



Desert Water Agency

Amended 2015 Urban Water Management Plan

FINAL



Prepared By:
KRIEGER & STEWART
Engineering Consultants

July 2020

DESERT WATER



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DESERT WATER AGENCY DRAFT AMENDED 2015 URBAN WATER MANAGEMENT PLAN

JULY 2020

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OFFICE OF WATER USE EFFICIENCY
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SACRAMENTO, CA 94236-0001

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**DESERT WATER AGENCY
Palm Springs, California**

**AMENDED 2015 URBAN WATER MANAGEMENT PLAN
CONTACT SHEET**

Date amended plan submitted to the Department of Water Resources:	July 21, 2020
Date original plan submitted to the Department of Water Resources:	June 29, 2016
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The Water supplier is a:	Public Agency
The Water supplier is a:	Retailer
Utility services provided by the water supplier include:	Domestic and municipal water (for residential and commercial development), recycled water (for municipal park and landscape irrigation), sanitary sewage (for Cathedral City area), hydroelectric power (for energy delivery to Southern California Edison Company), solar energy power (for energy delivery to Desert Water Agency Operations Center with excess to Southern California Edison Company), and groundwater basin management (for groundwater replenishment and assessment therefor)
Is This Agency a Bureau of Reclamation Contractor?	No
Is This Agency a State Water Project Contractor?	Yes

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SECTION I
DESERT WATER AGENCY

SECTION I DESERT WATER AGENCY

Water Code

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|---------------|--|
| 10621. | (b) Every urban water supplier...shall, at least 60 days prior to the public hearing on the plan required by Section 10642, notify any city or county within which the supplier provides water supplies that the urban water supplier will be reviewing the plan and considering amendments or changes to the plan... |
| 10635 | (b) The urban water supplier shall provide that portion of its urban water management plan prepared pursuant to this article to any city or county within which it provides water supplies no later than 60 days after the submission of its urban water management plan. |
| 10642. | Each urban water supplier shall encourage the active involvement of diverse social, cultural, and economic elements of the population within the service area prior to and during the preparation of the plan. Prior to adopting a plan, the urban water supplier shall make the plan available for public inspection and shall hold a public hearing thereon... |
| 10645. | Not later than 30 days after filing a copy of its plan with the department, the urban water supplier and the department shall make the plan available for public review during normal business hours. |

A. PUBLIC PARTICIPATION

Desert Water Agency (DWA or the Agency) has prepared this 2015 Urban Water Management Plan in accordance with the Urban Water Management Planning Act (UWMP Act), as set forth in Part 2.6 of Division 6 of the California Water Code, and the Water Conservation Act of 2009 (also referred to as SB X7-7), as set forth in Part 2.55 of Division 6 of the California Water Code (CWC). Copies of these parts of the CWC are included in **Appendix A** herein. DWA serves over 3,000 active water service connections and more than 3,000 acre-feet (AF) of water per year, and is therefore required to prepare an Urban Water Management Plan (UWMP or Plan) every five years.

To assist CDWR in its review of this UWMP, the 2015 UWMP Checklist has been completed and is included in **Appendix B** herein.

1. General

DWA is a retail water supplier and has actively encouraged community participation in its urban water management planning efforts since its first UWMP was developed in 1985. Public meetings were held on the 1985, 1990, 1995, 2000, 2005, 2010, and 2015 UWMPs. Notice of the public hearing for adoption of this 2015 UWMP was provided to the City of Palm Springs, the City of Cathedral City, and the County of Riverside on February 29, 2016 in accordance with §10621(b) of the California Water Code (CWC).

On June 28, 2016, DWA held a public hearing to receive comments on its Draft 2015 Urban Water Management Plan. Prior to the public hearing and in accordance with California Government Code §6066, DWA published in *The Public Record* on June 16, 2016 and June 23, 2016, notices to the public describing the date, time, and location of the public hearing. Copies of these published notices are included in **Appendix C** herein.

For this amended plan, a notice was sent to the same parties on May 5, 2020. A copy of said notice is also included in **Appendix C** herein. Copies of the Draft were made available online at www.dwa.org/uwmp. On July 7, 2020, the Agency held a public hearing to receive comments on the updated draft plan. Prior to the public hearing and in accordance with California Government Code §6066, DWA published in *The Public Record* on June 23, 2020 and June 30, 2020, notices to the public describing the date, time, and location of the public hearing. All comments received prior to and during the public hearing were taken into consideration during preparation of the Final Amended 2015 UWMP.

2. Plan Adoption

DWA prepared the 2015 Urban Water Management Plan in 2015 and 2016. The UWMP was adopted by DWA's Board of Directors by Minute Order on June 28, 2016, and was submitted to the California Department of Water Resources (CDWR) and the California State Library on June 29, 2016. The UWMP was subsequently amended, and this Amended 2015 UWMP was adopted by DWA's Board of Directors by Minute Order on July 7, 2020. Copies of this Amended 2015 UWMP were submitted to CDWR and the

California State Library on July 21, 2020. A copy of DWA's motions adopting the 2015 UWMP and Amended 2015 UWMP are included in **Appendix D** of this Plan.

Final copies of the 2015 UWMP, as well as any adopted amendments, are available for public review at the front desk of DWA's Operations Center during normal business hours and online at www.dwa.org/uwmp. Within 30 days after its adoption, DWA provided copies of its final UWMP to the cities and county within DWA's service area (i.e. City of Palm Springs, City of Cathedral City, and County of Riverside). This Plan includes all information necessary to meet the requirements of California Water Code Division 6, Part 2.55 (added by the Water Conservation Act of 2009, also known as SB X7-7) and Part 2.6 (Urban Water Management Planning Act). The standardized tables required by CDWR are included in **Appendix E** herein.

B. AGENCY COORDINATION

Water Code

10620. (d) (2) Each urban water supplier shall coordinate the preparation of its plan with other appropriate agencies in the area, including other water suppliers that share a common source, water management agencies, and relevant public agencies, to the extent practicable.

DWA staff met and coordinated the development of this Plan with Coachella Valley Water District (CVWD), Indio Water Authority, and Mission Springs Water District. Historically, DWA has worked closely with local cities and other local agencies in order to serve the public's best interests; therefore, DWA has developed this Plan through coordination with the public and other entities as summarized in **Table I-1** below. DWA's Draft 2015 UWMP was made available to the public for review and comment prior to Plan adoption. Within 30 days after adoption, DWA's Final 2015 UWMP was provided to City of Palm Springs, City of Cathedral City, and County of Riverside and was made available for public review at DWA's office and online at www.dwa.org/uwmp.

Based on comments received from CDWR on August 24, 2018, DWA amended its 2015 UWMP. DWA's Amended UWMP was made available to the public for review and comment prior to adoption. Within 30 days after adoption, DWA's Amended 2015 UWMP was provided to City of

Palm Springs, City of Cathedral City, and County of Riverside and was made available for public review online at www.dwa.org/uwmp.

TABLE I-1 COORDINATION WITH APPROPRIATE AGENCIES						
Entities	Coordination and Public Involvement Actions					
	Participated in UWMP Development	Commented on Draft	Attended Public Meetings	Contacted for Assistance	Copy of Draft Made Available ⁽¹⁾	Sent Notice of Intention to Adopt
City of Palm Springs					✓	✓
City of Cathedral City					✓	✓
Coachella Valley Water District	✓				✓	✓
Mission Springs Water District	✓				✓	
The Metropolitan Water District of Southern California					✓	
County of Riverside Planning Department					✓	✓
Indio Water Authority	✓				✓	
Coachella Valley Resource Conservation District					✓	
General Public ⁽²⁾			✓		✓	✓

⁽¹⁾ Copy of Draft 2015 UWMP posted online at www.dwa.org/uwmp.

⁽²⁾ 60-Day Notice posted in DWA office lobby and public hearing notice posted in lobby and published in newspaper.

In addition to current law, DWA utilized guidance available from the California Department of Water Resources (CDWR), including CDWR's 2015 Urban Water Management Plans Guidebook for Urban Water Suppliers, dated March 2016 (hereinafter, 2015 UWMP Guidebook).

C. SUPPLIER SERVICE AREA

Water Code

- 10631.** A plan shall be adopted in accordance with this chapter that shall do all of the following:
- (a) Describe the service area of the supplier, including current and projected population, climate, and other demographic factors affecting the supplier's water management planning. The projected population estimates shall be based upon data from the state, regional, or local service agency population projections within the service area of the urban water supplier and shall be in five-year increments to 20 years or as far as data is available.

1. Formation, Purpose, and Service Area

DWA was formed in 1961 to assure an adequate water supply for the westerly portion of the Upper Coachella Valley. In 1962, DWA entered into a water supply contract with the State of California through the CDWR. Coachella Valley Water District (CVWD) entered into a similar contract the following year. In 1968, DWA purchased the Palm Springs and Cathedral City Water Company water systems to provide domestic and municipal water service (hereafter municipal water service) to Palm Springs and vicinity.

DWA is responsible for water supply management within its Institutional Boundary, which encompasses 325 square miles including the City of Palm Springs (CPS), the southwestern portion of the City of Cathedral City (CCC), the City of Desert Hot Springs (CDHS), essentially all of Mission Springs Water District (MSWD), and some unincorporated areas within Riverside County. DWA's Institutional Boundary is depicted on **Figure 1** in **Appendix F** herein.

DWA's management of the water supply within its Institutional Boundary includes artificial groundwater replenishment to augment natural replenishment as part of a joint groundwater basin management agreement with CVWD. Specifically, DWA and CVWD augment local groundwater supplies via groundwater replenishment, using imported water from the State Water Project, exchanged for Colorado River Water supplies by The Metropolitan Water District of Southern California (MWD). Additionally, DWA imports



water and uses it for groundwater replenishment within MSWD's service area. All of DWA's water sources are discussed in **Section II - Water Sources (Supply)** herein.

DWA provides water service through two separate systems (potable and recycled) within its service area, which includes the CPS, the southwestern portion of the CCC, and some unincorporated areas within Riverside County. While DWA provides non-potable irrigation water to two customers located within the MSWD boundaries, DWA's service area does not include the MSWD service area, which is generally northerly of Interstate 10 and includes DHS and its surroundings. MSWD provides municipal water service throughout its service area, and is preparing its own 2015 Urban Water Management Plan.

DWA's service area is generally bounded on the north (from west to east) by Interstate 10 to Highway 111, to Chino Canyon and the Whitewater River, on the east by the Whitewater River and the CVWD, on the south by the rugged Santa Rosa Mountains, and on the west by the rugged San Jacinto Mountains. DWA's service area is depicted on **Figure 1 in Appendix F** herein.

2. Population

Total population within DWA's service area (the CPS, the southwestern portion of the CCC, and several small unincorporated areas along the western boundary) has increased from approximately 18,000 persons in 1961, when DWA was formed, to around 88,517 persons in 2015.

DWA serves the City of Palm Springs, which is a resort destination community, but Palm Springs is also a popular destination for a seasonal "snow bird" population and annual visitors as reported by the City of Palm Springs. The "snow bird" population consists mainly of people from the northeastern and midwestern United States, or from Canada, who spend a large portion of the winter in warmer locales such as California.

"Snow birds" are drawn to the Palm Springs area by the weather, which includes around 350 days of sunshine (City of Palm Springs). In addition to the "snow bird" population, the City of Palm Springs also reports receiving approximately 1,000,000 visitors annually

(City of Palm Springs). As a resort destination community, the Palm Springs area draws visitors to its local amenities, such as golf courses and spas. Many seasonal residents occupy residences and condominiums that require year-round maintenance, including water usage.

The methodology used to estimate historic, current, and projected population has been developed by DWA staff in cooperation with CDWR staff in order to ensure compliance with current regulations. Said methodology is summarized in the following paragraphs and is described in additional detail in the Desert Water Agency Seasonal Population Technical Memo, prepared by DWA staff, a copy of which is included in **Appendix K** herein.

DWA's total population is estimated by combining its base (i.e. permanent, year-round) population with estimates of its seasonal (residence/condominium), recreational vehicle (RV), and hotel populations. Current and projected future population estimates are set forth in **Table I-2** herein, and historic population estimates are included in **Table VIII-2** in **Section VIII** herein.

Base Population

Historical base population numbers are estimated based on United States Census Bureau data (census data) for population within DWA's service area. The base population for census years is based on the census data for those years (i.e. 1990, 2000, and 2010), and the base population for interim years is based on the growth rate that took place between the prior two census years. For example, estimates of base population for years 2001 through 2009 are based on the growth rate that took place between the 1990 census and 2000 census, and estimates of base population for years 2011 through 2015 are based on the growth rate that took place between the 2000 census and 2010 census.

Projections of base population within DWA's service area boundary are based on data provided by the Southern California Association of Governments (SCAG), based on its 2016 Regional Transportation Plan/Sustainable Communities Strategy (2016 RTP/SCS). These projections have been modified by certain recent changes in regional planning. Specifically, projections beyond 2030 have been reduced by approximately 2,500 persons

to account for the cancellation of several large, planned developments in the Chino Cone area due to conservation efforts in that area.

Seasonal Population

Census data provides the number of housing units (by census block) and, based on DWA's service area boundary, it was determined that at the time of the 2010 census, there were 38,332 housing units within DWA's retail water service area, including the CPS, Cathedral City, and unincorporated Riverside County. Data from the 2010 census also provided that 23.4% of the total number of households within Palm Springs were for seasonal, recreational, or occasional use. Applying this same percentage to the Cathedral City and unincorporated portions of DWA's service area, the total number of seasonal homes within DWA's service area in 2010 was 8,979 (8,151 in CPS and 828 in Cathedral City and unincorporated areas).

In order to determine how many people these seasonal homes account for, DWA requested occupancy data from the Greater Palm Springs Convention and Visitors Bureau (GPSCVB). Data provided by the GPSCVB showed a 62% occupancy rate in Palm Springs from July 2017 to July 2018. This rate was used to estimate how often the seasonal homes are occupied. It is important to note that water use for those seasonal homes is not directly tied to occupancy, because irrigation is the largest factor in local water consumption and irrigation happens year-round.

The seasonal housing total was then converted to a housing equivalent unit by multiplying the number of seasonal housing units by the occupancy rate of 62% and then by the number of persons per household. Based on 2010 census data, there were 1.93 persons per household in CPS and 2.99 persons per household in Cathedral City. These calculations resulted in an estimated total seasonal population of 11,289 persons within DWA's service area at the time of the 2010 census.

This process was repeated with 2000 census data to estimate the total seasonal population within DWA's service area at the time of the 2000 census (10,781 persons). The seasonal population for years 2001 through 2009 was estimated based on the growth rate that took place within DWA's service area between the 1990 census and 2000 census. Since 2010



was the most recent census year, the seasonal population for years 2011 through 2015 was also estimated using the growth rate that took place within DWA's service area between the 2000 census and 2010 census.

Projected total residential population (year-round plus seasonal) was estimated by applying a factor of 1.223, derived from the Desert Water Agency Seasonal Population Technical Memo, to the year-round population projections received from SCAG.

RV Population

To estimate the population staying seasonally in recreational vehicle (RV) and mobile home parks, DWA obtained data from park managers specifying how many units were occupied year-round and how many were occupied seasonally. Year-round units were excluded from the calculation, because those residents would have been included in the census data. The number of seasonal units (313) was multiplied by the 62% occupancy factor (obtained from the GPSCVB, as described above) to yield 194 housing unit equivalents. The 194 housing unit equivalents was then multiplied by 1.93 persons per unit (from 2010 census data) to yield a total RV population of 375 persons. This estimated RV population is used for all time periods because historical data was not readily available.

Hotel Population

To estimate the population staying in hotel rooms, the total number of hotel rooms within DWA's service area (15,824 rooms, provided by GPSCVB and additional research) was multiplied by the 62% occupancy rate to estimate the total number of room nights occupied in a 12-month period. Based on data provided by GPSCVB, an average of 2.5 persons stay in each hotel room. Multiplying the total number of room nights (9,811 room nights) by 2.5 persons per room yields a full-time equivalent hotel population of 24,528 persons. This estimated hotel population is used for all time periods because historical data was not readily available.

TABLE I-2 CURRENT AND PROJECTED POPULATION WITHIN DWA'S SERVICE AREA						
	2015	2020	2025	2030	2035	2040
Base Population	52,067	54,656	58,400	61,100	61,340	62,719
Seasonal Population	11,547	12,189	13,023	13,625	14,236	14,544
RV Population	375	375	375	375	375	375
Hotel Population	24,528	24,528	24,528	24,528	24,528	24,528
Total Population	88,517	91,748	96,326	99,628	100,479	102,166

3. Climate

DWA's service area lies within the Upper Coachella Valley, which experiences an arid climate characterized by low humidity, high summer temperatures, and mild dry winters. The area normally receives an average annual precipitation of about four inches (most of which occurs in January, February, or March, except for summer thundershowers), and prevailing winds which are usually gentle but occasionally increase to velocities as high as 50 to 60 miles per hour or more. Midsummer temperatures typically exceed 100°F, frequently reach 110°F, and periodically reach 120°F. During the winter, the average temperature is about 60°F.

The average rainfall and maximum and minimum monthly temperatures, as well as monthly average evapotranspiration rates (ET_o), are shown in **Table I-3** below. Due to the low annual rainfall and excessively high summer temperatures, large quantities of water are required for supplemental landscape irrigation, even during the cooler winter months.

TABLE I-3 CLIMATE				
Month	Mean Rainfall (inches) ⁽¹⁾	Mean Maximum Temperature (°F) ⁽²⁾	Mean Minimum Temperature (°F) ⁽²⁾	Standard Monthly Average ETo (inches) ⁽³⁾
Jan	1.09	70.8	45.4	2.39
Feb	1.07	74.0	48.0	2.91
Mar	0.48	80.4	52.2	5.18
Apr	0.06	87.7	57.4	6.58
May	0.02	95.7	64.3	8.32
Jun	0.03	103.7	70.8	8.64
Jul	0.25	108.1	77.5	8.01
Aug	0.14	107.3	77.6	7.84
Sep	0.14	101.9	71.9	6.49
Oct	0.14	91.2	62.3	4.45
Nov	0.21	78.5	51.6	3.05
Dec	0.68	69.2	44.1	2.19
Annual	3.76	89.0	60.3	66.05

⁽¹⁾ Average rainfall data are based on data from the Palm Springs Station from the National Weather Forecast Office, www.weather.gov

⁽²⁾ Average temperature data are based on the period of 1981 – 2010 obtained from the Western Regional Climate Center website at www.wrcc.dri.edu

⁽³⁾ ETo data are based on the CIMIS Monthly Average ETo Report for the La Quinta II (208) station, obtained from the California Irrigation Management Information System (CIMIS) website at <http://www.cimis.water.ca.gov/>, assessed on June 1, 2016.

4. Current and Past Droughts, Water Demand, and Conservation Information

On January 17, 2014, Governor Jerry Brown, prompted by record dry conditions in California, proclaimed a drought state of emergency. On April 25, 2014, the Governor issued a proclamation of a continued state of emergency based on drought conditions. Subsequently, in July 2014, the Office of Administrative Law approved emergency regulations mandating water conservation measures set forth by the State Water Resources Control Board (SWRCB).

2015 marked the fourth consecutive year in California's latest drought. On April 1, 2015, Governor Brown issued Executive Order B-29-15, finding that drought conditions persist and ordering that the SWRCB impose restrictions in order to achieve a statewide 25 percent reduction in potable urban water usage (as compared to usage in 2013) through February 28, 2016. Most recently, Executive Order B-37-16 was issued by Governor Brown on May 9, 2016. Said Executive Order states that severe drought



conditions persist and may continue to persist in some parts of the state into 2017 and calls for permanent, rather than temporary, water conservation throughout California.

Historically, droughts have had little effect on DWA's water supply. Since DWA relies primarily on groundwater and imports water for groundwater replenishment, the droughts of 1965-1967, 1976-1977, and 1989-1992 had negligible effects on DWA's ability to supply water to its customers. The drought period 2012 - 2015 has been the driest on record in the state, though DWA's ability to supply water to its customers has not been significantly impacted. In response to the current drought and state mandates, and in addition to its existing water conservation programs, DWA has implemented several water conservation programs to reduce water demands within its service area.

For example, DWA launched its \$1,000,000 turf buyback program on August 1, 2014, to a strong response from customers. By October 2014, the budget for the program had been exhausted, and the program was temporarily suspended until more funding was made available. The turf buyback program for the 2015-2016 fiscal year commenced on October 1, 2015, and includes a total budget of \$1,000,000 with a rebate payout of 75 percent of project costs, up to \$3,000 per project for residential applicants and up to \$10,000 per project for homeowner's association applicants.

DWA has pioneered water conservation in the Coachella Valley. Water deliveries to consumers within DWA's existing service area have been metered since the 1920s. Since the early 1970s, DWA has focused its conservation efforts on long-term solutions in areas of water-efficient landscaping, consumer education, and utilization of new technologies such as "smart" irrigation controllers. In the mid-1970s, DWA established numerous proactive water reduction programs that resulted in relatively consistent consumption, and therefore, generally stable per capita production.

Per capita water production increased from 0.31 acre-foot per year (AF/yr) in 1940 to 0.77 AF/yr in 1970. Per capita water production subsequently decreased to 0.73 AF/yr in 1980 before peaking at 0.83 AF/yr in 1990. Since 1990, per capita water production has ranged from 0.62 AF/yr to 0.77 AF/yr. The general consistency in per capita water production in the 1980s and 1990s is attributable to DWA's water conservation activities and measures.

The residents served by DWA have a high commitment to quality of life and are active participants in resource and planning discussions held by DWA. Water conservation is one of several high-priority policies actively implemented within DWA, and programs such as water audits for large-volume water users, residential water audits, landscape water audits, and water-efficient landscape gardens are encouraged and well received.

In 1978, DWA constructed a new Operations Center using low water use fixtures in the building and low water use plants in the landscaping. It also developed and operated a low water use demonstration garden for public benefit. During the 1980s and 1990s, DWA constructed and expanded a water recycling plant and planted additional demonstration gardens. During the 1970s, 1980s, and 1990s, DWA joined with the local Resource Conservation District (Soil Conservation Service) in conducting water-efficient ornamental plant research with both potable and recycled water, and in selling low-water use plants to the public.

In 2008 and 2009, DWA's Operations Center underwent an extensive expansion with adjacent landscape replacement to demonstrate water-efficient landscaping and irrigation systems. Most of the grounds are available for public viewing at any time with the rest being available for public viewing by appointment. Identification signs containing plant names and descriptions and descriptions of irrigation components are located throughout the site.

Since most water use within DWA's service area (up to 80 percent) is used outdoors, DWA has focused conservation efforts on developing outdoor water conservation measures. Further explanation of DWA's water conservation programs is included in **Section V- Water Demand Management Measures (Best Management Practices)**.

SECTION II
WATER SOURCES (SUPPLY)



SECTION II WATER SOURCES (SUPPLY)

Water Code

10631. A plan shall be adopted in accordance with this chapter and shall do all of the following:

(b) Identify and quantify, to the extent practicable, the existing and planned sources of water available to the supplier over the same five-year increments described in subdivision (a). If groundwater is identified as an existing or planned source of water available to the supplier, all of the following information shall be included in the plan:

(1) A copy of any groundwater management plan adopted by the urban water supplier, including plans adopted pursuant to Part 2.75 (commencing with Section 10750), or any other specific authorization for groundwater management.

(2) A description of any groundwater basin or basins from which the urban water supplier pumps groundwater. For those basins for which a court or the board has adjudicated the rights to pump groundwater, a copy of the order or decree adopted by the court or the board and a description of the amount of groundwater the urban water supplier has the legal right to pump under the order or decree. For basins that have not been adjudicated, information as to whether the department has identified the basin or basins as overdrafted or has projected that the basin will become overdrafted if present management conditions continue...

(3) A detailed description and analysis of the location, amount, and sufficiency of groundwater pumped by the urban water supplier for the past five years. The description and analysis shall be based on information that is reasonably available, including, but not limited to, historic use records.

(4) A detailed description and analysis of the amount and location of groundwater that is projected to be pumped by the urban water supplier. The description and analysis shall be based on information that is reasonably available, including, but not limited to, historic use records.

A. WATER SUPPLY SOURCES

In the 1920s and 1930s, DWA's municipal water supply was derived entirely from creek diversions (surface water). Currently, DWA's sources of supply include groundwater produced by local potable water supply wells, surface water diverted from creeks in the San Jacinto Mountains, imported State Water Project (SWP) water exchanged for Colorado River water, and recycled water (for irrigation use). As described in the Desert Water Agency Domestic Water System General Plan 2008 (2008 General Plan), all imported water is used to replenish or recharge the Coachella Valley Groundwater Basin, particularly the Whitewater River and Mission Creek Subbasins, and subsequently the Garnet Hill Subbasin.

Table II-1 identifies the existing and planned water supply sources and quantities available to DWA. (See **Figure 2** in **Appendix F** for a diagram of water supply sources and uses.) This UWMP reports all information on a calendar year basis.

TABLE II-1 CURRENT AND PROJECTED WATER SUPPLIES (AF/YR)						
Water Supply Sources	2015	2020	2025	2030	2035	2040
<u>External Sources</u>						
Surface Water ⁽¹⁾	1,800	1,800	1,800	1,800	1,800	1,800
Natural Groundwater Recharge ⁽²⁾	6,600	8,400	8,900	8,900	9,600	9,700
Imported Water ⁽³⁾	9,300	25,600	25,600	25,600	25,600	25,600
Groundwater from Storage ⁽²⁾	2,035	0	0	0	0	0
<u>Internal Sources</u>						
Non-Consumptive Return ⁽⁴⁾	10,000	10,900	11,400	11,800	12,700	13,500
Recycled Water ⁽⁵⁾	4,045	5,300	6,000	6,700	7,300	8,000
Water Supply Sources Total	34,010	52,000	53,700	54,800	57,000	58,600

- ⁽¹⁾ DWA diverts surface water from Snow Creek and Falls Creek (per State Water Resources Control Board Water Rights Division and Licenses 2592, 3097, and 8226) and Chino Creek and the Whitewater River (per the Whitewater River Adjudication Decree, Case No. 18035, dated September 28, 1938, Section XXVI, Paragraphs 32 and 48).
- ⁽²⁾ DWA extracts groundwater comprising natural recharge, non-consumptive return, and groundwater from storage. Net natural replenishment for the Whitewater River Subbasin is described in the 2010 Update to the Coachella Valley Water Management Plan, its 2014 Status Report, with DWA's share being about 23 to 25 percent of the net natural replenishment, reflecting long term average supply. "Groundwater from storage" is continued groundwater extraction required to meet demands in addition to natural and imported supplies.
- ⁽³⁾ Colorado River water has been and continues to be exchanged for State Water Project water per the 2003 and prior Exchange Agreements among DWA, CVWD, and Metropolitan. Currently, approximately 93 percent of exchange water is directed to the Whitewater River Subbasin, of which 25 percent is allocable to DWA and 75 percent is allocable to CVWD. State Water Project water consists of DWA's apportionment of its Table A allocation, Article 21 surplus water allocation (when available), and other surplus water acquired and conveyed through the State Water Project. Herein, projected Table A and Article 21 State Water Project water deliveries are based on the 2013 State Water Project Reliability Report. Other surplus water includes State Water Project Pools A and B Turnback water, Yuba River Accord water, and Central Valley flood waters (Kern River and other rivers).
- ⁽⁴⁾ Non-consumptive return to the aquifer is estimated to be 29 to 35 percent of groundwater and surface water produced and used but not consumed, per the 2010 Update to the Coachella Valley Water Management Plan and its 2014 Status Report, with annual quantities varying with varying production.
- ⁽⁵⁾ DWA's Recycled Water Treatment Facility reclaims secondary effluent from the City of Palm Springs Wastewater Treatment Plant. Currently, DWA reclaims over half of the secondary effluent available from the City, which is approximately 6.0 million gallons per day (6,500 AF/yr). Potential future recycled water demands are described in DWA's 2008 General Plan. Due to the fact that the use of recycled water does not change the nature of consumptive water use, use of recycled water is considered herein to have a negligible effect on the assumed rate of non-consumptive return to the aquifer based on the total groundwater and surface water production. However, increased recycled water use can help offset the use of other sources (such as pumped groundwater) to meet total demand.

B. GROUNDWATER

1. Groundwater Basin

DWA extracts groundwater for municipal use from the upper portion of the Whitewater River Subbasin of the Coachella Valley Groundwater Basin (Basin 7-21 in CDWR Bulletin 118). The Whitewater River Subbasin is one of five (Whitewater River, Mission Creek, San Geronio Pass, Desert Hot Springs, and Garnet Hill) subbasins within the Coachella Valley Groundwater Basin (USGS 1974). The San Andreas Fault drives a complex pattern of branching faults which define the boundaries of the subbasins (CDWR 2003). CDWR Bulletin No. 108 (1964) describes the hydrologic components of the Upper Coachella Valley Groundwater Basin differently than the USGS. For purposes of this UWMP, the more recent USGS subbasin identifications are used.

Figure 3 in **Appendix F** herein shows the Coachella Valley Groundwater Basin location, its subbasins, fault lines, DWA and CVWD service areas, DWA and CVWD replenishment facilities, and groundwater management areas of benefit.

2. Groundwater Management and Overdraft Conditions

The Whitewater River Subbasin is recharged naturally with runoff from the San Jacinto, Santa Rosa, and San Bernardino Mountains. Since the 1950s (if not earlier), groundwater extractions in the Whitewater River Subbasin have exceeded the long-term natural recharge, a condition termed *overdraft*, resulting in declining groundwater levels. Per CDWR's Bulletin No. 118, the Whitewater River Subbasin is in overdraft.

In recognition of the declining water levels in the Whitewater River Subbasin, and to arrest or offset these conditions, DWA and CVWD secured SWP allocations in 1962 and 1963, respectively, to artificially recharge the groundwater subbasin. Artificial recharge significantly augments natural replenishment, so imported water is the most important component of the Whitewater River Subbasin's source of water (2008 General Plan). DWA's contract for receiving SWP water is set to



expire in 2035; however, it is expected that said contract will be extended prior to that time.

Costly aqueduct facilities needed to directly convey SWP water from the California Aqueduct to the Coachella Valley are unlikely to be constructed for some time; therefore DWA and CVWD entered into water exchange contracts with The Metropolitan Water District of Southern California (Metropolitan) in 1967, which were amended in 1972, to deliver Colorado River water to the Upper Coachella Valley through 1990 in exchange for SWP water delivered to Metropolitan through the East Branch of the California Aqueduct in San Bernardino.

In 1973, DWA, CVWD, and Metropolitan jointly commenced a program of artificial recharge of the Whitewater River Subbasin using imported water. The imported water is infiltrated at the Whitewater River Spreading Grounds (replenishment basins) near Windy Point, from which it percolates to the groundwater basin underlying the spreading area.

DWA and CVWD entered into a joint Water Management Agreement in 1976 (amended in 1992), wherein the two parties cooperate in the management of the Whitewater River Subbasin. The Water Management Agreement and its amendment were superseded by the Whitewater Water Management Agreement, which was executed and made effective on July 15, 2014. DWA and CVWD entered into a separate agreement, the Mission Creek Water Management Agreement (also in 2014) for the Mission Creek Basin. Copies of both 2014 agreements are included in **Appendix G** herein.

The Water Management Agreements were developed following numerous investigations that all concluded that groundwater deficit existed within the Whitewater River Subbasin. DWA and CVWD have long acknowledged that the Coachella Valley Groundwater Basin was in a state of overdraft, as cited in CDWR Bulletin 108, dated 1964, prior to the Water Management Agreement being implemented and replenishment activities commenced.



In 1983, DWA and CVWD extended their water exchange agreements with Metropolitan through 2035 and, in 1984, they entered into advance delivery agreements with Metropolitan to permit Metropolitan to store excess Colorado River water within the Whitewater River Subbasin for later exchange of DWA and CVWD SWP allocations. Parties to the exchange agreements terminating in 2035 are currently working toward extending the agreements further into the future.

In 2002, DWA and CVWD also began using Colorado River water to replenish the Mission Creek Subbasin, which is within DWA's Institutional Boundary (refer to **Figure 1 in Appendix F** herein). Even though DWA does not operate groundwater production wells in the subbasin, DWA does operate the recharge facilities in the subbasin and, partnered with CVWD and the Mission Springs Water District (MSWD), manages the production and recharge activities in the Mission Creek Subbasin. Of the total SWP (exchange) water allocated to DWA and CVWD, approximately 93 percent is directed to the Whitewater River Subbasin, and approximately 7 percent is directed to the Mission Creek Subbasin.

In addition to natural and artificial recharge, non-consumptive return in the Whitewater River Subbasin is estimated at between 29 and 35 percent of water produced (MWH 2010 and 2014). Non-consumptive return water is water returned to the aquifer by percolation after use, which offsets groundwater production. Examples of non-consumptive return include percolation of irrigation water into the ground and discharges of treated wastewater to percolation ponds for infiltration and percolation to groundwater.

In 2003, DWA, CVWD, and Metropolitan entered into the 2003 Exchange Agreement and (hereinafter, 2003 Exchange Agreement) which clarifies and augments earlier exchange and advance delivery agreements. The conditions of the 2003 Exchange Agreement are discussed in **Section III** of this UWMP.

Pursuant to the agreements described above, artificial groundwater recharge of the Upper Coachella Valley Groundwater Basin, from 1973 through 2015, has approximated 3,025,415 AF, of which approximately 2,896,489 AF has been recharged to the Whitewater River Subbasin and about 141,963 AF has been



recharged to the Mission Creek Subbasin. These quantities are based on the *Engineer's Report Groundwater Replenishment and Assessment Program for the Whitewater River, Mission Creek, and Garnet Hill Subbasins, Desert Water Agency 2016/2017*, dated May 2016.

The Whitewater River and Mission Creek Subbasins are capable of meeting the demands that will be placed on them, provided they continue to be replenished with sufficient quantities of imported water to meet future needs. Refer to **Section III - Reliability Planning**, for information regarding SWP delivery reliability.

Neither the Coachella Valley Groundwater Basin, nor any of its subbasins have been adjudicated; therefore, groundwater production is not currently legally limited. However, DWA and CVWD continuously work to manage the groundwater basin through individual and joint programs and plans. For example, DWA participates in planning and preparing the Coachella Valley Integrated Regional Water Management Plan (IRWMP), which is in collaboration with CVWD, MSWD, Indio Water Authority, and the Coachella Water Authority, and was created to address water management issues. The Coachella Valley IRWMP is intended to be an ongoing process of regional collaboration for the sustainability of water supplies throughout the Coachella Valley (IRWMP 2010).

CVWD and MWH published the 2010 update to the 2002 Coachella Valley Water Management Plan for the Coachella Valley in 2012, in accordance with the Groundwater Management Act, and a 2014 Status Report. The updated plan discusses the actions both DWA and CVWD must take to prevent the continuing decline in groundwater levels and water quality degradation. Actions such as groundwater replenishment, source substitution for irrigation, recycled water use, conservation programs, and land subsidence monitoring are outlined within the updated plan.

The California State Legislature enacted SB X7-6 in November of 2009, which amended the California Water Code, mandating a statewide groundwater monitoring program to track trends in groundwater elevations throughout the state. CDWR developed the California Statewide Groundwater Elevation Monitoring program

(CASGEM) to compile existing and future data collected by local water districts and agencies. CDWR has categorized the Whitewater River and Mission Creek Subbasins as "Medium" priority for implementation of the CASGEM program. DWA has been collecting groundwater level data since its formation and participates in the CASGEM program.

On September 16, 2014, Governor Brown signed three bills (AB 1739, Dickinson; SB 1168 and SB 1319, Pavley) that create a framework for sustainable, local groundwater management. This legislation, referred to as the Sustainable Groundwater Management Act (or SGMA), empowers local agencies to manage groundwater basins in a sustainable manner over a long-term horizon and to tailor groundwater sustainability plans to their regional economic and environmental needs. SGMA provides five to seven years for locals to form a Groundwater Sustainability Agency (GSA) and to create a Groundwater Sustainability Plan.

In November 2015, DWA submitted to CDWR a "Notice of Election to become a Groundwater Sustainability Agency" for certain portions of the Indio Subbasin, Mission Creek Subbasin, and San Geronio Pass Subbasin that are within or surrounded by DWA's statutory boundaries. CDWR has designated these basins as "medium priority" under SGMA, and none of these basins are on CDWR's list of critically overdrafted basins.

Desert Water Agency is also working to eliminate overdraft of the aquifer. The agency's water managers attempt to balance the amount of water pumped out of groundwater supplies and the water recharged from imported sources. While this is not always possible in any given year, it is a critical long-term objective.

3. Groundwater Production

Except for DWA's surface water diversions, all water produced within the Whitewater River Subbasin is groundwater. Combined DWA and CVWD groundwater extractions and surface water diversions within the Whitewater River Subbasin increased from approximately 93,000 AF in 1966 (1965 through 1967, averaged) to 187,500 AF in 1990, then decreased to approximately 174,000 AF in

1991 before increasing to approximately 187,000 AF in 1997. In 1999, production increased to about 208,000 AF and then averaged about 211,000 AF during the three-year period 2000 through 2002.

Annual water production within the Whitewater River Subbasin (groundwater extractions plus surface water diversions) has averaged 179,200 AF/yr for the past five years (2010-2014), down from 204,200 AF/yr average from the previous five year period (2005-2009). Based on production records, approximately 23 to 25 percent of annual water production within the Whitewater River Subbasin is allocable to DWA and the remaining 75 to 77 percent is allocable to CVWD. For projection purposes through 2040, this relationship has been assumed to remain constant, although it may vary slightly depending upon relative groundwater production between DWA and CVWD.

Table II-2 below represents the quantities of groundwater extracted from the Whitewater River Subbasin by DWA during years 2010 - 2015.

TABLE II-2 QUANTITIES OF GROUNDWATER PUMPED (AF/YR)						
Basin Name	2010	2011	2012	2013	2014	2015
Whitewater River Subbasin	36,716	37,011	36,990	35,816	34,416	28,849
% of Total Water Supply	87%	87%	85%	85%	84%	85%

Groundwater extractions have declined significantly since the 2010 UWMP was adopted. This is due to decreased demand due to conservation efforts and a decrease in construction water demand. Construction activity was high during 2006 and 2007, but the deteriorating economic climate in subsequent years has diminished the number of construction projects.

Table II-3 below represents the quantities of groundwater projected to be extracted from the Whitewater River Subbasin (2020 - 2040) by DWA based on DWA's projected population projections in **Table I-2** in **Section I** and an estimated water use based on DWA's urban water use target of 344 gallons per capita per day (gpcd), as described in **Section VIII** herein.

TABLE II-3 QUANTITIES OF GROUNDWATER PROJECTED TO BE PUMPED (AF/YR)					
Basin Name(s)	2020	2025	2030	2035	2040
Whitewater River Subbasin	35,056	36,842	38,629	40,415	42,070
% of Total Water Supply	82%	81%	81%	82%	83%

C. SURFACE WATER

One-hundred percent of DWA's surface water diversions, which constitute only approximately 4 to 5 percent of DWA's total water supply, is used for municipal water service. Surface water sources are secured from Snow and Falls Creeks, Chino Creeks North and West, and the Whitewater River. The creeks are all tributary to the Whitewater River.

The diversion at Chino Creek North was taken out of service in 2000 due to turbidity spikes in the source water, and it cannot be restored to potable service without filtration. Water that had been historically diverted from Chino Creek North now infiltrates the creek bed below the diversion, recharging the groundwater basin (2008 General Plan). DWA continues to monitor the water quality of Chino Creek North to determine when it may be put back into service.

Per State Water Resources Control Board Water Rights Division Licenses 2592, 3097, and 8226, DWA is permitted to divert 2,475 gallons per minute (gpm) from Snow Creek, 675 gpm from Falls Creek, and 3,150 gpm from both creeks combined. Under the Whitewater River Adjudication Decree, Case No. 18035, dated September 28, 1938, DWA has the right to divert 900 gpm from Chino Creek. Chino Creek West, Snow Creek, and Falls Creek were equipped with ultraviolet disinfection equipment in 2014, continuing DWA's compliance with State and Federal surface water treatment regulations.



Section II – Water Sources (Supply)

In 2009, DWA acquired water rights for the diversion of Whitewater River water from the Whitewater Mutual Water Company (WMWC) through stock purchase agreements with stock holders. Therefore, the water previously diverted by WMWC is now incorporated into DWA's supply. WMWC has diverted Whitewater River water pursuant to its adjudicated stream rights (Whitewater River Adjudication Decree, dated September 28, 1938). DWA now continues to use that right, which is 10 cubic feet per second (cfs) with a priority date of September 19, 1913.

Table II-4 below represents the surface water diverted by DWA for years 2010 to 2015.

TABLE II-4 QUANTITIES OF SURFACE WATER DIVERTED ⁽¹⁾ (AF/YR)						
Sources ⁽¹⁾	2010	2011	2012	2013	2014	2015
Surface Water ⁽²⁾	1,582	1,724	2,222	1,802	1,787	1,540
% of Total Water Supply	3.7%	4.1%	5.1%	4.3%	4.4%	4.6%

⁽¹⁾ Sources of DWA's surface water diversions include Snow Creek, Falls Creek, Chino Creek North, and Chino Creek West, which are tributary to the Whitewater River.

⁽²⁾ Quantities of surface water diverted were obtained from DWA's Engineer's Reports on Groundwater Replenishment, 2011/2012 through 2015/2016.

DWA's projected quantities of surface water for 2020 through 2040 (**Table II-5**) are based on the average quantities of surface water diversions by DWA from 2010 through 2015, which are generally limited to long term averages of about 1,175 AF/yr (Snow, Falls, and Chino Creeks) and 649 AF/yr from the Whitewater River. Increasing the capacities of existing water facilities could result in an increase in surface water supplies, but it would be insignificant since groundwater is DWA's primary and most reliable source of water supply within its service area. Water quality is the limiting factor in available quantities of surface water supply, and additional water treatment facilities would be required in order to increase DWA's surface water supply. Therefore, available surface water supplies are estimated to be limited to about 1,800 AF/yr.

As previously noted, surface water diverted from Snow Creek, Falls Creek, Chino Creek North, and Chino Creek West once constituted 100 percent of DWA's surface water supply, but it constitutes only 4 to 5 percent of DWA's entire municipal water supply. The projected surface water diversions are projected to decrease slightly to approximately 3 percent of

DWA's municipal water supply over the period 2020 through 2040 unless additional treatment facilities are constructed.

TABLE II-5 QUANTITIES OF PROJECTED SURFACE WATER DIVERSIONS (AF/YR)					
Source	2020	2025	2030	2035	2040
Surface Water ⁽¹⁾	1,800	1,800	1,800	1,800	1,800
% of Total Water Supply	3.4%	3.1%	3.0%	2.9%	2.8%

⁽¹⁾ DWA possesses rights to divert surface water from Snow Creek, Falls Creek, Chino Creek North, Chino Creek West, and the Whitewater River.

D. WASTEWATER AND RECYCLED WATER

Water Code

- 10633.** The plan shall provide, to the extent available, information on recycled water and its potential for use as a water source in the service area of the urban water supplier. The preparation of the plan shall be coordinated with local water, wastewater, groundwater, and planning agencies that operate within the supplier's service area, and shall include all of the following:
- (a) A description of the wastewater collection and treatment systems in the supplier's service area, including a quantification of the amount of wastewater collected and treated and the methods of wastewater disposal.
 - (b) A description of the quantity of treated wastewater that meets recycled water standards, is being discharged, and is otherwise available for use in a recycled water project.
 - (c) A description of the recycled water currently being used in the supplier's service area, including, but not limited to, the type, place, and quantity of use.
 - (d) A description and quantification of the potential uses of recycled water, including, but not limited to, agricultural irrigation, landscape irrigation, wildlife habitat enhancement, wetlands, industrial reuse, groundwater recharge, indirect potable reuse, and other appropriate uses, and a determination with regard to the technical and economic feasibility of serving those uses.
 - (e) The projected use of recycled water within the supplier's service area at the end of 5, 10, 15, and 20 years, and a description of the actual use of recycled water in comparison to uses previously projected pursuant to this subdivision.
 - (f) A description of actions, including financial incentives, which may be taken to encourage the use of recycled water, and the projected results of these actions in terms of acre-feet of recycled water used per year.
 - (g) A plan for optimizing the use of recycled water in the supplier's service area, including actions to facilitate the installation of dual distribution systems, to promote recirculating uses, to facilitate the increased use of treated wastewater that meets recycled water standards, and to overcome any obstacles to achieving that increased use.

1. Introduction

The use of recycled water plays a key role in DWA's Basin Management Program as it serves to conserve and protect the valuable groundwater and surface water supplies for potable uses. In 1988, DWA and the City of Palm Springs (CPS) entered into an agreement to treat wastewater. Under the agreement, CPS provides primary and secondary treatment at the City of Palm Springs Wastewater Treatment Plant (CPS WWTP), after which the secondary effluent is conveyed to an array of percolation ponds operated by CPS WWTP, or diverted to DWA's Recycled Water Treatment Facility (RWTF) for tertiary treatment.

TABLE II-6 PARTICIPATING AGENCIES				
Participating Agencies	Role	Located Within Service Area?	Third Party Operation?	Quantity Measured?
City of Palm Springs	Collects city wastewater and provides primary and secondary wastewater treatment.	Yes	Yes	Yes
Desert Water Agency	Provides tertiary treatment and provides recycled water service to recycled water customers.	Yes	No	Yes

2. Wastewater Collection, Treatment, and Disposal

The City of Palm Springs maintains a sanitary sewer collection system consisting of approximately 250 miles of sewer conveyance pipeline within city limits. DWA is responsible for providing wastewater collection service within portions of Cathedral City within DWA boundaries, and a small portion of unincorporated Riverside County within DWA boundaries.

Portions of DWA's wastewater collection system within areas of Cathedral City that have been developed since 1980 are located at a lower elevation than the CPS WWTP; therefore, wastewater from these areas must be pumped and piped to the neighboring Coachella Valley Water District (CVWD) wastewater collection system for treatment and disposal. Both DWA and the City of Cathedral City are actively



involved in the pursuit of a wastewater collection system to serve any remaining areas that are currently served by septic systems.

In 1989, DWA constructed its Recycled Water Treatment Facility (RWTF) with an initial capacity of 5.0 million gallons per day (MGD). The facility was expanded in 1995 to its present capacity of 10.0 MGD (ultimate capacity of 15.0 MGD). DWA's recycled water system facilities consist of the RWTF, two booster pumping plants, and transmission pipelines (2008 General Plan).

