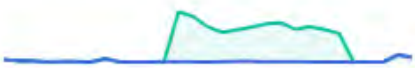
We don't have data to show you this week.

Post Engagements
March 9 - April 5

865
Post Engagement ▲43%

Videos
March 9 - April 5

2,149
Total Video Views ▲959%

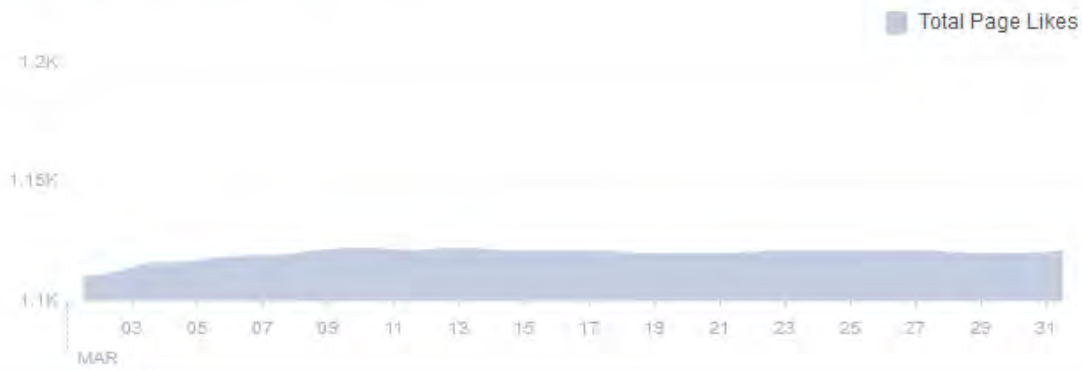


Page Followers
March 9 - April 5

8
Page Followers ▼43%

03/28/2018 4:46 pm	What a great topic Desert Horticultural Society of the Coach			246	10 7	Boost Post
03/28/2018 9:47 am	Come see us at the Family Fun Fest today, 10-12!			133	11 5	Boost Post
03/27/2018 1:44 pm	Butterfly Block Party			141	66 0	Boost Post
03/26/2018 6:39 pm	It was a great day, indeed!			94	14 7	Boost Post
03/24/2018 11:41 am	Having fun at the ONE Palm Springs community picnic!			127	22 4	Boost Post
03/22/2018 9:30 am	This #WorldWaterDay think about all of the ways water is th			72	2 1	Boost Post
03/20/2018 1:10 pm	Happy first day of spring! Come down to our office to pick			291	24 17	Boost Post
03/19/2018 11:47 am	It's Fix a Leak Week. Take a few minutes to find and fix drips			144	3 4	Boost Post
03/18/2018 12:54 pm	What a perfect day for the 2018 Desert Garden Tour!			127	5 6	Boost Post
03/18/2018 9:55 am	We hope to see you there!			98	6 1	Boost Post
03/14/2018 8:01 am	Our customers saved 8% last month compared to February			131	15 21	Boost Post
03/12/2018 4:47 pm	It's groundwater awareness week. In our desert, this is a v			162	5 3	Boost Post
03/11/2018 9:00 am	Adjust your irrigation timers, too! Consider applying for a re			96	2 1	Boost Post
03/07/2018 9:46 am	Desert Water Agency was live .			110	5 1	Boost Post
03/06/2018 3:18 pm	This morning, our insurance company gave us a check for			84	9 3	Boost Post
03/05/2018 7:58 am	This weekend, we had the privilege of being part of the CV			750	152 38	Boost Post

