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ENGINEER'S REPORT

GROUNDWATER REPLENISHMENT AND ASSESSMENT PROGRAM FOR THE WHITEWATER RIVER SUBBASIN

DESERT WATER AGENCY 2015/2016

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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 water to replenish groundwater in the Whitewater River Subbasin of the Upper Coachella Valley Groundwater Basin.

If groundwater replenishment with imported water (artificial recharge) is excluded, annual groundwater overdraft (groundwater extractions or water production in excess of natural groundwater replenishment or recharge) within the Whitewater River Subbasin of the Upper Coachella Valley Groundwater Basin (see **Figure 1**) would continue to increase at a steady rate. Overdraft in the Upper Whitewater River Subbasin is currently estimated to range between 63,000 and 90,000 acre feet per year (AF/Yr), depending upon actual non-consumptive return flows. Supplementing natural groundwater replenishment resulting from rainfall runoff with artificial recharge is therefore necessary to offset annual and cumulative overdraft.

Increases in cumulative overdraft, without artificial recharge, 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 recharge offsets annual groundwater overdraft and the concerns associated therewith and arrests or reduces the effects of cumulative groundwater overdraft.

The Area of Benefit for DWA's portion of the groundwater replenishment program is that portion of the Whitewater River Subbasin and upstream tributaries--either subbasins, 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 Area of Benefit, aside from specifically exempted production. Production is defined as either extraction of groundwater from the Whitewater River Subbasin and upstream tributaries, or diversion of surface water that would otherwise naturally replenish the Whitewater River Subbasin and upstream tributaries, all within the Area of Benefit.

The following producers are specifically exempted from assessment: producers extracting groundwater from the Whitewater River Subbasin 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 Whitewater River Subbasin and upstream tributaries by 10 AF/Yr or less.

Because groundwater production continues to exceed groundwater natural replenishment, and cumulative groundwater overdraft persists within the Whitewater River Subbasin, continued artificial recharge is necessary to either eliminate or reduce the effects of cumulative overdraft, and reduce the resultant threat to the groundwater supply.

DWA has requested its maximum 2015 Table A State Water Project water allocation of 55,750 AF pursuant to its State Water Project 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 2015 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 staff, it is unlikely that MWD will recall any water in 2015.

According to current (as of March 2, 2015) projections for 2015, 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. The state's historic drought condition and lower than normal reservoir levels have been the cause of lower allocations delivered from CDWR in the last two calendar years. Ordinarily, DWA requests State Water Project surplus water under the Turn-Back Water Pool Program (Pool A and Pool B) in March of each year, but it is currently unknown if any surplus water will be made available. In addition, the availability of water under the Yuba River Accord is uncertain for 2015.

The maximum replenishment assessment rate permitted by Desert Water Agency Law for Table A water for the 2015/2016 fiscal year is $164.66/AF. The $164.66 rate is based on estimated Applicable State Water Project Charges of $7,810,013 (see **Table 3** for DWA applicable charges for 2015 and 2016) and estimated combined assessable production of 47,430 AF for the Whitewater River and Mission Creek

Subbasins (37,510 AF within the Whitewater River Subbasin, 9,680 AF within the Mission Creek Subbasin, and 240 AF within the Garnet Hill Subbasin).

The effective replenishment assessment rate is based on DWA's estimated State Water Project Allocated Charges for the current year (based on CDWR's projections for the assessment period) divided by the estimated assessable production for the assessment period (based on the assessable production for the previous calendar year), as set forth in **Table 4**.

For the 2012/2013 fiscal year, DWA's effective replenishment rate was based on the actual payments made to the State Water Project 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 prepared by CDWR in Appendix B of the 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 State Water Project charges in 2012 than in 2011. It became clear that the variability in the actual payment of effective replenishment 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 rate used 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 State Water Project charges amount of $5,335,090 and estimated assessable production of 47,430 AF for the 2014 calendar year (shown in **Table 4** as the estimated assessable production for the 2015/2016 fiscal year), the effective replenishment assessment rate component for Table A water is $112/AF for the 2015/2016 fiscal year.

Since 1996, DWA and CVWD have purchased surplus State Water Project water, when available, to supplement deliveries of Table A (see **Chapter III, Section E.3**). In the past, DWA obtained funds for its applicable charges for surplus water payments from its Unscheduled State Water Project Deliveries Reserve Account, rather than from funds raised directly through the collection of replenishment assessments. In 2004/2005, DWA began levying a separate charge to reimburse the aforementioned reserve account to restore funds available for payment for future surplus State Water Project supplies, when they become available. Said charge has not been implemented in recent years due to discretionary reduction, but will be included in the replenishment assessment in the future.

DWA has elected to set the replenishment assessment rate at $102.00 for the 2015/2016 fiscal year (based on Proposition 218 proceedings). At that rate, DWA's replenishment assessment for the Whitewater River Subbasin will be about $3,626,100. For other producers in the Whitewater River Subbasin, it will be about $199,920. Based on the aforementioned replenishment assessment rate and estimated assessable production of 37,510 AF for the Whitewater River Subbasin, DWA will bill approximately $3,826,020 through the replenishment assessment. As a result, DWA's existing cumulative Unscheduled State Water Project Deliveries Reserve Account deficit will increase from about $26,543,811 to about $26,928,021 (see **Table 5**).

It should be noted that since there is no independent replenishment program for the Garnet Hill Subbasin, the Garnet Hill Subbasin assessable production (240 AF) and the estimated assessments ($24,480) are included in **Table 5** for the 2015/2016 fiscal year in both of the Whitewater River and Mission Creek Subbasin Engineer's Reports. The allocation of water to the two spreading grounds (Whitewater River and Mission Creek) is, in part, based on the relative production in the respective Areas of Benefit. In the Mission Creek/Garnet Hill Water Management Plan of 2013, it was determined that the Garnet Hill Subbasin benefits from artificial recharge in the Whitewater River and Mission Creek Subbasins. Therefore, the production quantity for the Garnet Hill Subbasin has been divided and proportionately added to the production totals for both the Whitewater River and Mission Subbasins on the basis of proportionate production in the two Areas of Benefit.

In summary, the Whitewater River Subbasin is in a condition of cumulative overdraft even though groundwater levels have generally stabilized (cumulative overdraft offset by artificial recharge is estimated to be 714,700 AF); thus, there is a continuing need for groundwater replenishment. Even though DWA has requested of the CDWR its full State Water Project Table A allocation of 55,750 AF, the CDWR expects to deliver 20% of this allocation during the coming year, and DWA has elected to hold the groundwater replenishment assessment rate for 2015/2016 at $102.00/AF.

CHAPTER II
INTRODUCTION

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INTRODUCTION

Desert Water Agency's (DWA's) Groundwater Replenishment and Assessment Program was established to augment groundwater supplies and arrest or retard declining water table conditions within the Upper Coachella Valley, specifically within the Whitewater River Subbasin of the Coachella Valley Groundwater Basin (see **Figure 1**).

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 (California Department of Water Resources (CDWR) 2003). The Whitewater River Subbasin is one of the five subbasins (Whitewater River, Mission Creek, San Gorgonio Pass, Desert Hot Springs, and Garnet Hill) within the Coachella Valley Groundwater Basin (United States Geological Survey (USGS) 1974).

DWA's groundwater replenishment program encompasses portions of four of the five subbasins (Whitewater River, Mission Creek, San Gorgonio Pass, and Garnet Hill). **Figure 2** illustrates the subasin boundaries per the Mission Creek/Garnet Hill Water Management Plan (Montgomery Watson Harza (MWH) 2003) and DWA's Areas of Benefit of the replenishment program.

A. WATER MANAGEMENT AGREEMENT

The Program was implemented pursuant to a joint Water Management Agreement (executed July 1, 1976 and amended December 15, 1992) between the Coachella Valley Water District (CVWD) and the DWA. Later, a similar program was implemented within the Mission Creek Subbasin pursuant to a similar Water Management Agreement.

The Water Management Agreement calls for maximum importation of State Water Project 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.

B. GROUNDWATER OVERDRAFT

The 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 groundwater overdraft (groundwater extractions or water production in excess of natural groundwater replenishment or recharge) existed within the Upper Coachella Valley Groundwater Basin and its Subbasins.

Based on information contained in sUSGS Water Resources Investigations 77-29 and 91-4142, average annual groundwater overdraft within the Whitewater River Subbasin of the Upper Coachella Valley Groundwater Basin 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 and one half times greater. Groundwater overdraft within the Whitewater River Subbasin (excluding artificial recharge) is now estimated to have averaged up to 91,000 AF/Yr (181,000 AF water produced - 28,000 AF net inflow (5 year average) - 62,000 AF non-consumptive return = 91,000 AF of groundwater overdraft) during the last five years. Cumulative overdraft offset by artificial recharge is currently estimated to be 714,700 AF.

C. GROUNDWATER REPLENISHMENT

Since 1973, CVWD and DWA have been using Colorado River water exchanged for State Water Project water (Table A water allocations and supplemental water as available) to replenish groundwater in the Water Management Area for the Whitewater River Subbasin of the Upper Coachella Valley Groundwater Basin. The two agencies are permitted by law to replenish 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 from replenishment of groundwater.

Prior to recharge activities in the Whitewater River Subbasin, water levels were declining steadily. As shown in **Exhibit 8**, after recharge activities commenced in 1973 and specifically after the three large recharge events listed below, groundwater levels water levels in the Whitewater River Subbasin have risen substantially.

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

Exhibit 8 includes hydrographs for a collection of groundwater wells within the Whitewater River Subbasin in comparison with the total annual quantities of water delivered to the Whitewater Spreading Grounds. This comparison clearly indicates that the recharge program has benefitted wells within the subbasin.

Water levels at the wells closest to the spreading grounds rose approximately 400 feet in the late 1980s and nearly 200 feet following each significant recharge event to the Whitewater River Subbasin. The most significant response to groundwater recharge in the Whitewater River Subbasin is observed in the wells located closest to the spreading grounds. The degree of benefit observed from recharge decreases the further the well is from the spreading grounds. Well locations are shown on **Figure 2**.

Mission Springs Water District's Wells 25 and 26 are located upstream of the spreading grounds 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 AF each after recharge commenced in the 1980s, and also rose following the other significant recharge events.

D. REPLENISHMENT ASSESSMENT

For the Whitewater River Subbasin, DWA began its groundwater assessment program in fiscal year 1978/1979 and CVWD began its groundwater assessment program in fiscal year 1980/1981. 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.

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 Area 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.

E. WATER MANAGEMENT AREA

Pursuant to the Water Management Agreement between CVWD and DWA, the Water Management Area encompasses the Upper Whitewater River Subbasin within the Upper Coachella Valley Groundwater Basin (see **Figure 1**). Hereinafter, any reference to the Whitewater River Subbasin shall mean the portions of that Subbasin within the Upper Coachella Valley Groundwater Basin.

F. AREA OF BENEFIT

The Area of Benefit for DWA's replenishment program consists of the northwesterly portion of the Whitewater River Subbasin, and tributaries thereto, situated within DWA's boundaries (see **Figure 2**). The Area of Benefit for CVWD's replenishment program consists of the southeasterly portion of the Whitewater River Subbasin situated within CVWD's boundaries.

Within DWA's Area of Benefit, there are six 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) and one by the former Whitewater Trout Farm (now owned by the Wildlands Conservancy for conservation and educational purposes), the latter two being on the Whitewater River itself.

While the replenishment assessments outlined on the following pages are based on and limited to water production within DWA's Area of Benefit, available water supply, estimated water requirements, and groundwater replenishment are referenced herein to the entire Whitewater River Subbasin. The Whitewater River Subbasin is utilized jointly by CVWD and DWA for water supply purposes, and the two agencies jointly manage said subbasin's water supplies.

CHAPTER III
WATER SUPPLY

CHAPTER III
WATER SUPPLY

A. GROUNDWATER PRODUCTION

Annual water production (groundwater extractions plus surface water diversions) within the Whitewater River Subbasin 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 Water Management Area (which had the effect of temporarily reversing the trend toward steadily increasing production of groundwater therein) and with a downturn in California's economy, the latter of which reduced demands for construction and commercial deliveries and limited demands by residential development.

Production increased sharply to about 187,000 AF in 1997 and to about 208,000 AF in 1999, and 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 service area) conversion of agricultural land to residential development, which leveled off in 2000. Production has decreased during recent years due to economic conditions and water conservation.

During the past five calendar years (2010 through 2014); average annual water production within the Whitewater River Subbasin has been about 181,000 AF/Yr; approximately three-fourths of which took place within CVWD and approximately one-fourth within DWA. Historic water production data for the Whitewater River Subbasin is set forth in **Exhibit 1** in **Appendix A**.

B. NATURAL RECHARGE

It is estimated that natural inflow into the Whitewater River Subbasin has averaged 52,000 AF/Yr, while natural outflow is currently estimated to average 27,800 AF/Yr (MWH 2014). Thus, approximately 24,200 AF (natural inflow less natural outflow) of natural, or native, groundwater is available for water supply each year.

C. NON-CONSUMPTIVE RETURN

Consumptive use in the Whitewater River Subbasin is estimated to be about 65% of water production (per USGS Water Resources Investigation 91-4142). Annual production has averaged 181,000 AF/Yr for the past five years, resulting in average consumptive use of about 118,000 AF/Yr and average non-consumptive return of about 62,000 AF/Yr during the same period.

Non-consumptive return water is water returned to the aquifer after use (for example, irrigation water, and treated wastewater discharged to percolation ponds, infiltrating and percolating into the ground) or water used for public parks or golf course irrigation (wastewater recycled for irrigation use). Although non-consumptive return in the Whitewater River Subbasin has been estimated at approximately 35% (per USGS Water Resources Investigation 91-4142), CVWD's 2010 Update to the Coachella Valley Water Management Plan (and 2014 Status Report to that plan), projects that non-consumptive return will 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 in the Whitewater River Subbasin Area of Benefit.