DWA's raw water supply for the RWTF consists of secondary effluent from the CPS WWTP, which is effluent that has undergone primary and secondary treatment. The current average daily flow from the CPS WWTP is 6.4 MGD (7,200 AF/yr), with an Average Annual Design Flow of 10.9 MGD and a Peak Hour Flow of 21.8 MGD. The supply of recycled water is limited by the quantity of raw wastewater flowing into the CPS WWTP. Water conservation appears to have impacted the quantity of wastewater generated within DWA's service area. Future quantities of wastewater will be limited due to CPS being near buildout and current/future building codes that mandate reduced wastewater discharge from all types of construction.

When secondary effluent is available from the CPS WWTP to divert to the RWTF and there is either demand for recycled water by customers or storage capacity availability, DWA diverts and treats the secondary effluent to tertiary standards and stores and/or delivers it to existing customers. At times of high demand, particularly in the summer months, DWA has the ability to augment the recycled water supply with non-potable shallow groundwater. The current recycled water demand is approximately 4,250 AF/yr, which includes any supplemental water (potable and non-potable shallow groundwater) used to augment recycled water in meeting said demand.

When maximum storage capacity has been achieved at the RWTF, effluent from the CPS WWTP is not diverted to the RWTF and flows to the City's percolation ponds. Due to the nature of the Coachella Valley's seasonal population, (there are more seasonal residents/visitors in the winter, than in the summer), more wastewater is generated in the winter than there is demand for recycled water. The excess winter

wastewater that is not required for recycled water is percolated by the CPS WWTP. **Table II-7** shows the current amount of wastewater percolated by the CPS WWTP and the future projection of wastewater percolated by the CPS WWTP with a projected increase in recycled water demand.

TABLE II-7 DISPOSAL OF WASTEWATER (NON-RECYCLED) (AF/YR)							
Types of Use	Treatment Level	2015	2020	2025	2030	2035	2040
Percolation Ponds	Secondary	2,100	800	100	200	400	600
Total		2,100	800	100	200	400	600

In 2014, DWA constructed two non-potable, shallow groundwater wells adjacent to the CPS WWTP percolation ponds to extract low-quality, shallow groundwater; these wells are intended to augment recycled water demands in the summer months in-lieu of potable water. Each well has the capability of extracting 1,200 gpm. Production at these two wells began in early 2015. The use of low-quality shallow groundwater has completely replaced potable water as a supplement to meet recycled water demands within DWA's service area. It is estimated that approximately 500 AF/yr of supplemental water is required to meet existing recycled water demands, primarily in the summer when demand is high and flow into the RWTF is low (nighttime).

Currently, there are three potential recycled water customers within the DWA service area. The potential customers and their estimated irrigation water demands are set forth in **Table II-8** herein.



TABLE II-8 DWA POTENTIAL RECYCLED WATER CUSTOMERS			
Potential Customer	Average Day Demand (MGD ⁽¹⁾)	Average Day Maximum Month ⁽²⁾ (MGD ⁽¹⁾)	Maximum Day Demand ⁽³⁾ (MGD ⁽¹⁾)
Existing Recycled Water Customer Total	4.1	6.2	8.2
Seven Lakes Country Club (9 holes) ⁽⁴⁾	0.4	0.6	0.8
Cathedral Canyon Country Club (18 holes) ⁽⁴⁾	0.8	1.2	1.6
Sunrise Park ⁽⁶⁾	0.1	0.2	0.2

⁽¹⁾ MGD = Million gallons per day

⁽²⁾ Average Day Maximum Month Demand = 1.5 x Average Day Demand

⁽³⁾ Maximum Day Demand = 2.0 x Average Day Demand

⁽⁴⁾ Irrigation demands are currently met by groundwater from private wells.

⁽⁵⁾ Proposed facility, not yet constructed.

⁽⁶⁾ Currently connected to DWA's potable water system.

Source: Table VI-3 of DWA's 2008 General Plan

DWA's Board of Directors and staff are fully committed to increasing the use of recycled water as a means of conserving the community's municipal water supply to the greatest extent possible by connecting new recycled water connections as feasible and as supplies become available.

DWA will plan additional pipelines, which will expand municipal use of recycled water, as supplies and funding are made available. As indicated in **Table II-9**, future wastewater flows are projected to increase as the population increases, but as previously stated, significant increases in wastewater supplies is unlikely.

3. Recycled Water Standards

Table II-9 herein sets forth the projected quantities of recycled water meeting recycled water standards and available for use in recycled water projects. DWA's recycled water is used for irrigation in areas where the public has access or exposure (i.e., where private dwellings are located adjacent to golf courses); therefore, it must be adequately coagulated, clarified, filtered, and disinfected in accordance with the recycled water treatment criteria specified in Title 22 of the California Code of Regulations, Division 4, Chapter 3.

TABLE II-9 WASTEWATER COLLECTION AND TREATMENT (AF/YR)							
Wastewater	2010 ⁽¹⁾	2015 ⁽¹⁾	2020	2025	2030	2035	2040
Wastewater Collected & Treated in Service Area (CPS)	6,400	6,700	6,900	7,100	7,200	7,400	7,600
Quantity Meeting Recycled Water Standard (DWA)	4,100	4,100	4,800	5,500	6,200	6,800	7,500

⁽¹⁾ Quantities listed for 2010 and 2015 are actual quantities based on DWA's operation records, while quantities listed for 2020 through 2040 are projections.

DWA's recycled water also meets the discharge requirements as specified in the General Waste Discharge Requirements for the Discharge of Recycled Water for Golf Course and Landscape Irrigation, Order No. R7-2014-0008, as issued by the California Regional Water Quality Control Board, Colorado River Basin Region.

High-quality, tertiary treated wastewater (recycled water) is produced utilizing the following processes:

1. Primary Treatment (provided by CPS WWTP)
2. Secondary Treatment (provided by CPS WWTP)
3. Tertiary Treatment (provided by DWA's RWTF)
 - a. Coagulation/Flocculation (Addition of Alum and Polymer)
 - b. Filtration
 - c. Chlorination
 - d. Storage and distribution to customers

The recycled water produced by DWA's RWTF is approved for uses as defined by Title 22 CCR Section 60301.225 and 60301.230 (Recycled Secondary and Tertiary water treatment criteria) by the State Water Resources Control Board. To help demonstrate the positive effects of using recycled water, DWA's Operations Center and RWTF are both irrigated with recycled water. The CPS DeMuth Park, Palm Springs High School athletic fields and football field, and several Palm Springs golf courses are also irrigated with recycled water, among other locations within DWA's service area.

4. Current and Potential Recycled Water Uses

Within DWA's service area, recycled water is generally utilized for irrigation of large turf areas, such as golf courses and parks. The only exception to this is the Palm Springs Animal Shelter, which uses recycled water for hosing down kennels. They do not have a dedicated service connection and are part of the City of Palm Springs DeMuth Park connection included in the list below.

DWA implemented a very aggressive program regarding expanding the use of recycled water within its service area. Presently, there are nine customers and eleven locations using tertiary treated recycled water for irrigation purposes, and additional customers are forecast for the future if adequate recycled water supplies are available. The current customer locations are:

- Escena Golf Club
- Indian Canyons Golf Resort (North and South Golf Courses)
- Mesquite Golf & Country Club
- Mid-Valley Parkway Median
- City of Palm Springs DeMuth Park
- Palm Springs High School athletic and football fields
- Tahquitz Creek Palm Springs Golf Resort (2 Golf Courses)
- DWA Operations Center
- DWA Recycled Water Plant

As previously stated in **Section II.D.2** herein, DWA would pursue the expansion of its existing recycled water customer base as supplies become available. Currently, there are three potential recycled water customers within the DWA service area (Sunrise Park, Seven Lakes Country Club, and Cathedral Canyon Country Club).

Seven Lakes Country Club, and Cathedral Canyon Country Club, are all on private well water for irrigation, while Sunrise Park is served by DWA's potable water system. DWA will assess the demands and feasibility of serving additional potential

recycled water users as wastewater supplies become available for treatment to recycled water standards.

Table II-10 represents the current and projected recycled water and supplemental quantities for DWA's service area.

TABLE II-10 CURRENT AND PROJECTED RECYCLED WATER USES WITHIN DWA'S SERVICE AREA (AF/YR)							
Types of Use	Treatment Level	2015	2020	2025	2030	2035	2040
Golf Course	Tertiary	3,507	4,160	4,770	5,375	5,900	6,500
Landscape / Parks	Tertiary	538	640	730	825	900	1,000
Supplemental Water	Non-Potable	230	500	500	500	500	500
Percentage of Total Water Supply		12%	13%	14%	15%	16%	17%

6. Projected Recycled Water Quantities

As stated in **Section II.D.2** herein, DWA's RWTF has the capacity to treat all secondary effluent generated by the CPS WWTP. However, the quantities of recycled water produced by the RWTF are dependent upon available quantities of wastewater treatment plant effluent. Further, recycled water demands fluctuate throughout the year.

Currently, recycled water produced by DWA's facility is utilized for irrigation purposes, such as golf courses, medians, school athletic fields, and parks, with the only non-irrigation use being cleaning kennels at the Palm Springs Animal Shelter as part of the Demuth Park recycled water service connection. Other uses for recycled water could be developed; however, due to the high demand for irrigation water within DWA's boundaries, it is prudent to assume that the predominant use will continue to be for irrigation. Irrigation use also has the highest potential for conserving valuable groundwater.

Since irrigation water is required year-round, even during the cooler winter months, recycled water use continues throughout the year. The months with the highest

usage are April through October, with the remaining months requiring approximately 50 percent less.

7. Marketing Strategy Encouraging Recycled Water Use

As previously stated within this UWMP, DWA has implemented a very aggressive program toward obtaining new recycled water customers as supply will allow. This strategy is the primary focus of DWA's water conservation efforts because it has the potential to conserve significantly more groundwater than other water conservation efforts.

DWA recognizes that in order to develop widespread use of recycled water, public acceptance, supply availability, and cost incentives are necessary. In 1999, DWA undertook a cooperative 10-year study at its RWTF with the U.S. Department of Agriculture's Natural Resources Conservation Service. Said study compared the effects of tertiary-treated (recycled) water and those of potable water on water-efficient plants.

The purpose of the study was to show potential recycled water customers, specifically, how native plants perform using recycled water. In almost all cases, plants utilizing recycled water performed better than those irrigated with potable water. DWA hopes that the results of this study will alleviate potential customers' concerns regarding the effects of recycled water on their plantings. Existing landscape customers within reasonable proximity to DWA's RWTF have been targeted for marketing, and discussions with the appropriate representatives of said potential customers are underway regarding recycled water use.

8. Proposed Actions to Encourage Use of Recycled Water

DWA offers the following incentives to encourage recycled water use within its service area:

- ***Favorable Rates*** – DWA's rates for providing recycled water to its customers are less than one-half of its rates for providing potable water.

- **Cost-Sharing** – DWA has participated in the cost of constructing offsite water recycling facilities.
- **Technical Assistance** – DWA provides technical assistance to its recycled water customers at no charge.
- **Reliability Guarantee** – DWA guarantees its recycled water service reliability (with qualifying statements), excluding disaster conditions or drought emergencies. In the event that DWA is unable to provide recycled water, it will supply potable water or shallow groundwater (as of 2015) to its recycled water customers.
- **Cost-Comparisons** – DWA provides potential recycled water customers with a comparison of the costs of using recycled water for irrigation versus the costs of constructing and operating a private water well, including costs associated with groundwater replenishment assessments.

Historically, the favorable rates for recycled water have been the primary incentive for customers with large landscaped areas to use recycled water in lieu of potable water for irrigation. DWA believes that feasible expansion of recycled water facilities, in addition to the incentives listed above, will play a significant role in the increased use of recycled water within its service area.

9. Projected Results

DWA's recycled water marketing efforts are projected to result in future recycled water use as follows:

In its 2010 UWMP, DWA projected recycled water use for 2015 based on anticipated increases in recycled water irrigation on golf courses. DWA generally implemented their 2010 UWMP in accordance with the schedule set forth in the plan, but since the projected recycled water use on golf courses was less than anticipated, the actual use in 2015 was approximately what was projected in 2010.

The projected (in 2010) and actual 2015 recycled water uses are shown in **Table II-11** as follows:

TABLE II-11 RECYCLED WATER USES 2010 PROJECTION COMPARED WITH 2015 ACTUAL (AF/YR)		
User Type	2010 Projection for 2015	2015 Actual Use
Irrigation	4,500	4,045

Note: CDWR Table 6-5.

10. Plan for Optimizing the Use of Recycled Water

As previously discussed, due to the significant irrigation requirements within DWA's service area, the optimum use for recycled water is landscape irrigation. Large irrigated areas not currently receiving recycled water are irrigated with either potable water provided by DWA or groundwater supplied through privately-owned wells. When private wells are used, DWA levies a replenishment fee upon the customer for quantities of groundwater pumped exceeding 10 AF.

DWA only has projections of recycled water use for water users that have the potential to become recycled water customers or are scheduled to use recycled water in the near future.

In 2000, an additional effluent storage reservoir was constructed to meet the daily recycled water needs of the customers. Elevated storage reservoir locations are currently being considered to enable DWA to better satisfy the maximum daily demand of the recycled customers. All recycled water mains that have been installed are sized to meet estimated future recycled water demands.

Recycled water is limited to the quantity of treatable wastewater available. Currently, DWA can treat all of the secondary wastewater generated by the CPS WWTP. To meet the summer irrigation demands, DWA constructed two non-potable shallow groundwater wells to extract low-quality groundwater adjacent to the CPS WWTP. The wells became operational in Spring 2015 and supplement the



recycled water system when flows into the RWTF are low and demand from customers is high (night time).

11. Water Quality Impacts

As discussed in **Section III - Reliability Planning**, the surface water and groundwater that DWA delivers to its customers is of high quality and complies with state and federal safe drinking water standards without any treatment (except disinfection, where needed). Existing surface water treatment regulations are codified in Chapter 17 of Title 22 of the California Code of Regulations, Sections 64650 through 64666. DWA is presently exempt from said regulations and filtration due to DWA's control of the watershed, the surface water supply's low turbidity, and DWA's continued monitoring of the supply. In the event that filtration is required, DWA will determine whether to construct filtration facilities or use surface water supplies for additional groundwater recharge (2008 General Plan).

Groundwater extractions do not require disinfection since the groundwater is naturally filtered and the wells are securely sealed from contaminants. As discussed in **Section II.B** herein, DWA's RWTF provides tertiary treatment in full compliance with all applicable recycled water standards and discharge requirements. Since recycled water produced by DWA's RWTF is of higher quality than the CPS WWTP effluent percolated into the aquifer, the use of recycled water has no adverse effects on the groundwater.

The water that DWA provides meets or exceeds all guidelines and standards established by the USEPA and the State Water Resources Control Board, Division of Drinking Water (formerly the California Department of Public Health Drinking Water Program). DWA regards providing adequate quantities of high-quality water as a primary goal to ensure public health, safety, and community well-being. Generally, there are no water quality impacts projected in DWA's service area, and no impacts to DWA's water supply are expected to result from water quality issues. Potential constraints on DWA's water supply are discussed in **Section III - Reliability Planning**.

SECTION III
RELIABILITY PLANNING

SECTION III RELIABILITY PLANNING

Water Code

- 10631.** (c) (1) Describe the reliability of the water supply and vulnerability to seasonal or climatic shortage, to the extent practicable, and provide data for each of the following:
- (A) An average water year.
 - (B) A single dry water year.
 - (C) Multiple dry water years.
- (2) For any water source that may not be available at a consistent level of use, given specific legal, environmental, water quality, or climatic factors, describe plans to supplement or replace that source with alternative sources or water demand management measures, to the extent practicable.
- (d) Describe the opportunities for exchanges or transfers of water on a short-term or long-term basis.
- (h) Include a description of all water supply projects and water supply programs that may be undertaken by the urban water supplier to meet the total projected water use as established pursuant to subdivision (a) of Section 10635...
- (i) Describe the opportunities for development of desalinated water, including, but not limited to, ocean water, brackish water, and groundwater, as a long-term supply.

A. SACRAMENTO - SAN JOAQUIN DELTA

The State Water Project is an inconsistent, yet integral, part of the effort to ensure that California has sufficient water at all times. The Sacramento - San Joaquin River Delta (Delta) is key to the SWP's ability to deliver water to its contractors (CDWR 2013).

The Delta faces many challenges to its reliability, including climate change, environmental restrictions on exports, drought, and levee failure due to earthquakes. To address these challenges and improve the reliability of water supplies, the Bay Delta Conservation Plan is being developed to improve the health of the Delta (CDWR 2013).

The quantities of SWP water delivered to state water contractors in a given year depends on the demand for supply; amounts of rainfall, snowpack, runoff, and water in storage; pumping capacity from the Delta; and legal constraints on SWP operations (CDWR 2013).



CDWR's 2009 Reliability Report initially described the possibility of climate change as one of the key considerations in planning for the State's water management, as climate change is expected to modify temperatures, rainfall, runoff, and water in storage (CDWR 2013). The climate is expected to continue changing in the future, but the extent or magnitude of the changes can only be predicted and projected based on historical records.

Higher sea levels resulting from climate change would threaten the existing levee system in the Delta. Most of the Delta is below sea level and is vulnerable to flooding. Salinity intrusion into the Delta may require increased releases of freshwater from upstream reservoirs to maintain compliance with water quality standards (CDWR 2013). For the SWP, climate change has the potential to affect the availability of its supply, and its ability to convey water.

The Delta's levee system is also susceptible to sudden failures resulting from seismic events. California is subject to frequent earthquakes with potentially high magnitudes that can cause serious damage to structures and levees. As mentioned earlier, in the event of levee failure, water quality would be at risk from salt water intrusion into the Delta. Such conditions would significantly affect water supply reliability by limiting pumping (CDWR 2013).

In addition to potential climatic impacts and levee failures in the Delta, operational restrictions have reduced the supply that is deliverable through the SWP. In 2004 and 2005, scientists observed declines in pelagic organisms in and around the Delta, including the delta smelt, which is federally-listed as threatened by the United States Fish and Wildlife Service (USFWS) and is State-listed as endangered by the California Department of Fish and Wildlife (CDFW). Continued decline of juvenile delta smelt led to modification in 2007 of SWP and Central Valley Project (CVP) operations (CDWR 2007).

In December 2007, Judge Oliver W. Wanger of Fresno ruled that pumping in the Delta should be significantly reduced to protect the delta smelt and other species from declining in numbers due to SWP operations. As a result, the USFWS and the National Marine Fishery Service (NMFS) were ordered to prepare biological opinions issued under the Endangered Species Act for the delta smelt in 2008, and subsequently for chinook salmon, steelhead, green sturgeon, and killer whales in 2009. These biological opinions resulted in additional operational requirements that further restricted the quantities of water that could be exported from the Delta in all but two months during the year (CDWR 2009).

In May of 2010, Judge Wanger lifted the pumping restrictions imposed by the two biological opinions in the Delta, claiming that the biological opinions failed to adequately consider alternative actions that would have been less harmful to humans and the human environment, as required by federal law under the National Environmental Policy Act (NEPA). He also ruled that the biological opinions lacked "factual and scientific justification, while effectively ignoring the irreparable harm those actions have inflicted on humans and human environment" (ACWA).

Since the US Fish and Wildlife Service and National Marine Fishery Service had not complied with the law, the pumping restrictions were lifted and pumping operations were gradually increased.

Both of Judge Wanger's decisions were appealed to the Ninth Circuit Court of Appeals, and in March 2014 and December 2014, the Ninth Circuit reversed Wanger's rulings, finding that the two biological opinions did comply with the law, upholding them in their entirety. Therefore, the operational rules applied to the Delta under the biological opinions continue to be legally required and exports from the State Water Project remain reduced (CDWR 2015).

The aforementioned constraints, along with the potential for climate change and natural disasters, pose high uncertainty in the ability to convey SWP source water to the State Water Contractors.

B. SUPPLY CONSTRAINTS

Variable constraints on DWA's water supply sources exist and result from a range of causes.

Table III-1 below identifies the potential constraints for each water source as described.

TABLE III-1 FACTORS RESULTING FROM INCONSISTENCY OF SUPPLY						
Water Supply Sources		Constraint				
Source Type	Name of Source	Legal	Environ-mental	Water Quality	Climatic	None
Imported Water	Colorado River Exchanged for State Water Project Water	X	X		X	
Surface Water	Snow, Falls, Chino Creeks, and Whitewater River			X	X	
Groundwater	Whitewater River Subbasin	X		X		

1. Water Quality Constraints

The constraints on DWA's imported water supplies (SWP water) are discussed in **Section III.A** above.

DWA's surface water diversions are occasionally taken out of service due to water quality. In the summer months Snow and Falls Creeks are subject to high levels of coliform bacteria and therefore require additional disinfection equipment. To augment the potential shortage in water supply from this source in the event of loss of service of the disinfection equipment, DWA proposed a new groundwater well pumping plant in 2015 to provide safe and reliable water service to residences in Snow Creek Village. However, the project was considered cost-prohibitive at the time and was not constructed. As a result, DWA staff is reviewing other options to provide standby water to Snow Creek Village when the creek supply is unavailable.

Constraints on DWA's groundwater supplies resulting from water quality include those that could result from high concentrations of nitrate and uranium in the groundwater. DWA's Well 19 was taken out of service approximately 10 years ago as a result of high nitrate concentrations in the underlying groundwater, which are caused by discharges from septic systems in the area. As a result of the high nitrate concentrations, Well 19 remains inoperable, and groundwater in the vicinity of the well is unusable.

Additionally, several of DWA's wells, namely Wells 9, 14, 16, and 43, are intermittently inoperable due to high levels of uranium in the groundwater.

2. Potential Legal Constraints

In 2014, the California Legislature enacted the Sustainable Groundwater Management Act, a package of three bills (AB 1739, SB 1168, and SB 1319), that empowers local agencies to sustainably manage groundwater resources. The Sustainable Groundwater Management Act (SGMA) defines sustainable groundwater management as the management of groundwater supplies in a manner that can be maintained during the planning and implementation horizon without causing undesirable results.



A local agency, combination of local agencies, or county may establish a Groundwater Sustainability Agency (GSA). It is the GSA's responsibility to develop and implement a groundwater sustainability plan (GSP) that considers all beneficial uses and users of groundwater in the basin. GSAs must be formed by June 30, 2017. GSAs must develop GSPs with measurable objectives and interim milestones that ensure basin sustainability. A basin may be managed by a single GSP or multiple coordinated GSPs. CDWR will develop regulations for evaluating GSPs and alternatives to GSPs by June 1, 2016. The SGMA requires high and medium priority basins to develop GSPs. Low and very low priority basins are encouraged, but not required, to develop GSPs. A basin can be managed by an alternative to a GSP if approved by CDWR. Alternatives to GSPs are due to CDWR for evaluation and assessment by January 1, 2017. CVWD, in conjunction with the other Valley water agencies, anticipates submitting the 2010 Coachella Valley Water Management Plan Update and the 2012 Mission Creek and Garnet Hill Water Management Plan as alternatives to preparing a separate GSP for the Valley.

Under SGMA, DWA is designated to be an exclusive local groundwater management agency within its service area. CVWD, Indio Water Authority, and Coachella Water Authority all filed to become GSAs and will jointly manage the Whitewater River Subbasin with DWA. CVWD filed for GSA status in the Mission Creek Subbasin along with DWA. CVWD, DWA, and MSWD will continue to jointly manage this subbasin in accordance with the 2003 Mission Creek Settlement Agreement.

Another legal constraint could potentially result from ongoing litigation with the Agua Caliente Band of Cahuilla Indians (the Tribe), a federally recognized tribe. On May 14, 2013, the Tribe sued DWA and CVWD in United States District Court, claiming senior water rights under an aboriginal rights theory and seeking an injunction prohibiting DWA and CVWD from:

1. Withdrawing groundwater from the aquifer in the western Coachella Valley, and
2. Replenishing the aquifer with untreated water.

On June 25, 2014, the United States filed a complaint in intervention supporting the Tribe's claim of reserved water rights. On March 24, 2015, the United States District

Court ruled that the Tribe's federal reserved water rights may extend to include groundwater, but "whether groundwater resources are necessary to fulfill the reservation's purposes, however, is a question that must be addressed in a later phase of this litigation."

The district court also ruled that the Tribe's claim of aboriginal occupancy was extinguished by the provisions of an 1851 Act of Congress, so the Tribe has no derivative right to groundwater on that basis. The district court certified its ruling on reserved water rights for interlocutory appeal. On June 10, 2015, the United States Court of Appeals for the Ninth Circuit agreed to hear DWA and CVWD's appeal of that ruling. Further proceedings in the district court have been stayed pending determination of the appeal. If the ruling is affirmed, further trial proceedings will be necessary in the district court to address unresolved issues.

The Tribe's lawsuit does not have an effect on groundwater supply reliability at this time. DWA and CVWD will continue to fulfill all of their responsibilities as stewards of the Coachella Valley's groundwater.

C. RELIABILITY AND DELIVERABILITY

Throughout history, a population's survival has been dependent on the availability of water of adequate quality; therefore, a reliable, high-quality source of water is essential for human survival and well-being.

Water has played, and will continue to play, a vital role in the development of the Palm Springs area, a world-renowned resort destination community. A reliable, abundant, high-quality water supply is the most important factor in the economic sustainability and growth of the Palm Springs area. DWA's goal is to provide its customers with an adequate and reliable supply of high-quality water to meet present and future needs in an environmentally and economically responsible manner.

Since 1973, DWA and CVWD have been using Colorado River water exchanged for SWP water to replenish groundwater in the Whitewater River Subbasin. As a state water contractor, DWA is susceptible to the uncertainty of supply and delivery from the SWP and the Delta due to legal, environmental, and climatic restrictions.



Due to DWA's reliance on local groundwater sources and its ability to secure imported water for storage within the Whitewater River Subbasin, short-term drought situations have historically had a negligible effect on DWA's ability to supply water to its customers. DWA will continue to request the maximum allocation from the SWP and will obtain and store as much available water as possible to prevent supply deficiencies and to preserve the groundwater basin.

The majority of DWA's service area depends exclusively on groundwater, while the northwestern portion of the service area is supplied by a mix of groundwater and surface water. Since the surface water sources are fed with water originating in the local mountains, they are inherently more susceptible to seasonal variation and drought conditions. A small group of relatively isolated single-family, minimally-landscaped residences (i.e., Snow Creek Village and Palm Oasis) are supplied solely with surface water. If delivery of surface water to these residences were interrupted or reduced, demand could be met in the interim through stored water in reservoirs dedicated to those areas. In the unlikely event that water became unavailable in those areas, a water supply would have to be trucked in from elsewhere within DWA's water system.

Construction of a well for Snow Creek Village has been determined to be cost prohibitive. As described previously in this **Section III**, DWA is currently working on alternative standby water supply options for Snow Creek Village to supplement water supplies when surface water sources become unavailable.

DWA's water system has the potential to be affected by earthquakes, power outages, floods, and other potentially devastating occurrences; therefore, emergency preparedness planning is a key part of DWA's operations. DWA has coordinated internally with all departments and with other local entities to formulate an Emergency Preparedness Plan. The Emergency Preparedness Plan outlines specific courses of action DWA personnel will follow in the event of a natural disaster or a breach in facility security. In the Emergency Preparedness Plan, all areas of emergency preparedness are addressed, with emphasis on employee response and delivering safe water to DWA's customers as quickly as possible.

DWA has an intertie with CVWD that would allow for DWA to obtain water in the event of an emergency. Additionally, DWA could use surface water in the event that groundwater is unavailable due to an extended power outage. Additionally, more than half of DWA's 24 above



ground steel reservoirs are equipped with earthquake valves to conserve stored water supply in the event of a pipeline break resulting from an earthquake. Additional earthquake valve installations will be constructed as funds become available. Aging pipelines are also replaced as part of an ongoing mainline replacement program to further enhance the reliability of the system. All new facilities are designed taking into consideration the potential for earthquakes, power shortages, and flooding potential. In the event of an interruption in DWA's ability to serve recycled water, potable water will be made available to all recycled water users.

On March 1, 2016, DWA adopted Ordinance No. 65, Ordinance of Desert Water Agency Establishing a Water Conservation Plan and Restricting the Use of Water During Threatened or Existing Water Shortage Conditions, a copy of which is included in **Appendix H** herein. Ordinance No. 65 sets forth a water conservation plan for five stages of water supply emergencies, as listed below. The provisions of Ordinance No. 65 are discussed in additional detail in **Section VI** herein.

- | | |
|--------------------|--|
| Stage No. 1 | Voluntary Conservation and Prohibited Uses |
| Stage No. 2 | Alert: Mandatory Conservation Measures |
| Stage No. 3 | Warning: Mandatory Conservation Measures |
| Stage No. 4 | Emergency: Mandatory Conservation Measures |
| Stage No. 5 | Water Allocations |

D. FREQUENCY AND MAGNITUDE OF SUPPLY DEFICIENCIES

Although Southern California has experienced serious drought conditions during the past twenty years, DWA has not experienced any actual supply deficiencies. As mentioned above, since DWA relies on local water sources and has imported and stored water within the Whitewater River Subbasin to meet projected demands, drought conditions have historically had a negligible effect on DWA's ability to supply water to customers.

E. PLANS TO ASSURE A RELIABLE WATER SUPPLY

DWA is taking the following actions to ensure overall water supply reliability for its customers:

1. Groundwater Replenishment and Assessment Program

Without groundwater replenishment, annual groundwater deficits within the Whitewater River Subbasin would continue, thus reducing the reliability of the water supply for the Palm Springs area. Because groundwater production continued to increase through 2007, and cumulative deficit persists within the Whitewater River Subbasin, continued artificial recharge and conservation efforts were necessary to either eliminate or reduce the effects of deficit and reduce the resultant threat to the groundwater supply (Engineer's Reports).

DWA continues to implement Groundwater Replenishment and Assessment Programs for the Whitewater River and Mission Creek Subbasins (refer to **Section II** herein). In 2015, DWA implemented its Groundwater Replenishment and Assessment Program for the Garnet Hill Subbasin, due to the benefits observed in groundwater levels (from well data) as a result of the replenishment activities in the Whitewater River and Mission Creek Subbasins. These programs were established to augment groundwater supplies and arrest or retard declining water table conditions, such as overdraft, within the Coachella Valley, specifically the portion of the Whitewater River Subbasin within DWA's service area, the portion of the Mission Creek Subbasin within DWA's Institutional Boundary, and the portion of the Mission Creek Subbasin within MSWD's service area. These programs are intended to optimize and protect the use of groundwater in addition to providing sound management of the Whitewater River and Mission Creek Subbasins.

2. Water Recycling

DWA's efforts to expand recycled water use within its service area are intended to further offset potable water use, thereby increasing the quantities of potable water available for domestic use.

Use of recycled water within DWA's service area, together with the ongoing Groundwater Replenishment and Assessment Programs, augments DWA's provision of an abundant, high-quality water supply for its customers over the next 25 years.

DWA's recycled water operations are discussed in detail in **Section II** of this UWMP.

F. RELIABILITY COMPARISON

Table III-2 herein sets forth estimated water supply reliability projections associated with the Whitewater River Subbasin, including surface water diversions, groundwater recharge, non-consumptive return, and recycled water. For further information on the data, refer to Three-Year Estimated Minimum Water Supply (**Table VI-2**) in **Section VI - Water Shortage Contingency Plan**.

As previously stated, the majority of DWA's water supply is obtained from local groundwater stored in a large aquifer, the Whitewater River Subbasin. In addition, the aquifer is artificially recharged with imported water from Metropolitan pursuant to the 2003 Exchange Agreement among DWA, CVWD, and Metropolitan (refer to **Section III.H, Transfer or Exchange Opportunities**, herein). Historical well level data supports DWA's ability to supply water to its customers in the event of a short-term drought or short-term discontinuance of the imported water supply.

As required by the Urban Water Management Planning Act, the tables below describe DWA's supply reliability and vulnerability during an average (normal) water year, a single dry water year, and multiple dry water years. For purposes of this section, a normal water year, a single dry water year, and a multiple dry year period are defined below:

- **Normal Water Year** is defined as a year in the historical sequence that most closely represents median runoff levels and patterns.
- **Single Dry Water Year** is defined as the lowest annual runoff for a watershed.
- **Multiple Dry Water Year Period** is defined as the lowest average runoff for a consecutive multiple year period (three years or more).



The supply reliability estimates listed in **Table III-2** herein are based on worst-case hydrologic conditions that took place during the historic sequence of 1977-2014, as indicated in **Table III-3** herein. For SWP water (imported water), the quantities listed are based on the historic percentages of SWP Table A water deliveries during the base years.

CDWR's 2015 Delivery Capability Report specifies 1977 as the historic single-dry year, with SWP water deliveries of 11% of total allocations. However, 2014 would now be the worst-case scenario, with a delivery of 5% of total allocations. Therefore, scenarios reflecting both 1977 and 2014 conditions are included in **Table III-2** herein.

TABLE III-2 SUPPLY RELIABILITY (AF/YR)						
Source	Normal Water Year (1996)	Single Dry Water Year (1977)	Single Dry Water Year (2014)	Multiple Dry Water Years		
				Year 1	Year 2	Year 3
External Sources						
Surface Water ⁽¹⁾	1,800	1,800	1,800	1,800	1,800	1,800
Natural Groundwater Recharge ⁽²⁾	8,400	8,400	8,400	8,800	9,000	9,000
Imported Water ⁽³⁾	28,200	4,900	2,200	14,700	14,700	14,700
Internal Sources						
Groundwater from Storage ⁽²⁾	0	10,605	13,308	665	715	975
Non-Consumptive Return ⁽⁴⁾	11,000	10,900	10,900	11,000	11,100	11,200
Recycled Water ⁽⁵⁾	6,100	6,100	6,100	6,100	6,100	6,100
Total	55,500	42,705	42,708	43,065	43,415	43,775

⁽¹⁾ DWA diverts surface water from Snow Creek and Falls Creek (per State Water Resources Control Board Water Rights Division and Licenses 2592, 3097, and 8226) and Chino Creek and the Whitewater River (per the Whitewater River Adjudication Decree, Case No. 18035, dated September 28, 1938, Section XXVI, Paragraphs 32 and 48).

⁽²⁾ DWA extracts groundwater comprising natural recharge, non-consumptive return, and groundwater from storage. Net natural recharge for the Upper Whitewater River Subbasin is described in the 2010 Update to the Coachella Valley Water Management Plan, its 2014 Status Report, with DWA's share being about 7,000 AF/yr reflecting long term average supply. "Groundwater from storage" is continued groundwater extraction required to meet demands in addition to natural and imported supplies.

⁽³⁾ Colorado River water has been and continues to be exchanged for State Water Project water per the 2003 and prior Exchange Agreements among DWA, CVWD, and Metropolitan. Currently, approximately 93 percent of exchange water is directed to the Whitewater River Subbasin, of which 25 percent is allocable to DWA and 75 percent is allocable to CVWD. State Water Project water consists of DWA's apportionment of its Table A allocation, Article 21 surplus water allocation (when available) and other surplus water acquired and conveyed through the State Water Project. Herein, projected Table A and Article 21 State Water Project water deliveries are based on the 2009 State Water Project Reliability Report. Other surplus water included State Water Project Pools A and B Turnback water, Yuba River Accord water, and Central Valley flood waters (Kern River and other rivers).



- (4) Non-consumptive return to the aquifer is estimated to be 29 to 35 percent of groundwater and surface water produced and used but not consumed, per the 2010 Update to the Coachella Valley Water Management Plan and its 2014 Status Report, with annual quantities varying with varying production.
- (5) DWA's Recycled Water Treatment Facility reclaims secondary effluent from the City of Palm Springs Wastewater Treatment Plant. Currently, DWA reclaims over half of the secondary effluent available from the City, which is approximately 6.0 million gallons per day (6,500 AF/yr). Potential future recycled water demands are described in DWA's 2008 General Plan. Due to the fact that the use of recycled water does not change the nature of consumptive water use, use of recycled water is considered herein to have a negligible effect on the assumed 35% rate of non-consumptive return to the aquifer based on the total groundwater and surface water production. However, increased recycled water use can help offset the use of other sources (such as pumped groundwater) to meet total demand.

TABLE III-3 BASIS OF WATER YEAR DATA		
Water Year Type	Base Years ⁽¹⁾	Historic Sequence
Average Water Year	1996	1977-2014
Single Dry Water Year	1977, 2014	1977-2014
Multiple Dry Water Years	1990-1992	1977-2014

⁽¹⁾ Base years identified and defined using DWA's historic surface water diversion data.

DWA's water supply is not directly affected by short-term fluctuations in hydrology (i.e. drought conditions), since approximately 95 percent of DWA's water supply consists of groundwater and recycled water. The challenges that DWA faces are long-term in nature, as opposed to short-term shortage situations, due to the large supply of stored ("banked") groundwater. While there is sufficient groundwater in storage to weather short-term droughts, it will not sustain the current population indefinitely due to the limited quantities of natural recharge. Continued water importation, water recycling, water conservation, and long-range planning are necessary to meet current and future water demands without depleting the groundwater in storage.

G. WATER QUALITY IMPACTS ON RELIABILITY

Water Code

10634. The plan shall include information, to the extent practicable, relating to the quality of existing sources of water available to the supplier over the same five-year increments as described in subdivision (a) of Section 10631, and the manner in which water quality affects water management strategies and supply reliability.

As mentioned previously, DWA and CVWD exchange their Table A allocations of State Water Project water with Metropolitan for Colorado River water to augment the Whitewater River Subbasin. Colorado River water is generally of good quality; however, Colorado River water has



a higher total dissolved solids (TDS) concentration (greater than 500 milligrams per liter) than native groundwater (less than 500 milligrams per liter).

TDS consist of minerals and salts dissolved in water, typically resulting from the erosion of natural deposits, and TDS concentration is often viewed as an indicator of water quality. The Division of Drinking Water has established a secondary maximum contaminant level (MCL) of 1,000 milligrams per liter for TDS, with a recommended level of 500 milligrams per liter. The MCL for TDS concentration is a secondary drinking water standard, meaning that TDS is regulated on the basis of customer acceptance rather than on the basis of public health. TDS concentrations are not expected to affect the reliability of DWA's water supply.

Due to ammonium perchlorate contamination from manufacturing facilities in Nevada, perchlorate has been detected in Colorado River water. Perchlorate is a substance that can be either naturally occurring or man-made. Currently, perchlorate is a regulated contaminant with a State Maximum Contaminant Level (MCL) of 6 micrograms per liter. Within DWA's service area, very low levels of perchlorate (<1 microgram per liter) have been detected in nearly every well; however, perchlorate concentrations are well below the MCL and are expected to continually decrease over time. Capture and treatment of perchlorate contamination began in 1999, and concentrations of perchlorate in the Colorado River have been decreasing ever since. The presence of perchlorate in Colorado River water is not expected to affect the reliability of DWA's water supply.

DWA's surface water diversions are occasionally taken out of service due to water quality. In the summer months Snow and Falls Creeks are subject to high levels of coliform bacteria and therefore require additional disinfection equipment. DWA installed ultraviolet treatment facilities at the Snow Creek and Chino Creek West intakes in accordance with revisions to the California Code of Regulations, pertaining to disinfection, which became effective in 2014. To augment the potential shortage in water supply from this source in the event of loss of service of the disinfection equipment, DWA proposed a new groundwater well pumping plant in 2015 to provide safe and reliable water service to residences in Snow Creek Village. However, the project was considered cost-prohibitive at the time and was not constructed. As a result, DWA staff is reviewing other options to provide standby water to Snow Creek Village when the creek supply is unavailable.



On July 1, 2014, a new State Maximum Contaminant Level (MCL) of 10 parts per billion (ppb) for Chromium 6 (Cr6) went into effect. Cr6 is an element that occurs naturally in the Coachella Valley in concentrations exceeding the MCL; however, Cr6 concentrations within DWA's service area do not currently impact the reliability of its water supply sources.

Constraints on DWA's groundwater supplies resulting from water quality include those that could result from high concentrations of nitrate and uranium in the groundwater. DWA's Well 19 was taken out of service approximately 10 years ago as a result of high nitrate concentrations in the underlying groundwater, which are caused by discharges from septic systems in the area. As a result of the high nitrate concentrations, Well 19 remains inoperable, and groundwater in the vicinity of the well is unusable.

Additionally, several of DWA's wells, namely Wells 9, 14, 16, and 43, are intermittently inoperable due to high levels of uranium in the groundwater.

The surface water and groundwater that DWA delivers to its customers is of high quality and complies with state and federal safe drinking water standards without any treatment, except disinfection where needed. In general, existing surface water treatment regulations are codified in Chapter 17 of Title 22 of the California Code of Regulations, Sections 64650 through 64666.

DWA is presently exempt from filtration requirements due to DWA's control of the watershed, the surface water supply's low turbidity, and DWA's continued monitoring of the supply. In the event that filtration is required, DWA will determine whether to construct filtration facilities or use surface water supplies for additional groundwater recharge (2008 General Plan).

DWA's groundwater, with few exceptions, such as during well construction and rehabilitation, is not disinfected since the groundwater is naturally filtered and the wells are securely sealed from contaminants. The water that DWA delivers meets or exceeds all guidelines and standards established by the United States Environmental Protection Agency (USEPA) and the State Water Resources Control Board Division of Drinking Water (formerly the California Department of Public Health Drinking Water Program) (2008 General Plan). DWA regards providing an adequate supply of high-quality water to be a primary goal for ensuring public health, safety, and community well-being within its service area.

TABLE III-4 WATER QUALITY			
Source Type	Water Quality Issue	Affects Water Management?	Affects Supply Reliability?
Groundwater			
Whitewater River Subbasin	Nitrate	Yes	No
	Uranium	Yes	No
Surface Water			
Snow Creek	Coliform	Yes	Yes
Falls Creek	Coliform	Yes	Yes
Chino Creek West	Coliform	Yes	Yes
Chino Creek North	Turbidity	No	Yes

H. TRANSFER OR EXCHANGE OPPORTUNITIES

Water Code

- 10631.** A plan shall be adopted in accordance with this chapter and shall do all of the following:
 (d) Describe the opportunities for exchanges or transfers of water on a short-term or long-term basis.

Since conveyance facilities needed to convey SWP water directly to DWA and CVWD have not been constructed, DWA and CVWD exchange their SWP water allocations for Colorado River water delivered by Metropolitan through the Colorado River Aqueduct. Metropolitan accepts DWA and CVWD SWP allocations from the California Aqueduct, East Branch, in San Bernardino.

In addition, DWA and CVWD entered into advance delivery agreements with Metropolitan allowing Metropolitan to deliver and store ("bank") excess Colorado River water in the Upper Coachella Valley Groundwater Basin during periods when surplus water in the Colorado River Basin is available for subsequent exchange for SWP water when needed by Metropolitan.

Colorado River water discharged from the Colorado River Aqueduct flows along the Whitewater River Channel to recharge basins that augment the Whitewater River Subbasin, and by pipeline to recharge ponds in the Mission Creek Subbasin. For the purpose of augmenting natural replenishment, DWA and CVWD have imported Colorado River water to recharge the Whitewater River Subbasin (since 1973) and the Mission Creek Subbasin (since 2002).



Since 1996, DWA and CVWD have secured surplus SWP water, whenever available, to supplement the exchange deliveries of Table A water and to further offset overdraft conditions. From 1996 through 2014, DWA and CVWD jointly obtained 296,700 AF of surplus water under the CDWR/SWP Turn-Back Water Pool Program, which was exchanged for a like quantity of Colorado River water delivered to the groundwater basin. These additional SWP water supplies are not expected to be consistently available in the future and therefore cannot be relied upon to provide a reliable long-term source of water to the Coachella Valley, at least in the quantities heretofore available.

Artificial recharge, using Colorado River water in quantities equivalent to SWP Table A and surplus water deliveries (exchange and advance deliveries), has approximated 3,021,700 AF, (approximately 2,880,100 AF delivered to the Whitewater River Subbasin from 1973 through 2014 and approximately 141,700 AF delivered to the Mission Creek Subbasin from 2002 through 2014).

In 2004, DWA's and CVWD's available Table A allocations were 38,100 AF and 33,000 AF, respectively, or 71,100 AF combined. Pursuant to the 2003 Exchange Agreement among DWA, CVWD, and Metropolitan, DWA and CVWD obtained an additional 100,000 AF/yr of Table A allocations (11,900 AF/yr for DWA and 88,100 AF/yr for CVWD). Metropolitan has the option to call-back (or recall) the annual Table A allocation of 100,000 AF (in 50,000 AF increments) during periods of limited or low water supply conditions. Regardless, the 2003 Exchange Agreement provides DWA and CVWD the opportunity to secure increased quantities of surplus water in addition to increased quantities of Table A water during periods of normal or high water supply conditions.

From 2004 to 2009, the combined maximum Table A allocation of SWP water was 171,100 AF/yr (50,000 AF/yr for DWA and 121,100 AF/yr for CVWD). DWA and CVWD then acquired additional Table A allocations for years 2010 through 2035 from Tulare Lake Basin Water Storage District (4,000 AF/yr for DWA and 12,000 AF/yr for CVWD) and Kern County Water Agency (1,750 AF/yr for DWA and 5,250 AF/yr for CVWD), for a combined maximum Table A allocation of 194,100 AF/yr. Of the 194,100 AF/yr allocation, DWA's allocation is 55,750 AF/yr (29%), and CVWD's allocation is 138,350 AF/yr (71%).

DWA and CVWD continue to pursue the acquisition of more Table A allocations of SWP water and the purchase of surplus water (DWA 2014). Agreements with CDWR (for SWP water) and with Metropolitan terminate in 2035; however, they are expected to be extended prior to that time.

1. State Water Project Reliability and Existing Delivery Capability

As stated previously herein, there are many challenges facing the SWP and the Sacramento-San Joaquin River Delta in its ability to deliver water to State Water Project Contractors. Quantities of SWP water delivered to State Water Project Contractors in a given year depend on the demand for supply; quantities of rainfall, snowpack, runoff, and water in storage; pumping capacity from the Delta; and legal constraints on SWP operation.

Continuous availability of SWP allocations will require complete development of the SWP, which currently is unable to meet maximum Table A amount 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 SWP Reliability Report 2009, dated August 2010, wherein the long-term reliability of SWP supplies was reduced to approximately 60 percent of maximum allocations (later reduced to 58 percent). Without the construction of additional Sacramento-San Joaquin Delta facilities and certain water storage reservoirs, the water supply capability of the SWP will remain limited and SWP Contractors will have to share reduced quantities of available supplies, especially during droughts.