Total Page Likes as of Today: 1,121

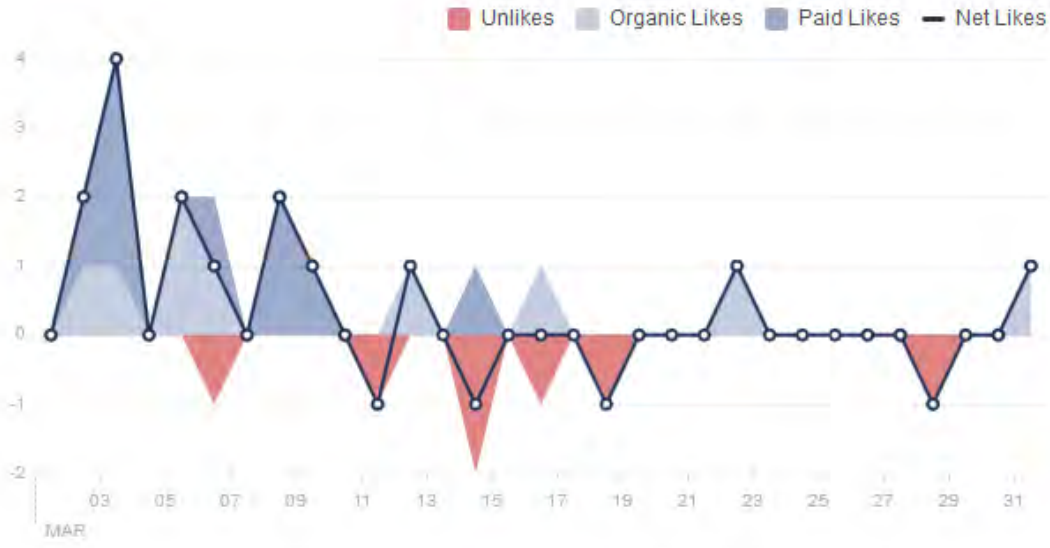


BENCHMARK
Compare your average performance over time.

Total Page Likes

Net Likes

Net likes shows the number of new likes minus the number of unlikes.



BENCHMARK
Compare your average performance over time.

Unlikes

Organic Likes

Paid Likes

Net Likes

WANT MORE LIKES?
Create an ad to get more people to like your Page.

Promote Page

27 likes, 2 comments

23 likes

27 likes, 1 comment

21 likes

25 likes, 3 comments

14 likes, 1 comment

16 likes

21 likes

25 likes

Nextdoor

Desert Water Agency
1200 S Gene Autry Trl, Palm Springs, CA 92264

Outreach & Conservation Manager Ashley Metzger, Desert Water Age...

DWA work at The Fairways

Scheduled to start on April 7, Desert Water Agency will be replacing plastic water service lines at The Fairways that are quite susceptible to breaks. This should improve the reliability of water service in your community and reduce disruption due to leaks/repairs.

See more...

Outreach & Conservation Manager Ashley Metzger, Desert Water Age...

DWA work at Vista Los Robles

Scheduled to start on April 2, Desert Water Agency will be replacing plastic water service lines at Vista Los Robles that are quite susceptible to breaks. This should improve the reliability of water service in your community and reduce disruption due to leaks/repairs.

See more...

Outreach & Conservation Manager Ashley Metzger, Desert Water Age...

Desert Water Agency work

Scheduled to start around April 16, Desert Water Agency will be replacing plastic water service lines at Villas de las Flores that are quite susceptible to breaks. This should improve the reliability of water service in your community and reduce disruption due to leaks/repairs.

See more...

Outreach & Conservation Manager Ashley Metzger, Desert Water Age...

Desert Water Agency work

Scheduled to start on April 2, Desert Water Agency will be replacing plastic water service lines at Los Pueblos that are quite susceptible to breaks. This should improve the reliability of water service in your community and reduce disruption due to leaks/repairs.

See more...

Outreach & Conservation Manager Ashley Metzger, Desert Water Age...

Spring Tour! A few seats left (April 4, 8 AM)

Desert Water Agency's spring tour on April 4 from 8AM to noon has a few seats left. We will be visiting: a well site, a reservoir, our recycled water plant and laboratory, our solar field and our office. There will be moderate walking but the Buzz Bus will take us to and from most locations.

See more...

Outreach & Conservation Manager Ashley Metzger, Desert Water Age...

Alert:

Hit hydrant causes flooding and temporary road closure on San Rafael approx. 1000' west of Indian Cyn.

Edited 2 Mar · Posted Mar 1, 2018 · Subscribers of Desert Water Agency in 6 neighborhoods

Desert Water Agency
Twitter Analytics
March 2018

Mar 2018 · 31 days

TWEET HIGHLIGHTS

Top Tweet earned 626 impressions

It's **#FixALeakWeek**. If you hear a drip...drip...drip, do something about it! Even small leaks can waste thousands of gallons.**@EPAwatersense** pic.twitter.com/rjA9Mjq0gZ

3 2

View Tweet activity

View all Tweet activity

Top Follower followed by 16.3K people

UNAC/UHCP
@unacuhcp FOLLOWS YOU

Southern California nurses, PharmDs & health care professionals union. Affiliate of AFSCME, AFL-CIO. Tweeting about health care and labor issues.

View profile

View followers dashboard

Top mention earned 13 engagements

CitySourced
@CitySourced · Mar 22

Did you know today is **#worldwaterday**? Shout out to **@DWAwater** **@sdcwa**, and **@cvwdwater** for their initiatives on sustainable usage of freshwater! Make sure to check out how they're celebrating **#FixaLeakWeek**!

3 6

View Tweet

Top media Tweet earned 455 impressions

It's **#groundwater** awareness week. Did you know that about 99% of the drinking water in the Coachella Valley comes from hundreds of feet beneath the ground? pic.twitter.com/39nL0CzPT5

1

View Tweet activity

View all Tweet activity

MAR 2018 SUMMARY

Tweets 23	Tweet impressions 10K
Profile visits 688	Mentions 1
New followers 8	