D. GROUNDWATER IN STORAGE

Recent average annual production of 181,000 AF has been met with approximately 24,200 AF of natural recharge, 62,000 AF of non-consumptive return (minimum), and 91,000 AF (the balance) from artificial recharge and, when imported water supplies were insufficient, such as during droughts, from groundwater in storage.

E. ARTIFICIAL RECHARGE

1. Historic

From 1973 through 2014, CVWD and DWA have replenished the Whitewater River and Mission Creek Subbasins with approximately 2,650,173 AF (2,508,381 AF to Whitewater River Subbasin and 141,792 AF to Mission Creek Subbasin) of exchange deliveries (Colorado River water exchanged for State Water Project water, including

advance deliveries converted to exchange deliveries, but excluding advance deliveries not yet converted to exchange deliveries). Including advance deliveries not yet converted to exchange deliveries, artificial recharge with Colorado River water (exchange and advance deliveries) has approximated 3,025,415 AF, (approximately 2,883,623 AF delivered to the Whitewater River Subbasin and approximately 141,792 AF delivered to the Mission Creek Subbasin). See **Exhibits 3 through 7** in **Appendix A**.

Between October 1984 and December 1986, The Metropolitan Water District of Southern California (MWD) initially recharged the Whitewater River Subbasin with about 466,000 AF of advance delivered water for future exchange with CVWD and DWA. This initial quantity of advanced delivered water has been augmented several times since then, and the total quantity of advance delivered water is currently 907,516 AF. During drought conditions, MWD has periodically met exchange delivery obligations with water from its advance delivery account. By December 2014, MWD had converted approximately 659,667 AF of advance delivered water to exchange water deliveries, leaving a balance of approximately 247,849 AF in MWD's advance delivery account (see **Exhibits 3 through 5** in **Appendix A** for an accounting of exchange and advance deliveries).

2. Table A Water Allocations and Deliveries

State Water Project Table A water allocations are based primarily on hydrologic conditions and legal constraints, and vary considerably from year to year. In 2014, Table A water deliveries were approximately 5% of maximum Table A allocations. As of March 2, 2015, Table A water deliveries in 2015 are projected to be 20% of maximum Table A allocations. Long-term average Table A allocations are currently predicted to be approximately 58% of maximum Table A allocations.

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. The Probable Table A Water Allocations are herein assumed to be equal to the maximum Table A Water allocations with the MWD transfer portion reduced to 35% to represent a long-term average transfer quantity with probable recalls by MWD pursuant to the 2003 Exchange Agreement and its implementation, and

"Probable Table A Water Deliveries" are herein assumed to be 58% of the aforementioned Probable Table A Water Allocations.

From 1973 through 2003, CVWD and DWA had State Water Project maximum annual Table A allocations of 23,100 AF and 38,100 AF, respectively. To meet projected water demands and to alleviate cumulative overdraft conditions, CVWD and DWA have secured additional State Water Project 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.

a. 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.

b. 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 Project 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 staff, it is unlikely that MWD will recall any water in 2015.

c. 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 Project Contractors.

3. 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 Agreement. DWA secures funds for its allocated charges for surplus water payments from its Unscheduled State Water Project Deliveries Reserve Account.

a. Turn-Back Water Pool Water

From 1997 through 2014, CVWD and DWA jointly obtained 296,710 AF of water under CDWR's Turn-Back Water Pool Program, which water was exchanged for a like quantity of Colorado River Water and delivered to the Whitewater River Recharge Basins.

Turn-Back Water Pool water was originally Table A water scheduled for delivery to other State Water Contractors, but those Contractors subsequently determined the water to be 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 7**.

In 2013, DWA and CVWD were allocated 2300 AF of State Water Project surplus water under the Turn-Back Water Pool Program (Pool A only) and 0 AF in 2014. Based on current projections, CVWD and DWA do not expect to receive any Pool A or Pool B water in 2015.

b. Flood Water

In 1997 and 1998, CVWD and DWA also jointly obtained 47,286 AF of Kaweah River, Tule River, and Kings River flood flow water, which water was also exchanged for a like quantity of Colorado River water delivered to the Whitewater River Recharge Basins. Currently, availability of flood water in 2015 is uncertain and unlikely due to the existing drought conditions.

c. Article 21 Surplus Water

From 2000 through 2014, 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 Recharge Basins. No Article 21 water has been delivered to the Coachella Valley since 2011. Currently, availability of Article 21 water in 2015 is uncertain and unlikely, and no decision to purchase Article 21 water has been made as of the date of this report.

d. Yuba River Accord and Other Water

In 2008, CVWD and DWA obtained 1,836 AF of water under the terms of the then newly-ratified Yuba River Accord. 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 and 2011 under the Yuba River Accord. In 2014, CVWD and DWA obtained 1,213 AF of water under the Yuba River Accord. Currently, availability of water under the Yuba River Accord in 2015 is uncertain, and no decision to purchase Yuba River water has been made as of the date of this report.

4. Past Year

Total artificial recharge (both Whitewater River and Mission Creek Subbasins) for 2014 was 7,858 AF (including CVWD's DMB Pacific and MWD Quantitative Settlement Agreement purchases). Of that amount, 3,533 AF was delivered to the Whitewater River Subbasin in 2014 (see **Exhibit 7**).

5. Current Year

The estimated total quantity of water available for artificial recharge in the Upper Coachella Valley during 2015, including delivery of 20% of the maximum Table A allocation and approximately 0 AF of Turn Back Pool water, is approximately 38,820 AF.

6. Meeting Future Water Requirements

Historic and projected water supplies and water requirements for the Whitewater River Subbasin are set forth in **Figure 3**. Projected water supplies include State Water Project supplies as described in the *State Water Project Reliability Report* and *Technical Addendum to The State Water Project Reliability Report 2013,* dated December 2014, estimated natural inflow, and estimated non-consumptive use. Historic and projected water requirements include groundwater production, and estimated natural outflow.

The projected water supply curve shown in **Figure 3**, is based on the estimates for the natural inflow to the Whitewater River Subbasin of approximately 52,058 AF/yr, less the estimated natural outflow to the east portion of the Whitewater River Subbasin decreasing from approximately 27,800 AF in 2014 to 13,700 through 2035, continuing artificial recharge, non-consumptive return, and groundwater in storage, if necessary. As water production increases, groundwater in storage may decrease and water available for basin discharge may be reduced; however, natural outflow is not expected to decline significantly in the future, but rather is expected to remain relatively constant, at least in the near term. Also, as water production and water use increase, non-consumptive return increases and vice versa.

The projected water supply curves are shown in **Figure 3**, both based on the 2013 reliability projections 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) for the Whitewater River Subbasin (also shown in **Figure 3**) are based on MWH's (and others) water balance model utilized in the 2010 Update to the Coachella Valley Water Management Plan and the 2014 Status Report through 2035. The projected requirements coupled with probable supplies show an annual water surplus beginning in 2016. However, the cumulative annual change in storage will remain in the negative through 2035 under currently projected conditions.

Based on the production relationship between the Whitewater River Subbasin and the Mission Creek Subbasin, in accordance with the Mission Creek Groundwater Replenishment Agreement, about 93% of imported water deliveries in 2015 will be directed to the Whitewater River Subbasin based on 2014 production. For future years, the percentage of the total production is expected to range from 88% to 81% through 2035 in the Whitewater River Subbasin due to population projections (decreased demands) and water conservation measures, coupled with increased production in the Mission Creek Subbasin due to expected population growth.

7. Effect on Overdraft

Although artificial recharge 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 groundwater overdraft, which existed prior to artificial recharge 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, current cumulative overdraft not yet offset by cumulative artificial recharge is estimated at roughly 714,700 AF (hereinafter referred to as cumulative net overdraft).

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.

8. Adequacy of Current Supplies and Future Prospects

CVWD's and DWA's maximum Table A water allocations currently stand at 138,350 AF/Yr and 55,750 AF/Yr, respectively, for a combined total of 194,100 AF/Yr (71% CVWD and 29% DWA). With full deliveries of these Table A water allocations (with no MWD call-back or recall, and with no CDWR reduced Table A deliveries), plus natural supply and non-consumptive return flow, annual water supply will be significantly greater than annual water requirements. With prolonged reduced deliveries of Table A water allocations (in combination with any MWD call-back or recall), annual water supply may be insufficient to meet annual water requirements without groundwater from storage.

Continuous availability of maximum Table A allocations will require complete development of the State Water Project, which currently has only about half of the water supply capacity needed to meet maximum Table A allocation obligations during droughts; 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 State Water Project supplies was reduced to approximately 60% of maximum allocations. Without the construction of additional Sacramento-San Joaquin Delta facilities and certain water storage reservoirs, the water supply capability of the State Water Project will remain limited and State Water Project Contractors will have to share reduced quantities of available supplies, especially during droughts. The long-term reliability of State Water Project supplies is currently estimated at 58% of maximum Table A allocations through 2033 per the *State Water Project Reliability Report 2013,* dated December 2014.

With continued progress in the completion of the Bay Delta Conservation Plan (BDCP), the balance between more reliable State Water Project water supplies and ecosystem restoration will be increased. The BDCP is a long-term conservation strategy designed to set forth actions required for a healthy Delta that will be implemented over the next 50 years. The cost for implementation of the BDCP is currently estimated at about $20 billion. Eventually, State Water Project 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.

In addition to the existing restrictions on water supplies from the State Water Project, California is in its fourth consecutive year of severe drought. Beginning in 2012, the state has experienced the driest three years on record. In response to another dry winter in 2014/2015, the governor of California issued an executive order on April 1, 2015, mandating water restrictions on urban water use statewide, and demanding 25% reduction in water use. As of the date of this report, the effect this executive order will have on water deliveries from the State Water Project is uncertain.

In conclusion, the Whitewater River Subbasin is in an overdraft condition and will most likely remain so, even with the importation and exchange of available State Water Project water, until a higher proportion of the maximum State Water Project Table A allocations becomes available. With maximum Table A allocations, recharge in the Whitewater River Subbasin 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 State Water Project supplies.

F. PRECIPITATION

The climate in the Coachella Valley is very dry and warm with an average annual precipitation of approximately 5 inches. 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 the Riverside County Flood Control and Water Conservation District is included in **Appendix B**.

CHAPTER IV
REPLENISHMENT ASSESSMENT

CHAPTER IV
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 Area of Benefit, provided assessment rates are uniform throughout. Pursuant to Desert Water Agency Law, the amount of any replenishment assessment cannot exceed the sum of certain State Water Project Delta Water Charge (Delta Water Charge), the Variable Component of the State Water Project Transportation Charge (Variable Transportation Charge), and the Off-Aqueduct Power Component of the State Water Project 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 State Water Project water) had been limited to recharge of the Whitewater River Subbasin. In 2002, DWA and CVWD commenced recharge activities in the Mission Creek Subbasin, in addition to continuing their ongoing activities in the Whitewater River Subbasin. The Area of Benefit for Groundwater Replenishment and Assessment herein is defined as that portion of the Whitewater River Subbasin and tributaries thereto lying within DWA's boundaries (**Figure 2**).

The groundwater replenishment assessment and replenishment assessment rate for 2015/2016 are based on the following:

1. All groundwater production within DWA, with certain exceptions, is metered, and all assessable surface water diversions within DWA is metered or measured.

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 State Water Project Charges.

3. The proportionate share of the Applicable State Water Project Charges allocable to CVWD and DWA in accordance with the Water Management Agreement 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), hereafter referred to as Allocated State Water Project 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 or the Mission Creek Subbasin.)

4. Certain charges or costs other than those derived pursuant to items 1, 2, and 3 above. Currently, for the Whitewater River Area of Benefit, a separate charge is being levied for reimbursement to the Unscheduled State Water Project Deliveries Reserve Account in payment for surplus water secured with funds from said reserve account. Such additional charges may be offset from time to time by discretionary reductions.

The replenishment assessment rate comprises two components: (1) the Allocated State Water Project 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 or those for construction and operation of facilities necessary for groundwater recharge.

The replenishment assessment rate, when applied to estimated assessable production (all production, excluding that which is exempt, within the Area of Benefit), results in a replenishment assessment which must not exceed the maximum permitted by Desert Water Agency Law (the Applicable State Water

Project Charges). Due to the interdependent nature of the imported water supply for the Whitewater River and Mission Creek Subbasins, the Allocated State Water Project Charges component of the replenishment assessment rate is uniform throughout the Whitewater River and Mission Creek Areas of Benefit; however, due to the independent and separate nature of various other aspects of the groundwater replenishment program within the Whitewater River and Mission Creek Subbasins, the other charges and costs component need not be uniform; they are specific to each subbasin.

A. ESTIMATED ASSESSABLE WATER PRODUCTION

Estimated assessable production within DWA's Whitewater River Subbasin Area of Benefit consists of groundwater extractions from the groundwater subbasin and diversions from streams (Snow, Falls, and Chino Creeks) in the tributary watershed. Estimated assessable groundwater production is based on the prior calendar year's water production which, with the exception of Bel Air Greens, is metered. As discussed in previous reports, the water production for Bel Air Greens has been estimated at 127 AF/yr. Estimated assessable surface water production also is based on the prior calendar year's water production which is metered or measured. DWA staff read and record metered water production quantities. Estimated assessable water production is set forth in **Table 6**.