With continued progress in the completion of California WaterFix (formerly known as the Bay Delta Conservation Plan (BDCP)), the balance between more reliable SWP water supplies and ecosystem restoration will be increased.



The BDCP was a long-term conservation strategy designed to set forth actions required for a healthy Delta that would have been implemented over the next 50 years, with an estimated cost of about \$20 billion. California WaterFix is a refinement of the BDCP that involves a shorter term of implementation and incidental take authorization, and a narrowing of scope: the principal habitat restoration effort of the BDCP has been isolated as a separate program called "California EcoRestore".

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

Currently, the cost of California WaterFix is estimated at about \$15 billion. Eventually, SWP water supply reliability, quality, and delivered quantities and the overall health of the Delta may improve; however, it is unlikely that the costs for Delta improvements will be allocated to the SWP Contractors before 2020.

In addition to the existing restrictions on water supplies from the SWP, 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 percent reduction in water use. As of the date of this report, the effect this executive order will have on water deliveries from the SWP is uncertain.

The 2013 SWP Final Reliability Report, dated December 2014, estimated the long-term reliability of SWP supplies at 58 percent of maximum Table A amounts through 2033. Last year, CDWR issued the 2015 SWP Deliverability Capability Report, dated July 2015. Said report estimated the median deliverability of SWP supplies at approximately 64 percent, and long-term deliverability (82-year average value) at 62 percent of maximum Table A amounts 50 percent of the time over the historic long-term. However, said report's estimates are qualified as being based on existing and historical

conditions, and are not intended as future projections. Furthermore, the extremely dry sequence from the beginning of January 2013 through the end of 2014 was one of the driest two-year periods in historical record, and resulted in a low SWP supply allocation in 2013 (35 percent of SWP Table A amounts), and an extremely low SWP water supply allocation in 2014 (5 percent of Table A amounts). The dry hydrologic conditions that led to the low 2014 SWP water supply allocation were extremely unusual, and to date have not been included in the SWP delivery estimates presented in CDWR's 2015 Delivery Capability Report. It is anticipated that the hydrologic record used in the CDWR model will be extended to include the period through 2014 during the next update of the model, which is expected to be completed prior to issuance of the next update to the biennial SWP Delivery Capability Report. Given these factors, the older, more conservative 58 percent reliability figure has been used for future projections in this report.

Table III-5 represents the maximum Table A allocations for both DWA and CVWD, the percentage projected to be delivered by CDWR via the SWP, and the portion of the projected average delivery quantities DWA is likely to receive through 2040. According to the 2013 SWP Reliability Report, the SWP has estimated a long-term reliability of 58% of the total allocation to State Water Project Contractors.

TABLE III-5 TRANSFER AND EXCHANGE OPPORTUNITIES SWP TABLE A ALLOCATIONS AND PROJECTED DELIVERIES (AF/YR)				
Year	DWA/CVWD Table A Allocation (AF/yr)	CDWR's Projected SWP Table A Deliveries		DWA's Share of Projected Delivery to Whitewater River Subbasin (AF/yr)
		Fraction	AF/yr	
2020	194,100	0.58	112,578	25,600
2025	194,100	0.58	112,578	25,600
2030	194,100	0.58	112,578	25,600
2035	194,100	0.58	112,578	25,600
2040	194,100	0.58	112,578	25,600

State Water Contractors have used monthly notices from CDWR for planning purposes regarding projected deliveries of their SWP allocations. On April 21, 2016, CDWR announced that its projected SWP water deliveries for 2016 would be 60% of its total SWP water allocations.

SECTION IV
WATER USE PROVISIONS

SECTION IV WATER USE PROVISIONS

Water Code

- 10631.** A plan shall be adopted in accordance with this chapter and shall do all of the following:
- (e) (1) Quantify, to the extent records are available, past and current water use, over the same five-year increments described in subdivision (a), and projected water use, identifying the uses among water use sectors, including, but not necessarily limited to, all of the following uses:
 - (A) Single-family residential.
 - (B) Multifamily.
 - (C) Commercial.
 - (D) Industrial.
 - (E) Institutional and governmental.
 - (F) Landscape
 - (G) Sales to other agencies.
 - (H) Saline water intrusion barriers, groundwater recharge, or conjunctive use, or any combination thereof.
 - (I) Agricultural.
 - (2) The water use projections shall be in the same five-year increments described in subdivision (a).
 - (3)(A) For the 2015 urban water management plan update, the distribution system water loss shall be quantified for the most recent 12-month period available. For all subsequent updates, the distribution system water loss shall be quantified for each of the five years preceding the plan update.
 - (B) The distribution system water loss quantification shall be reported in accordance with a worksheet approved or developed by the department through a public process. The water loss quantification worksheet shall be based on the water system balance methodology developed by the American Water Works Association.
 - (h) Describe the opportunities for development of desalinated water, including, but not limited to, ocean water, brackish water, and groundwater, as a long-term supply.

A. PAST, CURRENT, AND PROJECTED WATER USE

Past, current, and projected annual water deliveries from 2010 through 2040 are set forth in **Table IV-1** and summarized in **Table IV-2**. As shown therein, annual projected municipal water use within DWA's municipal service area is projected to increase from approximately 33,136 AF in 2015 to approximately 50,460 AF in 2040. **Figure 4** in **Appendix F** shows historic and projected water deliveries (in AF/yr) and total numbers of water meters from 1980 through 2040.

**TABLE IV-1
PAST, CURRENT, AND PROJECTED WATER DELIVERIES
(AF/YR)**

Year	Water User Sectors	Potable Water Use ⁽¹⁾				Non-Potable Water Use	Total
		Single Family ⁽²⁾	Commercial	Institutional	System Losses ⁽³⁾	Recycled Water	
2010	# of accounts	18,520	2,602	295	---	8	21,425
	Deliveries	24,125	10,432	1,630	514	4,050	40,751
2015	# of accounts	19,181	2,621	271	---	9	22,082
	Deliveries	17,800	7,700	1,200	2,391	4,045	33,136
2020	# of accounts	19,347	2,730	304	---	10	22,391
	Deliveries	23,900	10,300	1,600	2,070	4,800	42,670
2025	# of accounts	20,312	2,866	319	----	11	23,508
	Deliveries	25,100	10,800	1,700	2,166	5,500	45,266
2030	# of accounts	21,008	2,965	330	---	12	24,315
	Deliveries	25,900	11,200	1,800	2,268	6,200	47,368
2035	# of accounts	21,188	2,990	333	---	12	24,523
	Deliveries	26,200	11,300	1,800	2,370	6,800	48,470
2040	# of accounts	21,543	3,040	339	---	12	24,934
	Deliveries	26,600	11,500	1,800	2,460	7,500	49,860

⁽¹⁾ Future projections of gross potable water demand are based on projections of DWA's total service area population (as described in **Section I.C.2** herein) and an estimated water use of 349 gallons per capita per day (gpcd), which is DWA's urban water use target (as described in **Section VIII.E** herein).

⁽²⁾ Includes accounts and deliveries for lower-income households. Refer also to **Section 4.E** herein.

⁽³⁾ Water losses in 2015 are based on the Water Audit Report for Calendar Year 2015, a copy of which is included in **Appendix I** herein. Projections of future system losses are based on a factor of 5.7% of gross water demand based on 2014/2015 fiscal year data.

**TABLE IV-2
TOTAL WATER USE
(AF/YR)**

Water Use	2010	2015	2020	2025	2030	2035	2040
Total Recycled	4,050	4,045	4,800	5,500	6,200	6,800	7,500
Total Potable ⁽¹⁾	36,701	29,091	37,870	39,766	41,168	41,670	42,360
Total	40,751	33,136	42,670	45,266	47,368	48,470	49,860

⁽¹⁾ Future projections of gross potable water demand are based on projections of DWA's total service area population (as described in **Section I.C.2** herein) and an estimated water use of 349 gallons per capita per day (gpcd), which is DWA's urban water use target (as described in **Section VIII.E** herein).

Outdoor water use accounts for an estimated 60 to 80 percent of the residential and commercial water use within DWA's service area. With the unique climate, extensive landscape irrigation requirements, and destination resort atmosphere, the average annual water consumption per capita is considerably higher (approximately 1.5 to 2 times higher) than most Southern California areas outside the Coachella Valley.



From 1999 through 2014, DWA added new connections at a rate of about 0.40 percent per year. However, during the 2014 calendar year, DWA served 21,963 active service connections (exclusive of fire service), an increase of 157 active service connections, which is a 0.70 percent increase over the 2013 calendar year.

DWA enjoys very low quantities of water losses, which have averaged 6 percent during the period of 1999 through 2015. Water losses within DWA's water system generally result from water loss due to unauthorized connections, system leaks, and inaccuracies in production and consumption meters. Water losses are calculated as the difference between production meter records and customer meter records. DWA either estimates or measures water for firefighting, fire hydrant flow testing, water main flushing, reservoir cleaning, and identifiable system leaks and excludes these quantities from its calculated water losses. The AWWA water loss worksheet is included in **Appendix I**.

DWA does not sell water to any other agencies or districts and there are no plans to wholesale municipal water in the future. DWA does not use its potable water supply for any purpose other than domestic water.

1. Residential Sector

Single-family residential customers constitute the majority of DWA's customers, as described in additional detail in **Section I.C.2** herein.

2. Commercial Sector

DWA has a complex mix of commercial customers, ranging from family restaurants, insurance offices, and gas stations to shopping centers, high-volume restaurants, golf courses, and other facilities serving the local and visitor populations (hotels). Up until 2007, the commercial sector had been growing steadily each year, and some growth is expected to continue to occur over the next 25 years; however, due to economic conditions, future rates of growth are uncertain at this time.

3. Industrial Sector

DWA serves a small industrial sector, primarily centered on light manufacturing. The industrial sector has not grown much in the last decade or so, and is not expected to increase significantly over the next 25 years. DWA considers the industrial sector part of the commercial sector with respect to water service.

4. Institutional/Governmental Sector

DWA has a stable institutional/governmental sector, primarily local government, parks, schools, and other types of public facilities. The institutional/governmental sector, with the exception of schools, is not expected to increase significantly over the next 25 years.

5. Landscape/Recreational Sector

Currently, DWA utilizes recycled water for irrigation of large turf areas, such as golf courses, schools, and public parks. Landscape and recreational customer demand is expected to increase gradually over the next 25 years, and such demand may be served with recycled water as wastewater supplies become available. Increased efficiency and use of recycled water at existing golf courses, schools, and public parks, and other facilities should help offset new demand resulting from projected increases in this sector. Currently, recycled water use within DWA's service area is approximately 4,045 AF/yr. Refer to **Section II.D** herein for descriptions of DWA's past, current, and projected future recycled water use.

B. FUTURE WATER SUPPLY PROJECTS

DWA and CVWD are always exploring possible future joint water supply projects to increase water supply for the Coachella Valley; however, none have advanced beyond the conceptual stage. DWA and CVWD are currently evaluating the construction of an aqueduct from the California Aqueduct to the Coachella Valley. DWA and CVWD will continue efforts to secure additional water supplies from the State Water Project or other sources.



In order to meet increasing water system demands, DWA's existing municipal water system will have to be expanded and improved. Proposed water system improvements will consist of surface water facilities, well pumping plants, booster pumping plants, water storage reservoirs, domestic and recycled water system pipelines, and related facilities. These facilities and improvements are intended to allow DWA to meet expected water demands for the next 25 years, as presented in DWA's Domestic Water System General Plan 2008.

C. OPPORTUNITIES FOR DESALINATED WATER

DWA does not have direct access to ocean water or a significant quantity of brackish groundwater. There is a limited and questionable supply of brackish water at the downstream (lower or southeasterly) end of the Mission Creek Subbasin; however, extraction of such brackish groundwater would deplete the same groundwater subbasin from which usable groundwater is extracted. At this time, DWA has no plans to extract and treat any brackish water, and desalinated water is not a potential source of water supply for DWA.

D. WHOLESALE SUPPLIED PROJECTS AND NON-IMPLEMENTED DMMs

DWA has no projects that are or will be supplied by wholesale water. DWA's water supply consists of its groundwater and surface water sources. Demand Management Measures (DMMs), also referred to as Best Management Practices (BMPs), implemented by DWA are described in **Section V** herein.

E. LOW-INCOME HOUSING WATER USE

Water Code

10631.1 (a) The water use projections required by Section 10631 shall include projected water use for single-family and multifamily residential housing needed for lower income households, as defined in Section 50079.5 of the Health and Safety Code, as identified in the housing element of any city, county, or city and county in the service area of the supplier.

DWA has a civic and legal responsibility to provide for the water-related health and safety of the community. DWA's main objective is to provide its customers with an adequate and reliable



supply of high-quality water to meet present and future needs in an environmentally and economically responsible manner.

Residential demand within DWA's service area consists of single-family housing. Residential sector water use projections herein include all households, regardless of income level, and residential accounts are not subdivided into income-specific categories.

DWA does not give priority to one residential area over another; therefore, all residential customers are served equally during water shortage emergencies in terms of service and delivery. DWA does not deny service to non-delinquent accounts.

The water use projections set forth in **Table IV-1** herein include projected water use for lower-income households. Water use priority does not differ based on income level, but is classified by the type of use, which is further described in **Section VI.B.2**. Health and safety requirements are described in **Section VI.B.3**.

SECTION V

WATER DEMAND MANAGEMENT MEASURES (BEST MANAGEMENT PRACTICES)



**SECTION V
WATER DEMAND MANAGEMENT MEASURES
(BEST MANAGEMENT PRACTICES)**

Water Code

- 10631.** A plan shall be adopted in accordance with this chapter and shall do all of the following:
- (f) Provide a description of the supplier's water demand management measures. This description shall include all of the following:
- (1)(A) ...a narrative description that addresses the nature and extent of each water demand management measure implemented over the past five years. The narrative shall describe the water demand management measures that the supplier plans to implement to achieve its water use targets pursuant to Section 10608.20.
- (B) The narrative pursuant to this paragraph shall include descriptions of the following water demand management measures:
- (i) Water waste prevention ordinances
- (ii) Metering
- (iii) Conservation pricing
- (iv) Public education and outreach
- (v) Programs to assess and manage distribution system real loss
- (vi) Water conservation program coordination and staffing support
- (vii) Other demand management measures that have a significant impact on water use as measured in gallons per capita per day, including innovative measures, if implemented.
- (g) Include a description of all water supply projects and water supply programs that may be undertaken by the urban water supplier to meet the total projected water use, as established pursuant to subdivision (a) of Section 10635. The urban water supplier shall include a detailed description of expected future projects and programs that the urban water supplier may implement to increase the amount of the water supply available to the urban water supplier in average, single-dry, and multiple-dry water years. The description shall identify specific projects and include a description of the increase in water supply that is expected to be available from each project. The description shall include an estimate with regard to the implementation timeline for each project or program.
- (i) For purposes of this part, urban water suppliers that are members of the California Urban Water Conservation Council shall be deemed in compliance with the requirements of subdivision (f) by complying with all the provisions of the "Memorandum of Understanding Regarding Urban Water Conservation in California", dated December 10, 2008, as it may be amended, and by submitting the annual reports required by Section 6.2 of that memorandum.

DWA has implemented several water conservation measures and public outreach programs since the adoption of the 2010 UWMP. Said measures and programs are described in the following paragraphs, which are organized consistent with the demand management measures listed in CWC Section 10631(f)(1)(B).

A. WATER WASTE PREVENTION ORDINANCES

On March 1, 2016, DWA adopted Ordinance No. 65: *Ordinance of Desert Water Agency Establishing a Water Conservation Plan and Restricting the Use of Water During Threatened or Existing Water Shortage Conditions*, referred to herein as Ordinance No. 65, a copy of which is included in **Appendix H** herein.

Ordinance No. 65 was adopted by DWA in response to the continued state of emergency issued by Governor Brown resulting from ongoing severe dry conditions throughout California. The provisions of Ordinance No. 65 were developed in accordance with the emergency regulations for urban water suppliers due to continuing water shortage conditions, adopted by the State Water Resources Control Board on March 17, 2015 and May 5, 2015. Water use prohibitions set forth in DWA's Ordinance No. 65 are as summarized as follows:

- Washing hardscape, such as driveways, parking lots, and walkways;
- Vehicle washing without the use of buckets and shut off nozzles on hoses;
- Serving water in restaurants unless requested;
- Outdoor irrigation between 7 AM and 7 PM, and on specified days of the week;
- Use of non-recirculating fountains;
- Outdoor irrigation of newly constructed homes and buildings without drip or micro-spray systems;
- Use of potable water to irrigate turf within street medians or public street rights-of-way.

These prohibitions are triggered in stages determined by the Agency's Board of Directors based on drought conditions.

Additionally, DWA has water waste reporting mechanisms in place by phone and on their website at www.dwa.org. DWA also offers a water waste application for iPhone® or Android®, for use by customers in reporting water waste within DWA's service area. In 2014 alone, there were 524 reports of water waste. The most common reports are of broken irrigation lines and irrigation runoff.

B. METERING

DWA meters 100 percent of the service connections within its service area and will continue to meter all future new connections.

C. CONSERVATION PRICING

Desert Water Agency does not implement conservation or tiered rates for water consumption. Water charges consist of monthly water rates based on the meter size and a flat water rate per each 100 cubic feet. There are currently no plans to implement a tiered rate structure.

D. PUBLIC EDUCATION AND OUTREACH

DWA's public information budget has focused on promoting DWA's "Check Yourself, Check Your Water Use" campaign via mailers, paid advertising, TV spots (such as a public service announcement from the Palm Springs High School football team), and instructional and informative online videos. DWA has also been involved in community events such as 5K runs, picnics, and other public events.

Some educational programs DWA has implemented include the "Living Wise" and "Solar Cup" programs and field trips. "Living Wise" is a school-based water and energy efficiency education program aimed at educating the region's youth on living more water-conscious lifestyles. School field trips to DWA's Operations Center also educate students about the local water system and ways to save water. In 2014, DWA sponsored the Cathedral City High School Math, Engineering, and Science Achievement (MESA) program in the Solar Cup. The Solar Cup program is a seven month program that allows 800 students statewide to learn about conservation of natural resources, engineering, problem solving, and more. Students built solar-powered boats and raced them on Lake Skinner in the Temecula Valley. This team of students also filmed a public service announcement about water conservation at DWA's Water Reclamation Plant.

During its 50th anniversary in 2011, DWA released an educational film hosted by Huell Howser. The film provided information on DWA's history, sources of water available, existing groundwater management program, solar and hydrologic power generation, and the water

recycling plant, while promoting conservation measures for wise and efficient water use in the desert.

DWA has held workshops for customers to learn about the different water conservation and rebate programs it implements. In 2014 and 2015, workshops pertaining to conservation, turf buy-back, and Smart Irrigation Controllers were held for customers, homeowners' associations, and landscapers.

DWA conducts water audits for large water users, such as homeowners' associations and commercial properties, at no charge. Water audits are aimed at providing customers with an optimum irrigation schedule, identification of system deficiencies, and suggestions for improving system efficiency. Between 2011 and 2014, DWA conducted 69 water audits, which are presumed to have been initiated as a result of increased water awareness and outreach to homeowners' associations, since DWA had not done any specific water audit advertising.

DWA has several rebate programs in place to incentivize installation of water-saving fixtures and features. DWA's Smart Irrigation Controller program has been implemented since 2011 and, through 2014, has resulted in the installation of 1,338 Smart Irrigation Controllers. Smart Irrigation Controllers allow customization of watering times based on climate, temperature, and evapotranspiration rates, and have resulted in a reduction in outdoor water use averaging 12 percent per controller. DWA provides the Smart Irrigation Controllers upon request at no cost to the customer; however, some customers have chosen to pay for their own controllers.

DWA has funded toilet rebates for both the residential and commercial sectors. In 2014, 61 residential customers took advantage of the rebate program, replacing 80 toilets with more water-efficient models. Approximately 170 commercial toilets were replaced at the Palm Springs Hilton, reducing its indoor water use by 13.2 percent. Another 156 toilets were replaced at the Quality Inn in 2014, and water reduction data is still being collected from the Quality Inn for comparison.

DWA launched its turf buy-back program in August 2014. Within two months, the budget was exhausted by the overwhelming number of applications submitted by customers. In October 2014, the program was suspended, pending availability of additional funding. Among customers that have completed turf replacement projects, an average outdoor water savings of

approximately 47 percent has been achieved. The turf buy-back program was reintroduced in September 2015 at a rate of \$2 per square foot of turf replaced with desert landscaping, for a total rebate of up to \$3,000 per project for residential properties and up to \$10,000 per project for commercial properties. In 2015, applications again exceeded available program funds.

DWA is leading by example when it comes to outdoor water conservation by promoting xeriscape, which is water efficient landscaping utilizing native, drought-tolerant desert plant species. DWA has replaced the traditional landscaping at their Operations Center with native desert plants. The before and after photos are included below for comparison.

By using xeriscape, DWA has reduced its outdoor water use by 50 percent. DWA uses its landscaping to educate the public on ideas for their own properties and to share in the responsibility of conserving water.



Photo 1: Landscape at the Desert Water Agency Operations Center before xeriscape.



Photo 2: Landscaping at the Desert Water Agency Operations Center after xeriscape.

E. PROGRAMS TO ASSESS AND MANAGE DISTRIBUTION SYSTEM REAL LOSS

DWA informs customers of possible leaks at their properties when there is excessive consumption compared to the prior month's usage. DWA performs water audits by metering all customer connections and water used for construction purposes through fire hydrants. DWA also keeps records of water used for other purposes, such as city street washing and firefighting. The combined usage is calculated to determine the overall percentage of water lost.

DWA does not have a leak detection program because it believes that it is more cost effective to fund an aggressive water main replacement program. Additionally, the soils in DWA's service area are composed of coarse sand, which allows water from a leak to surface quickly, where it can be easily detected. All leaks are repaired as soon as they are discovered in order to prevent damage and waste of water. All leaks are tracked on maps and through a pipeline inventory computer program. In addition to aging mains, mains with a history of leaks are budgeted for replacement.

In addition, DWA has an instructional video on its website (at www.dwa.org/Commercial-How-to-read-your-meter) showing customers how to check for leaks on their properties by turning off all water fixtures and reading their water meters.

F. WATER CONSERVATION PROGRAM COORDINATION AND STAFFING SUPPORT

DWA's Outreach & Conservation Department is responsible for public education and outreach. Outreach & Conservation Department staff create and distribute printed materials, such as brochures and leaflets, that educate and inform the public about water conservation methods and current rebates and programs. Staff also work to facilitate DWA's conservation programs, including rebates, conducting school-based and public educational programs, and responding to public inquiries regarding conservation.

G. OTHER CONSERVATION PROGRAMS

DWA's Hospitality Conservation Program is aimed at helping local hotels reduce their water use. This program is free for hotels and provides room cards, door hangers, and pillow cards that allow guests to voluntarily reuse towels and choose when to have their sheets changed. Currently, there are approximately 15 hotels within DWA's service area that are participating in the Hospitality Conservation Program.

H. PLANNED IMPLEMENTATION AND WATER USE TARGETS

Due to the programs DWA has implemented, the 2020 water use targets set forth in its 2010 UWMP and this 2015 UWMP have been achieved ahead of schedule. In 2015, DWA has seen a reduction of greater than 30 percent in per capita water use from its baseline per capita water use. The water use targets are described in further detail in **Section VIII-Water Use Baseline and Targets** herein. DWA plans to maintain, or further reduce, its per capita water use through the continued implementation of its existing water conservation programs.

SECTION VI

WATER SHORTAGE CONTINGENCY PLAN

SECTION VI WATER SHORTAGE CONTINGENCY PLAN

Water Code

10632. (a) The plan shall provide an urban water shortage contingency analysis that includes each of the following elements that are within the authority of the urban water supplier:
- (1) Stages of action to be undertaken by the urban water supplier in response to water supply shortages, including up to a 50 percent reduction in water supply, and an outline of specific water supply conditions which are applicable to each stage.
 - (2) An estimate of the minimum water supply available during each of the next three water years based on the driest three-year historic sequence for the agency's water supply.
 - (3) Actions to be undertaken by the urban water supplier to prepare for, and implement during, a catastrophic interruption of water supplies including, but not limited to, a regional power outage, an earthquake, or other disaster.
 - (4) Additional, mandatory prohibitions against specific water use practices during water shortages, including, but not limited to, prohibiting the use of potable water for street cleaning.
 - (5) Consumption reduction methods in the most restrictive stages. Each urban water supplier may use any type of consumption reduction methods in its water shortage contingency analysis that would reduce water use, are appropriate for its area, and have the ability to achieve a water use reduction consistent with up to a 50 percent reduction in water supply.
 - (6) Penalties or charges for excessive use, where applicable.
 - (7) An analysis of the impacts of each of the actions and conditions described in paragraphs (1) to (6), inclusive, on the revenues and expenditures of the urban water supplier, and proposed measures to overcome those impacts, such as the development of reserves and rate adjustments.
 - (8) A draft water shortage contingency resolution or ordinance.
 - (9) A mechanism for determining actual reductions in water use pursuant to the urban water shortage contingency analysis.
- (b) Commencing with the urban water management plan update due July 1, 2016, for purposes of developing the water shortage contingency analysis pursuant to subdivision (a), the urban water supplier shall analyze and define water features that are artificially supplied with water, including ponds, lakes, waterfalls, and fountains, separately from swimming pools and spas, as defined in subdivision (a) of Section 115921 of the Health and Safety Code.

A. WATER SHORTAGE RESTRICTIONS

On March 1, 2016, DWA adopted Ordinance No. 65, Ordinance of Desert Water Agency Establishing a Water Conservation Plan and Restricting the Use of Water During Threatened or

Existing Water Shortage Conditions, a copy of which is included in **Appendix H** herein. Ordinance No. 65 sets forth a water conservation plan for five stages of water supply emergencies.

Ordinance No. 65 includes a water conservation program that DWA can use during both drought conditions and during a catastrophic water shortage emergency. Additionally, DWA's Ordinance No. 65 is intended to prohibit certain types of potable water use and implement mandatory water conservation measures in compliance with emergency regulations adopted by the State Water Resources Control Board in March 2015 and May 2015.

The water shortage contingency measures described in the following paragraphs are based on the provisions of Ordinance No. 65.

B. WATER SHORTAGE CONTINGENCY MEASURES

1. Water Conservation Plan Stages

DWA has established five stages of conservation and water use restrictions to be evoked during water supply emergencies. The stages involve voluntary and mandatory conservation measures and restrictions, depending on the causes, severity, and anticipated duration of the water supply shortage. The stages are summarized below in **Table VI-1**.

TABLE VI-1 WATER SUPPLY SHORTAGE STAGE CONDITIONS ⁽¹⁾			
Stage	Water Supply Conditions	Supply Shortage (%)	Reduction Goal (%)
1 Voluntary Conservation and Prohibited Uses	Normal Conditions	0%	5%
2 Alert: Mandatory Conservation Measures	Threatened or existing water supply shortage	10%	10%
3 Warning: Mandatory Conservation Measures	Water shortage prevents demands from being met	20%	20%
4 Emergency: Mandatory Conservation Measures	Water shortage requires significant use reduction	25%	25%
5 Water Allocations	Water shortage requires allocation of supplies	50%	50%

(1) Stages 2 through 5 take effect upon adoption by DWA's Board of Directors, following a noticed public hearing, except when an emergency is caused by the breakage or failure of a dam, pump, pipeline, or conduit.



DWA has a civic and legal responsibility to provide for the water-related health and safety needs of the community. In order to minimize the social and economic impact of water shortages, DWA will prudently manage water supplies.

As previously described in various sections of this UWMP, DWA obtains its water supply from stored local groundwater, local surface water, and imported water used to recharge the Whitewater River Subbasin, thus augmenting groundwater supplies. Since the majority of the supply is pumped from approximately 31 deep wells located throughout the community, the inability to pump water from a less than significant number of wells will not result in a shortage situation. Additionally, DWA's reliance on stored ("banked") groundwater as its primary source provides a sufficient buffer against dry years.

Due to the current and historic condition of overdraft of the Whitewater River Subbasin (where groundwater extractions exceed natural replenishment) and the need to import water to recharge the groundwater supply, DWA has established a Stage 1 condition that includes voluntary conservation measures that remain in effect during normal water conditions. Stages 2, 3, 4, and 5 restrictions will become effective when triggered in accordance with Ordinance 65, and will most likely be triggered by a large-scale emergency, such as a sustained power outage or earthquake disaster. The type and severity of the event and the water supply conditions at the time will determine the specific water supply shortage stage that the Board elects to implement.

2. Priority by Use

Priorities for use of available potable water supplies during shortage situations are as follows and may be modified by the Board at any time:

- a. Hospitals and Disaster Care Centers
- b. Interior Residential Needs as Required for Health and Safety
- c. Firefighting Needs
- d. Commercial / Industrial Needs
- e. Existing Landscaping
- f. New Construction Needs

3. Health and Safety Requirements

DWA's primary goal during a water shortage emergency is to meet the minimum health and safety requirements of its customers throughout the course of the shortage.

During a Stage 1 water shortage condition, compliance is voluntary with emphasis on using water sparingly. A Stage 2 water shortage condition involves a water supply condition that could prevent DWA from meeting the water demands of its water users; therefore, mandatory restrictions become effective during this stage. In Stages 3 and 4 water shortage conditions, DWA would be clearly unable to meet customer demands and stricter restrictions would be implemented. In Stage 5, a severe water shortage situation exists, making water rationing, a moratorium on new service connections, or both, necessary in order to meet minimum health and safety requirements.

C. MINIMUM 3-YEAR DRY PERIOD WATER SUPPLY

DWA has never experienced an actual water supply deficiency since the majority of its municipal water supply consists of groundwater. Further, DWA has the ability to import water and store it within the Whitewater River Subbasin for future extraction and use. Short-term droughts have historically had negligible effects on DWA's ability to supply water to its customers since DWA can secure needed water supplies from groundwater in storage, if necessary. **Table VI-2** represents DWA's 2015 water supply and its estimated minimum water supply for three subsequent years, which is based on a multiple dry year history.

TABLE VI-2 THREE-YEAR ESTIMATED MINIMUM WATER SUPPLY (AF/YR)				
Source	2015	2016	2017	2018
External Sources				
Surface Water ⁽¹⁾	1,800	1,800	1,800	1,800
Natural Groundwater Recharge ⁽²⁾	6,600	7,000	7,400	7,700
Imported Water ⁽³⁾	9,300	14,700	14,700	14,700
Groundwater from Storage ⁽²⁾	2,035	0	0	0
Internal Sources				
Non-Consumptive Return ⁽⁴⁾	10,000	9,900	10,300	10,700
Recycled Water ⁽⁵⁾	4,100	4,100	4,100	4,100
Total	34,335	38,000	38,800	39,500

⁽¹⁾ DWA diverts surface water from Snow Creek and Falls Creek (per State Water Resources Control Board Water Rights Division and Licenses 2592, 3097, and 8226) and Chino Creek and the Whitewater River (per the Whitewater River Adjudication Decree, Case No. 18035, dated September 28, 1938, Section XXVI, Paragraphs 32 and 48).

⁽²⁾ DWA extracts groundwater comprising natural recharge, non-consumptive return, and groundwater from storage. Net natural replenishment for the Whitewater River Subbasin is described in the 2010 Update to the Coachella Valley Water Management Plan, its 2014 Status Report, with DWA's share being about 23 - 25 percent of the net natural replenishment, reflecting long term average supply. "Groundwater from storage" is continued groundwater extraction required to meet demands in addition to natural and imported supplies.

⁽³⁾ Colorado River water has been and continues to be exchanged for State Water Project water per the 2003 and prior Exchange Agreements among DWA, CVWD, and Metropolitan. Currently, approximately 93 percent of exchange water is directed to the Whitewater River Subbasin, of which 25 percent is allocable to DWA and 75 percent is allocable to CVWD. State Water Project water consists of DWA's apportionment of its Table A allocation, Article 21 surplus water allocation (when available), and other surplus water acquired and conveyed through the State Water Project. Herein, projected Table A and Article 21 State Water Project water deliveries are based on the 2013 State Water Project Reliability Report. Other surplus water included State Water Project Pools A and B Turnback water, Yuba River Accord water, and Central Valley flood waters (Kern River and other rivers).

⁽⁴⁾ Non-consumptive return to the aquifer is estimated to be 29 to 35 percent of groundwater and surface water produced and used but not consumed, per the Coachella Valley Water Management Plan 2010 Update and its 2014 Status Report, with annual quantities varying with varying production.

⁽⁵⁾ DWA's Recycled Water Treatment Facility reclaims secondary effluent from the City of Palm Springs Wastewater Treatment Plant. Currently, DWA reclaims over half of the secondary effluent available from the City, which is approximately 6.0 million gallons per day (6,500 AF/yr). Potential future recycled water demands are described in DWA's 2008 General Plan. Due to the fact that the use of recycled water does not change the nature of consumptive water use, use of recycled water is considered herein to have a negligible effect on the assumed rate of non-consumptive return to the aquifer based on the total groundwater and surface water production. However, increased recycled water use can help offset the use of other sources (such as pumped groundwater) to meet total demand.

Since DWA's goal is to provide its customers with adequate and reliable supplies of high-quality water to meet present and future needs, DWA strives to ensure that customer demand can be met at all times. DWA and CVWD jointly recharge the Whitewater River Subbasin in years of surplus water supplies to prepare for dry years. Therefore, in the event that the next three years are not dry, surplus water supplies will be stored within the groundwater basin for future use. In the event that the next three years are dry, DWA will need to extract groundwater from storage in order to meet demands within its service area.

D. PREPARATION FOR CATASTROPHIC WATER SUPPLY INTERRUPTION

1. Water Shortage Emergency Response

DWA has an Emergency Response Plan in place, with the most recent update in August 2005. DWA has developed specific disaster related procedures which guide staff in responding efficiently to catastrophic interruptions of water supply. Disaster related drills are conducted periodically involving DWA staff, City, Fire Department, and County personnel. DWA also coordinates its planning efforts with the local hospital. DWA staff periodically attends local disaster preparedness coordinating meetings and closely adheres to all disaster response training requirements.

TABLE VI-3 PREPARATION ACTIONS FOR A CATASTROPHE	
Possible Catastrophe	Action
<ul style="list-style-type: none"> Regional Power Outage Earthquake Flash Flooding Terrorism 	<ul style="list-style-type: none"> Create a catastrophe preparedness plan. Determine water shortage condition. Contact and coordinate with other agencies. Designate an Emergency Response Team/Coordinator. Put employees/contractors on-call. Communicate with the public. Implement Stage 2 to Stage 5, as necessary.

Water Supply - CDWR's 2013 Reliability Report describes potential interruptions that may occur due to a catastrophic event such as an earthquake and levee failure in the Delta. As a result, levee repairs could take more than 3 years to complete while disrupting water deliveries for approximately one year. Refer to **Section III - Reliability Planning**, for additional discussion regarding short-term and long-term water supplies.

Water Transfers - Refer to the Transfer or Exchange Opportunities in **Section III** for a discussion regarding water transfers.

E. PROHIBITIONS, CONSUMPTION REDUCTION METHODS, AND PENALTIES

1. Mandatory Prohibitions on Water Wasting

As set forth in DWA Ordinance No. 65, cited in **Section VI.A** herein, specific conservation measures and prohibitions on water wasting may result in cases of noncompliance. Ordinance No. 65 includes methods in which members of the public may voice their objection to any penalty levied.

The specific prohibitions associated with each water supply shortage stage set forth in **Table VI-1** are shown in **Table VI-4**. As previously stated, a Stage 1 condition is in effect at all times during normal water conditions.

TABLE VI-4 MANDATORY PROHIBITIONS	
Prohibition	Stage When Prohibition Becomes Mandatory
Using potable water to wash driveways, parking lots, or other hard surfaced area or building exteriors at any time, except to protect public health or with use of a bucket, a pressure washer or a water broom	At All Times
Irrigating landscapes within 48 hours after measurable rainfall	At All Times
Washing cars, boats, trailers, aircraft, or other vehicles by hose without a shutoff nozzle and bucket	At All Times
Outdoor irrigation between 7:00 a.m. 7:00 p.m.	2
Serving drinking water to customers at a restaurant or other eating establishment, except upon request	2
Conducting outdoor irrigation on more than four days per week	3
Operating commercial car washes without recirculating water systems or systems that drain used water into the sewer system where it can be recycled	3
Use of water for outdoor decorative water features, unless recirculating water systems are installed and in use	3
Irrigation with potable water outside of newly constructed homes and buildings unless such water is applied by drip irrigation or micro-irrigation systems	3
Outdoor irrigation, other than on Mondays, Wednesdays, and Fridays before 7:00 a.m. and after 7:00 p.m.	4
The use of potable water to irrigate ornamental turf within the street medians and within dedicated right-of-way on each side of a dedicated street	4

Table VI-5 represents the methods DWA will use for consumption reduction during the various stages of water supply shortages. The projected water reduction percentage is also presented for each method.

TABLE VI-5 CONSUMPTION REDUCTION METHODS		
Consumption Reduction Method	Stage When Method Takes Effect	Projected Reduction (%)
Voluntary Rationing	1, 2, 3, & 4	Varies with Stage
Mandatory Rationing	5	Varies
Use Prohibitions	All Stages	Varies with Stage
Demand Reduction Program	All Stages	Varies with Stage
Education Programs	All Stages	Varies with Stage
Use Non-Potable Water for Construction Purposes	All Stages	Varies with Stage

2. Excessive Use Penalties

Criminal Proceedings for Violation

In accordance with Ordinance No. 65, water use contrary to, or in violation of, any mandatory restriction or requirement established pursuant to said ordinance is a misdemeanor. Conviction of a violation of Ordinance No. 65 could result in imprisonment in the County jail for up to 30 days, a fine of up to \$1000, or both such fine and imprisonment.

Civil Penalties and Enforcement

Any water user violating the regulations and restrictions on water use set forth in Ordinance No. 65 may receive a written notice for the first such violation. The water user shall have seven days from receipt of the notice to submit a written request for a hearing. If no hearing is requested, or at the hearing it is determined that the water user has committed a violation, a civil penalty of \$50 for a first violation at a single family residence and \$100 for a first violation at a multi-family residential, commercial, or institutional establishment may be levied.

For a second violation of Ordinance No. 65 within any 12-month period, may serve the written complaint to impose civil penalties on the water user, and the water user or account holder shall have seven days to request a hearing. For a second violation within

any 12-month period, the civil penalty shall be \$100 at a single family residence and \$200 at a multi-family residential, commercial, or institutional establishment.

For a third violation of Ordinance No. 65 and for each subsequent violation within any 12-month period, the water user or account holder shall have the same opportunity to request a hearing as for the first two violations. For a third and each subsequent violation within any 12-month period, the civil penalty shall be \$250 at a single family residence and \$500 at a multi-family residential, commercial, or institutional establishment.

DWA staff is authorized to discontinue water service for any violation of Ordinance No. 65. Additional details regarding violation notices and civil penalties are included in Ordinance No. 65, a copy of which is included in **Appendix H** herein.

F. REVENUE AND EXPENDITURE IMPACTS AND MEASURES TO OVERCOME IMPACTS

During a water supply emergency, depending on water use restrictions implemented and as water availability and use decreases, revenue from water sales will also decrease. DWA maintains and will continue to maintain sufficient funds in reserve to maintain operations during and following such periods of reduced use. As such, rate adjustments are not anticipated; however, rate adjustments will be considered, if necessary.

On April 1, 2015, Governor Brown issued an executive order mandating a 25 percent statewide reduction in potable urban water use between June 2015 and February 2016. In order to reach the statewide 25 percent reduction mandate, the State Water Resources Control Board (SWRCB) has assigned each urban water supplier a conservation standard that ranges between 4 percent and 36 percent, based on the supplier's residential gallons per capita per day (gpcd) water use for the months of July through September 2014. The SWRCB has assigned DWA to Tier 9 (based on a residential water use of 416 gpcd), which requires that DWA reduce potable urban water use within its service area by 36 percent. Said 36 percent potable urban water use reduction was subsequently reduced to 32%. On May 18, 2016, the State Water Resources Control Board adopted revised regulations lifting the prior water conservation standards based on a percentage reduction and requiring water agencies to adopt locally-developed conservation standards based on each agency's specific circumstances.



As described in **Section VIII** herein, DWA has greatly reduced urban water use in its service area as compared to its interim urban water use target. Decreased water use in DWA's service area results in revenue losses; however, DWA can adjust its water rates and fees as necessary, subject to the Proposition 218 process, to help with overcoming adverse impacts resulting from such losses.

G. REDUCTION MEASURING MECHANISM

Daily production readings are taken by personnel at all water supply sources, and all reservoir water levels are monitored on a continual basis. The collected data are reviewed daily to determine water supply adequacy. Such data are then incorporated into monthly reports.

During a water supply emergency, normal monitoring will continue with strict observation and recording of all water supply sources and water reservoir storage. Collected data will be reported directly to the General Manager and/or Assistant General Manager, as deemed appropriate for the emergency conditions, for action.

SECTION VII

SUPPLY AND DEMAND COMPARISON PROVISIONS

SECTION VII SUPPLY AND DEMAND COMPARISON PROVISIONS

Water Code

10635. (a) Every urban water supplier shall include, as part of its urban water management plan, an assessment of the reliability of its water service to its customers during normal, dry, and multiple dry water years. This water supply and demand assessment shall compare the total water supply sources available to the water supplier with the total projected water use over the next 20 years, in five-year increments, for a normal water year, a single dry water year, and multiple dry water years. The water service reliability assessment shall be based upon the information compiled pursuant to Section 10631, including available data from state, regional, or local agency population projections within the service area of the urban water supplier.

As detailed in **Section III - Reliability Planning**, approximately 90 percent of DWA's total water supplies (domestic and irrigation water supplies) are derived from groundwater extracted from the Whitewater River Subbasin and water recycled by DWA's Recycled Water Treatment Facility (RWTF). Of the total water supply, 10 percent is derived from surface water (Snow Creek, Falls Creek, Chino Creek North (out of service since 2000), Chino Creek West, and the Whitewater River). Domestic water demands are met using groundwater and surface water, and irrigation demands are met using primarily recycled water. In the event that quantities of available recycled water are not sufficient to meet irrigation demands, then non-potable groundwater will be used. Potable water is used for irrigation only when non-potable water is unavailable.

Due to its size, the Whitewater River Subbasin, which has been historically recharged from natural runoff and non-consumptive return, and artificially recharged with imported water since 1973, is capable of meeting demands placed on it during normal or dry years. It will continue to meet such demands, provided the groundwater basin continues to be replenished with sufficient quantities of imported water to meet future needs.

The following tables (**Tables VII-1 through VII-7**) provide comparisons of current and projected water supply and demand under various conditions of normal and dry water years. The tables indicate that, in normal and dry water years, DWA has sufficient water supply to meet its demands through 2040 from the Whitewater River Subbasin, provided that natural and artificial recharge of said basin continue.

Continued reductions in the probable water deliveries from the SWP, as projected by the CDWR in its *State Water Project Final Delivery Capability Report 2015*, dated July 2015 (2015 Delivery Capability Report), which are primarily due to the environmental and legal restrictions described in **Section III** herein, are expected to result in the need for DWA to extract groundwater from storage in order to meet demands within its service area. According to the 2015 Delivery Capability Report, it is estimated that the current long-term average delivery capability of the SWP is only 62 percent of the maximum Table A allocations for the 29 State Water Contractors, based on current conditions.

Because future SWP conditions and delivery capability estimates are not provided within the 2015 Delivery Capability Report, this UWMP assumes that the 2013 delivery reliability estimate of 58 percent, as described in the 2013 SWP Final Reliability Report (December 2014) will remain constant through 2040 for normal water conditions. In addition, the tables in this **Section VII** assume that 8.9% of available Table A supplies, based on historic relative production, will be delivered to the Mission Creek Subbasin Replenishment Facility. DWA then receives 25 percent of the remaining deliveries.

Article 21 refers to a provision in the contract for delivering water that is available in addition to the SWP Table A quantities. This water is only available when it does not interfere with SWP Table A allocations and operations, when excess water is available in the Delta, and when the conveyance capacity is not being used for SWP purposes or scheduled deliveries. To obtain Article 21 water, contractors must be able to use or store it within their own systems, as it cannot be stored in the State Water Project facilities (CDWR 2015). In 2011, DWA and CVWD obtained 5,800 AF of Article 21 surplus water, which was exchanged for Colorado River Water delivered to the Whitewater River Subbasin, but has received no Article 21 water since then. Article 21 supplies are unpredictable; therefore, this UWMP conservatively assumes that DWA will not receive Article 21 water through 2040.

Other surplus water includes Turn-Back Pool water, Yuba River Accord water, and flood waters from the Kern and other rivers. Contractors may choose to offer their allocated Table A water in excess of their needs to other contractors through two "Turn-Back Pools" (Pool A and Pool B) in February and March (CDWR 2009). From 1996 through 2014, DWA and CVWD jointly obtained a total of 296,710 AF of water under CDWR's Turn-Back Water Pool Program, and said water was exchanged for a like quantity of Colorado River Water and delivered to the Whitewater River Subbasin.

The Yuba River Accord is an agreement where the Yuba County Water Agency provides water supplies to improve reliability for the CDWR. DWA and CVWD jointly received 1,188 AF in 2012, 2,713 AF in 2013 and 1,213 AF in 2014 (exchanged for Colorado River Water) under the Yuba River Accord. For planning purposes in this UWMP, the anticipated delivery of other surplus water is estimated at 500 AF per year during normal years, which is 1/3 of the previous five year average delivery from all four of these surplus water accounts.

"Non-Consumptive Return" refers to water returned to the aquifer after use (for example, irrigation water percolating into the ground, and treated wastewater discharged to percolation ponds). Based on the *Coachella Valley Water Management Plan 2010 Update*, dated January 2012 (CVWMP 2010 Update), consumptive use in the Whitewater River Subbasin varies as a percentage of annual water production, which results in non-consumptive return of approximately 29 to 35 percent of annual water production through 2040.

In the supply and demand comparison tables that follow (**Tables VII-1** through **VII-7**), the quantity of groundwater from storage in 2015 indicates that demand exceeded supply, and additional groundwater extractions were needed to meet that demand. Since SWP water deliveries have been reduced due to current operation restrictions, demands exceeded supplies in 2015 due to the 20 percent SWP water allocation for 2015, which is set forth in CDWR's *Notice to State Water Project Contractors, Number 15-03*, dated March 2, 2015.

It is projected that supply will exceed demand in 2016, based on the 2016 SWP allocation of 60 percent, as set forth in CDWR's *Notice to State Water Project Contractors, Number 16-06*, dated April 21, 2016.

A. NORMAL WATER YEAR

A normal water year is a year in the historical sequence that most closely represents median runoff levels and patterns.

Table VII-1 provides a comparison of water supply and demand for normal water years 2015 through 2040. Quantities shown for 2015 consist of data from DWA's records, while quantities shown for 2016 through 2040 are projections based on historical data. Note that water recycling increases significantly in the years 2020 and 2025 due to anticipated increases in recycled water demand.



Although recycled water use can offset potable water demand, the produced water estimates have not been adjusted to show decreases in parallel with increases in recycled water use in the following tables. This was done to provide a conservative estimate of future water demands, because recycled water production is subject to uncertainties in reliability stemming from wastewater production and treatment issues.

Surface water is diverted from Snow Creek, Falls Creek, Chino Creek, and the Whitewater River. The annual quantities shown in the following tables reflect long-term average supply, including dry years. See **Figure 2** in **Appendix F** herein for a diagram of water sources and uses.

**TABLE VII-1
PROJECTED NORMAL WATER YEAR SUPPLY AND DEMAND
(AF/YR)**

Year	Supply									Demand		
	Surface Water Diversions	Groundwater			State Water Project Water Exchanged for Colorado River Water			Recycled Water	Total Supply	Recycled Water	Produced Water	Total Demand
		Natural Groundwater Recharge	Non-Consumptive Return	Ground-water from Storage	Table A	Article 21	Other Surplus Water					
2015	1,800	6,600	10,000	2,035	8,800		500	4,100	34,340	4,100	29,731	34,331
2016	1,800	7,000	9,900		26,500		500	4,100	50,300	4,100	30,045	34,645
2017	1,800	7,400	10,300		25,600		500	4,100	50,200	4,100	31,686	36,286
2018	1,800	7,700	10,700		25,600		500	4,100	50,900	4,100	33,326	37,926
2019	1,800	8,100	11,000		25,600		500	4,100	51,600	4,100	34,967	39,567
2020	1,800	8,400	10,900		25,600		500	4,800	53,300	4,800	36,608	42,708
2021	1,800	8,800	11,000		25,600		500	4,800	53,800	4,800	36,963	43,063
2022	1,800	9,000	11,100		25,600		500	4,800	54,100	4,800	37,318	43,418
2023	1,800	9,000	11,200		25,600		500	4,800	54,200	4,800	37,673	43,773
2024	1,800	9,000	11,300		25,600		500	4,800	54,300	4,800	38,028	44,128
2025	1,800	8,900	11,400		25,600		500	5,500	55,200	5,500	38,383	45,383
2026	1,800	8,900	11,500		25,600		500	5,500	55,300	5,500	38,738	45,738
2027	1,800	8,900	11,600		25,600		500	5,500	55,400	5,500	39,093	46,093
2028	1,800	9,000	11,700		25,600		500	5,500	55,600	5,500	39,447	46,447
2029	1,800	9,000	11,700		25,600		500	5,500	55,600	5,500	39,802	46,802
2030	1,800	8,900	11,800		25,600		500	6,200	55,600	6,200	40,157	47,157
2031	1,800	9,000	12,000		25,600		500	6,200	55,900	6,200	40,512	47,512
2032	1,800	9,200	12,200		25,600		500	6,200	56,300	6,200	40,867	47,867
2033	1,800	9,300	12,300		25,600		500	6,200	56,500	6,200	41,222	48,222
2034	1,800	9,500	12,500		25,600		500	6,200	56,900	6,200	41,577	48,577
2035	1,800	9,600	12,700		25,600		500	6,800	57,200	6,800	41,932	48,932
2036	1,800	9,800	12,800		25,600		500	6,800	57,500	6,800	42,260	49,260
2037	1,800	9,500	13,000		25,600		500	6,800	57,400	6,800	42,589	49,589
2038	1,800	9,600	13,200		25,600		500	6,800	57,700	6,800	42,918	49,918
2039	1,800	9,600	13,300		25,600		500	6,800	57,800	6,800	43,246	50,246
2040	1,800	9,700	13,500		25,600		500	7,500	58,100	7,500	43,575	50,575



B. SINGLE DRY WATER YEAR

In addition to meeting the demands for normal water years, DWA must also meet the demands of its customers during single dry water years. A single dry water year is generally considered to be the lowest average runoff for a watershed since the water year beginning in 1903. Water supply and demand for selected single dry water years through 2040 are set forth in **Table VII-2**.

Based on CDWR's 2015 Delivery Capability Report, the percentage of estimated SWP water deliveries is 11 percent (existing condition) of the total Table A allocations during a single dry water year, based on historical data for a single dry year (1977). Refer to **Section III.F** for additional information.

With the reliability of its groundwater, surface water, and recycled water supplies, DWA is confident in its ability to meet demands through 2040. As shown in **Table VII-2**, the annual groundwater from storage during the dry years represents the quantities of water required to meet demands. The same is true for the groundwater from storage quantities shown in normal years. DWA will not extract more groundwater than is needed to meet such demands.

The imported water quantities do not include surplus water or 100,000 AF of Metropolitan exchanged Table A allocations (call-back water), assuming those sources of supply would not be available during dry years. Surplus water, such as Article 21 water, is only available when excess water is available in the Delta and can be conveyed. Metropolitan may call-back up to 100,000 AF in two 50,000 AF increments when supply is low, in accordance with Metropolitan's 2003 Exchange Agreement with DWA and CVWD.

**TABLE VII-2
PROJECTED SINGLE DRY YEAR SUPPLY AND DEMAND
(AF/YR)**

Year	Supply							Demand				
	Surface Water Diversions	Groundwater			State Water Project Water Exchanged for Colorado River Water			Recycled Water	Total Supply	Recycled Water	Produced Water	Total Demand
		Natural Groundwater Recharge	Non-Consumptive Return	Ground-water from Storage	Table A	Article 21	Other Surplus Water					
2015	1,800	6,600	10,000	6,435	4,900		0	4,100	34,340	4,100	29,731	34,331
2016	1,800	7,000	9,900		26,500		500	4,100	50,300	4,100	30,045	34,645
2017	1,800	7,400	10,300		25,600		500	4,100	50,200	4,100	31,686	36,286
2018	1,800	7,700	10,700		25,600		500	4,100	50,900	4,100	33,326	37,926
2019	1,800	8,100	11,000		25,600		500	4,100	51,600	4,100	34,967	39,567
2020	1,800	8,400	10,900	10,605	4,900		0	4,800	42,710	4,800	36,608	42,708
2021	1,800	8,800	11,000		25,600		500	4,800	53,800	4,800	36,963	43,063
2022	1,800	9,000	11,100		25,600		500	4,800	54,100	4,800	37,318	43,418
2023	1,800	9,000	11,200		25,600		500	4,800	54,200	4,800	37,673	43,773
2024	1,800	9,000	11,300		25,600		500	4,800	54,300	4,800	38,028	44,128
2025	1,800	8,900	11,400	11,385	4,900		0	5,500	45,390	5,500	38,383	45,383
2026	1,800	8,900	11,500		25,600		500	5,500	55,300	5,500	38,738	45,738
2027	1,800	8,900	11,600		25,600		500	5,500	55,400	5,500	39,093	46,093
2028	1,800	9,000	11,700		25,600		500	5,500	55,600	5,500	39,447	46,447
2029	1,800	9,000	11,700		25,600		500	5,500	55,600	5,500	39,802	46,802
2030	1,800	8,900	11,800	12,755	4,900		0	6,200	47,160	6,200	40,157	47,157
2031	1,800	9,000	12,000		25,600		500	6,200	55,900	6,200	40,512	47,512
2032	1,800	9,200	12,200		25,600		500	6,200	56,300	6,200	40,867	47,867
2033	1,800	9,300	12,300		25,600		500	6,200	56,500	6,200	41,222	48,222
2034	1,800	9,500	12,500		25,600		500	6,200	56,900	6,200	41,577	48,577
2035	1,800	9,600	12,700	12,935	4,900		0	6,800	48,940	6,800	41,932	48,932
2036	1,800	9,800	12,800		25,600		500	6,800	57,500	6,800	42,260	49,260
2037	1,800	9,500	13,000		25,600		500	6,800	57,400	6,800	42,589	49,589
2038	1,800	9,600	13,200		25,600		500	6,800	57,700	6,800	42,918	49,918
2039	1,800	9,600	13,300		25,600		500	6,800	57,800	6,800	43,246	50,246
2040	1,800	9,700	13,500	13,675	4,900		0	7,500	50,580	7,500	43,575	50,575



C. MULTIPLE DRY WATER YEARS

In addition to meeting the demands for normal and single dry water years, DWA must also meet the demands of its customers during multiple dry water years. A multiple dry water year period is generally considered to be the lowest average runoff for a consecutive multiple year period (three or more) for a watershed since 1903. Water supply and demand for selected multiple dry water years through 2040 are set forth in **Tables VII-3** through **VII-7**.

Based on CDWR's 2015 Delivery Capability Report, the percentage of estimated SWP water deliveries is 33 percent (existing condition) of the total Table A allocations during multiple dry water years, based on historical data for a 4-year drought (1931-1934) and a six-year drought (1929-1934).

With the reliability of its groundwater, surface water, and recycled water supplies, DWA is confident in its ability to meet demands through 2040. As shown in **Tables VII-3** through **VII-7**, the annual groundwater from storage during the dry years represents the quantities of water required to meet demands. The same is true for the groundwater from storage quantities shown in normal years. DWA will not extract more groundwater than is needed to meet such demands.

The imported water quantities do not include surplus water or 100,000 AF of Metropolitan exchanged Table A allocations (call-back water), assuming those sources of supply would not be available during dry years. Surplus water such as Article 21 water is only available when excess water is available in the Delta and can be conveyed, and Metropolitan may call-back up to 100,000 AF in 50,000 AF increments when supply is low, in accordance with Metropolitan's 2003 Exchange Agreement with DWA and CVWD.

TABLE VII-3
PROJECTED SUPPLY AND DEMAND DURING MULTIPLE DRY WATER YEAR PERIOD ENDING IN 2020
(AF/YR)

Year	Supply									Demand		
	Surface Water Diversions	Groundwater			State Water Project Water Exchanged for Colorado River Water			Recycled Water	Total Supply	Recycled Water	Produced Water	Total Demand
		Natural Groundwater Recharge	Non-Consumptive Return	Ground-water from Storage	Table A	Article 21	Other Surplus Water					
2015	1,800	6,600	10,000	2,035	8,900		500	4,100	34,340	4,100	29,731	34,331
2016	1,800	7,000	9,900		14,700		0	4,100	38,000	4,100	30,045	34,645
2017	1,800	7,400	10,300		14,700		0	4,100	38,800	4,100	31,686	36,286
2018	1,800	7,700	10,700		14,700		0	4,100	39,500	4,100	33,326	37,926
2019	1,800	8,100	11,000		14,700		0	4,100	40,200	4,100	34,967	39,567
2020	1,800	8,400	10,900	805	14,700		0	4,800	42,710	4,800	36,608	42,708
2021	1,800	8,800	11,000		25,600		500	4,800	53,800	4,800	36,963	43,063
2022	1,800	9,000	11,100		25,600		500	4,800	54,100	4,800	37,318	43,418
2023	1,800	9,000	11,200		25,600		500	4,800	54,200	4,800	37,673	43,773
2024	1,800	9,000	11,300		25,600		500	4,800	54,300	4,800	38,028	44,128
2025	1,800	8,900	11,400		25,600		500	5,500	55,200	5,500	38,383	45,383
2026	1,800	8,900	11,500		25,600		500	5,500	55,300	5,500	38,738	45,738
2027	1,800	8,900	11,600		25,600		500	5,500	55,400	5,500	39,093	46,093
2028	1,800	9,000	11,700		25,600		500	5,500	55,600	5,500	39,447	46,447
2029	1,800	9,000	11,700		25,600		500	5,500	55,600	5,500	39,802	46,802
2030	1,800	8,900	11,800		25,600		500	6,200	55,600	6,200	40,157	47,157
2031	1,800	9,000	12,000		25,600		500	6,200	55,900	6,200	40,512	47,512
2032	1,800	9,200	12,200		25,600		500	6,200	56,300	6,200	40,867	47,867
2033	1,800	9,300	12,300		25,600		500	6,200	56,500	6,200	41,222	48,222
2034	1,800	9,500	12,500		25,600		500	6,200	56,900	6,200	41,577	48,577
2035	1,800	9,600	12,700		25,600		500	6,800	57,200	6,800	41,932	48,932
2036	1,800	9,800	12,800		25,600		500	6,800	57,500	6,800	42,260	49,260
2037	1,800	9,500	13,000		25,600		500	6,800	57,400	6,800	42,589	49,589
2038	1,800	9,600	13,200		25,600		500	6,800	57,700	6,800	42,918	49,918
2039	1,800	9,600	13,300		25,600		500	6,800	57,800	6,800	43,246	50,246
2040	1,800	9,700	13,500		25,600		500	7,500	58,100	7,500	43,575	50,575

**TABLE VII-4
PROJECTED SUPPLY AND DEMAND DURING MULTIPLE DRY WATER YEAR PERIOD ENDING IN 2025
(AF/YR)**

Year	Supply									Demand		
	Surface Water Diversions	Groundwater			State Water Project Water Exchanged for Colorado River Water			Recycled Water	Total Supply	Recycled Water	Produced Water	Total Demand
		Natural Groundwater Recharge	Non-Consumptive Return	Ground-water from Storage	Table A	Article 21	Other Surplus Water					
2015	1,800	6,600	10,000	2,035	8,800		500	4,100	34,340	4,100	29,731	34,331
2016	1,800	7,000	9,900		26,500		500	4,100	50,300	4,100	30,045	34,645
2017	1,800	7,400	10,300		25,600		500	4,100	50,200	4,100	31,686	36,286
2018	1,800	7,700	10,700		25,600		500	4,100	50,900	4,100	33,326	37,926
2019	1,800	8,100	11,000		25,600		500	4,100	51,600	4,100	34,967	39,567
2020	1,800	8,400	10,900		25,600		500	4,800	53,300	4,800	36,608	42,708
2021	1,800	8,800	11,000	665	14,700		0	4,800	43,070	4,800	36,963	43,063
2022	1,800	9,000	11,100	715	14,700		0	4,800	43,420	4,800	37,318	43,418
2023	1,800	9,000	11,200	975	14,700		0	4,800	43,780	4,800	37,673	43,773
2024	1,800	9,000	11,300	1,225	14,700		0	4,800	44,130	4,800	38,028	44,128
2025	1,800	8,900	11,400	1,585	14,700		0	5,500	45,390	5,500	38,383	45,383
2026	1,800	8,900	11,500		25,600		500	5,500	55,300	5,500	38,738	45,738
2027	1,800	8,900	11,600		25,600		500	5,500	55,400	5,500	39,093	46,093
2028	1,800	9,000	11,700		25,600		500	5,500	55,600	5,500	39,447	46,447
2029	1,800	9,000	11,700		25,600		500	5,500	55,600	5,500	39,802	46,802
2030	1,800	8,900	11,800		25,600		500	6,200	55,600	6,200	40,157	47,157
2031	1,800	9,000	12,000		25,600		500	6,200	55,900	6,200	40,512	47,512
2032	1,800	9,200	12,200		25,600		500	6,200	56,300	6,200	40,867	47,867
2033	1,800	9,300	12,300		25,600		500	6,200	56,500	6,200	41,222	48,222
2034	1,800	9,500	12,500		25,600		500	6,200	56,900	6,200	41,577	48,577
2035	1,800	9,600	12,700		25,600		500	6,800	57,200	6,800	41,932	48,932
2036	1,800	9,800	12,800		25,600		500	6,800	57,500	6,800	42,260	49,260
2037	1,800	9,500	13,000		25,600		500	6,800	57,400	6,800	42,589	49,589
2038	1,800	9,600	13,200		25,600		500	6,800	57,700	6,800	42,918	49,918
2039	1,800	9,600	13,300		25,600		500	6,800	57,800	6,800	43,246	50,246
2040	1,800	9,700	13,500		25,600		500	7,500	58,100	7,500	43,575	50,575

**TABLE VII-5
PROJECTED SUPPLY AND DEMAND DURING MULTIPLE DRY WATER YEAR PERIOD ENDING IN 2030
(AF/YR)**

Year	Supply									Demand		
	Surface Water Diversions	Groundwater			State Water Project Water Exchanged for Colorado River Water			Recycled Water	Total Supply	Recycled Water	Produced Water	Total Demand
		Natural Groundwater Recharge	Non-Consumptive Return	Ground-water from Storage	Table A	Article 21	Other Surplus Water					
2015	1,800	6,600	10,000	2,035	8,800		500	4,100	34,340	4,100	29,731	34,331
2016	1,800	7,000	9,900		26,500		500	4,100	50,300	4,100	30,045	34,645
2017	1,800	7,400	10,300		25,600		500	4,100	50,200	4,100	31,686	36,286
2018	1,800	7,700	10,700		25,600		500	4,100	50,900	4,100	33,326	37,926
2019	1,800	8,100	11,000		25,600		500	4,100	51,600	4,100	34,967	39,567
2020	1,800	8,400	10,900		25,600		500	4,800	53,300	4,800	36,608	42,708
2021	1,800	8,800	11,000		25,600		500	4,800	53,800	4,800	36,963	43,063
2022	1,800	9,000	11,100		25,600		500	4,800	54,100	4,800	37,318	43,418
2023	1,800	9,000	11,200		25,600		500	4,800	54,200	4,800	37,673	43,773
2024	1,800	9,000	11,300		25,600		500	4,800	54,300	4,800	38,028	44,128
2025	1,800	8,900	11,400		25,600		500	5,500	55,200	5,500	38,383	45,383
2026	1,800	8,900	11,500	1,835	14,700		0	5,500	45,740	5,500	38,738	45,738
2027	1,800	8,900	11,600	2,095	14,700		0	5,500	46,100	5,500	39,093	46,093
2028	1,800	9,000	11,700	2,245	14,700		0	5,500	46,450	5,500	39,447	46,447
2029	1,800	9,000	11,700	2,605	14,700		0	5,500	46,810	5,500	39,802	46,802
2030	1,800	8,900	11,800	2,955	14,700		0	6,200	47,160	6,200	40,157	47,157
2031	1,800	9,000	12,000		25,600		500	6,200	55,900	6,200	40,512	47,512
2032	1,800	9,200	12,200		25,600		500	6,200	56,300	6,200	40,867	47,867
2033	1,800	9,300	12,300		25,600		500	6,200	56,500	6,200	41,222	48,222
2034	1,800	9,500	12,500		25,600		500	6,200	56,900	6,200	41,577	48,577
2035	1,800	9,600	12,700		25,600		500	6,800	57,200	6,800	41,932	48,932
2036	1,800	9,800	12,800		25,600		500	6,800	57,500	6,800	42,260	49,260
2037	1,800	9,500	13,000		25,600		500	6,800	57,400	6,800	42,589	49,589
2038	1,800	9,600	13,200		25,600		500	6,800	57,700	6,800	42,918	49,918
2039	1,800	9,600	13,300		25,600		500	6,800	57,800	6,800	43,246	50,246
2040	1,800	9,700	13,500		25,600		500	7,500	58,100	7,500	43,575	50,575

**TABLE VII-6
PROJECTED SUPPLY AND DEMAND DURING MULTIPLE DRY WATER YEAR PERIOD ENDING IN 2035
(AF/YR)**

Year	Supply									Demand		
	Surface Water Diversions	Groundwater			State Water Project Water Exchanged for Colorado River Water			Recycled Water	Total Supply	Recycled Water	Produced Water	Total Demand
		Natural Groundwater r Recharge	Non-Consumptive Return	Ground-water from Storage	Table A	Article 21	Other Surplus Water					
2015	1,800	6,600	10,000	2,035	8,800		500	4,100	34,340	4,100	29,731	34,331
2016	1,800	7,000	9,900		26,500		500	4,100	50,300	4,100	30,045	34,645
2017	1,800	7,400	10,300		25,600		500	4,100	50,200	4,100	31,686	36,286
2018	1,800	7,700	10,700		25,600		500	4,100	50,900	4,100	33,326	37,926
2019	1,800	8,100	11,000		25,600		500	4,100	51,600	4,100	34,967	39,567
2020	1,800	8,400	10,900		25,600		500	4,800	53,300	4,800	36,608	42,708
2021	1,800	8,800	11,000		25,600		500	4,800	53,800	4,800	36,963	43,063
2022	1,800	9,000	11,100		25,600		500	4,800	54,100	4,800	37,318	43,418
2023	1,800	9,000	11,200		25,600		500	4,800	54,200	4,800	37,673	43,773
2024	1,800	9,000	11,300		25,600		500	4,800	54,300	4,800	38,028	44,128
2025	1,800	8,900	11,400		25,600		500	5,500	55,200	5,500	38,383	45,383
2026	1,800	8,900	11,500		25,600		500	5,500	55,300	5,500	38,738	45,738
2027	1,800	8,900	11,600		25,600		500	5,500	55,400	5,500	39,093	46,093
2028	1,800	9,000	11,700		25,600		500	5,500	55,600	5,500	39,447	46,447
2029	1,800	9,000	11,700		25,600		500	5,500	55,600	5,500	39,802	46,802
2030	1,800	8,900	11,800		25,600		500	6,200	55,600	6,200	40,157	47,157
2031	1,800	9,000	12,000	3,015	14,700		0	6,200	47,520	6,200	40,512	47,512
2032	1,800	9,200	12,200	2,965	14,700		0	6,200	47,870	6,200	40,867	47,867
2033	1,800	9,300	12,300	3,125	14,700		0	6,200	48,230	6,200	41,222	48,222
2034	1,800	9,500	12,500	3,075	14,700		0	6,200	48,580	6,200	41,577	48,577
2035	1,800	9,600	12,700	3,135	14,700		0	6,800	48,940	6,800	41,932	48,932
2036	1,800	9,800	12,800		25,600		500	6,800	57,500	6,800	42,260	49,260
2037	1,800	9,500	13,000		25,600		500	6,800	57,400	6,800	42,589	49,589
2038	1,800	9,600	13,200		25,600		500	6,800	57,700	6,800	42,918	49,918
2039	1,800	9,600	13,300		25,600		500	6,800	57,800	6,800	43,246	50,246
2040	1,800	9,700	13,500		25,600		500	7,500	58,100	7,500	43,575	50,575

**TABLE VII-7
PROJECTED SUPPLY AND DEMAND DURING MULTIPLE DRY WATER YEAR PERIOD ENDING IN 2040
(AF/YR)**

Year	Supply									Demand		
	Surface Water Diversions	Groundwater			State Water Project Water Exchanged for Colorado River Water			Recycled Water	Total Supply	Recycled Water	Produced Water	Total Demand
		Natural Groundwater Recharge	Non-Consumptive Return	Ground-water from Storage	Table A	Article 21	Other Surplus Water					
2015	1,800	6,600	10,000	2,035	8,800		500	4,100	34,340	4,100	29,731	34,331
2016	1,800	7,000	9,900		26,500		500	4,100	50,300	4,100	30,045	34,645
2017	1,800	7,400	10,300		25,600		500	4,100	50,200	4,100	31,686	36,286
2018	1,800	7,700	10,700		25,600		500	4,100	50,900	4,100	33,326	37,926
2019	1,800	8,100	11,000		25,600		500	4,100	51,600	4,100	34,967	39,567
2020	1,800	8,400	10,900		25,600		500	4,800	53,300	4,800	36,608	42,708
2021	1,800	8,800	11,000		25,600		500	4,800	53,800	4,800	36,963	43,063
2022	1,800	9,000	11,100		25,600		500	4,800	54,100	4,800	37,318	43,418
2023	1,800	9,000	11,200		25,600		500	4,800	54,200	4,800	37,673	43,773
2024	1,800	9,000	11,300		25,600		500	4,800	54,300	4,800	38,028	44,128
2025	1,800	8,900	11,400		25,600		500	5,500	55,200	5,500	38,383	45,383
2026	1,800	8,900	11,500		25,600		500	5,500	55,300	5,500	38,738	45,738
2027	1,800	8,900	11,600		25,600		500	5,500	55,400	5,500	39,093	46,093
2028	1,800	9,000	11,700		25,600		500	5,500	55,600	5,500	39,447	46,447
2029	1,800	9,000	11,700		25,600		500	5,500	55,600	5,500	39,802	46,802
2030	1,800	8,900	11,800		25,600		500	6,200	55,600	6,200	40,157	47,157
2031	1,800	9,000	12,000		25,600		500	6,200	55,900	6,200	40,512	47,512
2032	1,800	9,200	12,200		25,600		500	6,200	56,300	6,200	40,867	47,867
2033	1,800	9,300	12,300		25,600		500	6,200	56,500	6,200	41,222	48,222
2034	1,800	9,500	12,500		25,600		500	6,200	56,900	6,200	41,577	48,577
2035	1,800	9,600	12,700		25,600		500	6,800	57,200	6,800	41,932	48,932
2036	1,800	9,800	12,800	3,155	14,700		0	6,800	49,260	6,800	42,260	49,260
2037	1,800	9,500	13,000	3,585	14,700		0	6,800	49,590	6,800	42,589	49,589
2038	1,800	9,600	13,200	3,615	14,700		0	6,800	49,920	6,800	42,918	49,918
2039	1,800	9,600	13,300	3,845	14,700		0	6,800	50,250	6,800	43,246	50,246
2040	1,800	9,700	13,500	3,875	14,700		0	7,500	50,580	7,500	43,575	50,575

**D. SUMMARY**

In summary, demand will exceed supply during normal, single dry year, and multiple dry year periods due to the reduction in SWP deliveries as described in CDWR's 2015 Delivery Capability Report, unless DWA continues to extract groundwater in storage. Without consistently importing water to offset overdraft in the Whitewater River Subbasin, significant reduction of groundwater in storage will occur, and DWA may be required to "mine" groundwater in order to meet anticipated water demands within the next 25 years. Should DWA receive greater than 58 percent of its Table A allocations, demand would not exceed supply in the Whitewater River Subbasin for at least the next 25 years.

SECTION VIII

WATER USE BASELINES AND TARGETS

SECTION VIII WATER USE BASELINES AND TARGETS

A. SENATE BILL X7-7

Water Code

- 10608.20.** (e) An urban retail water supplier shall include in its urban water management plan due in 2010...the baseline daily per capita water use, urban water use target, interim urban water use target, and compliance daily per capita water use, along with the bases for determining those estimates, including references to supporting data.
- (g) An urban retail water supplier may update its 2020 urban water use target in its 2015 urban water management plan required pursuant to Part 2.6 (commencing with Section 10610).
- (h) (1) The department, through a public process and in consultation with the California Urban Water Conservation Council, shall develop technical methodologies and criteria for the consistent implementation of this part, including...
- (A) Methodologies for calculating base daily per capita water use, baseline commercial, industrial, and institutional water use, compliance daily per capita water use, gross water use, service area population, indoor residential water use, and landscaped area water use.

Senate Bill No. 7 of the 2009-2010 Seventh Extraordinary Session, also known as the Water Conservation Act of 2009, referred to herein as SB X7-7, was passed by the State Assembly and the State Senate on November 3, 2009 and November 4, 2009, respectively, in response to the Governor's call for a 20 percent reduction in urban water use by the year 2020. SB X7-7 was subsequently approved by the Governor and Chaptered by the Secretary of State on November 10, 2009. The portions of SB X7-7 applicable to UWMPs are codified in Part 2.55 of Division 6 of the California Water Code, a copy of which is included in **Appendix A** herein.

SB X7-7 requires that the state achieve a 20 percent reduction in urban per capita water use on or before December 31, 2020. In order to achieve this reduction, SB X7-7 requires an urban retail water supplier to determine its base daily per capita (baseline) water use from gross water use and historic population, as well as to develop an urban water use target (to be achieved by 2020) and an interim urban water use target (to be achieved by 2015) for inclusion in its 2010 UWMP.

For this 2015 UWMP, DWA has updated its baseline water use, its urban water use target, and its interim urban water use target as follows:

- Accounting for its total service area population rather than only its permanent, year-round service area population (refer to **Section I.B.2** herein for a description of population projections), and
- Using calendar year data, instead of the fiscal year data that was used in the 2010 UWMP, for consistency with the other data included in this 2015 UWMP.

The methodologies used to calculate the baselines and targets included herein were developed by CDWR and are set forth in the document, Calculating Baseline and Compliance Urban Per Capita Water Use, dated October 1, 2010 (referred to hereinafter as CDWR's Methodologies). **Sections VIII.B** through **VIII.G** herein set forth DWA's base daily per capita water use, urban water use target, interim water use target, along with the same from the 2010 UWMP, for purposes of comparison.

B. GROSS WATER USE

Water Code

- 10608.12.** (g) "Gross Water Use" means the total volume of water, whether treated or untreated, entering the distribution system of an urban retail water supplier, excluding all of the following:
- (1) Recycled water that is delivered within the service area of a retail water supplier or its urban wholesale water supplier.
 - (2) The net volume of water that the urban retail water supplier places into long-term storage.
 - (3) The volume of water the urban retail water supplier conveys for use by another urban water supplier.
 - (4) The volume of water delivered for agricultural use, except as otherwise provided in subdivision (f) of Section 10608.24.

DWA has updated its baseline water use, urban water use target, and interim urban water use target by using calendar year data (instead of the fiscal year data that were used in its 2010 UWMP). DWA's historic gross water use is set forth **Table VIII-3** below.

Gross water use, defined in the box above, is a measure used to determine an urban retail water supplier's baseline per capita water use. DWA's gross water use has been calculated as described

in the following steps, which correspond to the steps listed in Methodology 1 (Gross Water Use), as set forth in CDWR's Methodologies.

Step 1: Define the 12-Month Calculation Period – DWA's annual water production records are organized by calendar year. Therefore, for purposes of this UWMP, the 12-month calculation period is January 1 through December 31.

Step 2: Delineate Distribution System Boundary – DWA's service area boundary has been defined in **Section I** of this UWMP. The service area boundary is shown on **Figure 1** in **Appendix F**.

Step 3: Compile Water Volumes from Own Sources – All of DWA's water sources are defined and quantified in **Section II** of this UWMP.

Step 4: Compile Imported Water Volume – All of DWA's imported water consists of Colorado River water that is exchanged for State Water Project water. The supply volumes are defined and quantified in **Section VII** of this UWMP.

Step 5: Compile Exported Water Volumes – DWA does not export any water from its service area.

Step 6: Calculate Net Change in Distribution System Storage – DWA's distribution system storage volumes remain approximately the same year after year, and any changes over the course of a year are not considered significant.

Step 7: Calculate Gross Water Use Before Indirect Recycled Water Use Deductions – **Table VIII-3** sets forth DWA's total annual water production, which is also DWA's annual gross water use. DWA's total annual production is shown in acre-feet per year (as reported by DWA) and gallons per day (gpd) for years 1991 through 2010.

Step 8: Deduct Recycled Water Used for Indirect Reuse from Gross Water Use – DWA does not use recycled water for indirect potable reuse; therefore, this deduction does not apply to DWA.

Step 9: Calculate the Gross Water Use After Deducting Indirect Recycled Water Use – Since DWA does not use recycled water for indirect potable reuse, the gross water quantities determined by this step are equal to those determined in Step 7.

Step 10 (Optional): Deduct from Gross Water Use the Volume of Water Delivered for Agricultural Use – DWA does not have an agricultural sector and does not deliver water for agricultural use; therefore, this deduction does not apply to DWA.

Step 11 (Optional): Deduct Volume of Water Delivered for Process Water Use – DWA does not deliver water for process water use.

Step 12: Calculate Gross Water Use After Optional Deductions – Since there are no additional deductions that apply to DWA, the gross water use is equal to that determined in Step 7, which is shown in **Table VIII-1** below.

TABLE VIII-1 GROSS WATER USE		
Year	Total Production	
	(AF)	(gpd)
1991	39,285	35,068,998
1992	38,190	34,091,512
1993	39,820	35,546,583
1994	39,590	35,341,266
1995	39,580	35,332,339
1996	42,310	37,769,360
1997	40,080	35,778,680
1998	40,080	35,778,680
1999	42,210	37,680,092
2000	42,690	38,108,579
2001	42,315	37,773,824
2002	43,440	38,778,091
2003	41,440	36,992,727
2004	44,635	39,844,845
2005	43,070	38,447,798
2006	44,780	39,974,284
2007	44,580	39,795,748
2008	41,430	36,983,801
2009	38,370	34,252,195
2010	37,650	33,609,464

C. SERVICE AREA POPULATION

Water Code

10608.20. (f) When calculating per capita values for the purposes of this chapter, an urban retail water supplier shall determine population using federal, state, and local population reports and projections.

DWA's service area population was determined as described in **Section I.B.2** herein. The numbers of DWA service connections and estimates of DWA's service area population for the years 1991 through 2015 are set forth in **Table VIII-2** below.

TABLE VIII-2 SERVICE AREA POPULATION						
Year	Active Service Connections	Base Population	Seasonal Population	RV Population	Hotel Population	Total Population
1991	18,775	46,841	12,698	375	24,528	84,442
1992	18,810	47,269	12,479	375	24,528	84,651
1993	18,801	47,696	12,259	375	24,528	84,858
1994	18,836	48,124	12,040	375	24,528	85,067
1995	18,853	48,551	11,820	375	24,528	85,274
1996	18,885	48,978	11,600	375	24,528	85,481
1997	18,884	49,406	11,381	375	24,528	85,690
1998	18,943	49,833	11,161	375	24,528	85,897
1999	19,226	50,261	10,942	375	24,528	86,106
2000	19,404	50,688	10,781	375	24,528	86,372
2001	19,559	50,780	10,833	375	24,528	86,516
2002	19,669	50,872	10,884	375	24,528	86,659
2003	19,994	50,964	10,936	375	24,528	86,803
2004	20,656	51,056	10,987	375	24,528	86,946
2005	20,988	51,148	11,039	375	24,528	87,090
2006	21,552	51,239	11,091	375	24,528	87,233
2007	21,322	51,331	11,142	375	24,528	87,376
2008	21,355	51,423	11,194	375	24,528	87,520
2009	21,370	51,515	11,245	375	24,528	87,663
2010	21,425	51,607	11,289	375	24,528	87,799
2011	21,517	51,699	11,341	375	24,528	87,943
2012	21,663	51,791	11,392	375	24,528	88,086
2013	21,797	51,883	11,444	375	24,528	88,230
2014	21,986	51,975	11,495	375	24,528	88,373
2015	22,082	52,067	11,547	375	24,528	88,517

D. BASE DAILY PER CAPITA WATER USE

Water Code

- 10608.12.** (b) "Base daily per capita water use" means any of the following:
- (1) The urban retail water supplier's estimate of its average gross water use, reported in gallons per capita per day and calculated over a continuous 10-year period ending no earlier than December 31, 2004 and no later than December 31, 2010.
 - (2) For an urban retail water supplier that meets at least 10 percent of its 2008 measured retail water demand through recycled water that is delivered within the service area of an urban retail water supplier or its urban wholesale water supplier, the urban retail water supplier may extend the calculation described in paragraph (1) up to an additional five years to a maximum of a continuous 15-year period ending no earlier than December 31, 2004, and no later than December 31, 2010.

The base daily per capita water use (also referred to herein as "baseline water use" or "baseline") is the urban retail water supplier's average gross water use, reported in gallons per capita per day, and calculated over a continuous 10-year base period ending no earlier than December 31, 2004 and no later than December 31, 2010. The base period may be extended up to a continuous 15-year period if at least 10 percent of an urban retail water supplier's measured retail water demand was met through recycled water use in 2008.

DWA's baseline water use has been calculated in accordance with Methodology 3 (Base Daily Per Capita Water Use) of CDWR's Methodologies, and is measured in units of gallons per capita per day (gpcd). In 2008, DWA satisfied at least 10 percent of its measured retail water demand with recycled water; therefore, in accordance with Water Code Section 10608.12(b)(2), DWA may select up to a 15-year continuous period to calculate its baseline using the gross water use and population data for its service area. For purposes of this UWMP, DWA selected a 10-year base period of 1996 through 2005 to determine its baseline.

DWA elected to revise its baselines and targets in this 2015 UWMP because the calculations performed in the 2010 UWMP used fiscal year data and accounted only for permanent year-round population and not total population. For consistency with the other sections of this UWMP, DWA has recalculated its baselines and targets using calendar year data and estimates of total population.



DWA's base daily per capita water use was calculated as 736 gpcd in its 2010 UWMP (based on fiscal year data and permanent year-round population). DWA's updated base daily per capita water use (based on calendar year data and total population) is 436 gpcd, calculated as set forth in **Table VIII-3** below.

TABLE VIII-3 BASE DAILY PER CAPITA WATER USE					
Year	Gross Water Use		Population		Per Capita Water Use (gpcd)
	Total Production (AF/yr) ⁽¹⁾	Total Production (gpd) ⁽¹⁾	Total Connections Served	Estimated Total Population	
1996	42,310	37,769,360	18,885	85,481	442
1997	40,080	35,778,680	18,884	85,690	418
1998	40,080	35,778,680	18,943	85,897	417
1999	42,210	37,680,092	19,226	86,106	438
2000	42,690	38,108,579	19,404	86,372	441
2001	42,315	37,773,824	19,559	86,516	437
2002	43,440	38,778,091	19,669	86,659	447
2003	41,440	36,992,727	19,994	86,803	426
2004	44,635	39,844,845	20,656	86,946	458
2005	43,070	38,447,798	20,988	87,090	441
DWA Base Daily Per Capita Water Use ⁽²⁾					436

⁽¹⁾ Does not include the non-potable surface water diversion from Whitewater River.

⁽²⁾ Average of gross per capita water use (in gpcd) over the base period of 1996 through 2005.

E. URBAN WATER USE TARGET

Water Code

10608.12. (q) "Urban water use target" means the urban retail water supplier's targeted future daily per capita water use.

10608.20. (a) (1) Each urban retail water supplier shall develop urban water use targets and an interim urban water use target by July 1, 2011. Urban retail water suppliers may elect to determine and report progress toward achieving these targets on an individual or regional basis...and may determine the targets on a fiscal year or calendar year basis.

(2) It is the intent of the Legislature that the urban water use targets described in paragraph (1) cumulatively result in a 20-percent reduction from the baseline daily per capita water use by December 31, 2020.

SB X7-7 sets forth four methods available to an urban retail water supplier to determine its urban water use target. For the purposes of meeting the requirements of SB X7-7, DWA has selected Method 1 to determine its target, which sets its urban water use target to 80 percent of its baseline water use. DWA's baseline, as set forth in its 2010 UWMP, was 739 gpcd, and its urban water use target was 591 gpcd.

DWA elected to revise its baselines and targets in this 2015 UWMP because the calculations performed in the 2010 UWMP used fiscal year data and accounted only for permanent year-round population and not total population. For consistency with the other sections of this UWMP, DWA has recalculated its baselines and targets using calendar year data and estimates of total population.

Based on the updated baseline calculations set forth in **Section VIII.D** herein; DWA's baseline is 436 gpcd and its urban water use target is 349 gpcd ($436 \times 0.8 = 349$, rounded).

F. INTERIM URBAN WATER USE TARGET

Water Code

10608.12. (j) "Interim urban water use target" means the midpoint between the urban retail water supplier's base daily per capita water use and the urban retail water supplier's urban water use target for 2020.

As stated previously, DWA elected to revise its baselines and targets in this 2015 UWMP because the calculations performed in the 2010 UWMP used fiscal year data and accounted only for permanent year-round population and not total population. For consistency with the other sections of this UWMP, DWA has recalculated its baselines and targets using calendar year data and estimates of total population.

DWA's interim urban water use target, as set forth in DWA's 2010 UWMP, was 663 gpcd, which constituted 90 percent of its baseline of 736 gpcd (based on year-round population and using fiscal year data). Based on the fiscal year data and total population, DWA's interim urban water use target is 393 gpcd ($436 \text{ baseline} \times 0.9 = 393$, rounded).

DWA's baseline water use, urban water use target, and interim urban water use target are summarized in **Table VIII-4** below.

TABLE VIII-4 BASELINE AND TARGETS			
Item	Compliance Year	gpcd (Based on Total Population)	% Reduction
Baseline Water Use	---	436	0
Interim Water Use Target	2015	393	10
Water Use Target	2020	349	20

G. MINIMUM WATER USE REDUCTION REQUIREMENT

Water Code

10608.12. (b) "Base daily per capita water use" means any of the following:

(3) For the purposes of Section 10608.22, the urban retail water supplier's estimate of its average gross water use, reported in gallons per capita per day and calculated over a continuous five-year period ending no earlier than December 31, 2007, and no later than December 31, 2010.

10608.22. Notwithstanding the method adopted by an urban retail water supplier pursuant to Section 10608.20, an urban retail water supplier's per capita daily water use reduction shall be no less than 5 percent of base daily per capita water use...

In accordance with CDWR's Methodologies, a five-year baseline was calculated to determine whether DWA's urban water use target meets the minimum water use reduction requirement pursuant to CWC Section 10608.22. As with the baseline, urban water use target, and interim urban water use target, the five-year baseline has been updated based on calendar year data and total population.

The five-year base daily per capita water use is calculated using DWA's annual gross water use and total service area population. DWA selected the five-year base period of January 1, 2004 through December 31, 2008. DWA's five-year baseline water use calculation is set forth in **Table VIII-5** below.

TABLE VIII-5 FIVE-YEAR BASE DAILY PER CAPITA WATER USE					
Year	Gross Water Use		Population		Per Capita Water Use (gpcd)
	Total Production (AF/yr)	Total Production (gpd)	Total Connections Served	Estimated Total Population	
2004	44,635	39,844,845	20,656	86,946	458
2005	43,070	38,447,798	20,988	87,090	441
2006	44,780	39,974,284	21,552	87,233	458
2007	44,580	39,795,748	21,665	87,376	455
2008	41,430	36,983,801	21,699	87,520	423
DWA Five-Year Base Daily Per Capita Water Use ⁽¹⁾					447

⁽¹⁾ Average of gross per capita water use (in gpcd) over the five-year base period of 2004 through 2008.

In accordance with Methodology 3 of CDWR's Methodologies, the five-year baseline water use is to be multiplied by 0.95. If DWA's urban water use target for 2020 is greater than this value, then said target must be reduced to 95 percent of the five-year baseline water use. DWA's five-year baseline water use of 447 gpcd multiplied by 0.95 is equal to 425 gpcd, which is greater than DWA's urban water use target of 349 gpcd. Therefore, DWA's urban water use target of 349 gpcd meets the minimum water conservation requirements pursuant to SB X7-7.

H. COMPLIANCE WITH URBAN WATER USE TARGETS

Water Code

10643. An urban water supplier shall implement its plan adopted pursuant to this chapter in accordance with the schedule set forth in its plan.

Due, in part, to its recycled water program and substantial historic water conservation efforts, DWA's 2015 gross per capita water use was approximately 300 gpcd, which represents a reduction of approximately 31 percent from its calculated baseline water use of 436 gpcd.

TABLE VIII-6 2015 COMPLIANCE WITH INTERIM WATER USE TARGET			
2015 Interim Water Use Target (gpcd)	2015 Actual Water Use (gpcd)	Weather/ Economy Adjustments	Conservation as % of Interim Water Use Target
393	300	0	24%

As shown in **Table VIII-6**, DWA has surpassed its 2015 interim urban water use target by approximately 30 percent.

Based on SB X7-7, urban water suppliers are required to reach their water use targets by December 31, 2020 and their interim water use targets by December 30, 2015. As shown in **Table VIII-6**, DWA has achieved its interim urban water use target for compliance year 2015 and is on track to meet its urban water use target in compliance year 2020. DWA's compliance is also demonstrated on the 2015 SB X7-7 Verification Form, a copy of which is included in **Appendix J** herein.

As of December 2015, DWA has implemented several water conservation programs and campaigns in its effort to reduce water use within its service area. Public information promotions such as advertising, rebate programs, and the "Check Yourself, Check Your Water Use" campaign, have contributed significantly to the water conservation achieved since the 2010 UWMP was adopted. DWA's water conservation measures are described in additional detail in **Section V** herein.

Although the water use targets set forth herein have been met and surpassed, DWA proposes continued implementation of the Best Management Practices described in **Section V - Water Demand Management Measures (Best Management Practices)**. DWA's commitment to educating the public on the water supply and water conservation, and its ability to provide recycled water to customers for irrigation, have had a positive impact on conservation throughout its service area. Therefore, DWA plans to continue and expand these measures as opportunities arise.

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REFERENCES

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APPENDIX A

**CALIFORNIA URBAN WATER MANAGEMENT PLANNING ACT
AND
APPLICABLE SECTIONS OF THE CALIFORNIA WATER CONSERVATION ACT**

California Water Code Division 6, Part 2.6.

Chapter 1. General Declaration and Policy §10610-10610.4

Chapter 2. Definitions §10611-10617

Chapter 3. Urban Water Management Plans

Article 1. General Provisions §10620-10621

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Article 2.5. Water Service Reliability §10635

Article 3. Adoption And Implementation of Plans §10640-10645

Chapter 4. Miscellaneous Provisions §10650-10656

Chapter 1. General Declaration and Policy

SECTION 10610-10610.4

10610. This part shall be known and may be cited as the "Urban Water Management Planning Act."

10610.2. (a) The Legislature finds and declares all of the following:

- (1) The waters of the state are a limited and renewable resource subject to ever-increasing demands.
- (2) The conservation and efficient use of urban water supplies are of statewide concern; however, the planning for that use and the implementation of those plans can best be accomplished at the local level.
- (3) A long-term, reliable supply of water is essential to protect the productivity of California's businesses and economic climate.
- (4) As part of its long-range planning activities, every urban water supplier should make every effort to ensure the appropriate level of reliability in its water service sufficient to meet the needs of its various categories of customers during normal, dry, and multiple dry water years.
- (5) Public health issues have been raised over a number of contaminants that have been identified in certain local and imported water supplies.
- (6) Implementing effective water management strategies, including groundwater storage projects and recycled water projects, may require specific water quality and salinity targets for meeting groundwater basins water quality objectives and promoting beneficial use of recycled water.
- (7) Water quality regulations are becoming an increasingly important factor in water agencies' selection of raw water sources, treatment alternatives, and modifications to existing treatment facilities.

- (8) Changes in drinking water quality standards may also impact the usefulness of water supplies and may ultimately impact supply reliability.
- (9) The quality of source supplies can have a significant impact on water management strategies and supply reliability.
- (b) This part is intended to provide assistance to water agencies in carrying out their long-term resource planning responsibilities to ensure adequate water supplies to meet existing and future demands for water.