The Whitewater Mutual Water Company has been acquired by DWA. The former Whitewater Trout Farm (now owned by the Wildlands Conservancy) has historically been a minimal producer because it has and continues to produce and consumptively use less than 10 AF/Yr.

In 2014, production within CVWD's Area of Benefit within the Whitewater River Subbasin was about 3.6 times that within DWA's Area of Benefit, 136,027 AF versus 37,510 AF, whereas production within DWA's Area of Benefit within the Mission Creek Subbasin was about 2.3 times that within CVWD's Area of Benefit, 9,680 AF versus 4,154 AF. Production within DWA's Area of Benefit within the Garnet Hill Subbasin accounts for 100% of the production at 240 AF. Of the total production within the Whitewater River, Mission Creek, and Garnet Hill Subbasins, 188,261 AF, 25.5% has occurred within DWA.

B. WATER REPLENISHMENT ASSESSMENT RATE

The water replenishment assessment rate consists of two components, one being attributable to State Water Project 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 State Water Project Table A Water Allocation Charges

In accordance with the current Water Management Agreement, CVWD and DWA combine their State Water Project Table A water allocations, exchange them for Colorado River water, and replenish the Whitewater River and Mission Creek Subbasins with the 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 State Water Project 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 State Water Project Charges, it only needs to recover its share (based on relative production) of the combined Applicable State Water Project Charges for both CVWD and DWA (i.e. its Allocated State Water Project Charges). CVWD makes up the difference in accordance with the Water Management Agreement.

The Applicable State Water Project Charges for CVWD and DWA for Table A water are set forth in **Tables 1 and 2**, respectively. Unit Charges for Delta Water, Variable Transportation, and Off-Aqueduct Power Charges are based on estimates presented in Appendix B of CDWR Bulletin 132-14.

Since MWD can call-back or recall the 100,000 AF of Table A allocation it transferred to CVWD and DWA and since CDWR has been unable to deliver maximum Table A allocations for twelve of the past thirteen years, the amounts of the Applicable State Water Project Charges for 2015/2016 and future years are being computed based on long-term reliability factors; effectively 58% of maximum State Water Project allocations

with the MWD transfer portion being further reduced to 35% to account for possible future recalls pursuant to the 2003 Exchange Agreement.

The derivations of the Applicable State Water Project Charges are set forth in **Tables 1 and 2**. The "Maximum Table A Water Allocation" shown in **Tables 1 and 2** is the currently existing Table A Water Allocation per CDWR Bulletin 132-14, 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 with the MWD transfer portion reduced to 35% to reflect the long-term average with probable recalls by MWD, pursuant to the 2003 Exchange Agreement and its implementation. The "Probable Table A Water Delivery" is based on 58% reliability of the probable Table A Water allocation including MWD transfer reduced to 35% for long-term average pursuant to the 2003 Exchange Agreement and its implementation.

Applicable State Water Project Charges proportioned in accordance with the Water Management Agreement, more particularly in accordance with relative production within CVWD and DWA, yield Allocated State Water Project Charges. Over the past five years, 2010 through 2014, DWA has been responsible for approximately 22.3% of the water produced within the Whitewater River Subbasin, including 21.9% in 2014.

In the past, Allocated State Water Project Charges have been apportioned to CVWD and DWA based on production from the Whitewater River Subbasin Management Area. Since 2003/2004, Allocated State Water Project Charges have been apportioned to CVWD and DWA based on production from the combined Whitewater River Subbasin and Mission Creek Subbasin Management Areas. In 2014, DWA was responsible for approximately 25.5% of the combined water production within the Whitewater River, Mission Creek, and Garnet Hill Subbasins. On the assumption that DWA's relative production for 2015 and thereafter will be about the same as for 2014, DWA's share of the combined Applicable State Water Project Charges (i.e. Allocated Charges) for the next ten years will be as set forth in **Table 3**.

Table 3 shows that DWA's estimated Allocated Charges (its share of combined Applicable Charges for Table A water) are anticipated to decrease by about 2% between

2015 and 2016 increase by about 2% between 2016 and 2017 and increase by about 4% between 2017 and 2018. DWA's estimated Allocated Charges will change as estimates presented in future annual editions of CDWR Bulletin 132 change.

Table 3 also shows that DWA's estimated 2015 Allocated Charges are about 68% 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 2015/2016 is $164.66/AF, based on DWA's estimated Applicable Charges (Delta Water Charge, Variable Transportation Charge, and Off-Aqueduct Power Charge) of $7,810,013 (average of estimated 2015 and 2016 Applicable Charges) and estimated 2015/2016 combined assessable production of 47,430 AF within the Whitewater River and Mission Creek Subbasins.

The effective replenishment rate is based on DWA's estimated State Water Project Allocated Charges for the current year, as computed using CDWR's projected applicable State Water Project 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 4**.

According to the terms of the Water Management Agreement between DWA and CVWD, and based on DWA's estimated 2015/2016 Allocated Charges of $5,335,090 and 2012 calendar year assessable production (shown in **Table 4** as estimated 2015/2016

assessable production) of 47,430 AF within the Whitewater River and Mission Creek Subbasins, the effective replenishment assessment rate component for Table A water for the 2015/2016 fiscal year is $112/AF.

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

Charges and costs necessary for groundwater replenishment could include the costs for construction, operation, maintenance, and repair of groundwater recharge facilities, reimbursement for past State Water Project 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 State Water Project, the cost of importing and recharging water from sources other than the State Water Project, and the cost of treatment and distribution of reclaimed water.

Currently, other charges and costs for the Whitewater River Subbasin are being limited to past State Water Project surplus water payments for which assessments have not been levied. Currently, such past payments for which assessments have not been levied amount to about $27 million. Assessments need to be levied in order to reimburse the Unscheduled State Water Project Deliveries Reserve Account so that funds are available for future surplus water payments.

Pursuant to an agreement with CVWD, DWA prepaid the costs for construction, operation, maintenance, and repair of the groundwater recharge facilities for the Whitewater River Subbasin; therefore, DWA is no longer obligated to pay any annual costs for the Whitewater River Subbasin recharge facilities. Currently, DWA is not experiencing any other charges or costs for its use of the Whitewater River Subbasin groundwater recharge facilities.

Since 1996, CVWD and DWA have obtained surplus State Water Project water, when available, to supplement deliveries of Table A water to the Whitewater River Subbasin (see **Chapter III, Section E.3**). From 1996 through 2003, DWA paid 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

payments made to CDWR for surplus water are shown in **Table 5**. Beginning in 2004/2005, DWA began recovering said costs through a component of the replenishment assessment rate (see **Table 5**), applicable to non-exempt users within the Whitewater River Subbasin. Said component may be offset by discretionary reductions.

3. Proposed 2015/2016 Replenishment Assessment Rate

Proposition 218 Proceedings

DWA held Proposition 218 proceedings on October 19, 2010. During this public hearing, the proposed replenishment assessment rate that can be established for fiscal years 2012/2013 and 2013/2014 was $92/AF, and $102 beginning fiscal year 2014/2015. The motivation behind the assessment rate increases came as a result of increased costs in conveying and delivering Colorado River Aqueduct water, exchanged for State Water Project water supplies, to the Coachella Valley. Based on the results of these Proposition 218 proceedings, the proposed replenishment assessment rate for the 2015/2016 fiscal year is $102/AF.

As shown in **Table 5**, the replenishment assessment rate proposed for 2015/2016 is $102.00/AF. Historic replenishment assessment rates for DWA and CVWD within the Whitewater River Subbasin are set forth in **Exhibit 2** in **Appendix A**.

C. ESTIMATED WATER REPLENISHMENT ASSESSMENTS FOR 2015/2016

The maximum replenishment assessment that can be levied by DWA for combined estimated production of 47,430 AF within both the Whitewater River, Mission Creek and Garnet Hill Subbasins are approximately $4,837,860 (see **Table 6**).

Estimated water replenishment assessments for 2015/2016, based on a replenishment assessment rate of $102.00/AF and estimated assessable water production of 47,430 AF within the Whitewater River Subbasin, will amount to $3,826,020 (see **Tables 5 and 6**). The adjusted assessment is expected to increase the replenishment assessment account deficit from about $26,543,811 to about $26,928,021 (see **Table 5**).

DWA will continue to be the major producer within the Whitewater River Subbasin Area of Benefit, with assessable production of approximately 34,416 AF; fourteen other producers will be responsible for the remaining 1,960 AF of estimated assessable production. DWA will also be the major assesse with an estimated replenishment assessment of $3,626,100. The fourteen other producers will be responsible for the remaining $199,920.

DWA will therefore be responsible for approximately 95% of both the estimated assessable water production and the estimated replenishment assessment for the Whitewater River Subbasin; the other fourteen producers will be responsible for the remaining 5%.

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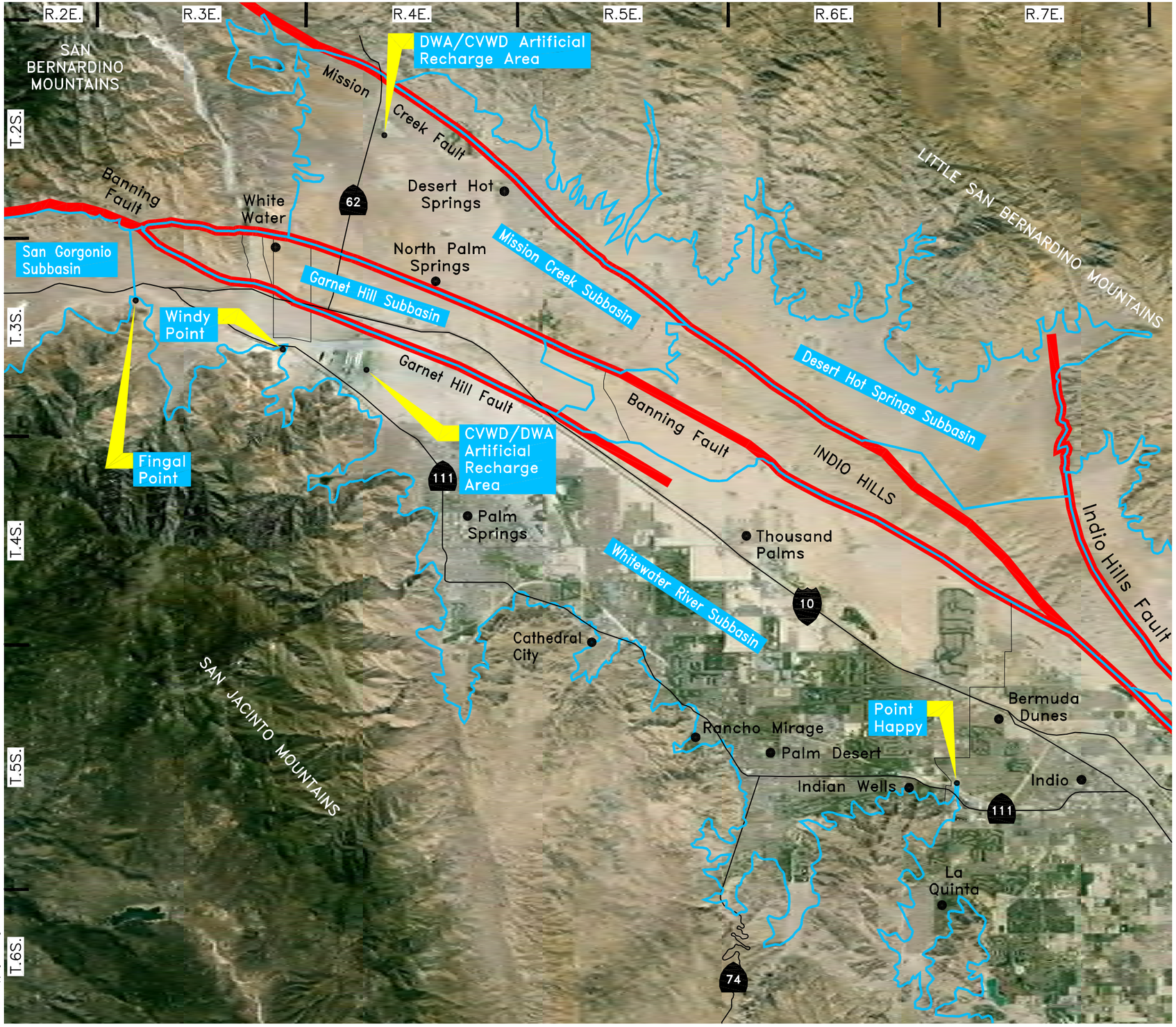
FIGURES

DESERT WATER AGENCY
GROUNDWATER REPLENISHMENT AND ASSESSMENT PROGRAM

2015–2016

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



LEGEND

- UPPER COACHELLA VALLEY GROUNDWATER SUBBASIN BOUNDARY
- FAULTS

NOTE:

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

MAP SOURCE:

2015 GOOGLE EARTH PRO (AERIAL PHOTOGRAPHY), MISSION CREEK AND GARNET HILL SUBBASINS WATER MANAGEMENT PLAN FINAL REPORT, JANUARY 2013 (SUBBASIN BOUNDARIES)