10610.4. The Legislature finds and declares that it is the policy of the state as follows:

- (a) The management of urban water demands and efficient use of water shall be actively pursued to protect both the people of the state and their water resources.
- (b) The management of urban water demands and efficient use of urban water supplies shall be a guiding criterion in public decisions.
- (c) Urban water suppliers shall be required to develop water management plans to actively pursue the efficient use of available supplies.

Chapter 2. Definitions

SECTION 10611-10617

10611. Unless the context otherwise requires, the definitions of this chapter govern the construction of this part.

10611.5. "Demand management" means those water conservation measures, programs, and incentives that prevent the waste of water and promote the reasonable and efficient use and reuse of available supplies.

10612. "Customer" means a purchaser of water from a water supplier who uses the water for municipal purposes, including residential, commercial, governmental, and industrial uses.

10613. "Efficient use" means those management measures that result in the most effective use of water so as to prevent its waste or unreasonable use or unreasonable method of use.

10614. "Person" means any individual, firm, association, organization, partnership, business, trust, corporation, company, public agency, or any agency of such an entity.

10615. "Plan" means an urban water management plan prepared pursuant to this part. A plan shall describe and evaluate sources of supply, reasonable and practical efficient uses,

reclamation and demand management activities. The components of the plan may vary according to an individual community or area's characteristics and its capabilities to efficiently use and conserve water. The plan shall address measures for residential, commercial, governmental, and industrial water demand management as set forth in Article 2 (commencing with Section 10630) of Chapter 3. In addition, a strategy and time schedule for implementation shall be included in the plan.

10616. "Public agency" means any board, commission, county, city and county, city, regional agency, district, or other public entity.

10616.5. "Recycled water" means the reclamation and reuse of wastewater for beneficial use.

10617. "Urban water supplier" means a supplier, either publicly or privately owned, providing water for municipal purposes either directly or indirectly to more than 3,000 customers or supplying more than 3,000 acre-feet of water annually. An urban water supplier includes a supplier or contractor for water, regardless of the basis of right, which distributes or sells for ultimate resale to customers. This part applies only to water supplied from public water systems subject to Chapter 4 (commencing with Section 116275) of Part 12 of Division 104 of the Health and Safety Code.

Chapter 3. Urban Water Management Plans

Article 1. General Provisions

SECTION 10620-10621

10620. (a) Every urban water supplier shall prepare and adopt an urban water management plan in the manner set forth in Article 3 (commencing with Section 10640).
- (b) Every person that becomes an urban water supplier shall adopt an urban water management plan within one year after it has become an urban water supplier.
- (c) An urban water supplier indirectly providing water shall not include planning elements in its water management plan as provided in Article 2 (commencing with Section 10630) that would be applicable to urban water suppliers or public agencies directly providing water, or to their customers, without the consent of those suppliers or public agencies.
- (d) (1) An urban water supplier may satisfy the requirements of this part by participation in areawide, regional, watershed, or basinwide urban water management planning where those plans will reduce preparation costs and contribute to the achievement of conservation and efficient water use.
- (2) Each urban water supplier shall coordinate the preparation of its plan with other appropriate agencies in the area, including other water suppliers that

share a common source, water management agencies, and relevant public agencies, to the extent practicable.

- (e) The urban water supplier may prepare the plan with its own staff, by contract, or in cooperation with other governmental agencies.
 - (f) An urban water supplier shall describe in the plan water management tools and options used by that entity that will maximize resources and minimize the need to import water from other regions.
10621. (a) Each urban water supplier shall update its plan at least once every five years on or before December 31, in years ending in five and zero, except as provided in subdivision (d).
- (b) Every urban water supplier required to prepare a plan pursuant to this part shall, at least 60 days before the public hearing on the plan required by Section 10642, notify any city or county within which the supplier provides water supplies that the urban water supplier will be reviewing the plan and considering amendments or changes to the plan. The urban water supplier may consult with, and obtain comments from, any city or county that receives notice pursuant to this subdivision.
- (c) The amendments to, or changes in, the plan shall be adopted and filed in the manner set forth in Article 3 (commencing with Section 10640).
- (d) Each urban water supplier shall update and submit its 2015 plan to the department by July 1, 2016.

Article 2. Contents of Plan

SECTION 10630-10634

10630. It is the intention of the Legislature, in enacting this part, to permit levels of water management planning commensurate with the numbers of customers served and the volume of water supplied.
10631. A plan shall be adopted in accordance with this chapter that shall do all of the following:
- (a) Describe the service area of the supplier, including current and projected population, climate, and other demographic factors affecting the supplier's water management planning. The projected population estimates shall be based upon data from the state, regional, or local service agency population projections within the service area of the urban water supplier and shall be in five-year increments to 20 years or as far as data is available.
 - (b) Identify and quantify, to the extent practicable, the existing and planned sources of water available to the supplier over the same five-year increments described in subdivision (a). If groundwater is identified as an existing or planned source of

water available to the supplier, all of the following information shall be included in the plan:

- (1) A copy of any groundwater management plan adopted by the urban water supplier, including plans adopted pursuant to Part 2.75 (commencing with Section 10750), or any other specific authorization for groundwater management.
 - (2) A description of any groundwater basin or basins from which the urban water supplier pumps groundwater. For basins that a court or the board has adjudicated the rights to pump groundwater, a copy of the order or decree adopted by the court or the board and a description of the amount of groundwater the urban water supplier has the legal right to pump under the order or decree. For basins that have not been adjudicated, information as to whether the department has identified the basin or basins as overdrafted or has projected that the basin will become overdrafted if present management conditions continue, in the most current official departmental bulletin that characterizes the condition of the groundwater basin, and a detailed description of the efforts being undertaken by the urban water supplier to eliminate the long-term overdraft condition.
 - (3) A detailed description and analysis of the location, amount, and sufficiency of groundwater pumped by the urban water supplier for the past five years. The description and analysis shall be based on information that is reasonably available, including, but not limited to, historic use records.
 - (4) A detailed description and analysis of the amount and location of groundwater that is projected to be pumped by the urban water supplier. The description and analysis shall be based on information that is reasonably available, including, but not limited to, historic use records.
- (c) (1) Describe the reliability of the water supply and vulnerability to seasonal or climatic shortage, to the extent practicable, and provide data for each of the following:
- (A) An average water year.
 - (B) A single-dry water year.
 - (C) Multiple-dry water years.
- (2) For any water source that may not be available at a consistent level of use, given specific legal, environmental, water quality, or climatic factors, describe plans to supplement or replace that source with alternative sources or water demand management measures, to the extent practicable.

- (d) Describe the opportunities for exchanges or transfers of water on a short-term or long-term basis.
- (e) (1) Quantify, to the extent records are available, past and current water use, over the same five-year increments described in subdivision (a), and projected water use, identifying the uses among water use sectors, including, but not necessarily limited to, all of the following uses:
 - (A) Single-family residential.
 - (B) Multifamily.
 - (C) Commercial.
 - (D) Industrial.
 - (E) Institutional and governmental.
 - (F) Landscape.
 - (G) Sales to other agencies.
 - (H) Saline water intrusion barriers, groundwater recharge, or conjunctive use, or any combination thereof.
 - (I) Agricultural.
 - (J) Distribution system water loss.
- (2) The water use projections shall be in the same five-year increments described in subdivision (a).
- (3) (A) For the 2015 urban water management plan update, the distribution system water loss shall be quantified for the most recent 12-month period available. For all subsequent updates, the distribution system water loss shall be quantified for each of the five years preceding the plan update.
 - (B) The distribution system water loss quantification shall be reported in accordance with a worksheet approved or developed by the department through a public process. The water loss quantification worksheet shall be based on the water system balance methodology developed by the American Water Works Association.
- (4) (A) If available and applicable to an urban water supplier, water use projections may display and account for the water savings estimated to result from adopted codes, standards, ordinances, or transportation and land use plans identified by the urban water supplier, as applicable to the service area.

- (B) To the extent that an urban water supplier reports the information described in subparagraph (A), an urban water supplier shall do both of the following:
 - (i) Provide citations of the various codes, standards, ordinances, or transportation and land use plans utilized in making the projections.
 - (ii) Indicate the extent that the water use projections consider savings from codes, standards, ordinances, or transportation and land use plans. Water use projections that do not account for these water savings shall be noted of that fact.
- (f) Provide a description of the supplier's water demand management measures. This description shall include all of the following:
 - (1) (A) For an urban retail water supplier, as defined in Section 10608.12, a narrative description that addresses the nature and extent of each water demand management measure implemented over the past five years. The narrative shall describe the water demand management measures that the supplier plans to implement to achieve its water use targets pursuant to Section 10608.20.
 - (B) The narrative pursuant to this paragraph shall include descriptions of the following water demand management measures:
 - (i) Water waste prevention ordinances.
 - (ii) Metering.
 - (iii) Conservation pricing.
 - (iv) Public education and outreach.
 - (v) Programs to assess and manage distribution system real loss.
 - (vi) Water conservation program coordination and staffing support.
 - (vii) Other demand management measures that have a significant impact on water use as measured in gallons per capita per day, including innovative measures, if implemented.
 - (2) For an urban wholesale water supplier, as defined in Section 10608.12, a narrative description of the items in clauses (ii), (iv), (vi), and (vii) of subparagraph (B) of paragraph (1), and a narrative description of its distribution system asset management and wholesale supplier assistance programs.
- (g) Include a description of all water supply projects and water supply programs that may be undertaken by the urban water supplier to meet the total projected water

use, as established pursuant to subdivision (a) of Section 10635. The urban water supplier shall include a detailed description of expected future projects and programs that the urban water supplier may implement to increase the amount of the water supply available to the urban water supplier in average, single-dry, and multiple-dry water years. The description shall identify specific projects and include a description of the increase in water supply that is expected to be available from each project. The description shall include an estimate with regard to the implementation timeline for each project or program.

- (h) Describe the opportunities for development of desalinated water, including, but not limited to, ocean water, brackish water, and groundwater, as a long-term supply.
- (i) For purposes of this part, urban water suppliers that are members of the California Urban Water Conservation Council shall be deemed in compliance with the requirements of subdivision (f) by complying with all the provisions of the "Memorandum of Understanding Regarding Urban Water Conservation in California," dated December 10, 2008, as it may be amended, and by submitting the annual reports required by Section 6.2 of that memorandum.
- (j) An urban water supplier that relies upon a wholesale agency for a source of water shall provide the wholesale agency with water use projections from that agency for that source of water in five-year increments to 20 years or as far as data is available. The wholesale agency shall provide information to the urban water supplier for inclusion in the urban water supplier's plan that identifies and quantifies, to the extent practicable, the existing and planned sources of water as required by subdivision (b), available from the wholesale agency to the urban water supplier over the same five-year increments, and during various water-year types in accordance with subdivision (c). An urban water supplier may rely upon water supply information provided by the wholesale agency in fulfilling the plan informational requirements of subdivisions (b) and (c).

- 10631.1. (a) The water use projections required by Section 10631 shall include projected water use for single-family and multifamily residential housing needed for lower income households, as defined in Section 50079.5 of the Health and Safety Code, as identified in the housing element of any city, county, or city and county in the service area of the supplier.
- (b) It is the intent of the Legislature that the identification of projected water use for single-family and multifamily residential housing for lower income households will assist a supplier in complying with the requirement under Section 65589.7 of the Government Code to grant a priority for the provision of service to housing units affordable to lower income households.

10631.2. (a) In addition to the requirements of Section 10631, an urban water management plan may, but is not required to, include any of the following information:

- (1) An estimate of the amount of energy used to extract or divert water supplies.
 - (2) An estimate of the amount of energy used to convey water supplies to the water treatment plants or distribution systems.
 - (3) An estimate of the amount of energy used to treat water supplies.
 - (4) An estimate of the amount of energy used to distribute water supplies through its distribution systems.
 - (5) An estimate of the amount of energy used for treated water supplies in comparison to the amount used for nontreated water supplies.
 - (6) An estimate of the amount of energy used to place water into or withdraw from storage.
 - (7) Any other energy-related information the urban water supplier deems appropriate.
- (b) The department shall include in its guidance for the preparation of urban water management plans a methodology for the voluntary calculation or estimation of the energy intensity of urban water systems. The department may consider studies and calculations conducted by the Public Utilities Commission in developing the methodology.

10631.5. (a) (1) Beginning January 1, 2009, the terms of, and eligibility for, a water management grant or loan made to an urban water supplier and awarded or administered by the department, state board, or California Bay-Delta Authority or its successor agency shall be conditioned on the implementation of the water demand management measures described in Section 10631, as determined by the department pursuant to subdivision (b).

- (2) For the purposes of this section, water management grants and loans include funding for programs and projects for surface water or groundwater storage, recycling, desalination, water conservation, water supply reliability, and water supply augmentation. This section does not apply to water management projects funded by the federal American Recovery and Reinvestment Act of 2009 (Public Law 111-5).
- (3) Notwithstanding paragraph (1), the department shall determine that an urban water supplier is eligible for a water management grant or loan even though the supplier is not implementing all of the water demand management measures described in Section 10631, if the urban water supplier has

submitted to the department for approval a schedule, financing plan, and budget, to be included in the grant or loan agreement, for implementation of the water demand management measures. The supplier may request grant or loan funds to implement the water demand management measures to the extent the request is consistent with the eligibility requirements applicable to the water management funds.

(4) (A) Notwithstanding paragraph (1), the department shall determine that an urban water supplier is eligible for a water management grant or loan even though the supplier is not implementing all of the water demand management measures described in Section 10631, if an urban water supplier submits to the department for approval documentation demonstrating that a water demand management measure is not locally cost effective. If the department determines that the documentation submitted by the urban water supplier fails to demonstrate that a water demand management measure is not locally cost effective, the department shall notify the urban water supplier and the agency administering the grant or loan program within 120 days that the documentation does not satisfy the requirements for an exemption, and include in that notification a detailed statement to support the determination.

(B) For purposes of this paragraph, "not locally cost effective" means that the present value of the local benefits of implementing a water demand management measure is less than the present value of the local costs of implementing that measure.

(b) (1) The department, in consultation with the state board and the California Bay-Delta Authority or its successor agency, and after soliciting public comment regarding eligibility requirements, shall develop eligibility requirements to implement the requirement of paragraph (1) of subdivision (a). In establishing these eligibility requirements, the department shall do both of the following:

(A) Consider the conservation measures described in the Memorandum of Understanding Regarding Urban Water Conservation in California, and alternative conservation approaches that provide equal or greater water savings.

(B) Recognize the different legal, technical, fiscal, and practical roles and responsibilities of wholesale water suppliers and retail water suppliers.

(2) (A) For the purposes of this section, the department shall determine whether an urban water supplier is implementing all of the water demand management measures described in Section 10631 based on either, or a combination, of the following:

- (i) Compliance on an individual basis.
 - (ii) Compliance on a regional basis. Regional compliance shall require participation in a regional conservation program consisting of two or more urban water suppliers that achieves the level of conservation or water efficiency savings equivalent to the amount of conservation or savings achieved if each of the participating urban water suppliers implemented the water demand management measures. The urban water supplier administering the regional program shall provide participating urban water suppliers and the department with data to demonstrate that the regional program is consistent with this clause. The department shall review the data to determine whether the urban water suppliers in the regional program are meeting the eligibility requirements.
- (B) The department may require additional information for any determination pursuant to this section.
- (3) The department shall not deny eligibility to an urban water supplier in compliance with the requirements of this section that is participating in a multiagency water project, or an integrated regional water management plan, developed pursuant to Section 75026 of the Public Resources Code, solely on the basis that one or more of the agencies participating in the project or plan is not implementing all of the water demand management measures described in Section 10631.
- (c) In establishing guidelines pursuant to the specific funding authorization for any water management grant or loan program subject to this section, the agency administering the grant or loan program shall include in the guidelines the eligibility requirements developed by the department pursuant to subdivision (b).
- (d) Upon receipt of a water management grant or loan application by an agency administering a grant and loan program subject to this section, the agency shall request an eligibility determination from the department with respect to the requirements of this section. The department shall respond to the request within 60 days of the request.
- (e) The urban water supplier may submit to the department copies of its annual reports and other relevant documents to assist the department in determining whether the urban water supplier is implementing or scheduling the implementation of water demand management activities. In addition, for urban water suppliers that are signatories to the Memorandum of Understanding Regarding Urban Water Conservation in California and submit biennial reports to the California Urban Water Conservation Council in accordance with the memorandum, the department may use these reports to assist in tracking the implementation of water demand management measures.

- (f) This section shall remain in effect only until July 1, 2016, and as of that date is repealed, unless a later enacted statute, that is enacted before July 1, 2016, deletes or extends that date.

10631.7. The department, in consultation with the California Urban Water Conservation Council, shall convene an independent technical panel to provide information and recommendations to the department and the Legislature on new demand management measures, technologies, and approaches. The panel shall consist of no more than seven members, who shall be selected by the department to reflect a balanced representation of experts. The panel shall have at least one, but no more than two, representatives from each of the following: retail water suppliers, environmental organizations, the business community, wholesale water suppliers, and academia. The panel shall be convened by January 1, 2009, and shall report to the Legislature no later than January 1, 2010, and every five years thereafter. The department shall review the panel report and include in the final report to the Legislature the department's recommendations and comments regarding the panel process and the panel's recommendations.

10632. (a) The plan shall provide an urban water shortage contingency analysis that includes each of the following elements that are within the authority of the urban water supplier:
- (1) Stages of action to be undertaken by the urban water supplier in response to water supply shortages, including up to a 50 percent reduction in water supply, and an outline of specific water supply conditions that are applicable to each stage.
 - (2) An estimate of the minimum water supply available during each of the next three water years based on the driest three-year historic sequence for the agency's water supply.
 - (3) Actions to be undertaken by the urban water supplier to prepare for, and implement during, a catastrophic interruption of water supplies including, but not limited to, a regional power outage, an earthquake, or other disaster.
 - (4) Additional, mandatory prohibitions against specific water use practices during water shortages, including, but not limited to, prohibiting the use of potable water for street cleaning.
 - (5) Consumption reduction methods in the most restrictive stages. Each urban water supplier may use any type of consumption reduction methods in its water shortage contingency analysis that would reduce water use, are

appropriate for its area, and have the ability to achieve a water use reduction consistent with up to a 50 percent reduction in water supply.

- (6) Penalties or charges for excessive use, where applicable.
 - (7) An analysis of the impacts of each of the actions and conditions described in paragraphs (1) to (6), inclusive, on the revenues and expenditures of the urban water supplier, and proposed measures to overcome those impacts, such as the development of reserves and rate adjustments.
 - (8) A draft water shortage contingency resolution or ordinance.
 - (9) A mechanism for determining actual reductions in water use pursuant to the urban water shortage contingency analysis.
- (b) Commencing with the urban water management plan update due July 1, 2016, for purposes of developing the water shortage contingency analysis pursuant to subdivision (a), the urban water supplier shall analyze and define water features that are artificially supplied with water, including ponds, lakes, waterfalls, and fountains, separately from swimming pools and spas, as defined in subdivision (a) of Section 115921 of the Health and Safety Code.

10633. The plan shall provide, to the extent available, information on recycled water and its potential for use as a water source in the service area of the urban water supplier. The preparation of the plan shall be coordinated with local water, wastewater, groundwater, and planning agencies that operate within the supplier's service area, and shall include all of the following:

- (a) A description of the wastewater collection and treatment systems in the supplier's service area, including a quantification of the amount of wastewater collected and treated and the methods of wastewater disposal.
- (b) A description of the quantity of treated wastewater that meets recycled water standards, is being discharged, and is otherwise available for use in a recycled water project.
- (c) A description of the recycled water currently being used in the supplier's service area, including, but not limited to, the type, place, and quantity of use.
- (d) A description and quantification of the potential uses of recycled water, including, but not limited to, agricultural irrigation, landscape irrigation, wildlife habitat enhancement, wetlands, industrial reuse, groundwater recharge, indirect potable reuse, and other appropriate uses, and a determination with regard to the technical and economic feasibility of serving those uses.

- (e) The projected use of recycled water within the supplier's service area at the end of 5, 10, 15, and 20 years, and a description of the actual use of recycled water in comparison to uses previously projected pursuant to this subdivision.
- (f) A description of actions, including financial incentives, which may be taken to encourage the use of recycled water, and the projected results of these actions in terms of acre-feet of recycled water used per year.
- (g) A plan for optimizing the use of recycled water in the supplier's service area, including actions to facilitate the installation of dual distribution systems, to promote recirculating uses, to facilitate the increased use of treated wastewater that meets recycled water standards, and to overcome any obstacles to achieving that increased use.

10634. The plan shall include information, to the extent practicable, relating to the quality of existing sources of water available to the supplier over the same five-year increments as described in subdivision (a) of Section 10631, and the manner in which water quality affects water management strategies and supply reliability.

Article 2.5. Water Service Reliability

SECTION 10635

10635. (a) Every urban water supplier shall include, as part of its urban water management plan, an assessment of the reliability of its water service to its customers during normal, dry, and multiple dry water years. This water supply and demand assessment shall compare the total water supply sources available to the water supplier with the total projected water use over the next 20 years, in five-year increments, for a normal water year, a single dry water year, and multiple dry water years. The water service reliability assessment shall be based upon the information compiled pursuant to Section 10631, including available data from state, regional, or local agency population projections within the service area of the urban water supplier.
- (b) The urban water supplier shall provide that portion of its urban water management plan prepared pursuant to this article to any city or county within which it provides water supplies no later than 60 days after the submission of its urban water management plan.
- (c) Nothing in this article is intended to create a right or entitlement to water service or any specific level of water service.

- (d) Nothing in this article is intended to change existing law concerning an urban water supplier's obligation to provide water service to its existing customers or to any potential future customers.

Article 3. Adoption and Implementation of Plans

SECTION 10640-10645

10640. Every urban water supplier required to prepare a plan pursuant to this part shall prepare its plan pursuant to Article 2 (commencing with Section 10630). The supplier shall likewise periodically review the plan as required by Section 10621, and any amendments or changes required as a result of that review shall be adopted pursuant to this article.

10641. An urban water supplier required to prepare a plan may consult with, and obtain comments from, any public agency or state agency or any person who has special expertise with respect to water demand management methods and techniques.

10642. Each urban water supplier shall encourage the active involvement of diverse social, cultural, and economic elements of the population within the service area prior to and during the preparation of the plan. Prior to adopting a plan, the urban water supplier shall make the plan available for public inspection and shall hold a public hearing thereon. Prior to the hearing, notice of the time and place of hearing shall be published within the jurisdiction of the publicly owned water supplier pursuant to Section 6066 of the Government Code. The urban water supplier shall provide notice of the time and place of hearing to any city or county within which the supplier provides water supplies. A privately owned water supplier shall provide an equivalent notice within its service area.

After the hearing, the plan shall be adopted as prepared or as modified after the hearing.

10643. An urban water supplier shall implement its plan adopted pursuant to this chapter in accordance with the schedule set forth in its plan.

10644. (a) (1) An urban water supplier shall submit to the department, the California State Library, and any city or county within which the supplier provides water supplies a copy of its plan no later than 30 days after adoption. Copies of amendments or changes to the plans shall be submitted to the department, the California State Library, and any city or county within which the supplier provides water supplies within 30 days after adoption.

(2) The plan, or amendments to the plan, submitted to the department pursuant to paragraph (1) shall be submitted electronically and shall include any standardized forms, tables, or displays specified by the department.

- (b) (1) Notwithstanding Section 10231.5 of the Government Code, the department shall prepare and submit to the Legislature, on or before December 31, in the years ending in six and one, a report summarizing the status of the plans adopted pursuant to this part.

The report prepared by the department shall identify the exemplary elements of the individual plans. The department shall provide a copy of the report to each urban water supplier that has submitted its plan to the department. The department shall also prepare reports and provide data for any legislative hearings designed to consider the effectiveness of plans submitted pursuant to this part.

- (2) A report to be submitted pursuant to paragraph (1) shall be submitted in compliance with Section 9795 of the Government Code.

- (c) (1) For the purpose of identifying the exemplary elements of the individual plans, the department shall identify in the report water demand management measures adopted and implemented by specific urban water suppliers, and identified pursuant to Section 10631, that achieve water savings significantly above the levels established by the department to meet the requirements of Section 10631.5.

- (2) The department shall distribute to the panel convened pursuant to Section 10631.7 the results achieved by the implementation of those water demand management measures described in paragraph (1).

- (3) The department shall make available to the public the standard the department will use to identify exemplary water demand management measures.

10645. Not later than 30 days after filing a copy of its plan with the department, the urban water supplier and the department shall make the plan available for public review during normal business hours.

Chapter 4. Miscellaneous Provisions

SECTION 10650-10656

10650. Any actions or proceedings to attack, review, set aside, void, or annul the acts or decisions of an urban water supplier on the grounds of noncompliance with this part shall be commenced as follows:

- (a) An action or proceeding alleging failure to adopt a plan shall be commenced within 18 months after that adoption is required by this part.

- (b) Any action or proceeding alleging that a plan, or action taken pursuant to the plan, does not comply with this part shall be commenced within 90 days after filing of the plan or amendment thereto pursuant to Section 10644 or the taking of that action.
10651. In any action or proceeding to attack, review, set aside, void, or annul a plan, or an action taken pursuant to the plan by an urban water supplier on the grounds of noncompliance with this part, the inquiry shall extend only to whether there was a prejudicial abuse of discretion. Abuse of discretion is established if the supplier has not proceeded in a manner required by law or if the action by the water supplier is not supported by substantial evidence.
10652. The California Environmental Quality Act (Division 13 (commencing with Section 21000) of the Public Resources Code) does not apply to the preparation and adoption of plans pursuant to this part or to the implementation of actions taken pursuant to Section 10632. Nothing in this part shall be interpreted as exempting from the California Environmental Quality Act any project that would significantly affect water supplies for fish and wildlife, or any project for implementation of the plan, other than projects implementing Section 10632, or any project for expanded or additional water supplies.
10653. The adoption of a plan shall satisfy any requirements of state law, regulation, or order, including those of the State Water Resources Control Board and the Public Utilities Commission, for the preparation of water management plans or conservation plans; provided, that if the State Water Resources Control Board or the Public Utilities Commission requires additional information concerning water conservation to implement its existing authority, nothing in this part shall be deemed to limit the board or the commission in obtaining that information. The requirements of this part shall be satisfied by any urban water demand management plan prepared to meet federal laws or regulations after the effective date of this part, and which substantially meets the requirements of this part, or by any existing urban water management plan which includes the contents of a plan required under this part.
10654. An urban water supplier may recover in its rates the costs incurred in preparing its plan and implementing the reasonable water conservation measures included in the plan. Any best water management practice that is included in the plan that is identified in the "Memorandum of Understanding Regarding Urban Water Conservation in California" is deemed to be reasonable for the purposes of this section.
10655. If any provision of this part or the application thereof to any person or circumstances is held invalid, that invalidity shall not affect other provisions or applications of this part which can be given effect without the invalid provision or application thereof, and to this end the provisions of this part are severable.
10656. An urban water supplier that does not prepare, adopt, and submit its urban water management plan to the department in accordance with this part, is ineligible to receive funding pursuant to Division 24 (commencing with Section 78500) or Division 26

***Appendix A - Urban Water Management Planning Act and
Applicable Sections of the California Water Conservation Act***

(commencing with Section 79000), or receive drought assistance from the state until the urban water management plan is submitted pursuant to this article.

California Water Code Division 6, Part 2.55.

Chapter 1. General Declarations and Policy	§10608-10608.8
Chapter 2. Definitions	§10608.12
Chapter 3. Urban Retail Water Suppliers	§10608.16-10608.44
Chapter 4. Agricultural Water Suppliers	§10608.48
Chapter 5. Sustainable Water Management	§10608.50
Chapter 6 Standardized Data Collection	§10608.52
Chapter 7 Funding Provisions	§10608.56-10608.60
Chapter 8 Quantifying Agricultural Water Use Efficiency	§10608.64

Chapter 1. General Declarations and Policy

SECTION 10608-10608.8

10608. The Legislature finds and declares all of the following:

- (a) Water is a public resource that the California Constitution protects against waste and unreasonable use.
- (b) Growing population, climate change, and the need to protect and grow California's economy while protecting and restoring our fish and wildlife habitats make it essential that the state manage its water resources as efficiently as possible.
- (c) Diverse regional water supply portfolios will increase water supply reliability and reduce dependence on the Delta.
- (d) Reduced water use through conservation provides significant energy and environmental benefits, and can help protect water quality, improve streamflows, and reduce greenhouse gas emissions.
- (e) The success of state and local water conservation programs to increase efficiency of water use is best determined on the basis of measurable outcomes related to water use or efficiency.
- (f) Improvements in technology and management practices offer the potential for increasing water efficiency in California over time, providing an essential water management tool to meet the need for water for urban, agricultural, and environmental uses.
- (g) The Governor has called for a 20 percent per capita reduction in urban water use statewide by 2020.
- (h) The factors used to formulate water use efficiency targets can vary significantly from location to location based on factors including weather, patterns of urban and suburban development, and past efforts to enhance water use efficiency.

- (i) Per capita water use is a valid measure of a water provider's efforts to reduce urban water use within its service area. However, per capita water use is less useful for measuring relative water use efficiency between different water providers. Differences in weather, historical patterns of urban and suburban development, and density of housing in a particular location need to be considered when assessing per capita water use as a measure of efficiency.

10608.4. It is the intent of the Legislature, by the enactment of this part, to do all of the following:

- (a) Require all water suppliers to increase the efficiency of use of this essential resource.
- (b) Establish a framework to meet the state targets for urban water conservation identified in this part and called for by the Governor.
- (c) Measure increased efficiency of urban water use on a per capita basis.
- (d) Establish a method or methods for urban retail water suppliers to determine targets for achieving increased water use efficiency by the year 2020, in accordance with the Governor's goal of a 20-percent reduction.
- (e) Establish consistent water use efficiency planning and implementation standards for urban water suppliers and agricultural water suppliers.
- (f) Promote urban water conservation standards that are consistent with the California Urban Water Conservation Council's adopted best management practices and the requirements for demand management in Section 10631.
- (g) Establish standards that recognize and provide credit to water suppliers that made substantial capital investments in urban water conservation since the drought of the early 1990s.
- (h) Recognize and account for the investment of urban retail water suppliers in providing recycled water for beneficial uses.
- (i) Require implementation of specified efficient water management practices for agricultural water suppliers.
- (j) Support the economic productivity of California's agricultural, commercial, and industrial sectors.
- (k) Advance regional water resources management.

- 10608.8. (a) (1) Water use efficiency measures adopted and implemented pursuant to this part or Part 2.8 (commencing with Section 10800) are water conservation measures subject to the protections provided under Section 1011.
- (2) Because an urban agency is not required to meet its urban water use target until 2020 pursuant to subdivision (b) of Section 10608.24, an urban retail water supplier's failure to meet those targets shall not establish a violation of law for purposes of any state administrative or judicial proceeding prior to

January 1, 2021. Nothing in this paragraph limits the use of data reported to the department or the board in litigation or an administrative proceeding. This paragraph shall become inoperative on January 1, 2021.

- (3) To the extent feasible, the department and the board shall provide for the use of water conservation reports required under this part to meet the requirements of Section 1011 for water conservation reporting.
- (b) This part does not limit or otherwise affect the application of Chapter 3.5 (commencing with Section 11340), Chapter 4 (commencing with Section 11370), Chapter 4.5 (commencing with Section 11400), and Chapter 5 (commencing with Section 11500) of Part 1 of Division 3 of Title 2 of the Government Code.
- (c) This part does not require a reduction in the total water used in the agricultural or urban sectors, because other factors, including, but not limited to, changes in agricultural economics or population growth may have greater effects on water use. This part does not limit the economic productivity of California's agricultural, commercial, or industrial sectors.
- (d) The requirements of this part do not apply to an agricultural water supplier that is a party to the Quantification Settlement Agreement, as defined in subdivision (a) of Section 1 of Chapter 617 of the Statutes of 2002, during the period within which the Quantification Settlement Agreement remains in effect. After the expiration of the Quantification Settlement Agreement, to the extent conservation water projects implemented as part of the Quantification Settlement Agreement remain in effect, the conserved water created as part of those projects shall be credited against the obligations of the agricultural water supplier pursuant to this part.

Chapter 2 Definitions

SECTION 10608.12

10608.12. Unless the context otherwise requires, the following definitions govern the construction of this part:

- (a) "Agricultural water supplier" means a water supplier, either publicly or privately owned, providing water to 10,000 or more irrigated acres, excluding recycled water. "Agricultural water supplier" includes a supplier or contractor for water, regardless of the basis of right, that distributes or sells water for ultimate resale to customers. "Agricultural water supplier" does not include the department.
- (b) "Base daily per capita water use" means any of the following:
 - (1) The urban retail water supplier's estimate of its average gross water use, reported in gallons per capita per day and calculated over a continuous 10-year period ending no earlier than December 31, 2004, and no later than December 31, 2010.

- (2) For an urban retail water supplier that meets at least 10 percent of its 2008 measured retail water demand through recycled water that is delivered within the service area of an urban retail water supplier or its urban wholesale water supplier, the urban retail water supplier may extend the calculation described in paragraph (1) up to an additional five years to a maximum of a continuous 15-year period ending no earlier than December 31, 2004, and no later than December 31, 2010.
- (3) For the purposes of Section 10608.22, the urban retail water supplier's estimate of its average gross water use, reported in gallons per capita per day and calculated over a continuous five-year period ending no earlier than December 31, 2007, and no later than December 31, 2010.
- (c) "Baseline commercial, industrial, and institutional water use" means an urban retail water supplier's base daily per capita water use for commercial, industrial, and institutional users.
- (d) "Commercial water user" means a water user that provides or distributes a product or service.
- (e) "Compliance daily per capita water use" means the gross water use during the final year of the reporting period, reported in gallons per capita per day.
- (f) "Disadvantaged community" means a community with an annual median household income that is less than 80 percent of the statewide annual median household income.
- (g) "Gross water use" means the total volume of water, whether treated or untreated, entering the distribution system of an urban retail water supplier, excluding all of the following:
 - (1) Recycled water that is delivered within the service area of an urban retail water supplier or its urban wholesale water supplier.
 - (2) The net volume of water that the urban retail water supplier places into long-term storage.
 - (3) The volume of water the urban retail water supplier conveys for use by another urban water supplier.
 - (4) The volume of water delivered for agricultural use, except as otherwise provided in subdivision (f) of Section 10608.24.
- (h) "Industrial water user" means a water user that is primarily a manufacturer or processor of materials as defined by the North American Industry Classification System code sectors 31 to 33, inclusive, or an entity that is a water user primarily engaged in research and development.
- (i) "Institutional water user" means a water user dedicated to public service. This type of user includes, among other users, higher education institutions, schools, courts, churches, hospitals, government facilities, and nonprofit research institutions.

- (j) "Interim urban water use target" means the midpoint between the urban retail water supplier's base daily per capita water use and the urban retail water supplier's urban water use target for 2020.
- (k) "Locally cost effective" means that the present value of the local benefits of implementing an agricultural efficiency water management practice is greater than or equal to the present value of the local cost of implementing that measure.
- (l) "Process water" means water used for producing a product or product content or water used for research and development, including, but not limited to, continuous manufacturing processes, water used for testing and maintaining equipment used in producing a product or product content, and water used in combined heat and power facilities used in producing a product or product content. Process water does not mean incidental water uses not related to the production of a product or product content, including, but not limited to, water used for restrooms, landscaping, air conditioning, heating, kitchens, and laundry.
- (m) "Recycled water" means recycled water, as defined in subdivision (n) of Section 13050, that is used to offset potable demand, including recycled water supplied for direct use and indirect potable reuse, that meets the following requirements, where applicable:
 - (1) For groundwater recharge, including recharge through spreading basins, water supplies that are all of the following:
 - (A) Metered.
 - (B) Developed through planned investment by the urban water supplier or a wastewater treatment agency.
 - (C) Treated to a minimum tertiary level.
 - (D) Delivered within the service area of an urban retail water supplier or its urban wholesale water supplier that helps an urban retail water supplier meet its urban water use target.
 - (2) For reservoir augmentation, water supplies that meet the criteria of paragraph (1) and are conveyed through a distribution system constructed specifically for recycled water.
- (n) "Regional water resources management" means sources of supply resulting from watershed-based planning for sustainable local water reliability or any of the following alternative sources of water:
 - (1) The capture and reuse of stormwater or rainwater.
 - (2) The use of recycled water.
 - (3) The desalination of brackish groundwater.

- (4) The conjunctive use of surface water and groundwater in a manner that is consistent with the safe yield of the groundwater basin.
- (o) "Reporting period" means the years for which an urban retail water supplier reports compliance with the urban water use targets.
- (p) "Urban retail water supplier" means a water supplier, either publicly or privately owned, that directly provides potable municipal water to more than 3,000 end users or that supplies more than 3,000 acre-feet of potable water annually at retail for municipal purposes.
- (q) "Urban water use target" means the urban retail water supplier's targeted future daily per capita water use.
- (r) "Urban wholesale water supplier," means a water supplier, either publicly or privately owned, that provides more than 3,000 acre-feet of water annually at wholesale for potable municipal purposes.

Chapter 3 Urban Retail Water Suppliers

SECTION 10608.16-10608.44

10608.16.(a) The state shall achieve a 20-percent reduction in urban per capita water use in California on or before December 31, 2020.

- (b) The state shall make incremental progress towards the state target specified in subdivision (a) by reducing urban per capita water use by at least 10 percent on or before December 31, 2015.

10608.20.(a) (1) Each urban retail water supplier shall develop urban water use targets and an interim urban water use target by July 1, 2011. Urban retail water suppliers may elect to determine and report progress toward achieving these targets on an individual or regional basis, as provided in subdivision (a) of Section 10608.28, and may determine the targets on a fiscal year or calendar year basis.

- (2) It is the intent of the Legislature that the urban water use targets described in paragraph (1) cumulatively result in a 20-percent reduction from the baseline daily per capita water use by December 31, 2020.

- (b) An urban retail water supplier shall adopt one of the following methods for determining its urban water use target pursuant to subdivision (a):

- (1) Eighty percent of the urban retail water supplier's baseline per capita daily water use.

- (2) The per capita daily water use that is estimated using the sum of the following performance standards:

- (A) For indoor residential water use, 55 gallons per capita daily water use as a provisional standard. Upon completion of the department's 2016 report to the Legislature pursuant to Section 10608.42, this standard may be adjusted by the Legislature by statute.
 - (B) For landscape irrigated through dedicated or residential meters or connections, water efficiency equivalent to the standards of the Model Water Efficient Landscape Ordinance set forth in Chapter 2.7 (commencing with Section 490) of Division 2 of Title 23 of the California Code of Regulations, as in effect the later of the year of the landscape's installation or 1992. An urban retail water supplier using the approach specified in this subparagraph shall use satellite imagery, site visits, or other best available technology to develop an accurate estimate of landscaped areas.
 - (C) For commercial, industrial, and institutional uses, a 10-percent reduction in water use from the baseline commercial, industrial, and institutional water use by 2020.
- (3) Ninety-five percent of the applicable state hydrologic region target, as set forth in the state's draft 20x2020 Water Conservation Plan (dated April 30, 2009). If the service area of an urban water supplier includes more than one hydrologic region, the supplier shall apportion its service area to each region based on population or area.
- (4) A method that shall be identified and developed by the department, through a public process, and reported to the Legislature no later than December 31, 2010. The method developed by the department shall identify per capita targets that cumulatively result in a statewide 20-percent reduction in urban daily per capita water use by December 31, 2020. In developing urban daily per capita water use targets, the department shall do all of the following:
- (A) Consider climatic differences within the state.
 - (B) Consider population density differences within the state.
 - (C) Provide flexibility to communities and regions in meeting the targets.
 - (D) Consider different levels of per capita water use according to plant water needs in different regions.
 - (E) Consider different levels of commercial, industrial, and institutional water use in different regions of the state.
 - (F) Avoid placing an undue hardship on communities that have implemented conservation measures or taken actions to keep per capita water use low.
- (c) If the department adopts a regulation pursuant to paragraph (4) of subdivision (b) that results in a requirement that an urban retail water supplier achieve a reduction in daily per capita water use that is greater than 20 percent by December 31, 2020, an urban retail water supplier that adopted the method

described in paragraph (4) of subdivision (b) may limit its urban water use target to a reduction of not more than 20 percent by December 31, 2020, by adopting the method described in paragraph (1) of subdivision (b).

- (d) The department shall update the method described in paragraph (4) of subdivision (b) and report to the Legislature by December 31, 2014. An urban retail water supplier that adopted the method described in paragraph (4) of subdivision (b) may adopt a new urban daily per capita water use target pursuant to this updated method.
- (e) An urban retail water supplier shall include in its urban water management plan due in 2010 pursuant to Part 2.6 (commencing with Section 10610) the baseline daily per capita water use, urban water use target, interim urban water use target, and compliance daily per capita water use, along with the bases for determining those estimates, including references to supporting data.
- (f) When calculating per capita values for the purposes of this chapter, an urban retail water supplier shall determine population using federal, state, and local population reports and projections.
- (g) An urban retail water supplier may update its 2020 urban water use target in its 2015 urban water management plan required pursuant to Part 2.6 (commencing with Section 10610).
- (h) (1) The department, through a public process and in consultation with the California Urban Water Conservation Council, shall develop technical methodologies and criteria for the consistent implementation of this part, including, but not limited to, both of the following:
 - (A) Methodologies for calculating base daily per capita water use, baseline commercial, industrial, and institutional water use, compliance daily per capita water use, gross water use, service area population, indoor residential water use, and landscaped area water use.
 - (B) Criteria for adjustments pursuant to subdivisions (d) and (e) of Section 10608.24.
- (2) The department shall post the methodologies and criteria developed pursuant to this subdivision on its Internet Web site, and make written copies available, by October 1, 2010. An urban retail water supplier shall use the methods developed by the department in compliance with this part.
- (i) (1) The department shall adopt regulations for implementation of the provisions relating to process water in accordance with subdivision (l) of Section 10608.12, subdivision (e) of Section 10608.24, and subdivision (d) of Section 10608.26.
- (2) The initial adoption of a regulation authorized by this subdivision is deemed to address an emergency, for purposes of Sections 11346.1 and 11349.6 of the Government Code, and the department is hereby exempted for that purpose from the requirements of subdivision (b) of Section 11346.1 of the

Government Code. After the initial adoption of an emergency regulation pursuant to this subdivision, the department shall not request approval from the Office of Administrative Law to readopt the regulation as an emergency regulation pursuant to Section 11346.1 of the Government Code.

- (j) (1) An urban retail water supplier is granted an extension to July 1, 2011, for adoption of an urban water management plan pursuant to Part 2.6 (commencing with Section 10610) due in 2010 to allow the use of technical methodologies developed by the department pursuant to paragraph (4) of subdivision (b) and subdivision (h). An urban retail water supplier that adopts an urban water management plan due in 2010 that does not use the methodologies developed by the department pursuant to subdivision (h) shall amend the plan by July 1, 2011, to comply with this part.
- (2) An urban wholesale water supplier whose urban water management plan prepared pursuant to Part 2.6 (commencing with Section 10610) was due and not submitted in 2010 is granted an extension to July 1, 2011, to permit coordination between an urban wholesale water supplier and urban retail water suppliers.

10608.22. Notwithstanding the method adopted by an urban retail water supplier pursuant to Section 10608.20, an urban retail water supplier's per capita daily water use reduction shall be no less than 5 percent of base daily per capita water use as defined in paragraph(3) of subdivision (b) of Section 10608.12. This section does not apply to an urban retail water supplier with a base daily per capita water use at or below 100 gallons per capita per day.

10608.24.(a) Each urban retail water supplier shall meet its interim urban water use target by December 31, 2015.

(b) Each urban retail water supplier shall meet its urban water use target by December 31, 2020.

(c) An urban retail water supplier's compliance daily per capita water use shall be the measure of progress toward achievement of its urban water use target.

(d) (1) When determining compliance daily per capita water use, an urban retail water supplier may consider the following factors:

- (A) Differences in evapotranspiration and rainfall in the baseline period compared to the compliance reporting period.
- (B) Substantial changes to commercial or industrial water use resulting from increased business output and economic development that have occurred during the reporting period.
- (C) Substantial changes to institutional water use resulting from fire suppression services or other extraordinary events, or from new or expanded operations, that have occurred during the reporting period.

(2) If the urban retail water supplier elects to adjust its estimate of compliance daily per capita water use due to one or more of the factors described in

paragraph (1), it shall provide the basis for, and data supporting, the adjustment in the report required by Section 10608.40.

- (e) When developing the urban water use target pursuant to Section 10608.20, an urban retail water supplier that has a substantial percentage of industrial water use in its service area may exclude process water from the calculation of gross water use to avoid a disproportionate burden on another customer sector.
- (f) (1) An urban retail water supplier that includes agricultural water use in an urban water management plan pursuant to Part 2.6 (commencing with Section 10610) may include the agricultural water use in determining gross water use. An urban retail water supplier that includes agricultural water use in determining gross water use and develops its urban water use target pursuant to paragraph (2) of subdivision (b) of Section 10608.20 shall use a water efficient standard for agricultural irrigation of 100 percent of reference evapotranspiration multiplied by the crop coefficient for irrigated acres.
- (2) An urban retail water supplier, that is also an agricultural water supplier, is not subject to the requirements of Chapter 4 (commencing with Section 10608.48), if the agricultural water use is incorporated into its urban water use target pursuant to paragraph (1).

10608.26.(a) In complying with this part, an urban retail water supplier shall conduct at least one public hearing to accomplish all of the following:

- (1) Allow community input regarding the urban retail water supplier's implementation plan for complying with this part.
 - (2) Consider the economic impacts of the urban retail water supplier's implementation plan for complying with this part.
 - (3) Adopt a method, pursuant to subdivision (b) of Section 10608.20, for determining its urban water use target.
- (b) In complying with this part, an urban retail water supplier may meet its urban water use target through efficiency improvements in any combination among its customer sectors. An urban retail water supplier shall avoid placing a disproportionate burden on any customer sector.
- (c) For an urban retail water supplier that supplies water to a United States Department of Defense military installation, the urban retail water supplier's implementation plan for complying with this part shall consider the conservation of that military installation under federal Executive Order 13514.
- (d) (1) Any ordinance or resolution adopted by an urban retail water supplier after the effective date of this section shall not require existing customers as of the effective date of this section, to undertake changes in product formulation, operations, or equipment that would reduce process water use, but may provide technical assistance and financial incentives to those customers to implement efficiency measures for process water. This section shall not limit

an ordinance or resolution adopted pursuant to a declaration of drought emergency by an urban retail water supplier.

- (2) This part shall not be construed or enforced so as to interfere with the requirements of Chapter 4 (commencing with Section 113980) to Chapter 13 (commencing with Section 114380), inclusive, of Part 7 of Division 104 of the Health and Safety Code, or any requirement or standard for the protection of public health, public safety, or worker safety established by federal, state, or local government or recommended by recognized standard setting organizations or trade associations.

10608.28.(a) An urban retail water supplier may meet its urban water use target within its retail service area, or through mutual agreement, by any of the following:

- (1) Through an urban wholesale water supplier.
 - (2) Through a regional agency authorized to plan and implement water conservation, including, but not limited to, an agency established under the Bay Area Water Supply and Conservation Agency Act (Division 31 (commencing with Section 81300)).
 - (3) Through a regional water management group as defined in Section 10537.
 - (4) By an integrated regional water management funding area.
 - (5) By hydrologic region.
 - (6) Through other appropriate geographic scales for which computation methods have been developed by the department.
- (b) A regional water management group, with the written consent of its member agencies, may undertake any or all planning, reporting, and implementation functions under this chapter for the member agencies that consent to those activities. Any data or reports shall provide information both for the regional water management group and separately for each consenting urban retail water supplier and urban wholesale water supplier.

10608.32. All costs incurred pursuant to this part by a water utility regulated by the Public Utilities Commission may be recoverable in rates subject to review and approval by the Public Utilities Commission, and may be recorded in a memorandum account and reviewed for reasonableness by the Public Utilities Commission.

10608.36. Urban wholesale water suppliers shall include in the urban water management plans required pursuant to Part 2.6 (commencing with Section 10610) an assessment of their present and proposed future measures, programs, and policies to help achieve the water use reductions required by this part.

10608.40. Urban water retail suppliers shall report to the department on their progress in meeting their urban water use targets as part of their urban water management plans

submitted pursuant to Section 10631. The data shall be reported using a standardized form developed pursuant to Section 10608.52.

10608.42.(a) The department shall review the 2015 urban water management plans and report to the Legislature by July 1, 2017, on progress towards achieving a 20-percent reduction in urban water use by December 31, 2020. The report shall include recommendations on changes to water efficiency standards or urban water use targets to achieve the 20-percent reduction and to reflect updated efficiency information and technology changes.

(b) A report to be submitted pursuant to subdivision (a) shall be submitted in compliance with Section 9795 of the Government Code.

10608.43. The department, in conjunction with the California Urban Water Conservation Council, by April 1, 2010, shall convene a representative task force consisting of academic experts, urban retail water suppliers, environmental organizations, commercial water users, industrial water users, and institutional water users to develop alternative best management practices for commercial, industrial, and institutional users and an assessment of the potential statewide water use efficiency improvement in the commercial, industrial, and institutional sectors that would result from implementation of these best management practices. The taskforce, in conjunction with the department, shall submit a report to the Legislature by April 1, 2012, that shall include a review of multiple sectors within commercial, industrial, and institutional users and that shall recommend water use efficiency standards for commercial, industrial, and institutional users among various sectors of water use. The report shall include, but not be limited to, the following:

- (a) Appropriate metrics for evaluating commercial, industrial, and institutional water use.
- (b) Evaluation of water demands for manufacturing processes, goods, and cooling.
- (c) Evaluation of public infrastructure necessary for delivery of recycled water to the commercial, industrial, and institutional sectors.
- (d) Evaluation of institutional and economic barriers to increased recycled water use within the commercial, industrial, and institutional sectors.
- (e) Identification of technical feasibility and cost of the best management practices to achieve more efficient water use statewide in the commercial, industrial, and institutional sectors that is consistent with the public interest and reflects past investments in water use efficiency.

10608.44. Each state agency shall reduce water use at facilities it operates to support urban retail water suppliers in meeting the target identified in Section 10608.16.

Chapter 4 Agricultural Water Suppliers

SECTION 10608.48

10608.48.(a) On or before July 31, 2012, an agricultural water supplier shall implement efficient water management practices pursuant to subdivisions (b) and (c).

(b) Agricultural water suppliers shall implement all of the following critical efficient management practices:

(1) Measure the volume of water delivered to customers with sufficient accuracy to comply with subdivision (a) of Section 531.10 and to implement paragraph (2).

(2) Adopt a pricing structure for water customers based at least in part on quantity delivered.

(c) Agricultural water suppliers shall implement additional efficient management practices, including, but not limited to, practices to accomplish all of the following, if the measures are locally cost effective and technically feasible:

(1) Facilitate alternative land use for lands with exceptionally high water duties or whose irrigation contributes to significant problems, including drainage.

(2) Facilitate use of available recycled water that otherwise would not be used beneficially, meets all health and safety criteria, and does not harm crops or soils.

(3) Facilitate the financing of capital improvements for on-farm irrigation systems.

(4) Implement an incentive pricing structure that promotes one or more of the following goals:

(A) More efficient water use at the farm level.

(B) Conjunctive use of groundwater.

(C) Appropriate increase of groundwater recharge.

(D) Reduction in problem drainage.

(E) Improved management of environmental resources.

(F) Effective management of all water sources throughout the year by adjusting seasonal pricing structures based on current conditions.

(5) Expand line or pipe distribution systems, and construct regulatory reservoirs to increase distribution system flexibility and capacity, decrease maintenance, and reduce seepage.

- (6) Increase flexibility in water ordering by, and delivery to, water customers within operational limits.
 - (7) Construct and operate supplier spill and tailwater recovery systems.
 - (8) Increase planned conjunctive use of surface water and groundwater within the supplier service area.
 - (9) Automate canal control structures.
 - (10) Facilitate or promote customer pump testing and evaluation.
 - (11) Designate a water conservation coordinator who will develop and implement the water management plan and prepare progress reports.
 - (12) Provide for the availability of water management services to water users. These services may include, but are not limited to, all of the following:
 - (A) On-farm irrigation and drainage system evaluations.
 - (B) Normal year and real-time irrigation scheduling and crop evapotranspiration information.
 - (C) Surface water, groundwater, and drainage water quantity and quality data.
 - (D) Agricultural water management educational programs and materials for farmers, staff, and the public.
 - (13) Evaluate the policies of agencies that provide the supplier with water to identify the potential for institutional changes to allow more flexible water deliveries and storage.
 - (14) Evaluate and improve the efficiencies of the supplier's pumps.
- (d) Agricultural water suppliers shall include in the agricultural water management plans required pursuant to Part 2.8 (commencing with Section 10800) a report on which efficient water management practices have been implemented and are planned to be implemented, an estimate of the water use efficiency improvements that have occurred since the last report, and an estimate of the water use efficiency improvements estimated to occur five and 10 years in the future. If an agricultural water supplier determines that an efficient water management practice is not locally cost effective or technically feasible, the supplier shall submit information documenting that determination.
- (e) The data shall be reported using a standardized form developed pursuant to Section 10608.52.
- (f) An agricultural water supplier may meet the requirements of subdivisions (d) and (e) by submitting to the department a water conservation plan submitted to the United States Bureau of Reclamation that meets the requirements described in Section 10828.

- (g) On or before December 31, 2013, December 31, 2016, and December 31, 2021, the department, in consultation with the board, shall submit to the Legislature a report on the agricultural efficient water management practices that have been implemented and are planned to be implemented and an assessment of the manner in which the implementation of those efficient water management practices has affected and will affect agricultural operations, including estimated water use efficiency improvements, if any.
- (h) The department may update the efficient water management practices required pursuant to subdivision (c), in consultation with the Agricultural Water Management Council, the United States Bureau of Reclamation, and the board. All efficient water management practices for agricultural water use pursuant to this chapter shall be adopted or revised by the department only after the department conducts public hearings to allow participation of the diverse geographical areas and interests of the state.
- (i)
 - (1) The department shall adopt regulations that provide for a range of options that agricultural water suppliers may use or implement to comply with the measurement requirement in paragraph (1) of subdivision (b).
 - (2) The initial adoption of a regulation authorized by this subdivision is deemed to address an emergency, for purposes of Sections 11346.1 and 11349.6 of the Government Code, and the department is hereby exempted for that purpose from the requirements of subdivision (b) of Section 11346.1 of the Government Code. After the initial adoption of an emergency regulation pursuant to this subdivision, the department shall not request approval from the Office of Administrative Law to readopt the regulation as an emergency regulation pursuant to Section 11346.1 of the Government Code.

Chapter 5 Sustainable Water Management

Section 10608.50

- 10608.50.(a) The department, in consultation with the board, shall promote implementation of regional water resources management practices through increased incentives and removal of barriers consistent with state and federal law. Potential changes may include, but are not limited to, all of the following:
- (1) Revisions to the requirements for urban and agricultural water management plans.
 - (2) Revisions to the requirements for integrated regional water management plans.
 - (3) Revisions to the eligibility for state water management grants and loans.

- (4) Revisions to state or local permitting requirements that increase water supply opportunities, but do not weaken water quality protection under state and federal law.
- (5) Increased funding for research, feasibility studies, and project construction.
- (6) Expanding technical and educational support for local land use and water management agencies.
- (b) No later than January 1, 2011, and updated as part of the California Water Plan, the department, in consultation with the board, and with public input, shall propose new statewide targets, or review and update existing statewide targets, for regional water resources management practices, including, but not limited to, recycled water, brackish groundwater desalination, and infiltration and direct use of urban stormwater runoff.

Chapter 6 Standardized Data Collection

SECTION 10608.52

- 10608.52.(a) The department, in consultation with the board, the California Bay-Delta Authority or its successor agency, the State Department of Public Health, and the Public Utilities Commission, shall develop a single standardized water use reporting form to meet the water use information needs of each agency, including the needs of urban water suppliers that elect to determine and report progress toward achieving targets on a regional basis as provided in subdivision (a) of Section 10608.28.
- (b) At a minimum, the form shall be developed to accommodate information sufficient to assess an urban water supplier's compliance with conservation targets pursuant to Section 10608.24 and an agricultural water supplier's compliance with implementation of efficient water management practices pursuant to subdivision (a) of Section 10608.48. The form shall accommodate reporting by urban water suppliers on an individual or regional basis as provided in subdivision (a) of Section 10608.28.

Chapter 7 Funding Provisions

Section 10608.56-10608.60

- 10608.56.(a) On and after July 1, 2016, an urban retail water supplier is not eligible for a water grant or loan awarded or administered by the state unless the supplier complies with this part.
- (b) On and after July 1, 2013, an agricultural water supplier is not eligible for a water grant or loan awarded or administered by the state unless the supplier complies with this part.

- (c) Notwithstanding subdivision (a), the department shall determine that an urban retail water supplier is eligible for a water grant or loan even though the supplier has not met the per capita reductions required pursuant to Section 10608.24, if the urban retail water supplier has submitted to the department for approval a schedule, financing plan, and budget, to be included in the grant or loan agreement, for achieving the per capita reductions. The supplier may request grant or loan funds to achieve the per capita reductions to the extent the request is consistent with the eligibility requirements applicable to the water funds.
 - (d) Notwithstanding subdivision (b), the department shall determine that an agricultural water supplier is eligible for a water grant or loan even though the supplier is not implementing all of the efficient water management practices described in Section 10608.48, if the agricultural water supplier has submitted to the department for approval a schedule, financing plan, and budget, to be included in the grant or loan agreement, for implementation of the efficient water management practices. The supplier may request grant or loan funds to implement the efficient water management practices to the extent the request is consistent with the eligibility requirements applicable to the water funds.
 - (e) Notwithstanding subdivision (a), the department shall determine that an urban retail water supplier is eligible for a water grant or loan even though the supplier has not met the per capita reductions required pursuant to Section 10608.24, if the urban retail water supplier has submitted to the department for approval documentation demonstrating that its entire service area qualifies as a disadvantaged community.
 - (f) The department shall not deny eligibility to an urban retail water supplier or agricultural water supplier in compliance with the requirements of this part and Part 2.8 (commencing with Section 10800), that is participating in a multiagency water project, or an integrated regional water management plan, developed pursuant to Section 75026 of the Public Resources Code, solely on the basis that one or more of the agencies participating in the project or plan is not implementing all of the requirements of this part or Part 2.8 (commencing with Section 10800).
- 10608.60.(a) It is the intent of the Legislature that funds made available by Section 75026 of the Public Resources Code should be expended, consistent with Division 43 (commencing with Section 75001) of the Public Resources Code and upon appropriation by the Legislature, for grants to implement this part. In the allocation of funding, it is the intent of the Legislature that the department give consideration to disadvantaged communities to assist in implementing the requirements of this part.
- (b) It is the intent of the Legislature that funds made available by Section 75041 of the Public Resources Code, should be expended, consistent with Division 43 (commencing with Section 75001) of the Public Resources Code and upon appropriation by the Legislature, for direct expenditures to implement this part.

Chapter 8 Quantifying Agricultural Water Use Efficiency

SECTION 10608.64

10608.64. The department, in consultation with the Agricultural Water Management Council, academic experts, and other stakeholders, shall develop a methodology for quantifying the efficiency of agricultural water use. Alternatives to be assessed shall include, but not be limited to, determination of efficiency levels based on crop type or irrigation system distribution uniformity. On or before December 31, 2011, the department shall report to the Legislature on a proposed methodology and a plan for implementation. The plan shall include the estimated implementation costs and the types of data needed to support the methodology. Nothing in this section authorizes the department to implement a methodology established pursuant to this section.

APPENDIX B

2015 UWMP CHECKLIST

Checklist Arranged by Water Code Section

CWC Section	UWMP Requirement	Subject	Guidebook Location	UWMP Location (Optional Column for Agency Use)
10608.20(b)	Retail suppliers shall adopt a 2020 water use target using one of four methods.	Baselines and Targets	Section 5.7 and App E	Section VIII.E.
10608.20(e)	Retail suppliers shall provide baseline daily per capita water use, urban water use target, interim urban water use target, and compliance daily per capita water use, along with the bases for determining those estimates, including references to supporting data.	Baselines and Targets	Chapter 5 and App E	Section VIII
10608.22	Retail suppliers' per capita daily water use reduction shall be no less than 5 percent of base daily per capita water use of the 5 year baseline. This does not apply if the suppliers base GPCD is at or below 100.	Baselines and Targets	Section 5.7.2	Section VIII.G.
10608.24(a)	Retail suppliers shall meet their interim target by December 31, 2015.	Baselines and Targets	Section 5.8 and App E	Section VIII and Appendix J
10608.24(d)(2)	If the retail supplier adjusts its compliance GPCD using weather normalization, economic adjustment, or extraordinary events, it shall provide the basis for, and data supporting the adjustment.	Baselines and Targets	Section 5.8.2	Not Applicable
10608.26(a)	Retail suppliers shall conduct a public hearing to discuss adoption, implementation, and economic impact of water use targets.	Plan Adoption, Submittal, and Implementation	Section 10.3	Appendix C
10608.36	Wholesale suppliers shall include an assessment of present and proposed future measures, programs, and policies to help their retail water suppliers achieve targeted water use reductions.	Baselines and Targets	Section 5.1	Not Applicable
10608.40	Retail suppliers shall report on their progress in meeting their water use targets. The data shall be reported using a standardized form.	Baselines and Targets	Section 5.8 and App E	Appendix J
10620(b)	Every person that becomes an urban water supplier shall adopt an urban water management plan within one year after it has become an urban water supplier.	Plan Preparation	Section 2.1	Section I.A.1.
10620(d)(2)	Coordinate the preparation of its plan with other appropriate agencies in the area, including other water suppliers that share a common source, water management agencies, and relevant public agencies, to the extent practicable.	Plan Preparation	Section 2.5.2	Section I.B.1.

10620(f)	Describe water management tools and options to maximize resources and minimize the need to import water from other regions.	Water Supply Reliability Assessment	Section 7.4	Section I.C.4. and Section III
10621(b)	Notify, at least 60 days prior to the public hearing, any city or county within which the supplier provides water that the urban water supplier will be reviewing the plan and considering amendments or changes to the plan.	Plan Adoption, Submittal, and Implementation	Section 10.2.1	Appendix C
10621(d)	Each urban water supplier shall update and submit its 2015 plan to the department by July 1, 2016.	Plan Adoption, Submittal, and Implementation	Sections 10.3.1 and 10.4	Appendix C
10631(a)	Describe the water supplier service area.	System Description	Section 3.1	Section I.C.
10631(a)	Describe the climate of the service area of the supplier.	System Description	Section 3.3	Section I.C.3.
10631(a)	Indicate the current population of the service area.	System Description and Baselines and Targets	Sections 3.4 and 5.4	Section I.C.2.
10631(a)	Provide population projections for 2020, 2025, 2030, and 2035.	System Description	Section 3.4	Section I.C.2.
10631(a)	Describe other demographic factors affecting the supplier's water management planning.	System Description	Section 3.4	Section I.C.2.
10631(b)	Identify and quantify the existing and planned sources of water available for 2015, 2020, 2025, 2030, and 2035.	System Supplies	Chapter 6	Section II
10631(b)	Indicate whether groundwater is an existing or planned source of water available to the supplier.	System Supplies	Section 6.2	Section II.B.
10631(b)(1)	Indicate whether a groundwater management plan has been adopted by the water supplier or if there is any other specific authorization for groundwater management. Include a copy of the plan or authorization.	System Supplies	Section 6.2.2	Section II.B.2.
10631(b)(2)	Describe the groundwater basin.	System Supplies	Section 6.2.1	Section II.B.
10631(b)(2)	Indicate if the basin has been adjudicated and include a copy of the court order or decree and a description of the amount of water the supplier has the legal right to pump.	System Supplies	Section 6.2.2	Section II.B.
10631(b)(2)	For unadjudicated basins, indicate whether or not the department has identified the basin as overdrafted, or projected to become overdrafted. Describe efforts by the supplier to eliminate the long-term overdraft condition.	System Supplies	Section 6.2.3	Section II.B.
10631(b)(3)	Provide a detailed description and analysis of the location, amount, and sufficiency of	System Supplies	Section 6.2.4	Section II.B.3.

	groundwater pumped by the urban water supplier for the past five years			
10631(b)(4)	Provide a detailed description and analysis of the amount and location of groundwater that is projected to be pumped.	System Supplies	Sections 6.2 and 6.9	Section II.B.3.
10631(c)(1)	Describe the reliability of the water supply and vulnerability to seasonal or climatic shortage.	Water Supply Reliability Assessment	Section 7.1	Section III
10631(c)(1)	Provide data for an average water year, a single dry water year, and multiple dry water years	Water Supply Reliability Assessment	Section 7.2	Section III.F.
10631(c)(2)	For any water source that may not be available at a consistent level of use, describe plans to supplement or replace that source.	Water Supply Reliability Assessment	Section 7.1	Section III.H.1.
10631(d)	Describe the opportunities for exchanges or transfers of water on a short-term or long-term basis.	System Supplies	Section 6.7	Section III.H.
10631(e)(1)	Quantify past, current, and projected water use, identifying the uses among water use sectors.	System Water Use	Section 4.2	Section IV.A.
10631(e)(3)(A)	Report the distribution system water loss for the most recent 12-month period available.	System Water Use	Section 4.3	Section IV.A.
10631(f)(1)	Retail suppliers shall provide a description of the nature and extent of each demand management measure implemented over the past five years. The description will address specific measures listed in code.	Demand Management Measures	Sections 9.2 and 9.3	Section V.
10631(f)(2)	Wholesale suppliers shall describe specific demand management measures listed in code, their distribution system asset management program, and supplier assistance program.	Demand Management Measures	Sections 9.1 and 9.3	Not Applicable
10631(g)	Describe the expected future water supply projects and programs that may be undertaken by the water supplier to address water supply reliability in average, single-dry, and multiple-dry years.	System Supplies	Section 6.8	Section V.
10631(h)	Describe desalinated water project opportunities for long-term supply.	System Supplies	Section 6.6	Section IV.C.
10631(i)	CUWCC members may submit their 2013-2014 CUWCC BMP annual reports in lieu of, or in addition to, describing the DMM implementation in their UWMPs. This option is only allowable if the supplier has been found to be in full compliance with the CUWCC MOU.	Demand Management Measures	Section 9.5	Not Applicable
10631(j)	Retail suppliers will include documentation that they have provided their wholesale supplier(s) – if any - with water use	System Supplies	Section 2.5.1	Not Applicable

	projections from that source.			
10631(j)	Wholesale suppliers will include documentation that they have provided their urban water suppliers with identification and quantification of the existing and planned sources of water available from the wholesale to the urban supplier during various water year types.	System Supplies	Section 2.5.1	Not Applicable
10631.1(a)	Include projected water use needed for lower income housing projected in the service area of the supplier.	System Water Use	Section 4.5	Section IV.E.
10632(a) and 10632(a)(1)	Provide an urban water shortage contingency analysis that specifies stages of action and an outline of specific water supply conditions at each stage.	Water Shortage Contingency Planning	Section 8.1	Section VI.
10632(a)(2)	Provide an estimate of the minimum water supply available during each of the next three water years based on the driest three-year historic sequence for the agency.	Water Shortage Contingency Planning	Section 8.9	Section III.F.
10632(a)(3)	Identify actions to be undertaken by the urban water supplier in case of a catastrophic interruption of water supplies.	Water Shortage Contingency Planning	Section 8.8	Section VI.D.
10632(a)(4)	Identify mandatory prohibitions against specific water use practices during water shortages.	Water Shortage Contingency Planning	Section 8.2	Section VI.E.
10632(a)(5)	Specify consumption reduction methods in the most restrictive stages.	Water Shortage Contingency Planning	Section 8.4	Section VI.E.
10632(a)(6)	Indicated penalties or charges for excessive use, where applicable.	Water Shortage Contingency Planning	Section 8.3	Section VI.E.2.
10632(a)(7)	Provide an analysis of the impacts of each of the actions and conditions in the water shortage contingency analysis on the revenues and expenditures of the urban water supplier, and proposed measures to overcome those impacts.	Water Shortage Contingency Planning	Section 8.6	Section VI.F.
10632(a)(8)	Provide a draft water shortage contingency resolution or ordinance.	Water Shortage Contingency Planning	Section 8.7	Appendix H
10632(a)(9)	Indicate a mechanism for determining actual reductions in water use pursuant to the water shortage contingency analysis.	Water Shortage Contingency Planning	Section 8.5	Section VI.G.
10633	For wastewater and recycled water, coordinate with local water, wastewater, groundwater, and planning agencies that operate within the supplier's service area.	System Supplies (Recycled Water)	Section 6.5.1	Section I.B.
10633(a)	Describe the wastewater collection and treatment systems in the supplier's service area. Include quantification of the amount of	System Supplies (Recycled Water)	Section 6.5.2	Section II.D.

	wastewater collected and treated and the methods of wastewater disposal.			
10633(b)	Describe the quantity of treated wastewater that meets recycled water standards, is being discharged, and is otherwise available for use in a recycled water project.	System Supplies (Recycled Water)	Section 6.5.2.2	Section II.D.2.
10633(c)	Describe the recycled water currently being used in the supplier's service area.	System Supplies (Recycled Water)	Section 6.5.3 and 6.5.4	Section II.D.5.
10633(d)	Describe and quantify the potential uses of recycled water and provide a determination of the technical and economic feasibility of those uses.	System Supplies (Recycled Water)	Section 6.5.4	Section II.D.
10633(e)	Describe the projected use of recycled water within the supplier's service area at the end of 5, 10, 15, and 20 years, and a description of the actual use of recycled water in comparison to uses previously projected.	System Supplies (Recycled Water)	Section 6.5.4	Section II.D.5.
10633(f)	Describe the actions which may be taken to encourage the use of recycled water and the projected results of these actions in terms of acre-feet of recycled water used per year.	System Supplies (Recycled Water)	Section 6.5.5	Section II.D.8.
10633(g)	Provide a plan for optimizing the use of recycled water in the supplier's service area.	System Supplies (Recycled Water)	Section 6.5.5	Section II.D.10.
10634	Provide information on the quality of existing sources of water available to the supplier and the manner in which water quality affects water management strategies and supply reliability	Water Supply Reliability Assessment	Section 7.1	Section III.G.
10635(a)	Assess the water supply reliability during normal, dry, and multiple dry water years by comparing the total water supply sources available to the water supplier with the total projected water use over the next 20 years.	Water Supply Reliability Assessment	Section 7.3	Section VII
10635(b)	Provide supporting documentation that Water Shortage Contingency Plan has been, or will be, provided to any city or county within which it provides water, no later than 60 days after the submission of the plan to DWR.	Plan Adoption, Submittal, and Implementation	Section 10.4.4	Section I.B.
10642	Provide supporting documentation that the water supplier has encouraged active involvement of diverse social, cultural, and economic elements of the population within the service area prior to and during the preparation of the plan.	Plan Preparation	Section 2.5.2	Section I.A.
10642	Provide supporting documentation that the urban water supplier made the plan available for public inspection, published notice of the public hearing, and held a public hearing	Plan Adoption, Submittal, and Implementation	Sections 10.2.2, 10.3, and 10.5	Appendix C

	about the plan.			
10642	The water supplier is to provide the time and place of the hearing to any city or county within which the supplier provides water.	Plan Adoption, Submittal, and Implementation	Sections 10.2.1	Appendix C
10642	Provide supporting documentation that the plan has been adopted as prepared or modified.	Plan Adoption, Submittal, and Implementation	Section 10.3.1	Appendix D
10644(a)	Provide supporting documentation that the urban water supplier has submitted this UWMP to the California State Library.	Plan Adoption, Submittal, and Implementation	Section 10.4.3	Appendix C
10644(a)(1)	Provide supporting documentation that the urban water supplier has submitted this UWMP to any city or county within which the supplier provides water no later than 30 days after adoption.	Plan Adoption, Submittal, and Implementation	Section 10.4.4	Appendix C
10644(a)(2)	The plan, or amendments to the plan, submitted to the department shall be submitted electronically.	Plan Adoption, Submittal, and Implementation	Sections 10.4.1 and 10.4.2	Appendix C
10645	Provide supporting documentation that, not later than 30 days after filing a copy of its plan with the department, the supplier has or will make the plan available for public review during normal business hours.	Plan Adoption, Submittal, and Implementation	Section 10.5	Section I.B.

APPENDIX C

DOCUMENTATION OF UWMP REVIEW AND AGENCY COORDINATION



**NOTICE OF PUBLIC HEARING
ON PROPOSED URBAN WATER MANAGEMENT PLAN UPDATE
DESERT WATER AGENCY**

Notice is hereby given that the Desert Water Agency is revising its Urban Water Management Plan to comply with the current requirements of the Urban Water Management Planning Act.

The public hearing will take place a minimum of 60 days from the date of this notice at 1200 Gene Autry Trail South, Palm Springs, during a meeting of the Agency's Board of Directors. An additional public notice will be issued 30 days prior stating the specific date and time of the public hearing.

All interested parties are invited to attend the public hearing, and be heard in support of or in opposition to, the proposed plan, or may submit written comments to the Agency.

A draft copy of Desert Water Agency's "2015 Urban Water Management Plan" will be made available at least 30 days prior to the public hearing at the office of Desert Water Agency, 1200 Gene Autry Trail South, Palm Springs, California and online at www.dwa.org/uwmp.

Dated: February 29, 2016

Mark Krause
General Manager
Desert Water Agency

Victoria Morrell

From: Ashley Hudgens <AHudgens@dwa.org>
Sent: Monday, February 29, 2016 2:47 PM
To: Victoria Morrell
Subject: RE: UWMP 60-Day Notice
Attachments: Signed UWMP notice.pdf

Posted in our lobby, sent to:

City of Palm Springs – Marcus Fuller, Asst. City Manager

City of Cathedral City – John Corella, City Engineer

County of Riverside - Steve Weiss, Planning Director

County of Riverside – Juan Perez, TLMA Director

Coachella Valley Water District – Patti Reyes, Special Projects Manager

Best,

Ashley Hudgens
760-323-4971 x184

From: Victoria Morrell [<mailto:vmorrell@kriegerandstewart.com>]
Sent: Monday, February 29, 2016 11:49 AM
To: Ashley Hudgens
Subject: RE: UWMP 60-Day Notice

Hi Ashley,

Thanks for the update! Please send me a copy of the signed notice and a list of those that the notice is being sent to.

Thanks,
Victoria

From: Ashley Hudgens [<mailto:AHudgens@dwa.org>]
Sent: Monday, February 29, 2016 11:44 AM
To: Victoria Morrell
Subject: RE: UWMP 60-Day Notice

This is going out today.

Ashley Hudgens
760-323-4971 x184



**NOTICE OF PUBLIC HEARING
ON URBAN WATER MANAGEMENT PLAN UPDATE
DESERT WATER AGENCY**

Notice is hereby given that the Desert Water Agency's draft Urban Water Management Plan to comply with the current requirements of the Urban Water Management Planning Act, is available.

The public hearing to adopt the plan will take place on Tuesday, June 28, 2016 at 8:00 a.m. at 1200 Gene Autry Trail South, Palm Springs, during a special meeting of the Agency's Board of Directors.

All interested parties are invited to attend the public hearing, and be heard in support of or in opposition to, the proposed plan, and may submit written comments to the Agency at or before the hearing.

A draft copy of Desert Water Agency's "2015 Urban Water Management Plan" is available at the office of Desert Water Agency, 1200 Gene Autry Trail South, Palm Springs, California and by request via email to ametzger@dwa.org.

Dated: June 3, 2016

A handwritten signature in black ink, reading "Mark A. Krause", written over a horizontal line.

Mark Krause
General Manager
Desert Water Agency

Proof of Publication
In Newspaper
STATE OF CALIFORNIA
County of Riverside

1. I am a citizen of the United States, a resident of the City of La Quinta, County of Riverside, State of California, and over the age of 18 years.

2. I am the Administrator of Production of The Public Record, a newspaper of general circulation printed and published in the City of Palm Springs, County of Riverside, State of California. Said The Public Record is a newspaper of general circulation as that term is defined in Government Code section 6000, its status as such having been established by judicial decree of the Superior Court of the State of California in and for the County of Riverside in Proceeding No. Indio 49271, dated March 31, 1987, entered in Judgment Book No. 129, page 355, on March 31, 1987.

3. The Public Record is a newspaper of general circulation ascertained and established in the City of Palm Springs in the County of Riverside, State of California, Case No. RIC 358286, Filed June 8, 2001.

4. The notice, of which the annexed is a true printed copy was published in the newspaper on the following publication dates to with:

June 16, 2016

June 23, 2016

I Certify under penalty of perjury that the above is true and correct.

Dated at La Quinta, California, this
23rd Day of June 2016.

Dina Rivera

Digitally signed by Dina Rivera
DN: cn=Dina Rivera, o=The Public Record, ou,
email=admin@desertpublicrecord.com, c=US
Date: 2016.06.21 15:47:23 -0700

The Public Record
Administration

Admin@desertpublicrecord.com

UWMP

NOTICE OF PUBLIC HEARING ON URBAN WATER MANAGEMENT PLAN UPDATE DESERT WATER AGENCY Notice is hereby given that the Desert Water Agency's draft Urban Water Management Plan to comply with the current requirements of the Urban Water Management Planning Act, is available. The public hearing to adopt the plan will take place on Tuesday, June 28, 2016 at 8:00 a.m. at 1200 Gene Autry Trail South, Palm Springs, during a special meeting of the Agency's Board of Directors. All interested parties are invited to attend the public hearing, and be heard in support of or in opposition to, the proposed plan, and may submit written comments to the Agency at or before the hearing. A draft copy of Desert Water Agency's "2015 Urban Water Management Plan" is available at the office of Desert Water Agency, 1200 Gene Autry Trail South, Palm Springs, California and by request via email to ametzger@dwa.org. Dated: June 3, 2016 Mark Krause, General Manager Published: 06/16/16, 06/23/16 TPR16-5132



**NOTICE OF PUBLIC HEARING
ON URBAN WATER MANAGEMENT PLAN UPDATE
DESERT WATER AGENCY**

Notice is hereby given that the Desert Water Agency will be reviewing and considering amendments to its Urban Water Management Plan to comply with the current requirements of the Urban Water Management Planning Act.

The public hearing to adopt an updated plan will take place on Tuesday, July 7, 2020 at 8:00 a.m. during a regular meeting of the Agency's Board of Directors. The location of the meeting is to be determined given public gathering restrictions in place due to COVID-19. Meeting information is available on the Agency's website (www.dwa.org) or by calling 760-323-4971.

Once completed, the draft plan will be available at www.dwa.org/UWMP. We will also email you when the draft is available.

All interested parties are invited to attend the public hearing, and be heard in support of or in opposition to, the proposed plan, and may submit written comments to the Agency at or before the hearing.

Dated: May 5, 2020

A handwritten signature in blue ink that reads "Mark S. Krause". The signature is written in a cursive style and is positioned above a horizontal line.

Mark S. Krause
General Manager
Desert Water Agency

Victoria Morrell

From: Ashley Metzger <AMetzger@dwa.org>
Sent: Tuesday, May 05, 2020 4:11 PM
To: Victoria Morrell
Subject: FW: Desert Water Agency - Urban Water Management Plan UPDATE
Attachments: UWMP 2015 UPDATE public hearing notice.pdf

60-day notice went out today.

Best,

Ashley

From: Ashley Metzger
Sent: Tuesday, May 05, 2020 4:10 PM
Cc: 'Steve Johnson (SJohnson@dwa.org)' <SJohnson@dwa.org>
Subject: Desert Water Agency - Urban Water Management Plan UPDATE

Hello,

I am reaching out to let you know that Desert Water Agency is updating its 2015 Urban Water Management Plan due to feedback we received from the Department of Water Resources.

I will email you the updated draft within the coming weeks.

The public hearing is planned for our regularly scheduled Board of Directors meeting on July 7, 2020.

Stay well,

Ashley Metzger
Outreach & Conservation Manager
760-323-4971 x 184
www.dwa.org



Proof of Publication
In Newspaper
STATE OF CALIFORNIA
County of Riverside

1. I am a citizen of the United States, a resident of the City of La Quinta, County of Riverside, State of California, and over the age of 18 years.

2. I am the Administrator of Production of The Public Record, a newspaper of general circulation printed and published in the City of Palm Springs, County of Riverside, State of California. Said The Public Record is a newspaper of general circulation as that term is defined in Government Code section 6000, its status as such having been established by judicial decree of the Superior Court of the State of California in and for the County of Riverside in Proceeding No. Indio 49271, dated March 31, 1987, entered in Judgment Book No. 129, page 355, on March 31, 1987.

3. The Public Record is a newspaper of general circulation ascertained and established in the City of Palm Springs in the County of Riverside, State of California.

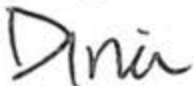
4. The notice, of which the annexed is a true printed copy was published in the newspaper on the following publication dates to with:

June 23, 2020

June 30, 2020

I Certify under penalty of perjury that the above is true and correct.

30th Day of June 2020.



The Public Record
Administration

Admin@desertpublicrecord.com

NOTICE OF PUBLIC HEARING ON URBAN WATER MANAGEMENT PLAN UPDATE DESERT WATER AGENCY Notice is hereby given that Desert Water Agency's draft Urban Water Management Plan to comply with the current requirements of the Urban Water Management Planning Act, is available. The public hearing to adopt the plan will take place on Tuesday, July 7, 2020 at 8:00 a.m. at a regular meeting of the Agency's Board of Directors. Pursuant to Executive Order N-29-20, due to the COVID-19 crisis, the regular meeting and public hearing will be held remotely. All interested parties are invited to attend the public hearing by phone, and be heard in support of or in opposition to, the proposed plan, and may submit written comments to the Agency at or before the hearing. To join the meeting, please dial (Toll Free): 1 (866) 899-4679 and use Access Code: 941-163-725. A draft copy of Desert Water Agency's "Updated 2015 Urban Water Management Plan" is available on www.dwa.org or by request via email to ametzger@dwa.org. Dated: June 23, 2020 Mark Krause General Manager June 23, 2020 TPR20-1452

####

Victoria Morrell

From: Ashley Metzger <AMetzger@dwa.org>
Sent: Monday, July 13, 2020 2:45 PM
To: Marcus Fuller
Cc: Steve Johnson
Subject: Updated 2015 UWMP - Desert Water Agency

Hi Marcus,

Desert Water Agency's Board of Directors adopted the Updated 2015 Urban Water Management Plan on Tuesday, July 7.

[Here is a link to the updated plan.](#)

We are in the midst of working on the 2020 Urban Water Management and will keep you informed as we near adoption. Please let us know if you have any questions.

Thank you,

Ashley Metzger
Desert Water Agency
760-323-4971 ext 184

Victoria Morrell

From: Ashley Metzger <AMetzger@dwa.org>
Sent: Monday, July 13, 2020 2:46 PM
To: JCorella@cathedralcity.gov
Cc: Steve Johnson
Subject: Updated 2015 UWMP - Desert Water Agency

Hi John,

Desert Water Agency's Board of Directors adopted the Updated 2015 Urban Water Management Plan on Tuesday, July 7.

[Here is a link to the updated plan.](#)

We are in the midst of working on the 2020 Urban Water Management and will keep you informed as we near adoption. Please let us know if you have any questions.

Thank you,

Ashley Metzger
Desert Water Agency
760-323-4971 ext 184

Victoria Morrell

From: Ashley Metzger <AMetzger@dwa.org>
Sent: Monday, July 13, 2020 2:48 PM
To: rklaaren@rivco.org; Planning@rivco.org
Cc: Steve Johnson
Subject: Updated 2015 UWMP - Desert Water Agency

Hello Mr. Klaarenbeek,

Desert Water Agency's Board of Directors adopted the Updated 2015 Urban Water Management Plan on Tuesday, July 7.

[Here is a link to the updated plan.](#)

We are in the midst of working on the 2020 Urban Water Management and will keep you informed as we near adoption. Please let us know if you have any questions.

Thank you,

Ashley Metzger
Desert Water Agency
760-323-4971 ext 184

APPENDIX D

COPIES OF MOTIONS ADOPTING
2015 UWMP AND AMENDED 2015 UWMP



I, Sylvia Baca, Assistant Secretary of the Board of Directors of Desert Water Agency, hereby certify that the following is a true and correct copy of a motion adopted by the Board of Directors of Desert Water Agency at a Special Meeting of the Board conducted on June 28, 2016:

7-A. 2015 Urban Water Management Plan

Upon a motion by Director Ewing, seconded by Vice President Stuart, the Board of Directors adopted the 2015 Urban Water Management Plan upon the following vote:

AYES: DIRECTORS: EWING, OYGAR, BLOOMER, STUART, CIOFFI

NOES: DIRECTORS: NONE

ABSTAIN: DIRECTORS: NONE

ABSENT: DIRECTORS: NONE

A handwritten signature in cursive script that reads "Sylvia Baca".

Sylvia Baca
Assistant Secretary of the Board

DESERT WATER



I, Sylvia Baca, Assistant Secretary of the Board of Directors of Desert Water Agency, hereby certify that the following is a true and correct copy of a motion adopted by the Board of Directors of Desert Water Agency at a Regular Meeting of the Board conducted on July 7, 2020:

Director Oygar made a motion to adopt the Updated 2015 Urban Water Management Plan. After a second by Secretary-Treasurer Ewing, the motion carried by the following roll call vote:

AYES: Cioffi, Oygar, Ewing, Bloomer, Stuart

NOES: None

ABSENT: None

ABSTAIN: None

STATE OF CALIFORNIA)
COUNTY OF RIVERSIDE) SS.
CITY OF PALM SPRINGS)

I, Sylvia Baca, Assistant Secretary of the Board of Directors of Desert Water Agency do hereby certify that the foregoing is a true, full and correct copy of the minute entry on record in this office.

IN WITNESS THEREOF, dated this 13th day of July, 2020.

Sylvia Baca
Assistant Secretary of the Board

APPENDIX E

2015 UWMP STANDARDIZED TABLES

Table 2-1 Retail Only: Public Water Systems			
Public Water System Number	Public Water System Name	Number of Municipal Connections 2015	Volume of Water Supplied 2015
CA3310005	Desert Water Agency	22,082	26,796
TOTAL		22,082	26,796
NOTES:			

Table 2-2: Plan Identification		
Select Only One	Type of Plan	Name of RUWMP or Regional Alliance <i>if applicable</i> <i>drop down list</i>
<input checked="" type="checkbox"/>	Individual UWMP	
	<input type="checkbox"/> Water Supplier is also a member of a RUWMP	
	<input type="checkbox"/> Water Supplier is also a member of a Regional Alliance	
<input type="checkbox"/>	Regional Urban Water Management Plan (RUWMP)	
NOTES:		

Table 2-3: Agency Identification	
Type of Agency (select one or both)	
<input type="checkbox"/>	Agency is a wholesaler
<input checked="" type="checkbox"/>	Agency is a retailer
Fiscal or Calendar Year (select one)	
<input checked="" type="checkbox"/>	UWMP Tables Are in Calendar Years
<input type="checkbox"/>	UWMP Tables Are in Fiscal Years
If Using Fiscal Years Provide Month and Date that the Fiscal Year Begins (mm/dd)	
Units of Measure Used in UWMP (select from Drop down)	
Unit	AF
NOTES:	

Table 2-4 Retail: Water Supplier Information Exchange
The retail supplier has informed the following wholesale supplier(s) of projected water use in accordance with CWC 10631.
Wholesale Water Supplier Name <i>(Add additional rows as needed)</i>
NOTES:

Table 3-1 Retail: Population - Current and Projected

Population Served	2015	2020	2025	2030	2035	2040(opt)
	88,517	91,748	96,326	99,628	100,479	102,166

NOTES: Refer to Section I.C.2 of the 2015 UWMP for details about population calculations.

Table 4-1 Retail: Demands for Potable and Raw Water - Actual

Use Type (Add additional rows as needed)	2015 Actual		
Drop down list <i>May select each use multiple times These are the only Use Types that will be recognized by the WUEdata online submittal tool</i>	Additional Description (as needed)	Level of Treatment When Delivered <i>Drop down list</i>	Volume
Single Family		Drinking Water	17,800
Commercial		Drinking Water	7,700
Institutional/Governmental		Drinking Water	1,200
Losses		Drinking Water	2,391
TOTAL			29,091
NOTES:			

Table 4-2 Retail: Demands for Potable and Raw Water - Projected

Use Type <i>(Add additional rows as needed)</i>	Additional Description <i>(as needed)</i>	Projected Water Use <i>Report To the Extent that Records are Available</i>				
<i><u>Drop down list</u></i> <i>May select each use multiple times</i> <i>These are the only Use Types that will be recognized by the WUEdata online submittal tool</i>		2020	2025	2030	2035	2040-opt
Single Family		23,900	25,100	25,900	26,200	26,600
Commercial		10,300	10,800	11,200	11,300	11,500
Institutional/Governmental		1,600	1,700	1,800	1,800	1,800
Losses		2,070	2,166	2,268	2,370	2,460
TOTAL		37,870	39,766	41,168	41,670	42,360
NOTES:						

Table 4-3 Retail: Total Water Demands

	2015	2020	2025	2030	2035	2040 (opt)
Potable and Raw Water <i>From Tables 4-1 and 4-2</i>	29,091	37,870	39,766	41,168	41,670	42,360
Recycled Water Demand* <i>From Table 6-4</i>	4,045	4,800	5,500	6,200	6,800	7,500
TOTAL WATER DEMAND	33,136	42,670	45,266	47,368	48,470	49,860

**Recycled water demand fields will be blank until Table 6-4 is complete.*

NOTES:

Table 4-4 Retail: 12 Month Water Loss Audit Reporting	
Reporting Period Start Date (mm/yyyy)	Volume of Water Loss*
01/2015	2391
* Taken from the field "Water Losses" (a combination of apparent losses and real losses) from the AWWA worksheet.	
NOTES:	

Table 4-5 Retail Only: Inclusion in Water Use Projections

Are Future Water Savings Included in Projections? (Refer to Appendix K of UWMP Guidebook) <i>Drop down list (y/n)</i>	No
If "Yes" to above, state the section or page number, in the cell to the right, where citations of the codes, ordinances, etc... utilized in demand projections are found.	
Are Lower Income Residential Demands Included In Projections? <i>Drop down list (y/n)</i>	Yes
NOTES:	

Table 5-1 Baselines and Targets Summary*Retail Agency or Regional Alliance Only*

Baseline Period	Start Year	End Year	Average Baseline GPCD*	2015 Interim Target *	Confirmed 2020 Target*
10-15 year	1996	2005	436	393	349
5 Year	2004	2008	447		

***All values are in Gallons per Capita per Day (GPCD)**

NOTES:

Table 5-2: 2015 Compliance*Retail Agency or Regional Alliance Only*

Actual 2015 GPCD*	2015 Interim Target GPCD*	Optional Adjustments to 2015 GPCD <i>From Methodology 8</i>					2015 GPCD* <i>(Adjusted if applicable)</i>	Did Supplier Achieve Targeted Reduction for 2015? Y/N
		Extraordinary Events*	Economic Adjustment*	Weather Normalization*	TOTAL Adjustments*	Adjusted 2015 GPCD*		
300	393				0	300	300	Yes

**All values are in Gallons per Capita per Day (GPCD)*

NOTES:

Table 6-1 Retail: Groundwater Volume Pumped						
<input type="checkbox"/>	Supplier does not pump groundwater. The supplier will not complete the table below.					
Groundwater Type <i>Drop Down List</i> <i>May use each category multiple times</i>	Location or Basin Name	2011	2012	2013	2014	2015
Add additional rows as needed						
Alluvial Basin	Whitewater River Subbasin	37011	36990	35816	34416	28849
TOTAL		37,011	36,990	35,816	34,416	28,849
NOTES:						

Table 6-2 Retail: Wastewater Collected Within Service Area in 2015						
<input type="checkbox"/>	There is no wastewater collection system. The supplier will not complete the table below.					
	Percentage of 2015 service area covered by wastewater collection system <i>(optional)</i>					
	Percentage of 2015 service area population covered by wastewater collection system <i>(optional)</i>					
Wastewater Collection			Recipient of Collected Wastewater			
Name of Wastewater Collection Agency	Wastewater Volume Metered or Estimated? <i>Drop Down List</i>	Volume of Wastewater Collected from UWMP Service Area 2015	Name of Wastewater Treatment Agency Receiving Collected Wastewater	Treatment Plant Name	Is WWTP Located Within UWMP Area? <i>Drop Down List</i>	Is WWTP Operation Contracted to a Third Party? <i>(optional)</i> <i>Drop Down List</i>
<i>Add additional rows as needed</i>						
City of Palm Springs	Metered	6,400	City of Palm Springs	City of Palm Springs WWTP	Yes	
Total Wastewater Collected from Service Area in 2015:		6,400				
NOTES: DWA operates its Recycled Water Treatment Facility to treat secondary effluent from the City of Palm Springs WWTP to tertiary standards for irrigation use within its service area.						