SCALE: 1"=3 MILES

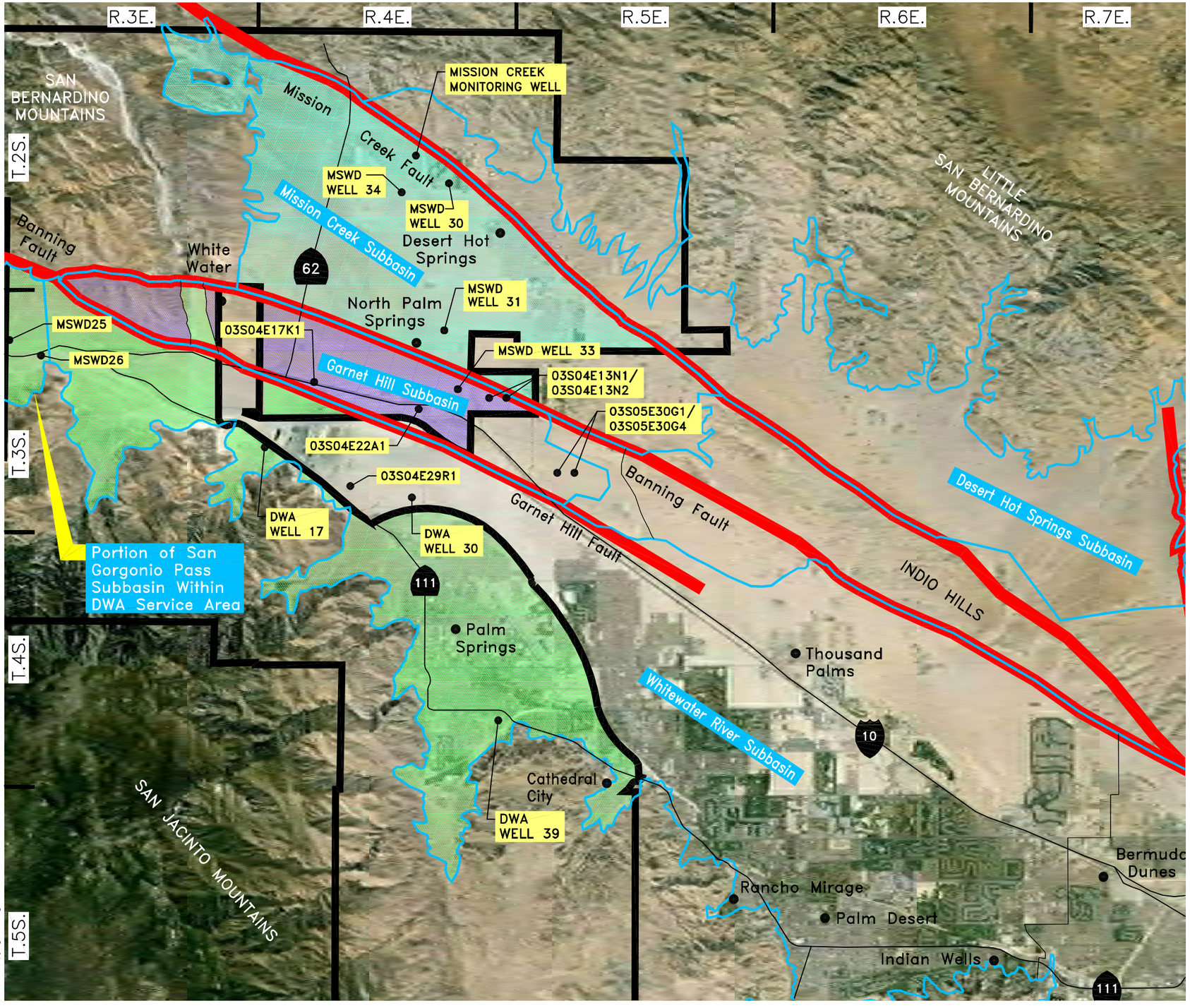
Figure 1

DESERT WATER AGENCY

GROUNDWATER REPLENISHMENT AND ASSESSMENT PROGRAM

2015–2016

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



LEGEND

- DWA BOUNDARY
- UPPER COACHELLA VALLEY GROUNDWATER SUBBASIN BOUNDARY
- 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
- GROUNDWATER WELL

NOTE:

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

MAP SOURCE:

2015 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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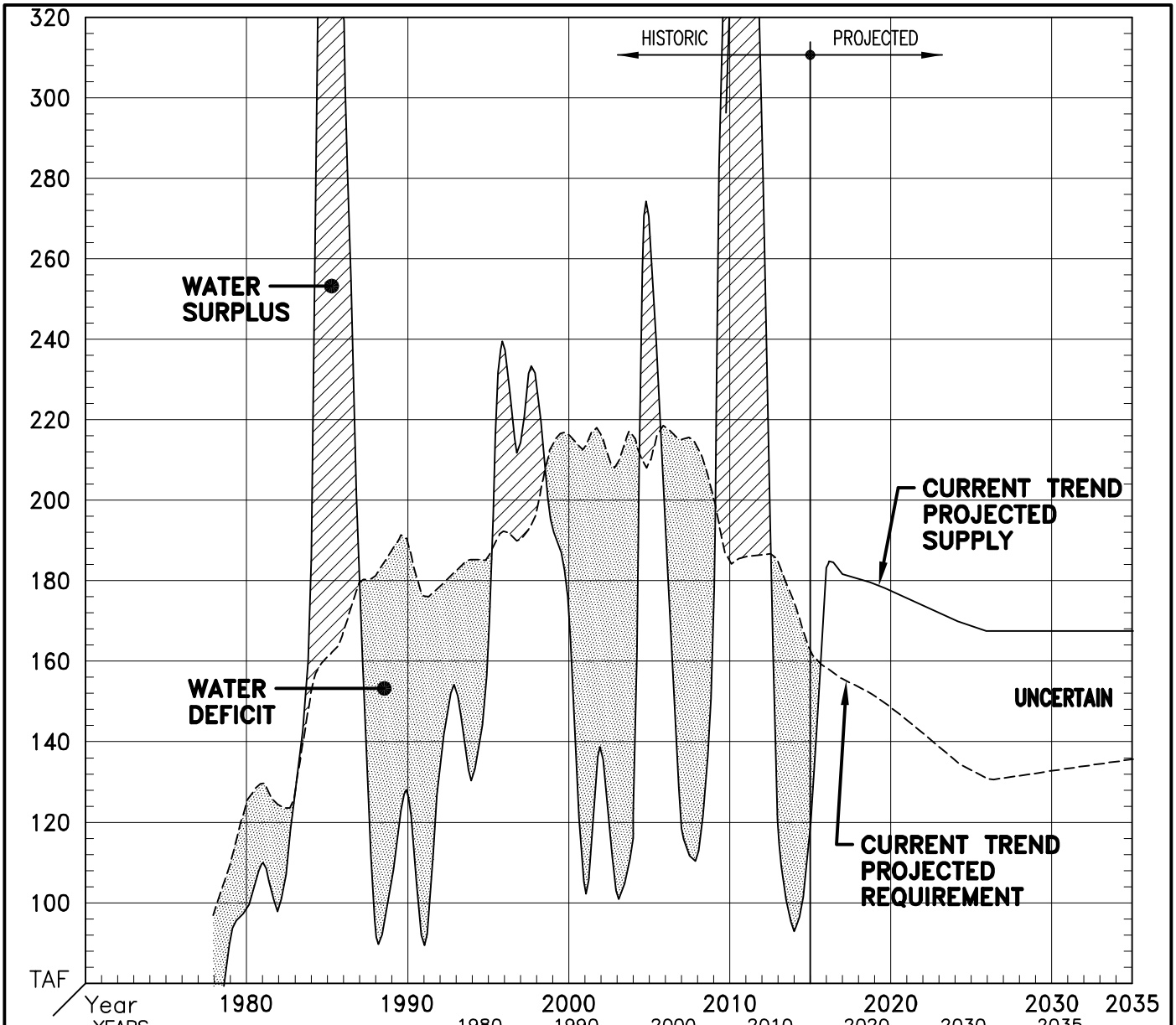

YEARS	1980	1990	2000	2010	2020	2030	2035
NET INFLOW (ACRE FEET)	98,500	126,300	175,900	320,800	178,000	168,000	168,000
NONCONSUMPTIVE RETURN	43,200	65,600	74,400	63,800	52,000	47,000	48,000
ARTIFICIAL RECHARGE	26,300	31,700	72,500	228,000	97,000	92,000	91,000
NATURAL INFLOW	36,000	36,000	36,000	36,000	36,000	36,000	36,000
NATURAL OUTFLOW	(7,000)	(7,000)	(7,000)	(7,000)	(7,000)	(7,000)	(7,000)

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 58% RELIABILITY OF STATE WATER PROJECT WATER BASED ON DRAFT 2013 STATE WATER PROJECT RELIABILITY REPORT AND 35% 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 WHITEWATER RIVER SUBBASIN

FIGURE 3

SCALE: N/A DATE: 04/03/15 DRAWN BY: MRN CHECKED BY: DFS W.O.: 101-33.39

101-33p39f3.dwg

TABLES

TABLE 1
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	81,085	47,029	4,358,319	53.75	6,638,614	141.16	1,483,765	31.55	12,480,697	265.38
2014	138,350	81,085	47,029	4,358,319	53.75	10,864,640	231.02	3,689,895	78.46	18,912,854	402.15
2015	138,350	81,085	47,029	4,358,319	53.75	8,376,335	178.11	445,835	9.48	13,180,489	280.26
2016	138,350	81,085	47,029	4,358,319	53.75	8,388,092	178.36	231,383	4.92	12,977,794	275.95
2017	138,350	81,085	47,029	4,358,319	53.75	8,710,241	185.21	227,150	4.83	13,295,710	282.71
2018	138,350	81,085	47,029	4,358,319	53.75	9,401,567	199.91	91,236	1.94	13,851,122	294.52
2019	138,350	81,085	47,029	4,358,319	53.75	8,683,435	184.64	91,707	1.95	13,133,460	279.26

(1) As set forth in CDWR Bulletin 132-14, Appendix B (Appendix B).

(2) Probable Table A water allocation is based on currently existing CVWD allocation augmented by TLBWSD, KCWA, and MWD transfers, the latter reduced to 35% to reflect long-term average pursuant to the 2003 Exchange Agreement and its implementation.

(3) Probable Table A water delivery is based on 58% reliability of CVWD allocation augmented by TLBWSD, KCWA, and MWD transfers, the latter reduced to 35% for long-term average, pursuant to the 2003 Exchange Agreement and its implementation.

(4) Amount is based on probable Table A water allocation and Delta Water Charge per Table B-20 (A & B) of Appendix B.

(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 2
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	48,015	27,849	2,580,806	53.75	3,931,165	141.16	1,780,665	63.94	8,292,636	297.77
2014	55,750	48,015	27,849	2,580,806	53.75	6,433,676	231.02	6,867,006	246.58	15,881,489	570.27
2015	55,750	48,015	27,849	2,580,806	53.75	4,960,185	178.11	394,063	14.15	7,935,055	284.93
2016	55,750	48,015	27,849	2,580,806	53.75	4,967,148	178.36	137,017	4.92	7,684,971	275.95
2017	55,750	48,015	27,849	2,580,806	53.75	5,157,913	185.21	134,511	4.83	7,873,230	282.71
2018	55,750	48,015	27,849	2,580,806	53.75	5,567,294	199.91	54,027	1.94	8,202,127	294.52
2019	55,750	48,015	27,849	2,580,806	53.75	5,142,039	184.64	54,306	1.95	7,777,151	279.26

(1) As set forth in CDWR Bulletin 132-14, Appendix B (Appendix B).
(2) Probable Table A water allocation is based on currently existing CVWD allocation augmented by TLBWSD, KCWA, and MWD transfers, the latter reduced to 35% to reflect long-term average pursuant to the 2003 Exchange Agreement and its implementation.
(3) Probable Table A water delivery is based on % reliability of CVWD allocation augmented by TLBWSD, KCWA, and MWD transfers, the latter reduced to 35% for long-term average, pursuant to the 2003 Exchange Agreement and its implementation.
(4) Amount is based on probable Table A water allocation and Delta Water Charge per Table B-20 (A & B) of Appendix B.
(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 3
DESERT WATER AGENCY
ESTIMATED ALLOCATED STATE WATER PROJECT CHARGES FOR TABLE A WATER
(PROPORTIONED APPLICABLE CHARGES)[1]

Year	CVWD Applicable Table A Charges $	DWA Applicable Table A Charges $	Combined Applicable Table A Charges $	CVWD Allocated Table A Charges $	DWA Allocated Table A Charges $	DWA Incremental Increase/(Decrease) $	DWA Incremental Increase/(Decrease) %
2012	12,606,735	7,493,927	20,100,662	14,966,953	5,133,709		
						171,800	3
2013	12,480,697	8,292,636	20,773,333	15,467,824	5,305,509		
						3,580,966	67
2014	18,912,854	15,881,489	34,794,342	25,907,867	8,886,475		
						(3,493,565)	(39)
2015	13,180,489	7,935,055	21,115,544	15,722,634	5,392,910		
						(115,640)	(2)
2016	12,977,794	7,684,971	20,662,765	15,385,495	5,277,270		
						129,277	2
2017	13,295,710	7,873,230	21,168,940	15,762,393	5,406,547		
						225,853	4
2018	13,851,122	8,202,127	22,053,249	16,420,849	5,632,400		
						(291,830)	(5)
2019	13,133,460	7,777,151	20,910,611	15,570,041	5,340,570		

(1) Proportioned in accordance with 2014 Water Management Area production percentages; CVWD is responsible for 74.46% and DWA is responsible for 25.54% of total combined production for the Whitewater River, Mission Creek, and Garnet Hill Subbasins (see Exhibit 1 in the Appendix).

TABLE 4
DESERT WATER AGENCY
PROJECTED EFFECTIVE REPLENISHMENT ASSESSMENT RATES
PURSUANT TO WATER MANAGEMENT AGREEMENT BETWEEN
COACHELLA VALLEY WATER DISTRICT AND DESERT WATER AGENCY

Year	DWA Allocated Table A Charges $	Estimated Assessable Production[1] AF	Estimated Effective Table A Assessment Rate[2] Fiscal Year $/AF	Rounded Table A Assessment Rate $/AF
2015/2016	5,335,090	47,430	112.48	112.00
2016/2017	5,341,909	47,430	112.63	113.00
2017/2018	5,519,474	47,430	116.37	116.00
2018/2019	5,486,485	47,430	115.68	116.00

(1) Projections assume 2014 production continues into the future.
(2) Necessary to pay DWA's estimated Allocated Table A Charges.