Table 6-3 Retail: Wastewater Treatment and Discharge Within Service Area in 2015

<input type="checkbox"/>	No wastewater is treated or disposed of within the UWMP service area. The supplier will not complete the table below.									
Wastewater Treatment Plant Name	Discharge Location Name or Identifier	Discharge Location Description	Wastewater Discharge ID Number <i>(optional)</i>	Method of Disposal <i>Drop down list</i>	Does This Plant Treat Wastewater Generated Outside the Service Area?	Treatment Level <i>Drop down list</i>	2015 volumes			
							Wastewater Treated	Discharged Treated Wastewater	Recycled Within Service Area	Recycled Outside of Service Area
Add additional rows as needed										
City of Palm Springs WWTP					No	Secondary, Disinfected - 23	6,700			
City of Palm Springs WWTP					No	Secondary, Disinfected - 23		2,600		
DWA RWTF					No	Tertiary			4,100	
Total							6,700	2,600	4,100	0
NOTES:										

Table 6-4 Retail: Current and Projected Recycled Water Direct Beneficial Uses Within Service Area

<input type="checkbox"/>		Recycled water is not used and is not planned for use within the service area of the supplier. The supplier will not complete the table below.						
Name of Agency Producing (Treating) the Recycled Water:		Desert Water Agency						
Name of Agency Operating the Recycled Water Distribution System:		Desert Water Agency						
Supplemental Water Added in 2015								
Source of 2015 Supplemental Water								
Beneficial Use Type	General Description of 2015 Uses	Level of Treatment <i>Drop down list</i>	2015	2020	2025	2030	2035	2040 (opt)
Agricultural irrigation								
Landscape irrigation (excludes golf courses)	Landscape/Parks	Tertiary	538	640	730	825	900	1,000
Golf course irrigation	Golf Courses	Tertiary	3,507	4,160	4,770	5,375	5,900	6,500
Commercial use								
Industrial use								
Geothermal and other energy production								
Seawater intrusion barrier								
Recreational impoundment								
Wetlands or wildlife habitat								
Groundwater recharge (IPR)*								
Surface water augmentation (IPR)*								
Direct potable reuse								
Other (Provide General Description)								
Total:			4,045	4,800	5,500	6,200	6,800	7,500

*IPR - Indirect Potable Reuse

NOTES:

Table 6-5 Retail: 2010 UWMP Recycled Water Use Projection Compared to 2015 Actual

<input type="checkbox"/>	Recycled water was not used in 2010 nor projected for use in 2015. The supplier will not complete the table below.		
Use Type		2010 Projection for 2015	2015 Actual Use
Agricultural irrigation			
Landscape irrigation (excludes golf courses)		4,500	538
Golf course irrigation			3,507
Commercial use			
Industrial use			
Geothermal and other energy production			
Seawater intrusion barrier			
Recreational impoundment			
Wetlands or wildlife habitat			
Groundwater recharge (IPR)			
Surface water augmentation (IPR)			
Direct potable reuse			
Other			
Total		4,500	4,045

NOTES: Projected landscape irrigation use listed above (2010 Projection for 2015) includes golf courses.

Table 6-6 Retail: Methods to Expand Future Recycled Water Use			
<input checked="" type="checkbox"/>	Supplier does not plan to expand recycled water use in the future. Supplier will not complete the table below but will provide narrative explanation.		
	Provide page location of narrative in UWMP		
Name of Action	Description	Planned Implementation Year	Expected Increase in Recycled Water Use
<i>Add additional rows as needed</i>			
Total			0
NOTES: Refer to Section II.D of the 2015 UWMP.			

Table 6-7 Retail: Expected Future Water Supply Projects or Programs						
<input type="checkbox"/>	No expected future water supply projects or programs that provide a quantifiable increase to the agency's water supply. Supplier will not complete the table below.					
<input checked="" type="checkbox"/>	Some or all of the supplier's future water supply projects or programs are not compatible with this table and are described in a narrative format.					
	Provide page location of narrative in the UWMP					
Name of Future Projects or Programs	Joint Project with other agencies?		Description (if needed)	Planned Implementation Year	Planned for Use in Year Type <i>Drop Down List</i>	Expected Increase in Water Supply to Agency <i>This may be a range</i>
	<i>Drop Down List (y/n)</i>	<i>If Yes, Agency Name</i>				
<i>Add additional rows as needed</i>						
NOTES: Refer to Section III.E.1 in the 2015 UWMP. <div></div>						

Table 6-8 Retail: Water Supplies — Actual				
Water Supply	Additional Detail on Water Supply	2015		
<div>Drop down list</div> <div>May use each category multiple times.</div> <div>These are the only water supply categories that will be recognized by the WUEdata online submittal tool</div>		Actual Volume	Water Quality <div>Drop Down List</div>	Total Right or Safe Yield (optional)
Add additional rows as needed				
Groundwater		28,849	Drinking Water	
Surface water		1,540	Raw Water	
Recycled Water		4,045	Recycled Water	
Total		34,434		0
NOTES:				

Table 6-9 Retail: Water Supplies — Projected

Water Supply		Projected Water Supply Report To the Extent Practicable									
Drop down list <i>May use each category multiple times. These are the only water supply categories that will be recognized by the WUEdata online submittal tool</i>	Additional Detail on Water Supply	2020		2025		2030		2035		2040 (opt)	
		Reasonably Available Volume	Total Right or Safe Yield (optional)	Reasonably Available Volume	Total Right or Safe Yield (optional)	Reasonably Available Volume	Total Right or Safe Yield (optional)	Reasonably Available Volume	Total Right or Safe Yield (optional)	Reasonably Available Volume	Total Right or Safe Yield (optional)
Add additional rows as needed											
Surface water		1,800		1,800		1,800		1,800		1,800	
Purchased or Imported Water		25,600		25,600		25,600		25,600		25,600	
Groundwater		8,400		8,900		8,900		9,600		9,700	
Other	Non-consumptive rtn	10,900		11,400		11,800		12,700		13,500	
Recycled Water		4,800		5,500		6,200		6,800		7,500	
Total		51,500	0	53,200	0	54,300	0	56,500	0	58,100	0
NOTES:											

Table 7-1 Retail: Basis of Water Year Data

Year Type	Base Year <i>If not using a calendar year, type in the last year of the fiscal, water year, or range of years, for example, water year 1999-2000, use 2000</i>	Available Supplies if Year Type Repeats	
		<input type="checkbox"/>	Quantification of available supplies is not compatible with this table and is provided elsewhere in the UWMP. Location _____
		<input type="checkbox"/>	Quantification of available supplies is provided in this table as either volume only, percent only, or both.
		Volume Available	% of Average Supply
Average Year	1996	55500	100%
Single-Dry Year	1977	42705	77%
Multiple-Dry Years 1st Year	1990	43065	79%
Multiple-Dry Years 2nd Year	1991	43415	79%
Multiple-Dry Years 3rd Year	1992	43775	80%
Multiple-Dry Years 4th Year <i>Optional</i>			
Multiple-Dry Years 5th Year <i>Optional</i>			
Multiple-Dry Years 6th Year <i>Optional</i>			
Agency may use multiple versions of Table 7-1 if different water sources have different base years and the supplier chooses to report the base years for each water source separately. If an agency uses multiple versions of Table 7-1, in the "Note" section of each table, state that multiple versions of Table 7-1 are being used and identify the particular water source that is being reported in each table.			
NOTES:			

Table 7-2 Retail: Normal Year Supply and Demand Comparison					
	2020	2025	2030	2035	2040 (Opt)
Supply totals (autofill from Table 6-9)	51,500	53,200	54,300	56,500	58,100
Demand totals (autofill from Table 4-3)	42,670	45,266	47,368	48,470	49,860
Difference	8,830	7,934	6,932	8,030	8,240
NOTES:					

Table 7-3 Retail: Single Dry Year Supply and Demand Comparison					
	2020	2025	2030	2035	2040 (Opt)
Supply totals	42,710	45,390	47,160	48,940	50,580
Demand totals	42,708	45383	47,157	48,932	50,575
Difference	2	7	3	8	5
NOTES:					

Table 7-4 Retail: Multiple Dry Years Supply and Demand Comparison

		2020	2025	2030	2035	2040 (Opt)
First year	Supply totals	42,710	45,390	47,160	48,940	50,580
	Demand totals	42,708	45383	47,157	48,932	50,575
	Difference	2	7	3	8	5
Second year	Supply totals	42,710	45,390	47,160	48,940	50,580
	Demand totals	42,708	45383	47,157	48,932	50,575
	Difference	2	7	3	8	5
Third year	Supply totals	42,710	45,390	47,160	48,940	50,580
	Demand totals	42,708	45383	47,157	48,932	50,575
	Difference	2	7	3	8	5
Fourth year (optional)	Supply totals					
	Demand totals					
	Difference	0	0	0	0	0
Fifth year (optional)	Supply totals					
	Demand totals					
	Difference	0	0	0	0	0
Sixth year (optional)	Supply totals					
	Demand totals					
	Difference	0	0	0	0	0

NOTES:

Table 8-1 Retail Stages of Water Shortage Contingency Plan		
Stage	Complete Both	
	Percent Supply Reduction ¹ <i>Numerical value as a percent</i>	Water Supply Condition <i>(Narrative description)</i>
<i>Add additional rows as needed</i>		
1	5%	Normal Conditions
2	10%	Threatened or existing shortage
3	20%	Shortage prevents demands from being met
4	25%	Shortage requires significant use reduction
5	50%	Water shortage requires allocation of supplies
¹ One stage in the Water Shortage Contingency Plan must address a water shortage of 50%.		
NOTES:		

Table 8-2 Retail Only: Restrictions and Prohibitions on End Uses

Stage	Restrictions and Prohibitions on End Users <i>Drop down list</i> <i>These are the only categories that will be accepted by the WUEdata online submittal tool</i>	Additional Explanation or Reference <i>(optional)</i>	Penalty, Charge, or Other Enforcement? <i>Drop Down List</i>
<i>Add additional rows as needed</i>			
1	Other - Prohibit use of potable water for washing hard surfaces		Yes
1	Other - Require automatic shut of hoses		Yes
2	Landscape - Limit landscape irrigation to specific times		Yes
2	CII - Restaurants may only serve water upon request		Yes
3	Landscape - Limit landscape irrigation to specific days		Yes
3	Other - Prohibit vehicle washing except at facilities using recycled or recirculating water		Yes
3	Water Features - Restrict water use for decorative water features, such as fountains		Yes
3	Landscape - Prohibit certain types of landscape irrigation		Yes
4	Landscape - Limit landscape irrigation to specific times		Yes
4	Landscape - Limit landscape irrigation to specific days		Yes
4	Landscape - Prohibit certain types of landscape irrigation		Yes
5	Other	Water Allocations	Yes
NOTES: Measures for each stage also apply to all subsequent stages. In other words, methods listed for Stage 1 also apply throughout Stages 2 through 5, methods listed for Stage 2 also apply to Stages 3 through 5, and so on.			

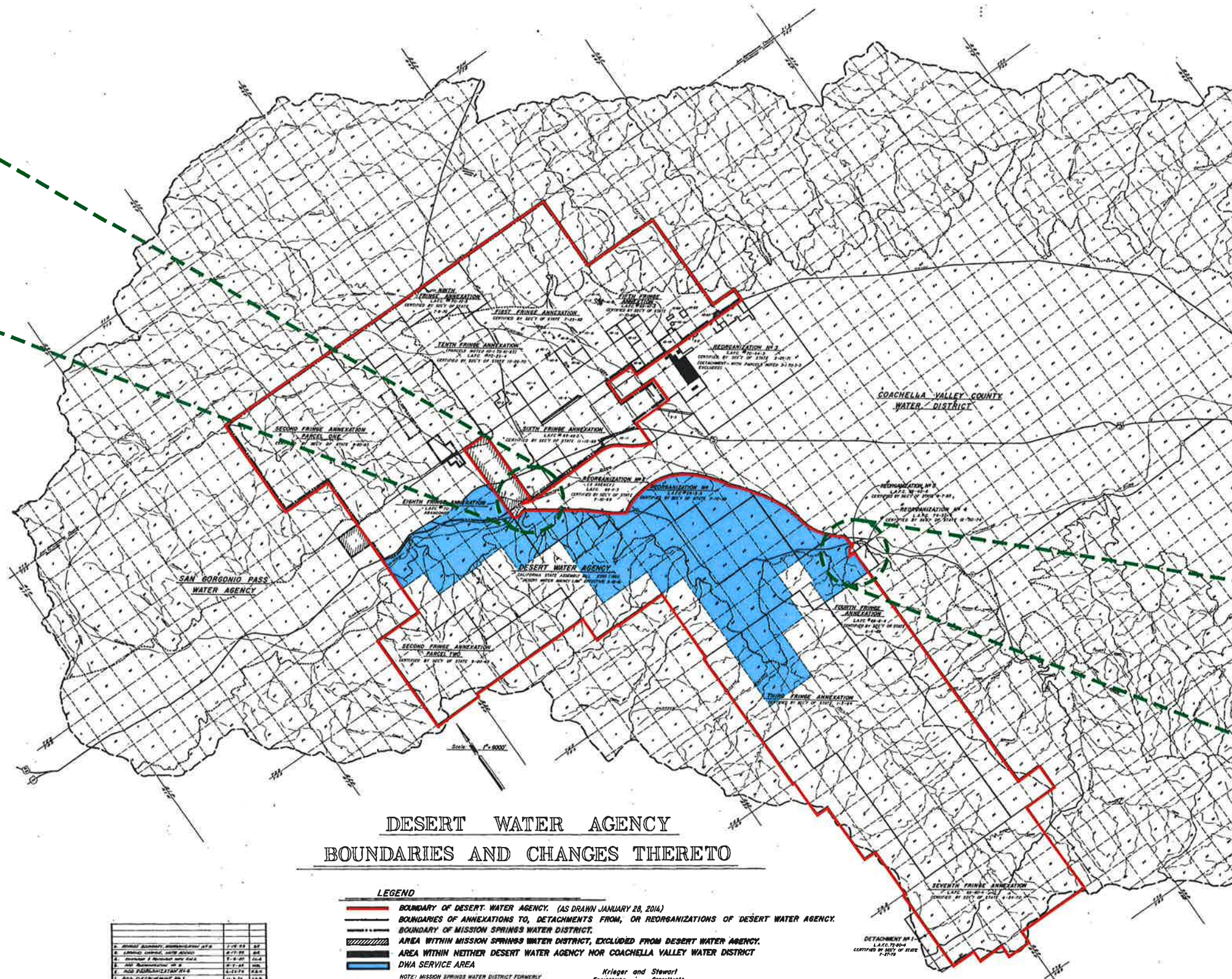
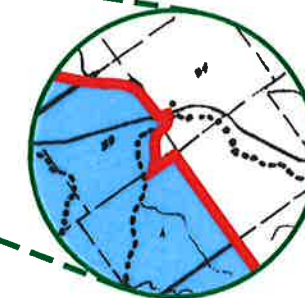
Table 8-3 Retail Only: Stages of Water Shortage Contingency Plan - Consumption Reduction Methods		
Stage	Consumption Reduction Methods by Water Supplier <i>Drop down list</i> <i>These are the only categories that will be accepted by the WUEdata online submittal tool</i>	Additional Explanation or Reference <i>(optional)</i>
Add additional rows as needed		
1, 2, 3, 4	Other	Voluntary Rationing
5	Other	Mandatory Rationing
All Stages	Other	Use Prohibitions
All Stages	Other	Demand Reduction Program
All Stages	Other	Education Programs
All Stages	Other	Use Non-Potable Water for Construction
NOTES:		

Table 8-4 Retail: Minimum Supply Next Three Years			
	2016	2017	2018
Available Water Supply	38,000	38,800	39,500
NOTES:			

Table 10-1 Retail: Notification to Cities and Counties		
City Name	60 Day Notice	Notice of Public Hearing
Add additional rows as needed		
Palm Springs	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
Cathedral City	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
	<input type="checkbox"/>	<input type="checkbox"/>
County Name <i>Drop Down List</i>	60 Day Notice	Notice of Public Hearing
Add additional rows as needed		
Riverside County	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
	<input type="checkbox"/>	<input type="checkbox"/>

APPENDIX F

FIGURES



101-26p7f1.dwg



VERIFY SCALES
BAR IS ONE INCH ON ORIGINAL DRAWING
0 1"
IF NOT ONE INCH ON THIS SHEET, ADJUST SCALES ACCORDINGLY



KRIEGER & STEWART
Engineering Consultants

3602 University Avenue • Riverside, CA 92501
www.kriegerandstewart.com • 951-684-6900

SCALE: N.T.S.

DATE: 12/31/15

DRAWN BY: MRN

CHECKED BY: KJL

W.O.: 101-26.7

DESERT WATER AGENCY

2015 URBAN WATER MANAGEMENT PLAN

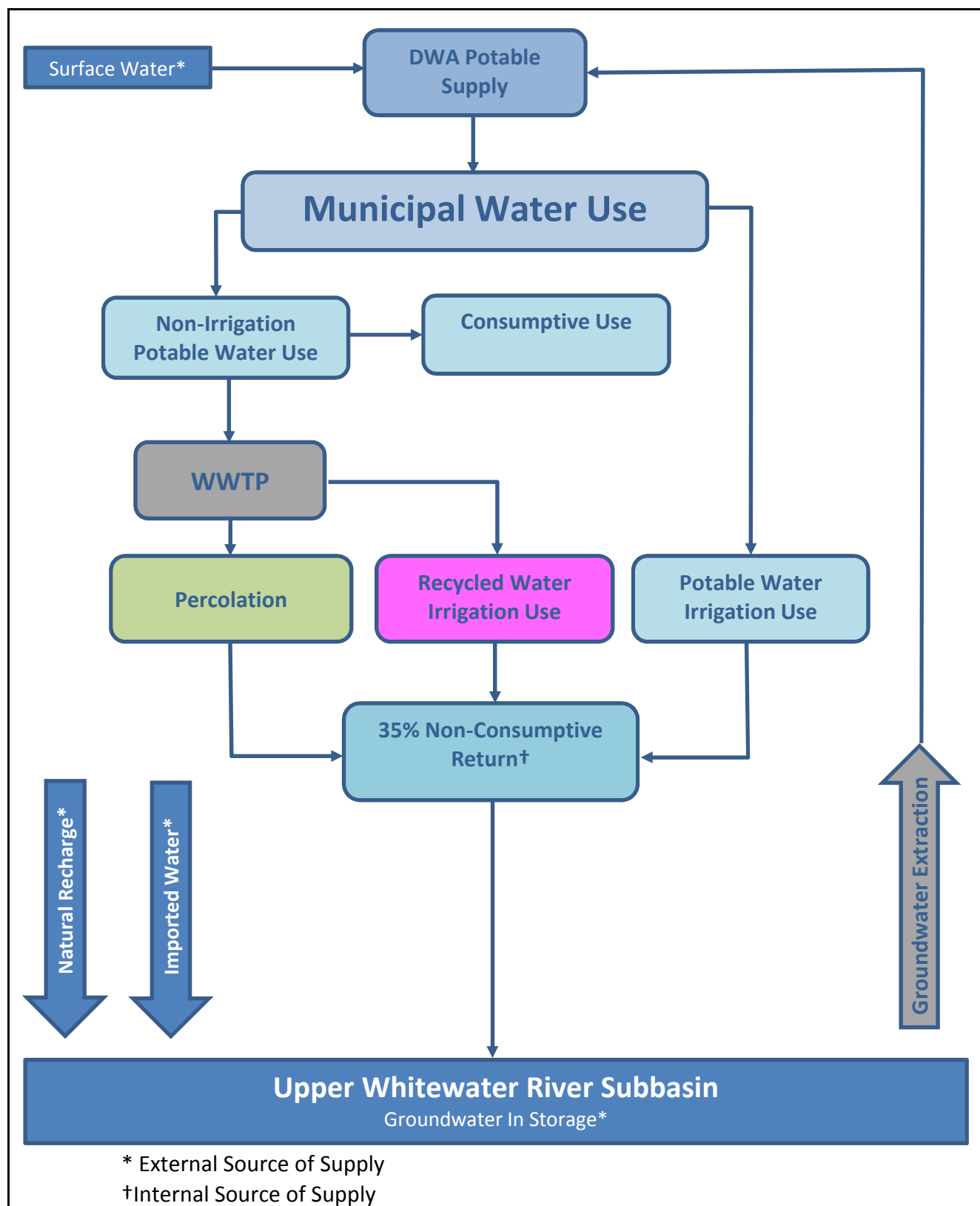
DWA SERVICE AREA

FIGURE

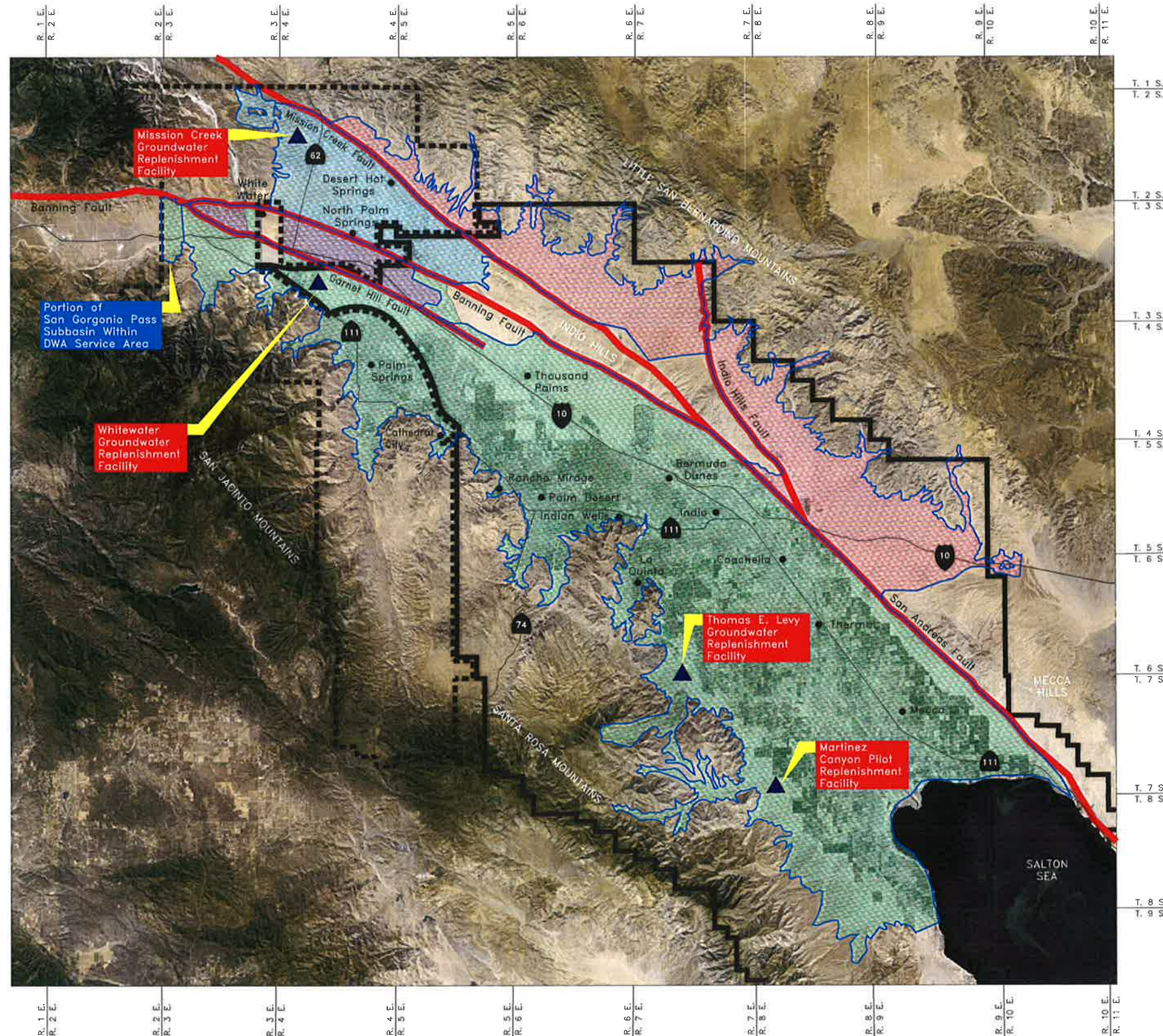
1

OF 4

FIGURE 2
DESERT WATER AGENCY
2015 URBAN WATER MANAGEMENT PLAN
WATER SOURCES AND USES



DWG. NO.: 101-266713 FILE NO.: 101-26.7 UPDATE BY: TWM PROJ. ENG.: DFS_PLOT DATE: 06/03/16 PLOT TIME: 2:47PM PLOT SCALE: 1"=1



LEGEND

- ▲ REPLENISHMENT FACILITIES
- DWA BOUNDARY
- CVWD BOUNDARY
- FAULTS
- SUBBASIN BOUNDARIES
- WHITWATER RIVER SUBBASIN
- MISSION CREEK SUBBASIN
- GARNET HILL SUBBASIN
- DESERT HOT SPRINGS SUBBASIN

SUBBASIN MAP SHOWING REPLENISHMENT FACILITIES, GROUNDWATER REPLENISHMENT AREAS OF BENEFIT (EITHER DIRECT OR INDIRECT), AND AGENCY BOUNDARIES



VERIFY SCALES
BAR IS ONE INCH ON
ORIGINAL DRAWING
0 1"
IF NOT ONE INCH ON
THIS SHEET, ADJUST
SCALES ACCORDINGLY

KRIEGER & STEWART
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SCALE: 1"=15,000'

DATE: 12/31/15

DRAWN BY: MRN

CHECKED BY: KJL

W.O.: 101-26.7

DESERT WATER AGENCY

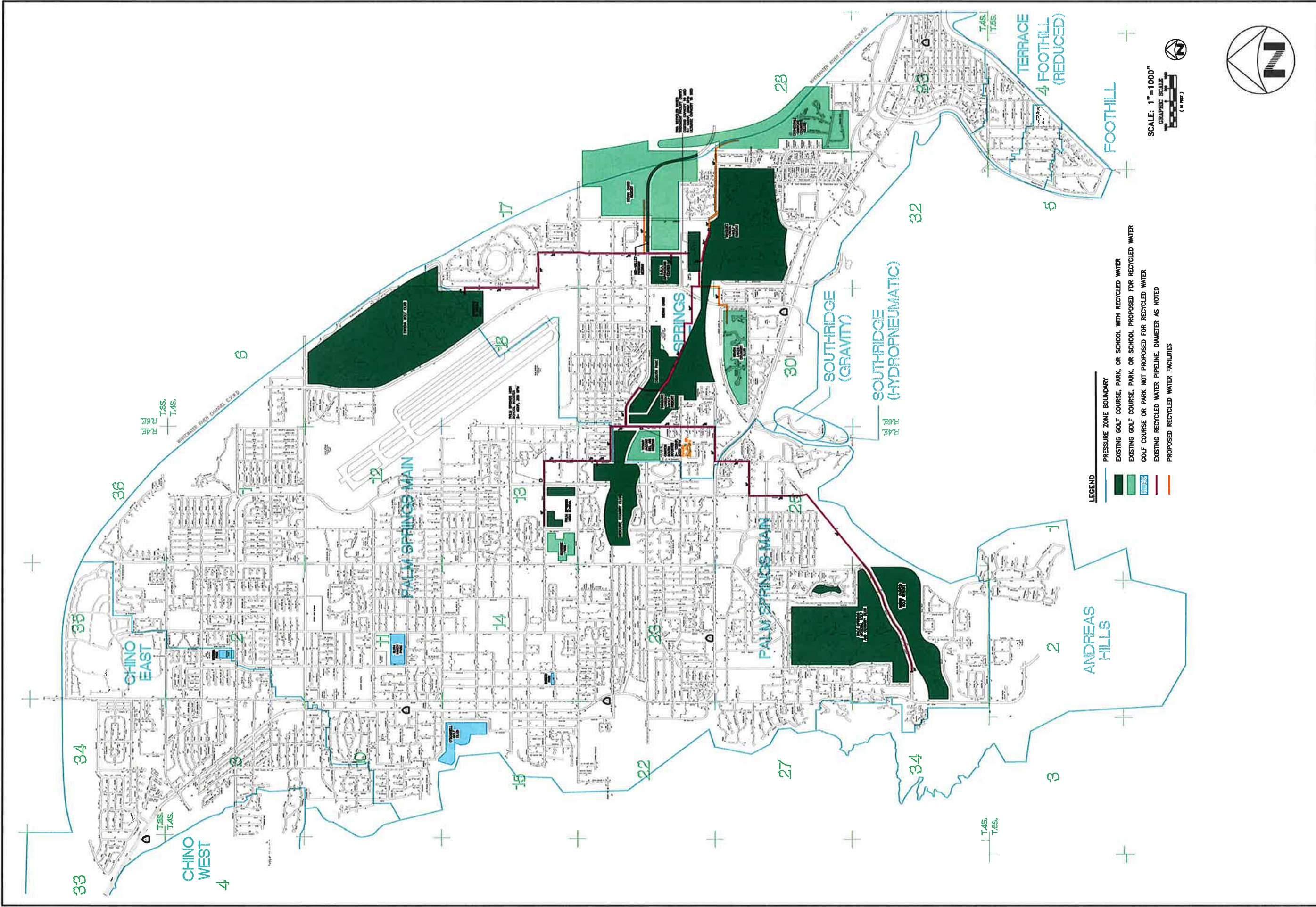
2015 URBAN WATER MANAGEMENT PLAN

COACHELLA VALLEY GROUNDWATER BASIN

FIGURE

3

OF 4



VERIFY SCALES
BAR IS ONE INCH ON
ORIGINAL DRAWING
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THIS SHEET, ADJUST
SCALES ACCORDINGLY

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3602 University Avenue • Riverside, CA 92501
www.kriegerandstewart.com • 951-684-6900

DESERT WATER AGENCY

2015 URBAN WATER MANAGEMENT PLAN

EXISTING AND PROPOSED
RECYCLED WATER SYSTEM FACILITIES

FIGURE

4

OF 4

SCALE: 1"=3,500'

DATE: 12/31/15

DRAWN BY: MRN

CHECKED BY: KJL

W.O.: 101-26.7

\\101-26p7f4.dwg

APPENDIX G

- **DWA/CVWD 2014 WHITEWATER WATER MANAGEMENT AGREEMENT**
- **DWA/CVWD 2014 MISSION CREEK WATER MANAGEMENT AGREEMENT**

DWA/CVWD 2014 WHITEWATER WATER MANAGEMENT AGREEMENT

Whitewater Water Management Agreement

THIS AGREEMENT ("Whitewater Water Management Agreement" or "Agreement") is effective this 15th day of July, 2014, between the COACHELLA VALLEY WATER DISTRICT, a public agency, hereinafter called "Coachella", and the DESERT WATER AGENCY, a public agency, hereinafter called "Desert."

RECITALS

A. Coachella is a State Water Project ("SWP") Contractor and entered into its original SWP Water Supply Contract on March 29, 1963 along with subsequent Amendments.

B. Desert is a SWP Contractor and entered into its original SWP Water Supply Contract on October 17, 1962 along with subsequent Amendments.

C. Coachella, Desert and the Metropolitan Water District of Southern California ("Metropolitan") have entered into various agreements ("Water Delivery and Exchange Agreements") and the most current are listed here by reference:

- i. Advanced Delivery Agreement-June 28, 1984
- ii. 2003 Exchange Agreement-October 24, 2003
- iii. Implementation of the 2003 Exchange Agreement-November 9, 2004
- iv. Implementation of the 2003 Exchange Agreement-Establishment of Long Term Operating Criteria-November 19, 2007.

D. Coachella and Desert have executed agreements dated December 15, 1992 ("Water Management Agreement") and July 1, 1976 ("Water Management Agreement") collectively the "Water Management Agreements" for the cooperative management of Colorado River water ("Exchange Water") received through turnouts from the Colorado River Aqueduct ("CRA"). These agreements provide for the percolation (recharge) of Exchange Water at the Whitewater Groundwater Replenishment Facility ("Replenishment Facility"), replenishing the West Portion of the Whitewater River Subbasin and the sharing of costs associated with

groundwater replenishment. The West Portion of the Whitewater River Subbasin has been in a state of overdraft.

E. Coachella, Desert and the Mission Springs Water District (“Mission Springs”) have entered into an agreement dated December 7, 2004, including a subsequent addendum (“Settlement Agreement”) for the cooperative management of the Mission Creek Subbasin.

F. Coachella has constructed the Replenishment Facility which receives water for replenishment from MWD releases of Exchange Water from the CRA turnouts (“Whitewater Turnouts”) into the Whitewater River. The Exchange Water flows down the Whitewater River for diversion into the Replenishment Facility.

G. The intent of this Agreement is to update and replace in their entirety the Water Management Agreements.

DEFINITIONS

1. “Area of Benefit-Coachella” means that portion of the West Portion of the Whitewater River Subbasin under the responsibility of Coachella as defined in the most recent edition of Engineer’s Report On Water Supply and Replenishment Assessment-West Whitewater River Subbasin Area of Benefit as prepared by Coachella.
2. “Area of Benefit-Desert” means that portion of the Whitewater River Subbasin under the responsibility of Desert as defined in the most recent edition of Engineer’s Report-Groundwater Replenishment and Assessment Program for the Whitewater River Subbasin as prepared by Desert.
3. “Article 21 Water” means additional SWP water available on a daily basis after SWP reservoirs have been filled and SWP Contractor deliveries have been met pursuant to Article 21 of the SWP Water Supply Contracts.
4. “Capital Costs” means preliminary design, design, right-of-way acquisition, construction, inspection and other incidental costs to ensure proper design and construction of the Replenishment Facility or associated facilities.

5. "Drought Water Bank Water" means additional water available during dry years pursuant to Article 55 and Article 12 (f) of the SWP Water Supply Contracts.
6. "Eligible Water Costs" means those imported water costs, which are eligible to be recovered from the Replenishment Assessment Charge per Water Code Sections 31630 through 31639 for Coachella and the Desert Water Agency Law for Desert. These costs include the following:
 - 6.1. SWP Table A Allocation Water Costs - (1) Variable Operation-Maintenance-Power-Replacement Component, (2) Off Aqueduct Power Component and (3) Delta Water Charge.
 - 6.2. Other SWP Water Costs - (1) Article 21 Water, (2) Pool A & B Water, (3) Drought Water Bank Water and (4) Yuba Accord Water; if mutually agreed in writing by Coachella and Desert.
 - 6.3. Non-SWP water resulting from transfers, if mutually agreed in writing by Coachella and Desert.
7. "Minimal Pumper" means any entity pumping less than 25 acre-feet of water per year in the Area of Benefit-Coachella and/or any entity pumping less than 10 acre-feet per year in the Area of Benefit-Desert.
8. "Mission Creek Management Area" means the Mission Creek Subbasin.
9. "Mission Creek Subbasin" means that portion of the Coachella Valley Groundwater Basin as described in the most recent edition of Engineer's Report On Water Supply and Replenishment Assessment-Mission Creek Subbasin Area of Benefit as prepared by Coachella and the Engineer's Report-Groundwater Replenishment and Assessment Program for the Mission Creek Subbasin as prepared by Desert. The Mission Creek Subbasin is comprised of the Area of Benefit-Coachella and the Area of Benefit-Desert.
10. "Non-Eligible Costs" means water costs which are not Eligible Water Costs.
11. "Operation and Maintenance Costs" means labor, materials, equipment, utilities and other incidental costs to ensure proper operation and maintenance of the Replenishment Facility.
12. "Pool A & Pool B Water" means additional SWP water available pursuant to the Turn-Back Pool Program pursuant to Article 56 of the SWP Water Supply Contracts.

13. "Table A Allocation" means the current agency SWP water allocation from Table A of its Water Supply Contract in acre-feet per year.
14. "Water Production" means water pumped or diverted from a Management Area and from sources tributary to the Management Area excluding minimal pumpers and pumpers or diverters exercising adjudicated water rights.
15. "West Portion of the Whitewater River Subbasin" means that portion of the Coachella Valley Groundwater Basin as described in the most recent edition of Engineer's Report On Water Supply and Replenishment Assessment-West Whitewater River Subbasin Area of Benefit as prepared by Coachella and the Engineer's Report-Groundwater Replenishment and Assessment Program for the Whitewater River Subbasin as prepared by Desert.
16. "Whitewater Management Area" means the West Portion of the Whitewater River Subbasin.
17. "Yuba Accord Water" means additional water available from the Yuba Accord pursuant to Article 55 and Article 12 (f) of the Water Supply Contracts.

AGREEMENT

ARTICLE 1

1. WATER DELIVERY AND COST

- 1.1.1. Continuation of the Imported Water Program. As long as a current overdraft exists within the Whitewater Management Area or the Mission Creek Management Area, and subject to Section 1.5.3 and the remaining provisions of the Agreement, Coachella and Desert shall each order their present full Table A Amounts under their respective SWP Water Supply Contracts. Such amounts of water shall be delivered to Metropolitan, and equivalent amounts shall be delivered by Metropolitan to Coachella and Desert, pursuant to the Water Delivery and Exchange Agreements. Exchange Water delivered to the Whitewater Management Area will be percolated at the Replenishment Facility.

- 1.2. Water Accounting. Within 60 days after the end of the calendar year, Coachella and Desert shall determine the total combined water production for the previous calendar year for both the Mission Creek Management Area and the Whitewater Management Area and calculate the following:
- 1.2.1. Proportion-Whitewater/Mission Creek. The proportionate share of water production between the Mission Creek Management Area and the Whitewater Management Area.
- 1.2.2. Proportion-Whitewater-Coachella/Desert. The proportionate share of water production in the Whitewater Management Area between Coachella and Desert.
- 1.2.3. Total Proportion-Coachella/Desert. The proportionate share of the total water production in the Mission Creek Management Area and the Whitewater Management Area between Coachella and Desert.
- 1.3. Water Delivery. Exchange Water available for delivery by Metropolitan shall be delivered to the Mission Creek Management Area and the Whitewater Management Area in proportion to water production as described in Section 1.2.1 and as required in the Settlement Agreement, i.e. production and delivery balanced over a 20 year period beginning December 7, 2004.
- 1.4. Water Order. On or before September 1, Coachella and Desert shall confer with Metropolitan and prepare a schedule of deliveries to the Mission Creek Management Area and Whitewater Management Area in accordance with Section 1.3. Coachella, Desert and Metropolitan will then submit coordinated SWP water orders to the Department of Water Resources on or before October 1. Deliveries under the Water Delivery and Exchange Agreements shall be credited to Coachella and Desert according to the Table A Amounts set forth in their respective SWP Water Supply Contracts, and no changes in such Table A Amounts shall be made which affect the joint groundwater replenishment operations without the written consent of both parties. Article 21 Water, other SWP water not allocated among SWP Water Supply Contractors according to Table A Amounts, Drought Water Bank Water, Non-SWP water resulting from water transfers, Pool A and B water and Yuba Accord Water shall not be taken under this Agreement without the prior approval of both Coachella and Desert.

1.5. Water Costs.

1.5.1. Eligible Water Costs. Coachella and Desert shall share the Eligible Water Costs in proportion to water production calculated pursuant to Section 1.2.3.

1.5.1.1. Monthly Eligible Water Cost Adjustment. Within 60 days after the end of the month, Coachella and Desert shall add their respective monthly Eligible Water Costs and multiply the sum by their respective Total Proportion-Coachella/Desert calculated pursuant to Section 1.2.3, to determine the amount of money that either agency must pay to the other in order to correctly apportion that month's Eligible Water Costs between the two (the 'Monthly Eligible Cost Adjustment'). Within 75 days after the end of the month Coachella or Desert shall make the Monthly Eligible Cost Adjustment payment to the overcharged agency.

1.5.1.2. Yearly Eligible Water Cost Adjustment. Within 60 days after the end of the calendar year, Coachella and Desert shall add their respective yearly Eligible Water Costs and multiply the sum by their respective Total Proportion-Coachella/Desert calculated pursuant to Section 1.2.3, to determine the amount of money that either agency must pay to the other in order to correctly apportion that year's Eligible Water Costs between the two (the "Yearly Eligible Water Cost Adjustment"), taking into account the Monthly Eligible Water Cost Adjustments that already had been made for that year. Within 75 days after the end of the calendar year Coachella or Desert shall make the Yearly Eligible Cost Adjustment payment to the overcharged agency.

1.5.2. Non-Eligible Water Costs. Coachella and Desert shall each be responsible for their own Non-Eligible Water Costs.

1.5.3. Review of Replenishment Facility Operations. The amounts of water Coachella and Desert shall continue to percolate for replenishment at the Replenishment Facility shall be subject to mutual review and redetermination annually. Percolation of Exchange Water and the financial provisions of the Agreement

relating thereto shall cease upon termination of the Water Delivery and Exchange Agreements.

ARTICLE 2

2. CAPITAL IMPROVEMENTS AND COSTS

2.1. Original Capital Improvements The original construction of the Replenishment Facility was completed in 1973 and shall include an upgrade constructed in 1986. The original construction is deemed complete and there will be no further original capital costs. Any costs related to improvements constructed after 1986 shall be subject to Section 2.2.

2.2. Post-1986 Capital Improvements

2.2.1. Planning, Design and Construction. Coachella will be responsible for the planning, design and construction of any new required capital improvements for the Replenishment Facility.

2.2.2. Capital Improvement Approval. Desert shall have the opportunity to review and approve the plans and specifications for new required capital improvements prior to construction. Such approval shall be made in writing.

2.2.3. Capital Cost Sharing. Coachella and Desert shall share the capital costs for any new capital improvement project according to the Proportion-Whitewater-Coachella/Desert described in Section 1.2.2., calculated for the period beginning with completion of the original construction and ending with completion of the new construction.

2.2.4. Capital Cost Payments. Desert shall pay Coachella its share of the capital costs for new capital improvement projects using one of the following payment options.

2.2.4.1. Upfront Payment. Coachella shall provide Desert with the total estimated cost of the new capital improvement project based on advertised bids and shall invoice Desert for its proportionate share of the estimated cost. Desert will remit its total estimated share within 30 days

of receiving the invoice. Within 90 days after completion of the project, Coachella shall provide Desert with an itemized statement of final costs incurred. The final costs will be reconciled with the upfront payment. Coachella shall reimburse Desert for any overpayment, or invoice Desert for any additional payment due, and Desert will remit to Coachella its total share of actual costs incurred within 30 days of receiving the invoice.

2.2.4.2. Monthly Project Payment. Coachella shall provide Desert with the total estimated cost of the new capital improvement project based on advertised bids. Within 30 days after the end of the month, Coachella shall invoice Desert for its proportional share of the monthly costs incurred on the project, until project completion. Desert will remit its monthly share to Coachella within 30 days of receiving the invoice.

2.2.4.3. Change Orders. In the event of a change order, Coachella shall provide Desert with a copy of the change order within five (5) days of receiving the change order for Desert's review. Coachella and Desert shall discuss and determine if the change order is valid and the following shall occur: (1) if it is determined by the parties that a change order is a result of a General Change in the contract as defined in Subsection 2.2.4.3.1 below, then the parties shall each pay for the percentage of the Work established according to the Proportion-Whitewater -Coachella/Desert described in Section 1.2.2; (2) if it is determined by the parties that a change order is a direct result of Coachella's Oversight as defined in Subsection 2.2.4.3.1 below, then Coachella shall be solely responsible for the cost increase or decrease of the change order; and (3) if the parties are in disagreement with a change order, then in order to not delay the Project, the parties shall each pay for the percentage of the Work as established according to the Proportion-Whitewater-Coachella/Desert described in Section 1.2.2 with the agreement that further negotiations will occur as defined in Subsection 2.2.4.3.2 below. Coachella may issue change orders without reviewing the change order

with Desert; however, Desert will not be obligated to pay for a change order that is not provided to Desert for review.

2.2.4.3.1. A General Change is defined as a change to the Work associated with a reasonable increase or decrease in a contract's quantities or unit prices or a mutually agreed change in the scope of the work. Coachella Oversight Change is defined as a change that occurs that is not a General Change.

2.2.4.3.2. In the event of any disagreement between Coachella and Desert with respect to responsibility for costs incurred in connection with change orders approved by Coachella, the matter shall expeditiously be submitted to binding arbitration to be held in the Coachella Valley and conducted by an arbitrator agreed to by the parties, in accordance with the Commercial Arbitration Rules of the American Arbitration Association. Each party shall initially pay one-half (½) of all costs incurred in connection with such arbitration; however, the arbitrator shall have the power and discretion to order that the non-prevailing party reimburse reasonable legal fees and costs incurred by the prevailing party.

2.2.4.3.3. Subject to the foregoing, Desert shall have no obligation to pay any cost increases for changes unless Desert has approved the same in writing.

2.3. Revenue-Producing Improvements-Coachella. After the effective date of this Agreement, if Coachella constructs or installs a revenue-producing improvement at the Replenishment Facility site, such as a wind power generating facility, the annual revenue derived from the operation of the revenue-producing improvement shall be applied to compensate Coachella for its costs, in the following order: (1) Coachella's annual Operation and Maintenance (O&M) costs to operate and maintain the revenue producing

facility, then (2) Coachella's annualized capital costs for the revenue producing facility until such capital costs have been recovered in full. The remaining net annual revenue, if any, shall be divided evenly between Coachella and Desert, with payment of Desert's share of the net revenue to be paid by Coachella to Desert within 30 days after the end of the month in which Coachella receives the net revenue.

2.4. Revenue-Producing Improvements-Third Party. After the effective date of this Agreement, if Coachella enters into a lease or other agreement with a Third Party to construct, operate and maintain a revenue-producing improvement on the Replenishment Facility site in exchange for rental or royalty or other payments, one-half (1/2) of such payments shall be remitted to Desert within thirty (30) days after receipt by Coachella.

2.5. Legal Defense or Representation Costs. In the event of any legal actions affecting capital cost payments that are shared between Coachella and Desert according to the Proportion-Whitewater-Coachella/Desert described in Section 1.2.2 Coachella and Desert will share in these legal representation costs in the same proportion as their percentage capital cost contribution obligations. Coachella and Desert agree to cooperate in their joint representation.