TABLE 5
DESERT WATER AGECY
WHITEWATER RIVER SUBBASIN
HISTORIC, PROPOSED, AND PROJECTED REPLENISHMENT ASSESSMENT
RATES, COLLECTIONS, PAYMENTS, AND ACCOUNT BALANCE

	Assessment Rate			Assessments				Proportionate Share of State Project Payments Made						Assessments Collected Less State Project Payments Made and Other Costs Reimbursed	
									Surplus					Surplus (Deficit)	
Fiscal Year	Table A Allocation $/AF	Other Charges or Costs[1] $/AF	Total $/AF	Estimated[2] $	Levied[3] $	Collected[4] $	Delinquent[5] $	Table A $	Pool A $	Pool B $	Yuba $	Drought $	Total[6] $	Annual $	Cumulative[7] $
78/79	6.81	0	6.81	226,245	199,004	199,004	0	267,193					0	(68,189)	(68,189)
79/80	9.00	0	9.00	282,405	309,225	309,225	0	267,125					0	42,100	(26,089)
80/81	9.50	0	9.50	317,482	355,925	355,925	0	347,491					0	8,434	(17,655)
81/82	10.50	0	10.50	378,838	406,160	406,160	0	414,086					0	(7,926)	(25,581)
82/83	21.00	0	21.00	800,499	770,871	770,871	0	891,544					0	(120,673)	(146,254)
83/84	36.50	0	36.50	1,331,374	1,452,317	1,452,317	0	492,329					0	959,988	813,734
84/85	37.50	0	37.50	1,375,762	1,577,125	1,577,125	0	381,713					0	1,195,412	2,009,146
85/86	31.00	0	31.00	1,309,750	1,363,239	1,363,239	0	637,841					0	725,398	2,734,544
86/87	21.00	0	21.00	911,673	912,583	912,583	0	876,544					0	36,039	2,770,583
87/88	22.50	0	22.50	994,749	1,099,130	1,099,130	0	934,920					0	164,210	2,934,793
88/89	20.00	0	20.00	970,000	965,811	965,811	0	748,195					0	217,616	3,152,409
89/90	23.50	0	23.50	1,175,002	1,105,446	1,105,446	0	888,979					0	216,467	3,368,876
90/91	26.00	0	26.00	1,313,000	1,207,593	1,207,593	0	784,369					0	423,224	3,792,100
91/92	31.75	0	31.75	1,524,000	1,408,108	1,408,108	0	439,549					0	968,559	4,760,659
92/93	31.75	0	31.75	1,412,875	1,389,641	1,389,641	0	902,273					0	487,368	5,248,027
93/94	31.75	0	31.75	1,397,000	1,411,406	1,411,406	0	1,508,408					0	(97,002)	5,151,025
94/95	31.75	0	31.75	1,412,875	1,384,996	1,384,996	0	2,291,661					0	(906,665)	4,244,360
95/96	31.75	0	31.75	1,425,575	1,434,798	1,434,798	0	2,282,379					0	(847,581)	3,396,779
96/97	31.75	0	31.75	1,409,700	1,517,690	1,517,690	0	1,153,620					104,033	260,037	3,656,816
97/98	31.75	0	31.75	1,527,175	1,368,789	1,368,789	0	1,560,592					3,620,442	(3,812,245)	(155,429)
98/99	31.75	0	31.75	1,463,675	1,510,078	1,510,078	0	2,663,096					2,542,997	(3,696,015)	(3,851,444)
99/00	31.75	0	31.75	1,436,370	1,530,344	1,530,344	0	2,137,145					65,042	(671,843)	(4,523,287)
00/01	33.00	0	33.00	1,576,080	1,506,011	1,506,011	0	1,993,058					335,814	(822,861)	(5,346,148)
01/02	33.00	0	33.00	1,563,870	1,559,325	1,559,325	0	273,679					81,587	1,204,059	(4,142,089)
02/03	35.00	0	35.00	1,627,500	1,636,783	1,636,783	0	1,226,335					15,846	394,602	(3,747,487)
03/04	35.00	0	35.00	1,679,300	1,719,646	1,719,646	0	3,499,404					3,606	(1,783,364)	(5,530,851)
04/05	34.00	11.00	45.00	2,069,100	2,160,536	2,160,536	0	3,128,562					601	(968,627)	(6,499,478)
05/06	38.00	12.00	50.00	2,527,500	2,463,500	2,463,500	0	4,686,728					101,671	(2,324,898)	(8,824,377)
06/07	51.00	12.00	63.00	3,058,020	3,350,191	3,343,330	6,861	4,874,520					0	(1,824,696)	(10,649,073)
07/08	83.00	(34.00)	63.00	3,230,010	3,049,824	3,043,745	6,079	7,328,793					40,801	(4,325,849)	(14,974,922)
08/09	65.00	(6.00)	72.00	3,682,800	3,074,133	3,040,146	33,987	5,631,026					180,846	(2,771,726)	(17,746,648)
09/10	72.00	0.00	72.00	3,605,140	3,007,319	2,932,949	74,370	5,030,169					555,234	(2,652,454)	(20,399,102)
10/11	99.00	(17.00)	82.00	3,527,640	3,376,216	3,297,080	79,136	3,368,020					11,142	(82,083)	(20,481,185)
11/12	115.00	(33.00)	82.00	3,302,140	3,347,596	3,275,308	72,288	5,631,729					61,959	(2,418,380)	(22,899,565)
12/13	117.00	(25.00)	92.00	3,788,326	3,690,594	3,689,937	656	6,630,867	764	0	6,189		6,953	(2,947,883)	(25,847,448)

/KJL
101-33P39TBLS.xlsx/Table5
(4/10/2015)

TABLE 5
DESERT WATER AGECY
WHITEWATER RIVER SUBBASIN
HISTORIC, PROPOSED, AND PROJECTED REPLENISHMENT ASSESSMENT
RATES, COLLECTIONS, PAYMENTS, AND ACCOUNT BALANCE

	Assessment Rate			Assessments				Proportionate Share of State Project Payments Made						Assessments Collected Less State Project Payments Made and Other Costs Reimbursed Surplus (Deficit)	
									Surplus						
Fiscal Year	Table A Allocation $/AF	Other Charges or Costs[1] $/AF	Total $/AF	Estimated[2] $	Levied[3] $	Collected[4] $	Delinquent[5] $	Table A $	Pool A $	Pool B $	Yuba $	Drought $	Total[6] $	Annual $	Cumulative[7] $
13/14	111.00	(19.00)	92.00	3,779,360 [9]	3,809,930 [9]	3,809,930	0	4,817,517 [12]	361	0	145,055	1,529	146,945	(1,154,532)	(27,001,980)
14/15	106.00	(4.00)	102.00 [8]	2,774,160	2,774,160	2,774,160 [10]	0 [11]	2,219,844			96,147		96,147	458,169	(26,543,811)
15/16	112.00	(10.00)	102.00	3,848,542	3,848,542	3848542	0	4,232,752						(384,211)	(26,928,021)

(1) Includes charge for reimbursement of past payments for surplus water (Article 21 Water, Pool A and Pool B Turnback Water, and Flood Water (see Exhibits 3 & 4)) and discretionary reductions.
(2) Assessments Estimated are based on applicable assessment rate and estimated assessable production from annual report for that year.
(3) 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.
(4) Assessments Collected are based on payments made for Assessments Levied, except for the previous year, current year, and subsequent years where amounts remain estimated.
(5) Assessments Delinquent are based on Assessments Levied less payments made.
(6) Payments made from Unscheduled State Water Project Deliveries Reserve Account for payment of surplus water (Article 21, Pool A and Pool B Turnback, and Flood Water). Surplus Payments made were not itemized prior to
(7) Cumulative assessment balance to be used for future Delta improvements. Estimates of future assessment rates may need to be adjusted in the furure to accommodate unknown charges for expanded State Water Project Facilities.
(8) Proposed assessment rate based on two components: 1) State Water Project Table A water Allocation, and 2) Other Charges or Costs (see note 1)
(9) For 2013/2014, Assessments Estimated are based on Proposed Assessment Rate and Estimated Assessable Production for Whitewater River Subbasin.
(10) Assessments Levied and Collected are estimated based on first, second and third quarters of assessment period.
(11) Delinquent assessment is estimated based on first, second and third quarters of assessment period.
(12) For 2013/2014 and beyond, Payments Made are estimated based on estimated allocated Table A charges, proportioned to Estimated Assessable Production for Whitewater River Subbasin.

TABLE 6
DESERT WATER AGENCY
GROUNDWATER REPLENISHMENT AND ASSESSMENT PROGRAM
ESTIMATED WHITEWATER RIVER SUBBASIN MANAGEMENT AREA WATER PRODUCTION AND
ESTIMATED WATER REPLENISHMENT ASSESSMENTS
2015/2016

ESTIMATED COMBINED MANAGEMENT AREA ASSESSABLE WATER PRODUCTION AND WATER REPLENISHMENT ASSESSMENTS

Management Area	Estimated Assessable Water Production AF	Water Replenishment Assessment Rate $/AF	Water Replenishment Assessment $	Water Replenishment Assessment Percent
Whitewater River Subbasin	37,510	102	$3,826,020	79%
Mission Creek Subbasin	9,680	102	$987,360	20%
Garnet Hill Subbasin	240	102	$24,480	1%
Combined Subbasins	47,430		$4,837,860	100%

ESTIMATED WHITEWATER RIVER SUBBASIN MANAGEMENT AREA
WATER PRODUCTION AND WATER REPLENISHMENT ASSESSMENTS

Producer	2014 Water Production (1) Groundwater Extraction AF	Surface Water Diversion AF	Combined Water Production AF	Estimated 2015/2016 Assessable Water Production AF[4]	Estimated Water Replenishment Assessment @ $102/AF $	Percent
Whitewater River Subbasin						
Desert Water Agency	34,416	1,132	35,548	35,550	3,626,100	94.77%
Desert Water Agency (Exempt)	0	655 [2]	655 [2]	0	0	0.00%
Caltrans Rest Stop	97	0	97	100	10,200	0.27%
Canyon Country Club	0	0	0	0	0	0.00%
Palm Springs Country Club	0	0	0	0	0	0.00%
Desert Oasis Golf Management - Welk Resort	588	0	588	590	60,180	1.57%
Los Compadres	41	0	41	40	4,080	0.11%
Mission Springs Water District (Wells 25 & 25A and 26 &26A)	155	0	155	150	15,300	0.40%
45 Palms Partnership	0	0	0	0	0	0.00%
Seven Lakes Country Club	78	0	78	80	8,160	0.21%
Bel Air Greens	127 [3]	0	127 [3]	130	13,260	0.35%
Escena	870	0	870	870	88,740	2.32%
Palm Springs Village	0	0	0	0	0	0.00%
Palm Springs West	0	0	0	0	0	0.00%
Karen Prince Weithorn	0	0	0 *	0	0	0.00%
Total	36,372	1,787	38,160	37,510	3,826,020	100.00%

(1) 2014 Metered water production rounded to nearest acre foot, except for Exempt Production and Estimated Production.
(2) Exempt Production (Desert Water Agency).
(3) Estimated Production (estimate based on applied water rates, past and comparable, for Bel Air Greens).
(4) Rounded to nearest 10 AF.
* Exempt Production (10 AF or less).

APPENDIX A

EXHIBIT 1
DESERT WATER AGENCY
HISTORIC WATER PRODUCTION FOR REPLENISHMENT ASSESSMENT FOR
DESERT WATER AGENCY AND COACHELLA VALLEY WATER DISTRICT
WHITEWATER RIVER SUBBASIN (WRS) AND MISSION CREEK SUBBASIN (MCS) WATER MANAGEMENT AREAS

	CVWD PRODUCTION		DWA PRODUCTION					COMBINED CVWD & DWA PRODUCTION						WRS PRODUCTION PERCENTAGES		COMBINED WRS & MCS PRODUCTION PERCENTAGES	
	GWE		GWE			SWD		WRS			MCS	GHS					
YEAR	WRS AF	MCS AF	WRS AF	MCS AF	GHS AF	WRS AF	COMB AF	GWE AF	SWD AF	TOTAL AF	TOTAL AF	TOTAL AF	COMB AF	CVWD	DWA	CVWD	DWA
1978	61,172		28,100			8,530	36,630	89,272	8,530	97,802			97,802	62.55	37.45		
1979	72,733		29,393			7,801	37,194	102,126	7,801	109,927			109,927	66.16	33.84		
1980	84,142		32,092			7,303	39,395	116,234	7,303	123,537			123,537	68.11	31.89		
1981	86,973		33,660			7,822	41,482	120,633	7,822	128,455			128,455	67.71	32.29		
1982	83,050		33,382			6,512	39,894	116,432	6,512	122,944			122,944	67.55	32.45		
1983	84,770		33,279			6,467	39,746	118,049	6,467	124,516			124,516	68.08	31.92		
1984	104,477		38,121			7,603	45,724	142,598	7,603	150,201			150,201	69.56	30.44		
1985	111,635		39,732			7,143	46,875	151,367	7,143	158,510			158,510	70.43	29.57		
1986	115,185		40,965			6,704	47,669	156,150	6,704	162,854			162,854	70.73	29.27		
1987	125,229		44,800			5,644	50,444	170,029	5,644	175,673			175,673	71.29	28.71		
1988	125,122		47,593			5,246	52,839	172,715	5,246	177,961			177,961	70.31	29.69		
1989	129,957		47,125			5,936	53,061	177,082	5,936	183,018			183,018	71.01	28.99		
1990	136,869		45,396			5,213	50,609	182,265	5,213	187,478			187,478	73.01	26.99		
1991	126,360		42,729			4,917	47,646	169,089	4,917	174,006			174,006	72.62	27.38		
1992	128,390		42,493			4,712	47,205	170,883	4,712	175,595			175,595	73.12	26.88		
1993	131,314		41,188			6,363	47,551	172,502	6,363	178,865			178,865	73.42	26.58		
1994	134,223		42,115			5,831	47,946	176,338	5,831	182,169			182,169	73.68	26.32		
1995	134,580		41,728			5,809	47,537	176,308	5,809	182,117			182,117	73.90	26.10		
1996	137,410		45,342			5,865	51,207	182,752	5,865	188,617			188,617	72.85	27.15		
1997	137,406		43,658			5,626	49,284	181,064	5,626	186,690			186,690	73.60	26.40		
1998	142,620		41,385			7,545	48,930	184,005	7,545	191,550			191,550	74.46	25.54		
1999	157,148		44,350			6,941	51,291	201,498	6,941	208,439			208,439	75.39	24.61		
2000	161,834		44,458			6,297	50,755	206,292	6,297	212,589			212,589	76.13	23.87		
2001	159,767		44,112			4,928	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	59,822	209,189	4,221	213,410	13,968		227,378	76.47	23.53	73.69	26.31
2003	156,185	4,425	43,463	10,073		4,627	58,163	199,648	4,627	204,275	14,498		218,773	76.46	23.54	73.41	26.59
2004	159,849	4,628	48,093	11,920		4,758	64,771	207,942	4,758	212,700	16,548		229,248	75.15	24.85	71.75	28.25
2005	153,462	4,247	46,080	12,080		4,799	62,959	199,542	4,799	204,341	16,327		220,668	75.10	24.90	71.47	28.53
2006	160,239	4,757	48,967	12,608		4,644	66,219	209,206	4,644	213,850	17,365		231,215	74.93	25.07	71.36	28.64
2007	157,487	4,547	50,037	11,862		3,490	65,389	207,524	3,490	211,014	16,409		227,423	74.63	25.37	71.25	28.75
2008	161,695	4,543	45,405	11,232		3,593	60,230	207,100	3,593	210,693	15,775		226,468	76.74	23.26	73.40	26.60
2009	155,793	4,813	41,913	10,295		1,443	53,651	197,706	1,443	199,149	15,108		214,257	78.23	21.77	74.96	25.04
2010	141,481	4,484	39,352	9,820		1,582	50,754	180,833	1,582	182,415	14,304		196,719	77.56	22.44	74.20	25.80
2011	141,028	4,653	40,071	9,550		1,724	51,345	181,099	1,724	182,823	14,203		197,026	77.14	22.86	73.94	26.06
2012	141,379	4,582	39,507	9,500		2,222	51,229	180,886	2,222	183,108	14,082		197,189	77.21	22.79	74.02	25.98
2013	143,108	4,415	37,730	10,080		1,802	49,612	180,838	1,802	182,640	14,495		197,135	78.36	21.64	74.83	25.17
2014	136,027	4,154	36,372	9,680	240	1,787	48,080	172,400	1,787	174,187	13,834	240	188,261	78.09	21.91	74.46	25.54

NOTES:

CUMULATIVE CVWD AND DWA WHITEWATER RIVER BASIN FIVE-YEAR PRODUCTION 2010 THROUGH 2014: 905,173 AF
AVERAGE ANNUAL CVWD AND DWA WHITEWATER RIVER BASIN PRODUCTION 2010 THROUGH 2014: 181,030 AF
AVERAGE ANNUAL DWA WHITEWATER RIVER BASIN PRODUCTION 2010 THROUGH 2014: 49,101 AF
AVERAGE DWA WHITEWATER RIVER BASIN PRODUCTION PERCENTAGE 2010 THROUGH 2014: 22.33%

ABBREVIATIONS:

GWE = GROUNDWATER EXTRACTIONS
SWD = SURFACE WATER DIVERSIONS
COMB = COMBINED

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(4/10/2015)

EXHIBIT 2
DESERT WATER AGENCY
COMPARISON OF HISTORIC AND PROPOSED GROUNDWATER REPLENISHMENT ASSESSMENT RATE FOR THE WHITEWATER RIVER SUBBASIN MANAGEMENT AREA
DESERT WATER AGENCY AND COACHELLA VALLEY WATER DISTRICT

YEAR	DWA $/AF	DWA % INCREASE	CVWD $/AF	CVWD % INCREASE	DWA MORE OR (LESS) THAN CVWD
78/79	$6.81	---	No Assessment	---	N/A
79/80	$9.00	32%	No Assessment	---	N/A
80/81	$9.50	6%	$5.66	---	$3.84
81/82	$10.50	11%	$7.43	31%	$3.07
82/83	$21.00	100%	$19.82	167%	$1.18
83/84	$36.50	74%	$33.23	68%	$3.27
84/85	$37.50	3%	$34.24	3%	$3.26
85/86	$31.00	-17%	$21.81	-36%	$9.19
86/87	$21.00	-32%	$19.02	-13%	$1.98
87/88	$22.50	7%	$19.55	3%	$2.95
88/89	$20.00	-11%	$15.96	-18%	$4.04
89/90	$23.50	18%	$19.66	23%	$3.84
90/91	$26.00	11%	$23.64	20%	$2.36
91/92	$31.75	22%	$25.66	9%	$6.09
92/93	$31.75	0%	$28.23	10%	$3.52
93/94	$31.75	0%	$31.05	10%	$0.70
94/95	$31.75	0%	$34.16	10%	($2.41)
95/96	$31.75	0%	$37.58	10%	($5.83)
96/97	$31.75	0%	$37.58	0%	($5.83)
97/98	$31.75	0%	$42.09	12%	($10.34)
98/99	$31.75	0%	$47.14	12%	($15.39)
99/00	$31.75	0%	$52.80	12%	($21.05)
00/01	$33.00	4%	$59.14	12%	($26.14)
01/02	$33.00	0%	$66.24	12%	($33.24)
02/03	$35.00	6%	$72.86	10%	($37.86)
03/04	$35.00	0%	$72.86	0%	($37.86)
04/05	$45.00	29%	$78.86	8%	($33.86)
05/06	$50.00	11%	$78.86	0%	($28.86)
06/07	$63.00	26%	$83.34	6%	($20.34)
07/08	$63.00	0%	$91.67	10%	($28.67)
08/09	$72.00	14%	$93.78	2%	($21.78)
09/10	$72.00	0%	$102.45	9%	($30.45)
10/11	$82.00	14%	$102.45	0%	($20.45)
11/12	$82.00	0%	$107.57	5%	($25.57)
12/13	$92.00	12%	$110.26	3%	($18.26)
13/14	$92.00	0%	$110.26	0%	($18.26)
14/15	$102.00	11%	$110.26	0%	($8.26)
15/16	$102.00 *	0%	$112.00 *	2%	($10.00)

* PROPOSED REPLENISHMENT ASSESSMENT RATE

EXHIBIT 3
METROPOLITAN WATER DISTRICT/COACHELLA VALLEY WATER DISTRICT/DESERT WATER AGENCY
WATER EXCHANGE AGREEMENT AND ADVANCE DELIVERY AGREEMENT
SUMMARY OF EXCHANGE AND ADVANCE DELIVERIES, JULY 1973 THROUGH DECEMBER 1999[1]

A. JULY 1973 THROUGH JUNE 1984

YEAR	COMBINED CVWD/DWA SWP ENTITLEMENT	CVWD/DWA DELIVERIES TO MWD (SWP)	MWD DELIVERIES TO TO CVWD/DWA (SPREADING GROUNDS)	ANNUAL MWD DELIVERY SURPLUS (DEFICIT)	CUMULATIVE MWD DELIVERY SURPLUS (DEFICIT)
1973 (JUL-DEC)	14,800	14,800	7,475	(7,325)	(7,325)
1974	16,400	16,400	15,396	(1,004)	(8,329)
1975	18,000	18,000	20,126	2,126	(6,203)
1976	19,600	19,600	13,206	(6,394)	(12,597)
1977	21,421	0	0	0	(12,597)
1978	23,242	25,384	0	(25,384)	(37,981)
1979	25,063	25,063	25,192	129	(37,852)
1980	27,884	27,884	26,341	(1,543)	(39,395)
1981	31,105	31,105	35,251	4,146	(35,249)
1982	34,326	34,326	27,020	(7,306)	(42,555)
1983	37,547	37,547	53,732	16,185	(26,370)
1984 (JAN-JUN)[2]	N/A	25,849	50,912	25,063	(1,307)
TOTALS:	269,388	275,958	274,651		

B. JULY 1984 THROUGH DECEMBER 1999

YEAR	COMBINED CVWD/DWA SWP ENTITLEMENT DELIVERY	TOTAL CVWD/DWA DELIVERY TO MWD (SWP)	MWD DELIVERY TO CVWD/DWA (SPREADING GROUNDS)	MWD ADVANCE DELIVERY	MWD ADVANCE DELIVERY CONVERTED TO EXCHANGE DELIVERY
1984 (JUL-DEC)[3]	40,768	14,919	32,796	16,570	---
1985	43,989	43,989	251,994	208,005	---
1986	47,210	47,210	298,201	240,991	---
1987	50,931	50,931	104,334	53,403	---
1988	54,652	54,652	1,096	---	53,556
1989	58,373	58,374	12,478	---	45,896
1990	61,200	61,200	31,721	---	29,479
1991	61,200	18,360	14	---	19,111
1992	61,200	27,624	40,870	13,330	---
1993	61,200	61,200	60,153	---	1,047
1994	61,200	37,359	36,763	---	596
1995	61,200	61,200	61,318	118	---
1996[4]	61,200	164,841	138,266	---	26,575
1997[5]	61,200	138,330	113,677	---	24,653
1998[6]	61,200	156,356	132,455	---	23,901
1999[7]	61,200	108,580	90,601	---	17,979
TOTALS:	907,923	1,105,125	1,406,737	532,417	242,793

(1) AS REPORTED BY METROPOLITAN WATER DISTRICT IN ITS MONTHLY "EXCHANGE WATER DELIVERY IN ACRE-FEET" REPORTS.

(2) ADVANCE DELIVERY AGREEMENT BETWEEN MWD AND CVWD/DWA BECAME EFFECTIVE 7/1/84; DISCREPANCIES IN EXCHANGE DELIVERIES BETWEEN MWD AND CVWD/DWA AFTER 7/1/84 ADJUSTED PER SAID AGREEMENT.

(3) EFFECTIVE DATE OF ADVANCE DELIVERY AGREEMENT BETWEEN MWD AND CVWD/DWA WAS 7/1/84; 16,570 AF ADVANCE DELIVERY FIGURE REFLECTS 7/84 - 12/84 DELIVERIES TO MWD OF 14,919 AF AND 7/84 - 12/84 DELIVERIES TO CVWD/DWA OF 32,796 AF, LESS CUMULATIVE MWD DELIVERY DEFICIENCY OF 1,307 AF AS OF 7/1/84.

(4) 1996 COMBINED CVWD/DWA ENTITLEMENT AND EXCHANGE DELIVERIES INCREASED BY PURCHASE OF 103,641 AF THROUGH DWR'S 1996 TURN-BACK WATER POOL PROGRAM (SPECIFICALLY POOL B WATER).

(5) 1997 COMBINED CVWD/DWA ENTITLEMENT AND EXCHANGE DELIVERIES INCREASED BY PURCHASE OF 50,000 AF THROUGH DWR's 1997 TURN-BACK WATER POOL PROGRAM (SPECIFICALLY POOL B WATER) AND BY PURCHASE OF 27,130 AF OF KAWEAH RIVER AND TULE RIVER FLOOD FLOW WATER.

(6) 1998 COMBINED CVWD/DWA ENTITLEMENT AND EXCHANGE DELIVERIES INCREASED BY PURCHASE OF 75,000 AF THROUGH DWR's 1998 TURN-BACK WATER POOL PROGRAM (SPECIFICALLY POOL B WATER) AND BY PURCHASE OF 20,156 AF OF KAWEAH, TULE, AND KINGS RIVERS RIVER FLOOD FLOW WATER.

(7) 1999 COMBINED CVWD/DWA ENTITLEMENT AND EXCHANGE DELIVERIES INCREASED BY PURCHASE OF 47,380 AF THROUGH DWR's 1999 TURN-BACK WATER POOL PROGRAM (SPECIFICALLY POOL B WATER).

NOTE: ALL FIGURES ARE IN ACRE FEET

EXHIBIT 4
METROPOLITAN WATER DISTRICT/COACHELLA VALLEY WATER DISTRICT/DESERT WATER AGENCY
WATER EXCHANGE AGREEMENT AND ADVANCE DELIVERY AGREEMENT
SUMMARY OF EXCHANGE AND ADVANCE DELIVERIES, JANUARY 2000 THROUGH DECEMBER 2011[1]

YEAR	TOTAL CVWD/DWA EXCHAGE DELIVERY TO MWD (SWP) AF	MWD EXCHANGE DELIVERY TO CVWD/DWA RECHARGE BASINS AF	MWD ADVANCE DELIVERY TO CVWD/DWA RECHARGE BASINS AF	MWD ADVANCE DELIVERY CONVERTED TO EXCHANGE DELIVERY TO CVWD/DWA AF
2000[2]	100,557	72,450	---	28,107
2001[3]	24,110	707	---	23,403
2002[4]	44,395	38,168	---	6,227
2003[5]	38,262	961	---	37,301
2004[6]	36,655	18,788	---	17,867
2005[7]	91,608	190,277	98,669	0
2006[8]	171,100	118,860	---	52,240
2007[9]	103,462	17,020	---	102,442
2008[10]	64,872	0	---	64,872
2009[11]	64,285	52,368	---	11,917
2010[12]	108,382	241,404	133,022	0
2011[13]	132,458	148,102	25,644	0
TOTALS:	980,146	899,105	257,335	344,376
			CUMULATIVE MWD ADVANCE DELIVERIES, 7/84 THROUGH 12/11:	789,752
			CUMULATIVE MWD ADVANCE DELIVERIES CONVERTED TO EXCHANGE DELIVERIES, 7/84 THROUGH 12/11:	587,169

(1) AS REPORTED BY METROPOLITAN WATER DISTRICT IN ITS MONTHLY "EXCHANGE DELIVERY SUMMARY IN ACRE-FEET" REPORTS AND ANNUAL SCHEDULES OF WATER DELIVERED TO DWA AND CVWD.

(2) 2000 CVWD/DWA EXCHANGE DELIVERY TO MWD CONSISTS OF 55,080 AF OF TABLE A WATER (90% ALLOCATION), 9,837 AF OF DWR'S 2000 TURN-BACK WATER POOL PROGRAM (SPECIFICALLY POOL B) WATER AND 35,640 AF OF INTERRUPTIBLE (ARTICLE 21) WATER.

(3) 2001 CVWD/DWA EXCHANGE DELIVERY TO MWD CONSISTS OF 23,868 AF OF TABLE A WATER (39% ALLOCATION), AND 242 AF OF DWR'S 2001 TURN-BACK WATER POOL PROGRAM (SPECIFICALLY POOL B) WATER.

(4) 2002 CVWD/DWA EXCHANGE DELIVERY TO MWD CONSISTS OF 42,840 AF OF TABLE A WATER (70% ALLOCATION), 1,255 AF OF DWR'S 2002 TURN-BACKWATER POOL PROGRAM (436 AF OF POOL A AND 819 AF OF POOL B) WATER, AND 300 AF OF ARTICLE 21 WATER.

(5) 2003 CVWD/DWA EXCHANGE DELIVERIES TO MWD CONSIST OF 37,213 AF OF TABLE A WATER (90% ALLOCATION = 55,080 AF. LESS 17,867 NOT DELIVERED BY MWD AND CREDITED TO DWA AND CVWD IN 2004), 515 AF OF DWR'S 2003 TURN-BACK WATER POOL PROGRAM (457 AF OF POOL A AND 58 AF OF POOL B) WATER, AND 532 AF OF ARTICLE 21 WATER.

(6) 2004 CVWD/DWA EXCHANGE DELIVERIES TO MWD CONSIST OF 18,597 AF OF TABLE A WATER (30% ALLOCATION), 191 AF OF DWR'S 2004 TURN-BACK WATER POOL PROGRAM WATER (ALL FROM POOL B). 17,867 AF CREDITED TO DWA/CVWD FOR QUANTITY NOT DELIVERED BY MWD IN 2003.

(7) 2005 CVWD/DWA EXCHANGE DELIVERIES TO MWD CONSIST OF 87,770 AF OF TABLE A WATER (50% ALLOCATION), AND 3,838 AF OF DWR'S 2005 TURN-BACK WATER POOL PROGRAM (585 AF OF POOL A AND 3,253 AF OF POOL B) WATER.

(8) 2006 CVWD/DWA EXCHANGE DELIVERIES TO MWD CONSIST OF 171,100 AF OF TABLE A WATER (100% ALLOCATION).

(9) 2007 CVWD/DWA EXCHANGE DELIVERIES TO MWD CONSIST OF 102,660 AF OF TABLE A WATER (60% ALLOCATION), AND 802 AF OF DWR'S 2007 TURN-BACK WATER POOL PROGRAM WATER (ALL FROM POOL A). MWD DELIVERED AN ADDITIONAL 16,000 AF TO THE WHITEWATER SPREADING BASINS PER ITS 12/23/03 QUANTIFICATION SETTLEMENT WITH CVWD.

(10) 2008 CVWD/DWA EXCHANGE DELIVERIES TO MWD CONSIST OF 59,885 AF OF TABLE A WATER (35% ALLOCATION), AND 151 AF OF DWR'S 2008 TURN-BACK WATER POOL PROGRAM WATER (ALL FROM POOL A), 3,000 AF OF WATER PURSUANT TO THE GLORIOUS LAND AGREEMENT BETWEEN MWD AND CVWD, AND 1,836 AF OF WATER PURSUANT TO THE YUBA ACCORD. MWD DELIVERED 8,008 AF OF WATER TO THE WHITEWATER SPREADING BASINS PURSUANT TO CVWD'S PVID CREDIT AND 503 AF OF WATER TO THE MISSION CREEK SPREADING BASIN PURSUANT TO THE CPV-SENTINEL AGREEMENT, NEITHER OF WHICH PERTAIN TO THE ADVANCE DELIVERY ACCOUNT AND ARE THEREFORE NOT INCLUDED HEREIN.

(11) 2009 CVWD/DWA EXCHANGE DELIVERIES TO MWD CONSIST OF 57,710 AF OF TABLE A WATER (34% ALLOCATION), AND 93 AF OF DWR'S 2009 TURN-BACK WATER POOL PROGRAM WATER (35 AF OF POOL A AND 58 AF OF POOL B), 3,000 AF OF WATER PURSUANT TO THE GLORIOUS LAND AGREEMENT BETWEEN MWD AND CVWD, AND 3,482 AF OF WATER PURSUANT TO THE YUBA ACCORD AND OTHERS. MWD DELIVERED 7,992 AF OF WATER TO THE WHITEWATER SPREADING BASINS PURSUANT TO CVWD'S PVID CREDIT AND 754 AF OF WATER TO THE MISSION CREEK SPREADING BASIN PURSUANT TO THE CPV-SENTINEL AGREEMENT, NEITHER OF WHICH PERTAIN TO THE ADVANCE DELIVERY ACCOUNT AND ARE THEREFORE NOT INCLUDED HEREIN.

(12) 2010 CVWD/DWA EXCHANGE DELIVERIES TO MWD CONSIST OF 97,050 AF OF TABLE A WATER (57% ALLOCATION), 10,730 AF OF CARRYOVER WATER FROM 2009, AND 602 AF OF DWR'S 2010 TURN-BACK WATER POOL PROGRAM WATER (66 AF OF POOL A AND 536 AF OF POOL B). MWD DELIVERED 18,393 AF OF WATER TO THE WHITEWATER SPREADING BASINS PURSUANT TO THE DMB PACIFIC LLC AND MWD QSA PURCHASES, AND 1,743 AF OF WATER TO THE MISSION CREEK SPREADING BASIN PURSUANT TO THE CPV-SENTINEL AGREEMENT, NONE OF WHICH PERTAIN TO THE ADVANCE DELIVERY ACCOUNT AND ARE THEREFORE NOT INCLUDED HEREIN.

(13) 2011 CVWD/DWA EXCHANGE DELIVERIES TO MWD CONSIST OF 124,156 AF OF TABLE A WATER (64% ALLOCATION), 0 AF OF CARRYOVER WATER FROM 2010, AND 2,502 AF OF DWR'S 2011 TURN-BACK WATER POOL PROGRAM WATER (836 AF OF POOL A AND 1,666 AF OF POOL B), AND 5,800 AF OF ARTICLE 21 WATER. MWD DELIVERED 105,000 AF OF WATER TO THE WHITEWATER SPREADING BASINS PURSUANT TO THE DMB PACIFIC LLC AND MWD QSA PURCHASES, AND 5,350 AF OF WATER TO THE MISSION CREEK SPREADING BASIN PURSUANT TO THE CPV-SENTINEL AGREEMENT, NONE OF WHICH PERTAIN TO THE ADVANCE DELIVERY ACCOUNT AND ARE THEREFORE NOT INCLUDED HEREIN.

EXHIBIT 5
METROPOLITAN WATER DISTRICT/COACHELLA VALLEY WATER DISTRICT/DESERT WATER AGENCY
WATER EXCHANGE AGREEMENT AND ADVANCE DELIVERY AGREEMENT
SUMMARY OF EXCHANGE AND ADVANCE DELIVERIES, JANUARY 2012 THROUGH DECEMBER 2014 (1)

YEAR	TOTAL CVWD/DWA EXCHANGE DELIVERY TO MWD (SWP) AF	MWD EXCHANGE DELIVERY TO CVWD/DWA RECHARGE BASINS AF	MWD ADVANCE DELIVERY TO CVWD/DWA RECHARGE BASINS AF	MWD ADVANCE DELIVERY CONVERTED TO EXCHANGE DELIVERY TO CVWD/DWA AF
2012[2]	158,909	280,673	117,764	0
2013[3]	70,879	28,998	0	60,889
2014[4]	10,919	7,858	0	11,609
TOTALS:	240,707	317,529	117,764	72,498

CUMULATIVE MWD ADVANCE DELIVERIES, 7/84 THROUGH 12/14:	907,516
CUMULATIVE MWD ADVANCE DELIVERIES CONVERTED TO EXCHANGE DELIVERIES, 7/84 THROUGH 12/14:	659,667
BALANCE OF MWD ADVANCE DELIVERIES AVAILABLE TO BE CONVERTED TO EXCHANGE DELIVERIES:	247,849
ARTIFICIAL RECHARGE THROUGH EXCHANGE DELIVERIES AND ADVANCE DELIVERIES SINCE 1973:	2,898,022
ARTIFICIAL RECHARGE THROUGH EXCHANGE DELIVERIES SINCE 1973:	2,650,173

(1) AS REPORTED BY METROPOLITAN WATER DISTRICT IN ITS MONTHLY "EXCHANGE DELIVERY SUMMARY IN ACRE-FEET" REPORTS AND ANNUAL SCHEDULES OF WATER DELIVERED TO DWA AND CVWD.

(2) 2012 CVWD/DWA EXCHANGE DELIVERIES TO MWD CONSIST OF 126,166 AF OF TABLE A WATER (65% ALLOCATION), 31,124 AF OF CARRYOVER WATER FROM 2011, AND 431 AF OF DWR'S 2011 TURN-BACK WATER POOL PROGRAM WATER (431 AF OF POOL A AND 0 AF OF POOL B), 0 AF OF ARTICLE 21 WATER, 4,000 AF OF WATER PURSUANT TO THE GLORIOUS LAND AGREEMENT BETWEEN CVWD AND MWD, AND 1,188 AF OF WATER PURSUANT TO THE YUBA ACCORD AND OTHERS. MWD DELIVERED 134 AF OF WATER TO THE MISSION CREEK SPREADING BASIN PURSUANT TO THE CPV-SENTINEL AGREEMENT, WHICH DOES NOT PERTAIN TO THE ADVANCE DELIVERY ACCOUNT AND IS THEREFORE NOT INCLUDED HEREIN.

(3) 2013 CVWD/DWA EXCHANGE DELIVERIES TO MWD CONSIST OF 26,824 AF OF TABLE A WATER (35% ALLOCATION), 0 AF OF CARRYOVER WATER FROM 2012, AND 230 AF OF DWR'S 2013 TURN-BACK WATER POOL PROGRAM WATER (230 AF OF POOL A AND 0 AF OF POOL B), 0 AF OF ARTICLE 21 WATER, 16,500 AF OF WATER PURSUANT TO THE GLORIOUS LAND AGREEMENT BETWEEN CVWD AND MWD, 2,508 AF OF THE SECOND SUPPLENMENT AGREEMENT BETWEEN CVWD AND MWD, AND 2,713 AF OF WATER PURSUANT TO THE YUBA ACCORD AND OTHERS. MWD DELIVERED 0 AF OF WATER TO THE MISSION CREEK SPREADING BASIN PURSUANT TO THE CPV-SENTINEL AGREEMENT, WHICH DOES NOT PERTAIN TO THE ADVANCE DELIVERY ACCOUNT AND IS THEREFORE NOT INCLUDED HEREIN.

(4) 2014 CVWD/DWA EXCHANGE DELIVERIES TO MWD CONSIST OF 9,706 AF OF TABLE A WATER (5% ALLOCATION), 0 AF OF CARRYOVER WATER FROM 2013, AND 0 AF OF DWR'S 2014 TURN-BACK WATER POOL PROGRAM WATER (0 AF OF POOL A AND 0 AF OF POOL B), 0 AF OF ARTICLE 21 WATER, 5,000 AF OF WATER PURSUANT TO THE GLORIOUS LAND AGREEMENT BETWEEN CVWD AND MWD, 3,549 AF OF THE SECOND SUPPLENMENT AGREEMENT BETWEEN CVWD AND MWD, AND 1,213 AF OF WATER PURSUANT TO THE YUBA ACCORD AND OTHERS. MWD DELIVERED 0 AF OF WATER TO THE MISSION CREEK SPREADING BASIN PURSUANT TO THE CPV-SENTINEL AGREEMENT, WHICH DOES NOT PERTAIN TO THE ADVANCE DELIVERY ACCOUNT AND IS THEREFORE NOT INCLUDED HEREIN.

EXHIBIT 6
DESERT WATER AGENCY
COMPARISON OF WATER PRODUCTION AND GROUNDWATER REPLENISHMENT
WHITEWATER RIVER SUBBASIN (WRS) AND MISSION CREEK SUBBASINS (MCS)

PRODUCTION[(1)]

	WRS AF		MCS AF		TOTAL AF		RATIO: MCS/WRS	
YEAR	ANNUAL	CUMULATIVE	ANNUAL	CUMULATIVE	ANNUAL	CUMULATIVE	ANNUAL	CUMULATIVE
2002	213,410	213,410	13,968	13,968	227,378	227,378	6.5%	6.5%
2003	204,275	417,685	14,498	28,466	218,773	446,151	7.1%	6.8%
2004	212,700	630,385	16,548	45,014	229,248	675,399	7.8%	7.1%
2005	204,341	834,726	16,327	61,341	220,668	896,067	8.0%	7.3%
2006	213,850	1,048,576	17,365	78,706	231,215	1,127,282	8.1%	7.5%
2007	211,014	1,259,590	16,409	95,115	227,423	1,354,705	7.8%	7.6%
2008	210,693	1,470,283	15,775	110,890	226,468	1,581,173	7.5%	7.5%
2009	199,149	1,669,432	15,108	125,998	214,257	1,795,430	7.6%	7.5%
2010	182,415	1,851,847	14,304	140,302	196,719	1,992,149	7.8%	7.6%
2011	182,823	2,034,670	14,203	154,505	197,026	2,189,175	7.8%	7.6%
2012	183,108	2,217,778	14,082	168,587	197,189	2,386,364	7.7%	7.6%
2013	182,640	2,400,418	14,495	183,082	197,135	2,583,499	7.9%	7.6%
2014	174,187	2,574,605	13,834	196,916	188,021	2,771,521	7.9%	7.6%

RECHARGE

	WRS AF		MCS AF		TOTAL AF		RATIO: MCS/WRS	
YEAR	ANNUAL	CUMULATIVE	ANNUAL	CUMULATIVE	ANNUAL	CUMULATIVE	ANNUAL	CUMULATIVE
2004	13,224	47,561	5,564	10,356	18,788	57,917	42.1%	21.8%
2005	165,554	213,115	24,723	35,079	190,277	248,194	14.9%	16.5%
2006	98,959	312,074	19,901	54,980	118,860	367,054	20.1%	17.6%
2007	16,009	328,083	1,011	55,991	17,020	384,074	6.3%	17.1%
2008	8,008	336,091	0	55,991	8,008	392,082	0.0%	16.7%
2009	60,024	396,115	3,336	59,327	63,360	455,442	5.6%	15.0%
2010	228,330	624,445	31,467	90,794	259,797	715,239	13.8%	14.5%
2011	232,214	856,659	20,888	111,682	253,102	968,341	9.0%	13.0%
2012	261,267	1,117,926	23,406	135,088	284,673	1,253,014	9.0%	12.1%
2013	26,619	1,144,545	2,379	137,467	28,998	1,282,012	8.9%	12.0%
2014	3,533	1,148,078	4,323	141,790	7,856	1,289,868	122.4%	12.4%

(1) PRODUCTION IN BOTH DWA AND CVWD SERVICE AREAS.

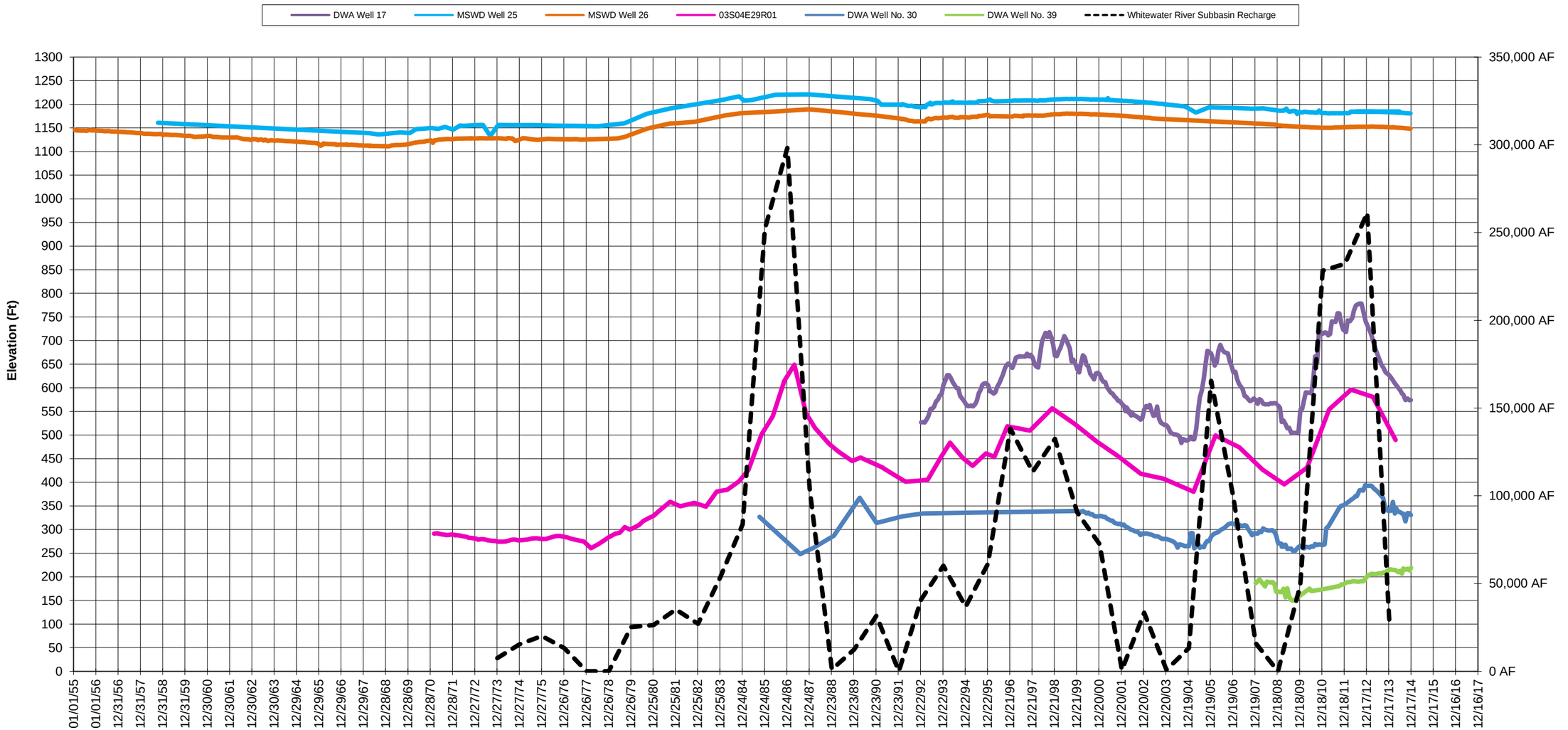
/KJL
101-33P39TBLS.xlsx/Exhibit6
(4/10/2015)

EXHIBIT 7
DESERT WATER AGENCY
SUMMARY OF DELIVERIES TO METROPOLITAN WATER DISTRICT (MWD)
AND TO GROUNDWATER RECHARGE BASINS (AF)

		DELIVERY TO MWD								DELIVERY TO RECHARGE BASINS		
	TABLE A	SURPLUS WATER										
YEAR	ALLOCATION	POOL A	POOL B	ARTICLE 21	FLOOD	YUBA	OTHER	TOTAL	TOTAL	WRS[1]	MCS[2]	TOTAL
1973	14,800								14,800	7,475		7,475
1974	16,400								16,400	15,396		15,396
1975	18,000								18,000	20,126		20,126
1976	19,600								19,600	13,206		13,206
1977	0								0	0		0
1978	25,384								25,384	0		0
1979	25,063								25,063	25,192		25,192
1980	27,884								27,884	26,341		26,341
1981	31,105								31,105	35,251		35,251
1982	34,326								34,326	27,020		27,020
1983	37,547								37,547	53,732		53,732
1984	40,768								40,768	83,708		83,708
1985	43,989								43,989	251,994		251,994
1986	47,210						10,000	10,000	47,210	298,201		298,201
1987	50,931								50,931	104,334		104,334
1988	54,652								54,652	1,096		1,096
1989	58,374								58,374	12,478		12,478
1990	61,200								61,200	31,721		31,721
1991	19,125								19,125	14		14
1992	27,540								27,540	40,870		40,870
1993	61,200								61,200	60,153		60,153
1994	37,359								37,359	36,763		36,763
1995	61,200								61,200	61,318		61,318
1996	61,200		103,641					103,641	164,841	138,266		138,266
1997	61,200		50,000		27,130			77,130	138,330	113,677		113,677
1998	61,200		75,000		20,156			95,156	156,356	132,455		132,455
1999	61,200		47,380					47,380	108,580	90,601		90,601
2000	55,080		9,837	35,640				45,477	100,557	72,450		72,450
2001	23,868		242					242	24,110	707		707
2002	42,840	436	819	300				1,555	44,395	33,435	4,733	38,168
2003	37,213	457	58	532				1,047	38,260	902	59	961
2004	36,464		191					191	36,655	13,224	5,564	18,788
2005	87,770	585	3,253					3,838	91,608	165,554	24,723	190,277
2006	171,100	0	0					0	171,100	98,959	19,901	118,860
2007	102,660	802	0					802	103,462	16,009	1,011	17,020
2008	59,885	151	0			1,836	3,000	4,987	64,872	0 [4]	0	0
2009	57,710	35	58			3,482	3,000	6,575	64,285	49,032 [5]	3,336	52,368
2010	107,780	66	536				18,393	18,995	126,775	228,330	31,467	259,797
2011	124,156	836	1,666	5,800			105,000	113,302	237,458	232,214	20,888	253,102
2012	157,290	431				1,188	4,000	5,619	162,909	261,267	23,406	284,673
2013	67,936	230				2,713	19,008	21,951	89,887	26,619	2,379	28,998
2014	9,706					1,213	8,549	9,762	19,468	3,533 [6]	4,325	7,858
TOTAL[3]	2,199,915	4,029	292,681	42,272	47,286	10,432	170,950	567,650	2,757,565	2,883,623	141,792	3,025,415

(1) WHITEWATER RIVER SUBBASIN.
(2) MISSION CREEK SUBBASIN. DELIVERIES PERTAINING TO CPV-SENTINEL ARE NOT SHOWN.
(3) SINCE 1973.
(4) MWD DELIVERED 8,008 AF OF WATER TO THE WHITEWATER SPREADING BASINS PURSUANT TO CVWD'S PVID CREDIT, WHICH DOES NOT PERTAIN TO THE ADVANCE DELIVERY ACCOUNT; THEREFORE THIS AMOUNT IS NOT ACCOUNTED FOR IN EXHIBIT 4.
(5) MWD DELIVERED 7,992 AF OF WATER TO THE WHITEWATER SPREADING BASINS PURSUANT TO CVWD'S PVID CREDIT, WHICH DOES NOT PERTAIN TO THE ADVANCE DELIVERY ACCOUNT; THEREFORE THIS AMOUNT IS NOT ACCOUNTED FOR IN EXHIBIT 4.
(6) MWD DELIVERED 3,549 AF OF WATER TO THE WHITEWATER RIVER SPREADING BASINS PURSUANT TO CVWD'S SECOND SUPPLEMENTAL AGREEMENT TO THEIR DELIVERY AND EXCHANGE AGREEMENT FOR THE DELIVERLY OF 35 TAF, DATED JUNE 14, 2013. THIS DELIVERY IS ACCOUNTED FOR IN "OTHER" SURPLUS WATER IN THIS EXHIBIT.

EXHIBIT 8
DESERT WATER AGENCY
WHITEWATER RIVER SUBBASIN
RECHARGE QUANTITIES AND GROUNDWATER WELL HYDROGRAPHS



KJL/
101-33P39TBLS.xlsx/Exhibit8
(4/10/2015)

APPENDIX B

APPENDIX B
UPPER COACHELLA VALLEY
MONTHLY AND ANNUAL RECORDED PRECIPITATION
2014

STATION NAME	WHITEWATER NORTH	SNOW CREEK	DESERT HOT SPRINGS	TACHEVAH DAM	TRAM VALLEY	CATHEDRAL CITY	THOUSAND PALMS	PALM SPRINGS SUNRISE	EDOM HILL
STATION NUMBER	**233**	**207**	**59**	**216**	**224**	**34**	**222**	**442**	**436**
JANUARY	0.31	0.26	0.00	0.00	1.13	0.00	0.00	0.00	0.00
FEBRUARY	3.31	5.25	0.52	1.35	0.70	0.40	0.24	0.97	0.38
MARCH	0.25	0.39	0.00	0.00	0.24	0.00	0.01	0.02	0.01
APRIL	1.03	0.88	0.06	0.06	0.00	0.00	0.00	0.03	0.03
MAY	0.07	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.04
JUNE	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
JULY	0.00	0.00	0.01	0.00	0.83	0.19	0.10	0.12	0.03
AUGUST	0.46	2.02	0.13	0.11	0.78	0.40	0.13	0.36	0.24
SEPTEMBER	0.46	3.09	0.17	0.07	1.24	0.00	0.54	0.34	2.22
OCTOBER	0.03	0.55	0.02	0.00	0.46	0.00	0.00	0.00	0.00
NOVEMBER	0.02	0.94	0.08	0.05	0.26	0.10	0.13	0.11	0.09
DECEMBER	4.41	5.47	1.19	1.33	0.00	0.35	0.34	1.04	0.42
TOTAL	**10.35**	**18.85**	**2.18**	**2.97**	**5.64**	**1.44**	**1.49**	**2.99**	**3.46**

NOTE: DATA SHOWN HEREIN WAS PROVIDED BY RIVERSIDE COUNTY FLOOD CONTROL AND WATER CONSERVATION DISTRICT.