ARTICLE 3

3. OPERATION AND MAINTENANCE (O&M) AND COSTS

3.1. Original O&M Costs. All O&M costs incurred prior to the effective date of this Agreement shall be deemed to be the responsibility of Coachella.

3.2. New O&M Costs.

3.2.1. O&M Planning, Budgeting and Implementation. Coachella shall be responsible for planning, budgeting and implementing programs to ensure proper operation and maintenance of the Replenishment Facility.

- 3.2.2. O&M Approval. Desert shall have the opportunity to review and approve the O&M planning and budgets in the year prior to the proposed O&M expenditures. Such approval shall be made in writing.
- 3.2.3. O&M Cost Sharing. Coachella and Desert shall share the O&M costs each year according to the Proportion-Whitewater-Coachella/Desert calculated for that year pursuant to Section 1.2.2; provided however, that if extraordinary O&M repair or replacement costs are incurred due to the negligence or willful act of either party as determined by a court or by concurrence between Desert and Coachella, all of such extraordinary costs shall be borne exclusively by the party whose negligence or willful act resulted in such costs, and upon invoice shall be paid at the same time that other O&M costs are paid.
- 3.2.4. O&M Cost Payments. Desert shall pay Coachella its share of the O&M costs on a monthly basis. Within 30 days after the end of each month, Coachella shall invoice Desert for the actual O&M costs incurred during that month. Desert shall have 30 days after receipt of the invoice to remit its share of the monthly O&M costs.
- 3.2.5. Yearly O&M Cost Adjustment. Within 60 days after the end of the calendar year, Coachella and Desert shall add their respective yearly O&M Costs and multiply the sum by their respective Proportion-Whitewater-Coachella/Desert calculated for that year pursuant to Section 1.2.2, to determine the amount of money that either agency must pay to the other in order to correctly apportion that year's O&M costs between the two (the "Yearly O&M Cost Adjustment"), taking into account the monthly O&M cost payments that had been made for that year. Within 75 days after the end of the calendar year Coachella or Desert shall make the Yearly O&M Cost Adjustment payment to the overcharged agency.
- 3.2.6. Future Regulatory Costs. The cost of any future permit or other regulatory expense that may be required by any governmental authority having jurisdiction over groundwater replenishment operations shall be the joint responsibility of Coachella and Desert according to the Proportion-Whitewater-Coachella/Desert calculated for that year pursuant to Section 1.2.2.

ARTICLE 4

4. WATER RIGHTS

- 4.1. Intent To Recapture. The Exchange Water that will be percolated at the Replenishment Facility and replenishing the Whitewater Management Area shall not be considered part of the native safe yield of the West Portion of the Whitewater River Subbasin. The parties hereby declare their intent to recapture such Exchange Water, and to maintain their prior rights to recapture quantities by which the groundwater supply has been augmented through their replenishment operations. Such recapture rights shall be owned by the parties in the same proportions as the total Eligible Water Costs apportioned between the two for the delivery of water to the Replenishment Facility during the term of this Agreement. Coachella and Desert shall each own the right to recapture the return flows from its share of such Exchange Water to the maximum extent permitted by law.
- 4.2. No Transfer of Permanent Entitlement. Nothing in this Agreement shall be construed as effecting or resulting in any assignment, conveyance or other transfer of permanent entitlement or of any other rights under the SWP Water Supply Contract and Amendments by either party, nor the acquisition of any right, title or interest in the SWP Water Supply Contract and Amendments of the other party. Coachella and Desert shall each reserve the right, upon 180 days written notice to the other, to withdraw from the joint replenishment of the West Portion of the Whitewater River Subbasin and to fully utilize their own entitlements under their respective SWP Water Supply Contracts and Amendments whenever their own needs, as determined by each such party, may require. In such event, each party shall thereafter be required to pay in full all sums due under its own SWP Contract and Amendments without contribution from the other.
- 4.3. Effect of SWP Contracts and Others. This Agreement is subject to the provisions of the SWP Water Supply Contracts and Amendments, the Delivery and Exchange Agreements, Settlement Agreement and Addendum, all provisions of law, and the rules

and regulations of any governmental agency having lawful jurisdiction over the performance of this Agreement.

- 4.4. Other Water. Nothing herein shall be construed to prevent either Coachella or Desert from importing other water for use within their respective boundaries, provided that any alteration of the rights, responsibilities, charges, or procedures set forth in this Agreement shall require an amendment.

ARTICLE 5

5. DATA COLLECTION PROGRAM

- 5.1. Data Collection Program. A joint program of data collection and analysis within the Whitewater Management Area shall be established by Coachella and Desert in order to provide the information required for sound management of the water resources of the area. Such program shall include, but not be limited to: (1) an annual determination of the water production, excluding minimal pumpers, within the Whitewater Management Area of each of the parties, including continued metering of their own wells, and efforts to meter the wells of other pumpers in the Whitewater Management Area; (2) monitoring the effect of the groundwater replenishment operations, including cooperative efforts with the Regional Water Quality Control Board and the USGS; (3) monitoring inflow and outflow from the Whitewater Management Area; (4) regular measurement of groundwater levels; and (5) regular analysis of ground water quality. Coachella and Desert shall each be responsible for carrying out and paying the cost of those portions of the program attributable to the portions of the Whitewater Management Area located within their own boundaries. Additional data or work which may be required shall be subject to mutual agreement, and the costs borne thereof shall be borne according to the proportion-Whitewater -Coachella/Desert described in Section 1.2.2. All data thereby collected, and all the results thereof, shall be available to both parties, and shall be exchanged at the end of each year.

5.2. STATE PROJECT WATER

5.2.1. State Water Project. It is the intention of Coachella and Desert to utilize State Water Project Water for replenishment when that supply becomes available. At the present time, it is not known when or where such water may be delivered.

ARTICLE 6

6. OTHER

6.1. Disagreements. In the event of any legal action to construe or enforce the provisions of this Agreement, or for damages due to alleged breach thereof, the prevailing party shall be entitled to reimbursement of costs and reasonable attorney's fees.

IN WITNESS WHEREOF, the parties have executed this Agreement as set forth below.

SIGNATURE PAGE

Approved as to form:

COACHELLA VALLEY WATER DISTRICT

By: 

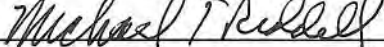
Steven B. Abbott
Special Counsel

By: 

J.M. Barrett
General Manager

Approved as to form:

DESERT WATER AGENCY

By: 

Michael T. Riddell
Attorney for Desert Water Agency

By: 

David K. Luker
General Manager-Chief Engineer

DWA/CVWD 2014 MISSION CREEK WATER MANAGEMENT AGREEMENT

Mission Creek Water Management Agreement

THIS AGREEMENT ("Mission Creek Water Management Agreement" or "Agreement") is effective this 15th day of July, 2014, between the COACHELLA VALLEY WATER DISTRICT, a public agency, hereinafter called "Coachella", and the DESERT WATER AGENCY, a public agency, hereinafter called "Desert."

RECITALS

A. Coachella is a State Water Project ("SWP") Contractor and entered into its original SWP Water Supply Contract on March 29, 1963 along with subsequent Amendments.

B. Desert is a SWP Contractor and entered into its original SWP Water Supply Contract on October 17, 1962 along with subsequent Amendments.

C. Coachella, Desert and the Metropolitan Water District of Southern California ("Metropolitan") have entered into various agreements ("Water Delivery and Exchange Agreements") and the most current are listed here by reference:

- i. Advanced Delivery Agreement-June 28, 1984
- ii. 2003 Exchange Agreement-October 24, 2003
- iii. Implementation of the 2003 Exchange Agreement-November 9, 2004
- iv. Implementation of the 2003 Exchange Agreement-Establishment of Long Term Operating Criteria-November 19, 2007.

D. Coachella and Desert have executed an agreement dated April 8, 2003 ("Mission Creek Groundwater Replenishment Agreement") for the cooperative management of Colorado River water ("Exchange Water") received from a connection to the Colorado River Aqueduct ("CRA"). This agreement provides for the percolation (recharge) of Exchange Water at the Mission Creek Groundwater Replenishment Facility ("Replenishment Facility"), replenishing the Mission Creek Subbasin and the sharing of costs associated with groundwater replenishment. The Mission Creek Subbasin has been in a state of overdraft.

E. Coachella, Desert and the Mission Springs Water District (“Mission Springs”) have entered into an agreement dated December 7, 2004, including a subsequent addendum (“Settlement Agreement”) for the cooperative management of the Mission Creek Subbasin.

F. Desert has constructed the Replenishment Facility, which includes a connection to the CRA (“Mission Creek Turnout”), conveyance pipeline and Replenishment Facility.

G. The intent of this Agreement is to update and replace in its entirety the Mission Creek Groundwater Replenishment Agreement.

DEFINITIONS

1. “Area of Benefit-Coachella” means that portion of the Mission Creek Subbasin under the responsibility of Coachella as defined in the most recent edition of Engineer’s Report On Water Supply and Replenishment Assessment-Mission Creek Subbasin Area of Benefit as prepared by Coachella.
2. “Area of Benefit-Desert” means that portion of the Mission Creek Subbasin under the responsibility of Desert as defined in the most recent edition of Engineer’s Report-Groundwater Replenishment and Assessment Program for the Mission Creek Subbasin as prepared by Desert.
3. “Article 21 Water” means additional SWP water available on a daily basis after SWP reservoirs have been filled and SWP Contractor deliveries have been met pursuant to Article 21 of the SWP Water Supply Contracts.
4. “Capital Costs” means preliminary design, design, right-of-way acquisition, construction, inspection and other incidental costs to ensure proper design and construction of the Replenishment Facility or associated facilities.
5. “Drought Water Bank Water” means additional water available during dry years pursuant to Article 55 and Article 12 (f) of the SWP Water Supply Contracts.
6. “Eligible Water Costs” means those imported water costs, which are eligible to be recovered from the Replenishment Assessment Charge per Water Code Sections 31630 through 31639

for Coachella and the Desert Water Agency Law for Desert. These costs include the following:

- 6.1. SWP Table A Allocation Water Costs - (1) Variable Operation-Maintenance-Power-Replacement Component, (2) Off Aqueduct Power Component and (3) Delta Water Charge.
- 6.2. Other SWP Water Costs - (1) Article 21 Water, (2) Pool A & B Water, (3) Drought Water Bank Water and (4) Yuba Accord Water; if mutually agreed in writing by Coachella and Desert.
- 6.3. Non-SWP water resulting from transfers, if mutually agreed in writing by Coachella and Desert.
7. "Minimal Pumper" means any entity pumping less than 25 acre-feet of water per year in the Area of Benefit-Coachella and/or any entity pumping less than 10 acre-feet per year in the Area of Benefit-Desert.
8. "Mission Creek Management Area" means the Mission Creek Subbasin.
9. "Mission Creek Subbasin" means that portion of the Coachella Valley Groundwater Basin as described in the most recent edition of Engineer's Report On Water Supply and Replenishment Assessment-Mission Creek Subbasin Area of Benefit as prepared by Coachella and the Engineer's Report-Groundwater Replenishment and Assessment Program for the Mission Creek Subbasin as prepared by Desert. The Mission Creek Subbasin is comprised of the Area of Benefit-Coachella and the Area of Benefit-Desert.
10. "Non-Eligible Costs" means water costs which are not Eligible Water Costs.
11. "Operation and Maintenance Costs" means labor, materials, equipment, utilities and other incidental costs to ensure proper operation and maintenance of the Replenishment Facility.
12. "Pool A & Pool B Water" means additional SWP water available pursuant to the Turn-Back Pool Program pursuant to Article 56 of the SWP Water Supply Contracts.
13. "Table A Allocation" means the current agency SWP water allocation from Table A of its Water Supply Contract in acre-feet per year.

14. "Water Production" means water pumped or diverted from a Management Area and from sources tributary to the Management Area excluding minimal pumpers and pumpers or diverters exercising adjudicated water rights.
15. "West Portion of the Whitewater River Subbasin" means that portion of the Coachella Valley Groundwater Basin as described in the most recent edition of Engineer's Report On Water Supply and Replenishment Assessment-West Whitewater River Subbasin Area of Benefit as prepared by Coachella and the Engineer's Report-Groundwater Replenishment and Assessment Program for the Whitewater River Subbasin as prepared by Desert.
16. "Whitewater Management Area" means the West Portion of the Whitewater River Subbasin.
17. "Yuba Accord Water" means additional water available from the Yuba Accord pursuant to Article 55 and Article 12 (f) of the Water Supply Contracts.

AGREEMENT

ARTICLE 1

1. WATER DELIVERY AND COST

- 1.1.1. Continuation of the Imported Water Program. As long as a current overdraft exists within the Mission Creek Management Area or the Whitewater Management Area, and subject to Section 1.5.3 and the remaining provisions of the Agreement, Coachella and Desert shall each order their full Table A Amounts under their respective SWP Water Supply Contracts. Such amounts of water shall be delivered to Metropolitan, and equivalent amounts shall be delivered by Metropolitan to Coachella and Desert, pursuant to the Water Delivery and Exchange Agreements. Exchange Water delivered to the Mission Creek Management Area will be percolated underground at the Replenishment Facility.
- 1.2. Water Accounting. Within 60 days after the end of the calendar year, Coachella and Desert shall determine the total combined water production for the previous calendar

year for both the Mission Creek Management Area and the Whitewater Management Area and calculate the following:

- 1.2.1. Proportion-Whitewater/Mission Creek. The proportionate share of water production between the Mission Creek Management Area and the Whitewater Management Area.
- 1.2.2. Proportion-Mission Creek-Coachella/Desert. The proportionate share of water production in the Mission Creek Management Area between Coachella and Desert.
- 1.2.3. Total Proportion-Coachella/Desert. The proportionate share of the total water production in the Mission Creek Management Area and the Whitewater Management Area between Coachella and Desert.
- 1.3. Water Delivery. Exchange Water available for delivery by Metropolitan shall be delivered to the Mission Creek Management Area and the Whitewater Management Area in proportion to water production as described in Section 1.2.1 and as required in the Settlement Agreement, i.e. production and delivery balanced over a 20 year period beginning December 7, 2004.
- 1.4. Water Order. On or before September 1, Coachella and Desert shall confer with Metropolitan and prepare a schedule of deliveries to the Mission Creek Management Area and Whitewater Management Area in accordance with Section 1.3. Coachella, Desert and Metropolitan will then submit coordinated SWP water orders to the Department of Water Resources on or before October 1. Deliveries under the Water Delivery and Exchange Agreements shall be credited to Coachella and Desert according to the Table A Amounts set forth in their respective SWP Water Supply Contracts, and no changes in such Table A Amounts shall be made which affect the joint groundwater replenishment operations without the written consent of both parties. Article 21 Water, other SWP water not allocated among SWP Water Supply Contractors according to Table A Amounts, Drought Water Bank Water, Non-SWP water resulting from water transfers, Pool A and B water and Yuba Accord Water shall not be taken under this Agreement without the prior approval of both Coachella and Desert.

1.5. Water Costs.

1.5.1. Eligible Water Costs. Coachella and Desert shall share the Eligible Water Costs in proportion to water production calculated pursuant to Section 1.2.3.

1.5.1.1. Monthly Eligible Water Cost Adjustment. Within 60 days after the end of the month, Coachella and Desert shall add their respective monthly Eligible Water Costs and multiply the sum by their respective Total Proportion-Coachella/Desert calculated pursuant to Section 1.2.3, to determine the amount of money that either agency must pay to the other in order to correctly apportion that month's Eligible Water Costs between the two (the 'Monthly Eligible Cost Adjustment'). Within 75 days after the end of the month Coachella or Desert shall make the Monthly Eligible Cost Adjustment payment to the overcharged agency.

1.5.1.2. Yearly Eligible Water Cost Adjustment. Within 60 days after the end of the calendar year, Coachella and Desert shall add their respective yearly Eligible Water Costs and multiply the sum by their respective Total Proportion-Coachella/Desert calculated pursuant to Section 1.2.3, to determine the amount of money that either agency must pay to the other in order to correctly apportion that year's Eligible Water Costs between the two (the "Yearly Eligible Water Cost Adjustment"), taking into account the Monthly Eligible Water Cost Adjustments that already had been made for that year. Within 75 days after the end of the calendar year Coachella or Desert shall make the Yearly Eligible Cost Adjustment payment to the overcharged agency.

1.5.2. Non-Eligible Water Costs. Coachella and Desert shall each be responsible for their own Non-Eligible Water Costs.

1.5.3. Review of Replenishment Facility Operations. The amounts of water Coachella and Desert shall continue to percolate for replenishment at the Replenishment Facility shall be subject to mutual review and redetermination annually. Percolation of Exchange Water, and the financial provisions of the Agreement

relating thereto shall cease upon termination of the Water Delivery and Exchange Agreements.

ARTICLE 2

2. CAPITAL IMPROVEMENTS AND COSTS

2.1. Original Capital Improvements. The construction of the Replenishment Facility was completed in 2002. The original construction is deemed complete and there will be no further original capital costs. Any costs related to improvements constructed after 2002 shall be subject to Section 2.2.

2.2. Post-2002 Capital Improvements

2.2.1. Planning, Design and Construction. Desert will be responsible for the planning, design and construction of any new required capital improvements for the Replenishment Facility.

2.2.2. Capital Improvement Approval. Coachella shall have the opportunity to review and approve the plans and specifications for new required capital improvements prior to construction. Such approval shall be made in writing.

2.2.3. Capital Cost Sharing. Coachella and Desert shall share the capital costs for any new capital improvement project according to the Proportion-Mission Creek-Coachella/Desert described in Section 1.2.2, calculated for the period beginning with completion of the original construction and ending with completion of the new construction.

2.2.4. Capital Cost Payments. Coachella shall pay Desert its share of the capital costs for new capital improvement projects using one of the following payment options.

2.2.4.1. Upfront Payment. Desert shall provide Coachella with the total estimated cost of the new capital improvement project based on advertised bids and shall invoice Coachella for its proportionate share of the estimated cost. Coachella will remit its total estimated share within

30 days of receiving the invoice. Within 90 days after completion of the project, Desert shall provide Coachella with an itemized statement of final costs incurred. The final costs will be reconciled with the upfront payment. Desert shall reimburse Coachella for any overpayment, or invoice Coachella for any additional payment due, and Coachella will remit to Desert its total share of actual costs incurred within 30 days of receiving the invoice.

2.2.4.2. Monthly Project Payment. Desert shall provide Coachella with the total estimated cost of the new capital improvement project based on advertised bids. Within 30 days after the end of the month, Desert shall invoice Coachella for its proportional share of the monthly costs incurred on the project, until project completion. Coachella will remit its monthly share to Desert within 30 days of receiving the invoice.

2.2.4.3. Change Orders. In the event of a change order, Desert shall provide Coachella with a copy of the change order within five (5) days of receiving the change order for Coachella's review. Desert and Coachella shall discuss and determine if the change order is valid and the following shall occur: (1) if it is determined by the parties that a change order is a result of a General Change in the contract as defined in Subsection 2.2.4.3.1 below, then the parties shall each pay for the percentage of the Work established according to the Proportion-Mission Creek-Coachella/Desert described in Section 1.2.2; (2) if it is determined by the parties that a change order is a direct result of Desert's Oversight as defined in Subsection 2.2.4.3.1 below, then Desert shall be solely responsible for the cost increase or decrease of the change order; and (3) if the parties are in disagreement with a change order, then in order to not delay the Project, the parties shall each pay for the percentage of the Work as established according to the Proportion-Mission Creek-Coachella/Desert described in Section 1.2.2 with the agreement that further negotiations will occur as defined in Subsection 2.2.4.3.2 below. Desert may issue change orders without reviewing the change order with

Coachella; however, Coachella will not be obligated to pay for a change order that is not provided to Coachella for review.

2.2.4.3.1. A General Change is defined as a change to the Work associated with a reasonable increase or decrease in a contract's quantities or unit prices or a mutually agreed change in the scope of the work. Desert Oversight Change is defined as a change that occurs that is not a General Change.

2.2.4.3.2. In the event of any disagreement between Desert and Coachella with respect to responsibility for costs incurred in connection with change orders approved by Desert, the matter shall expeditiously be submitted to binding arbitration to be held in the Coachella Valley and conducted by an arbitrator agreed to by the parties, in accordance with the Commercial Arbitration Rules of the American Arbitration Association. Each party shall initially pay one-half ($\frac{1}{2}$) of all costs incurred in connection with such arbitration; however, the arbitrator shall have the power and discretion to order that the non-prevailing party reimburse reasonable legal fees and costs incurred by the prevailing party.

2.2.4.3.3. Subject to the foregoing, Coachella shall have no obligation to pay any cost increases for changes unless Coachella has approved the same in writing.

2.3. Revenue-Producing Improvements-Desert. After the effective date of this Agreement, if Desert constructs or installs a revenue-producing improvement at the Replenishment Facility site, such as a wind power generating facility, the annual revenue derived from the operation of the revenue-producing improvement shall be applied to compensate Desert for its costs, in the following order: (1) Desert's annual Operation and Maintenance (O&M) costs to operate and maintain the revenue producing facility, then

(2) Desert's annualized capital costs for the revenue producing facility until such capital costs have been recovered in full. The remaining net annual revenue, if any, shall be divided evenly between Desert and Coachella, with payment of Coachella's share of the net revenue to be paid by Desert to Coachella within 30 days after the end of the month in which Desert receives the net revenue.

2.4. Revenue-Producing Improvements-Third Party. After the effective date of this Agreement, if Desert enters into a lease or other agreement with a Third Party to construct, operate and maintain a revenue-producing improvement on the Replenishment Facility site in exchange for rental or royalty or other payments, one-half (1/2) of such payments shall be remitted to Coachella within thirty (30) days after receipt by Desert.

2.5. Legal Defense or Representation Costs. In the event of any legal actions affecting capital cost payments that are shared between Desert and Coachella according to the Proportion-Mission Creek-Coachella/Desert described in Section 1.2., Desert and Coachella will share in these legal representation costs in the same proportion as their percentage capital cost contribution obligations. Desert and Coachella agree to cooperate in their joint representation.

ARTICLE 3

3. OPERATION AND MAINTENANCE (O&M) AND COSTS

3.1. Original O&M Costs. All O&M costs incurred prior to the effective date of this Agreement shall be deemed to be the responsibility of Desert.

3.2. New O&M Costs.

3.2.1. O&M Planning, Budgeting and Implementation. Desert shall be responsible for planning, budgeting and implementing programs to ensure proper operation and maintenance of the Replenishment Facility.

- 3.2.2. O&M Approval. Coachella shall have the opportunity to review and approve the O&M planning and budgets in the year prior to the proposed O&M expenditures. Such approval shall be made in writing.
- 3.2.3. O&M Cost Sharing. Coachella and Desert shall share the O&M costs each year according to the Proportion-Mission Creek-Coachella/Desert calculated for that year pursuant to Section 1.2.2; provided however, that if extraordinary O&M repair or replacement costs are incurred due to the negligence or willful act of either party as determined by a court or by concurrence between Desert and Coachella, all of such extraordinary costs shall be borne exclusively by the party whose negligence or willful act resulted in such costs, and upon invoice shall be paid at the same time that other O&M costs are paid.
- 3.2.4. O&M Cost Payments. Coachella shall pay Desert its share of the O&M costs on a monthly basis. Within 30 days after the end of each month, Desert shall invoice Coachella for the actual O&M costs incurred during that month. Coachella shall have 30 days after receipt of the invoice to remit its share of the monthly O&M costs.
- 3.2.5. Yearly O&M Cost Adjustment. Within 60 days after the end of the calendar year, Coachella and Desert shall add their respective yearly O&M Costs and multiply the sum by their respective Proportion-Mission Creek-Coachella/Desert calculated for that year pursuant to Section 1.2.2, to determine the amount of money that either agency must pay to the other in order to correctly apportion that year's O&M costs between the two (the "Yearly O&M Cost Adjustment"), taking into account the monthly O&M cost payments that had been made for that year. Within 75 days after the end of the calendar year Coachella or Desert shall make the Yearly O&M Cost Adjustment payment to the overcharged agency.
- 3.2.6. Future Regulatory Costs. The costs of any future permit or other regulatory expense that may be required by any governmental authority having jurisdiction over groundwater replenishment operations shall be the joint responsibility of Coachella and Desert according to the Proportion-Mission Creek-Coachella/Desert calculated for that year pursuant to Section 1.2.2.

ARTICLE 4

4. WATER RIGHTS

4.1. Intent To Recapture. The Exchange Water that will be percolated at the Replenishment Facility and replenishing the Mission Creek Management Area shall not be considered part of the native safe yield of the Mission Creek Subbasin. The parties hereby declare their intent to recapture such Exchange Water, and to maintain their prior rights to recapture quantities by which the groundwater supply has been augmented through their replenishment operations. Such recapture rights shall be owned by the parties in the same proportions as the total Eligible Water Costs apportioned between the two for the delivery of water to the Replenishment Facility during the term of this Agreement. Coachella and Desert shall each own the right to recapture the return flows from its share of such Exchange Water to the maximum extent permitted by law.

4.2. No Transfer of Permanent Entitlement. Nothing in this Agreement shall be construed as effecting or resulting in any assignment, conveyance or other transfer of permanent entitlement or of any other rights under the SWP Water Supply Contract and Amendments by neither party, nor the acquisition of any right, title or interest in the SWP Water Supply Contract and Amendments of the other party. Coachella and Desert shall each reserve the right, upon 180 days written notice to the other, to withdraw from the joint replenishment of the Mission Creek Subbasin and to fully utilize their own entitlements under their respective SWP Water Supply Contracts and Amendments whenever their own needs, as determined by each such party, may require. In such event, each party shall thereafter be required to pay in full all sums due under its own SWP Contract and Amendments without contribution from the other.

4.3. Effect of SWP Contracts and Others. This Agreement is subject to the provisions of the SWP Water Supply Contracts and Amendments, the Delivery and Exchange Agreements, Settlement Agreement and Addendum, all provisions of law, and the rules and regulations of any governmental agency having lawful jurisdiction over the performance of this Agreement.

- 4.4. Other Water. Nothing herein shall be construed to prevent either Coachella or Desert from importing other water for use within their respective boundaries, provided that any alteration of the rights, responsibilities, charges, or procedures set forth in this Agreement shall require an amendment.

ARTICLE 5

5. DATA COLLECTION PROGRAM

- 5.1. Data Collection Program. A joint program of data collection and analysis within the Mission Creek Management Area shall be established by Coachella and Desert in order to provide the information required for sound management of the water resources of the area. Such program shall include, but not be limited to: (1) an annual determination of the water production, excluding minimal pumpers, within the Mission Creek Management Area of each of the parties, including continued metering of their own wells, and efforts to meter the wells of other pumpers in the Mission Creek Management Area; (2) monitoring the effect of groundwater replenishment operations, including cooperative efforts with the Regional Water Quality Control Board and the USGS; (3) monitoring inflow and outflow from the Mission Creek Management Area; (4) regular measurement of groundwater levels; and (5) regular analysis of ground water quality. Coachella and Desert shall each be responsible for carrying out and paying the cost of those portions of the program attributable to the portions of the Mission Creek Management Area located within their own boundaries. Additional data or work which may be required shall be subject to mutual agreement, and the costs thereof shall be borne according to the proportion-Mission Creek-Coachella/Desert described in Section 1.2.2. All data thereby collected, and all the results thereof, shall be available to both parties, and shall be exchanged at the end of each year.

5.2. STATE PROJECT WATER

5.2.1. State Project Water. It is the intention of Coachella and Desert to utilize State Water Project Water for replenishment when that supply becomes available. At the present time, it is not known when or where such water may be delivered.

ARTICLE 6

6. OTHER


6.1. Disagreements. In the event of any legal action to construe or enforce the provisions of this Agreement, or for damages due to alleged breach thereof, the prevailing party shall be entitled to reimbursement of costs and reasonable attorney's fees.


IN WITNESS WHEREOF, the parties have executed this Agreement as set forth below.

SIGNATURE PAGE

Approved as to form:


COACHELLA VALLEY WATER DISTRICT


By: 
Steven B. Abbott
Special Counsel

By: 
J.M. Barrett
General Manager

Approved as to form:

DESERT WATER AGENCY

By: 
Michael T. Riddell
Attorney for Desert Water Agency

By: 
David K. Luker
General Manager-Chief Engineer

APPENDIX H

**ORDINANCE NO. 65 - ESTABLISHING A WATER CONSERVATION PLAN AND
RESTRICTING THE USE OF WATER DURING THREATENED OR
EXISTING WATER SHORTAGE CONDITIONS**

ORDINANCE NO. 65

ORDINANCE OF DESERT WATER AGENCY ESTABLISHING A WATER CONSERVATION PLAN AND RESTRICTING THE USE OF WATER DURING THREATENED OR EXISTING WATER SHORTAGE CONDITIONS

WHEREAS, Desert Water Agency (hereinafter "Agency") is a public agency organized under the Desert Water Agency Law, California Water Code Appendix Section 100-1 et seq., to provide water service among other purposes to water users within the boundaries of the Agency; and

WHEREAS, the Agency is authorized by Water Code Appendix Section 100-15 (13) to restrict the use of Agency water during an emergency caused by a drought, or other threatened or existing water shortage, and during such periods to prohibit the waste or the use of Agency water for any purpose other than household uses or such other restricted uses as may be determined by the Agency to be necessary; and

WHEREAS, the Agency is further authorized by Water Code Sections 375-377 to adopt water conservation programs; and

WHEREAS, California is currently in the fourth year of a significant state-wide drought resulting in severe impacts to California's water supplies and its ability to meet all of the demands for water within the state; and

WHEREAS, Governor Edmond G. Brown, Jr. declared a state-wide emergency on January 17, 2014, and due to continuing dry conditions, a continued state of emergency was declared on April 1, 2015; and

WHEREAS, Water Code Section 1058.5 grants the State Water Resources Control Board the authority to adopt emergency regulations in years when the Governor has declared an emergency based upon state-wide water shortage conditions; and

WHEREAS, on July 15, 2014, the State Water Resources Control Board formally adopted emergency rulemaking to adopt emergency regulations for urban water suppliers; and

WHEREAS, on March 17, 2015, and May 5, 2015, the State Water Resources Control Board formally adopted additional emergency regulations for urban water suppliers due to continuing water shortage conditions; and

WHEREAS, the three sets of emergency regulations adopted by the State Water Resources Control Board prohibit certain types of potable water use, orders all urban water suppliers to implement mandatory conservation measures, and orders water suppliers with 3,000 or more service connections to provide monthly data on water production; and

WHEREAS, the Agency wishes to adopt a water conservation program that implements the requirements set forth in the regulations adopted by the State Water Resources Control Board, and which will provide a framework that can be utilized by the Agency even after the current regulations adopted by the State Water Resources Control Board are no longer in effect if a local water shortage emergency were to arise; and

WHEREAS, the Agency finds and determines that the adoption of the water conservation program set forth herein is necessary to (1) comply with the mandates imposed by the State Water Resources Control Board, (2) protect the health, safety and welfare of the inhabitants of the Agency, (3) assure the maximum beneficial use of the water supplies within the Agency, and (4) ensure that there will be sufficient water supplies to meet the basic needs of human consumption, sanitation and fire protection;

NOW, THEREFORE, BE IT ORDAINED by the Board of Directors of Desert Water Agency as follows:

Section 1: DEFINITIONS.

- 1.1 "Agency" means Desert Water Agency.
- 1.2 "Board" means the Board of Directors of Desert Water Agency.
- 1.3 "General Manager" means the General Manager of Desert Water Agency.
- 1.4 "Measurable rainfall" means rainfall of 1/4 inch or more during any 24-hour period.
- 1.5 "Waste" means any unreasonable or non-beneficial use of water, or any unreasonable method of use of water, including, but not limited to, the specific uses prohibited and restricted by this Ordinance as hereinafter set forth.
- 1.6 "Water user" means any person, firm, partnership, association, corporation or political entity using water obtained from the water system of Desert Water Agency.
- 1.7 "Water" means water supplied by Desert Water Agency.

Section 2: NOTICED PUBLIC HEARING PRIOR TO MANDATORY CONSERVATION, STAGES 2 THROUGH 5.

Except when an emergency is caused by the breakage or failure of a dam, pump, pipeline or conduit, a noticed public hearing shall be conducted prior to the adoption of Stages 2, 3, 4 or 5 of the Water Conservation Plan as set forth in Sections 3.2, 3.3, 3.4 and 3.5 below. Notice of the time and place of hearing shall be published at least seven days prior to the date of hearing in a newspaper printed, published, and circulated within the area in which the water supply is distributed, or if there is no such newspaper, in any newspaper printed, published and circulated in the County of Riverside.

Section 3: WATER CONSERVATION PLAN STAGES.

3.1 Stage No. 1: Voluntary Conservation and Prohibited Uses.

Stage 1 shall apply whenever normal conditions are in effect. Normal conditions shall be in effect when the Agency is able to meet all the water demands of its customers in the immediate future, and when the State Water Resources Control Board or other regulatory body has not imposed restrictions on the use of water within the Agency. During normal conditions, all water users must continue to use water wisely. The waste or unreasonable use of water is prohibited. Unreasonable use of water shall include, but not be limited to, a use that produces unnecessary runoff onto adjacent property and non-irrigated areas, private and public walkways, roadways, and parking lots or parking structures. It shall also be an unreasonable use of water to irrigate landscapes within 48 hours after measurable rainfall. In addition, the following mandatory restrictions shall apply at all times:

(1) Washing driveways, parking lots, building exteriors, or other exterior hard surfaced areas other than windows, solar panels and tennis courts, or as necessary to protect the public health, shall be prohibited; provided that the use of recycled water and the use of potable water from a bucket, use of a pressure washer, or use of a water broom for such purposes shall be permitted.

(2) Running water shall not be used for washing vehicles. A bucket may be used for the washing of vehicles, and hoses equipped with shutoff nozzles may be used for rinsing.

3.2 Stage 2 Alert: Mandatory Conservation Measures.

When the State Water Resources Control Board or other regulatory body has imposed restrictions on the use of water within the Agency that warrant the restrictions set forth herein, or in the event of a threatened or existing water supply shortage that could prevent the Agency from meeting the water demands of its water users, the Board shall conduct a public hearing to consider declaring a Stage 2 Alert, during which water users shall have the opportunity to present their protests and respective needs to the Board. Upon such declaration the following restrictions shall take effect immediately, in addition to those specified in Section 3.1:

(1) Outdoor irrigation shall be permitted only before 7:00 a.m. and after 7:00 p.m.

(2) Restaurants and other eating establishments shall not provide drinking water to patrons, except upon request.

3.3 Stage 3 Warning: Mandatory Conservation Measures.

When the State Water Resources Control Board or other regulatory body has imposed restrictions on the use of water within the Agency that warrant the restrictions set forth herein, or in the event that a water shortage condition in fact will prevent the Agency from meeting the demands of its water users, following a public hearing as set forth in Section 3.2, during which water users shall have the opportunity to present protests and their respective needs to the Board,

the Board may declare that a Stage 3 Warning condition exists. Upon such declaration, the following water conservation measures shall apply in addition to those set forth in Sections 3.1 and 3.2:

(1) Outdoor irrigation shall be restricted to no more than four days per week, after 7:00 p.m. and before 7:00 a.m.

(2) Commercial car washes shall be required to have recirculating water systems or shall drain used water into the sewer system where it can be recycled.

(3) The use of water for outdoor decorative water features shall be prohibited, unless recirculating water systems are installed and in use.

(4) Irrigation with potable water outside of newly constructed homes and buildings shall require drip irrigation or micro-irrigation systems as established by the California Building Standards Commission and the Department of Housing and Community Development.

3.4 Stage 4 Emergency: Mandatory Conservation Measures.

When the State Water Resources Control Board or other regulatory body has imposed restrictions on the use of water within the Agency that warrant the restrictions set forth herein, or in the event that a water shortage condition requires a significant reduction in water use, following a public hearing as set forth in Section 3.2, during which water users shall have the opportunity to present protests and their respective needs to the Board, the Board may declare that a Stage 4 Emergency condition exists. Upon such declaration, the following water conservation measures shall apply in addition to those set forth in Sections 3.1, 3.2 and 3.3:

(1) Outdoor irrigation shall be restricted to Mondays, Wednesdays, and Fridays before 7:00 a.m. and after 7:00 p.m.

(2) The use of potable water to irrigate ornamental turf within the street medians and within dedicated right of way on each side of a dedicated street shall be prohibited.

3.5 Stage No. 5. Water Allocations.

When the State Water Resources Control Board or other regulatory body has imposed restrictions on the use of water within the Agency that warrant the restrictions set forth herein, or in the event that a water shortage condition requires the Agency to allocate water supplies to water users or warrants a moratorium on new service connections, or both, following a public hearing as set forth in Water Code Sections 350 et seq., the Board may consider adoption of a resolution or ordinance that allocates water deliveries among the Agency's water users, and that imposes penalties for consumption in excess of the allocated amounts. The resolution or ordinance may also, or instead, impose a limit on new water service connections. Violation of the provisions of such resolution or ordinance shall be deemed a violation of this Ordinance, and shall be subject to the enforcement provisions set forth herein.

Section 4: MODIFICATION OF WATER CONSERVATION MEASURES.

The specific requirements of each mandatory conservation stage identified in this Ordinance shall be effective upon adoption by the Board following a public hearing; provided that the Board may modify or amend such requirements at the time of adoption upon a showing of the need for such modification or amendment.

Section 5: IMPLEMENTATION AND TERMINATION OF MANDATORY COMPLIANCE STAGES.

The General Manager of the Agency shall monitor the supply and demand for water on a regular basis to determine the level of conservation required by the implementation or termination of the Water Conservation Plan stages set forth in this Ordinance, and shall notify the Board of the necessity for the implementation or termination of each stage. Each declaration of the Board implementing or terminating a water conservation stage shall be published at least once in a newspaper of general circulation, and shall remain in effect until the Board otherwise declares, as provided herein.

Section 6: EXCEPTIONS.

The General Manager of the Agency is hereby authorized to allow exceptions from the application of any provision of this Ordinance, due to exceptional circumstances, if the General Manager determines that the application of a provision would either: (a) cause an unnecessary and undue hardship to the water user or to the public; or (b) jeopardize the health, sanitation, fire protection or safety of the water user or of the public. Such exceptions may be granted only upon application therefor. Upon granting any such exception, the General Manager may impose any conditions the General Manager determines to be appropriate in the circumstance.

Section 7: CRIMINAL PROCEEDINGS FOR VIOLATION.

The Board hereby determines that, pursuant to Water Code Section 377, it shall be a misdemeanor for any water user to use or apply water contrary to or in violation of any mandatory restriction or requirement established by this Ordinance and, upon conviction thereof, that water user shall be punished by imprisonment in the County jail for not more than 30 days or by a fine of not more than \$1,000, or by both such fine and imprisonment.

Section 8: CIVIL PENALTIES AND ENFORCEMENT.

In addition to criminal penalties, violators of the mandatory provisions of this Ordinance shall be subject to civil penalties and enforcement action by the Agency staff, as follows:

8.1 First Violation.

For a first violation, the Agency staff may serve a written complaint to impose civil penalties to the water user or account holder who is violating the provisions of this Ordinance or violating the water use restrictions imposed by the State Water Resources Control Board. Upon receipt of the complaint for civil penalty, the water user or account holder shall have seven days to request, in writing, a hearing. If no hearing is requested or at the hearing it is determined that

the water user or account holder has committed a violation, a civil penalty of \$50 for a first violation at a single family residence and \$100 for a first violation at a multi-family residential, commercial or institutional establishment may be levied.

8.2 Second Violation.

For a second violation of this Ordinance or water use restrictions imposed by the State Water Resources Control Board within any 12-month period, the Agency staff may serve a written complaint to impose civil penalties on the water user or account holder with written notice thereof, and the water user or account holder shall have the same period of time set forth in Section 8.1 to request a hearing. For a second violation within any 12-month period the civil penalty shall be \$100 at a single family residence and \$200 at a multi-family residential, commercial or institutional establishment.

8.3 Third Violation.

For a third violation of this Ordinance and for each subsequent violation within any 12-month period, the water user or account holder shall be subject to civil penalties and shall have the same opportunity to request a hearing in the manner set forth in Section 8.1. For a third and each subsequent violation within any 12-month period, the civil penalty shall be \$250 at a single family residence and \$500 at a multi-family residential, commercial or institutional establishment.

8.4 Collection of Civil Penalties.

Civil penalties may be billed to the violating water user by separate invoice, or may be added to the water user's invoice for water service as a separately itemized charge as determined by Agency staff. Civil penalties that are not paid may become a lien on the affected property in a manner provided by law to secure payment for water service. In addition, the Agency staff shall be authorized to discontinue water service for any violation of this Ordinance and for failure to pay a civil penalty within the period of time provided by the Agency staff for payment of invoices for water service. In the event that service is terminated, such service shall remain terminated for a period of at least 48 hours, unless such period is extended by action of the Board of Directors. A charge shall be imposed for reconnection and restoration of service in the amount normally charged by the Agency for restoration of service. Such restoration of service shall not be made until the General Manager has determined that the water user has provided adequate assurances that future violations of this Ordinance by such water user will not occur.

8.5 Service of Complaint.

The complaint for civil penalties may be served personally, by certified mail or by affixing a copy of the complaint to the front entry of the property. The complaint shall contain, in addition to the facts of the violation, a statement of the possible civil penalties for the violation and a statement informing the water user of his or her right to a hearing.

8.6 Hearing and Appeal.

Within seven days of receipt of a complaint for civil penalties, the water user may request a hearing to present evidence that a violation did not occur. Within seven days after receipt of a written request for a hearing, the Agency will schedule a hearing for the water user to present evidence that a violation did not occur. The hearing shall take place no sooner than 30 days after the complaint has been issued to the violator, unless requested at an earlier date by the violator. If the hearing is held by the Board of Directors, the decision issued at the time of the hearing shall be final. If the hearing is held by the General Manager or his designee, within seven days after issuance of a decision, the water user or account holder may file a request with the Agency to appeal the decision to the Board. Upon receipt of such request, the Board shall schedule the matter for consideration at a regular or special meeting of the Board within thirty days after receiving the request, and at that time, or thereafter, shall render its decision which shall be communicated to the water user in writing, and shall be final.

Section 9: CUMULATIVE REMEDIES.

The remedies for violations set forth in this Ordinance shall be cumulative to any other remedies available to the Agency according to law.

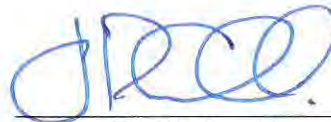
Section 10: SEVERABILITY.

If any section, subsection, sentence, clause or phrase of this Ordinance is for any reason held to be unconstitutional or invalid, such determination shall not affect the validity of the remaining provisions of this Ordinance.

Section 11: PUBLICATION.

The Secretary of the Board of Directors of the Agency shall attest to the adoption of this Ordinance and shall cause the same to be published in a newspaper of general circulation which is printed, published and circulated in the Agency within ten days after its adoption.

ADOPTED this first day of March, 2016.



James Cioffi, President

ATTEST:



Kristin Bloomer, Secretary-Treasurer

I, Sylvia Baca, Assistant Board Secretary of the Desert Water Agency DO HEREBY CERTIFY that the foregoing Ordinance No. 65 was duly adopted at a regular meeting of the Board of Directors of the Desert Water Agency on March 1, 2016 by the following roll call vote:

AYES: DIRECTORS: OYGAR, BLOOMER, STUART, CIOFFI
NOES: DIRECTORS: NONE
ABSENT: DIRECTORS: EWING
ABSTAIN: DIRECTORS: NONE

Dated: March 1, 2016



Sylvia Baca
Assistant Board Secretary

APPENDIX I

DWA WATER AUDIT REPORT FOR REPORTING YEAR 2015



AWWA Free Water Audit Software: Reporting Worksheet

WAS v5.0
American Water Works Association
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? Click to access definition
+ Click to add a comment

Water Audit Report for: **Desert Water Agency (3310005)**
Reporting Year: **2015** 1/2015 - 12/2015

Please enter data in the white cells below. Where available, metered values should be used; if metered values are unavailable please estimate a value. Indicate your confidence in the accuracy of the input data by grading each component (n/a or 1-10) using the drop-down list to the left of the input cell. Hover the mouse over the cell to obtain a description of the grades

All volumes to be entered in acre-feet per year

To select the correct data grading for each input, determine the highest grade where the utility meets or exceeds all criteria for that grade and all grades below it.

----- Enter grading in column 'E' and 'J' ----->

Master Meter and Supply Error Adjustments

WATER SUPPLIED

Volume from own sources: + ? 9 29,731.000 acre-ft/yr
Water imported: + ? n/a acre-ft/yr
Water exported: + ? n/a acre-ft/yr

Pcnt: Value: acre-ft/yr
+ ?
+ ?
+ ?

Enter negative % or value for under-registration
Enter positive % or value for over-registration

WATER SUPPLIED: 29,731.000 acre-ft/yr

AUTHORIZED CONSUMPTION

Billed metered: + ? 9 26,796.000 acre-ft/yr
Billed unmetered: + ? n/a acre-ft/yr
Unbilled metered: + ? 9 172.000 acre-ft/yr
Unbilled unmetered: + ? 371.638 acre-ft/yr

Default option selected for Unbilled unmetered - a grading of 5 is applied but not displayed

AUTHORIZED CONSUMPTION: 27,339.638 acre-ft/yr

Click here: ?
for help using option
buttons below

Pcnt: Value: acre-ft/yr
1.25% ● ○

Use buttons to select
percentage of water
supplied
OR
value

Pcnt: Value: acre-ft/yr
0.25% ● ○

5.00% ● ○
0.25% ● ○

WATER LOSSES (Water Supplied - Authorized Consumption)

2,391.363 acre-ft/yr

Apparent Losses

Unauthorized consumption: + ? 74.328 acre-ft/yr

Default option selected for unauthorized consumption - a grading of 5 is applied but not displayed

Customer metering inaccuracies: + ? 7 1,419.368 acre-ft/yr
Systematic data handling errors: + ? 66.990 acre-ft/yr

Default option selected for Systematic data handling errors - a grading of 5 is applied but not displayed

Apparent Losses: 1,560.686 acre-ft/yr

Real Losses (Current Annual Real Losses or CARL)

☐ Use Customer Retail Unit Cost to

Real Losses = Water Losses - Apparent Losses: ? **830.677** acre-ft/yr

WATER LOSSES: 2,391.363 acre-ft/yr

NON-REVENUE WATER

NON-REVENUE WATER: 2,935.000 acre-ft/yr

= Water Losses + Unbilled Metered + Unbilled Unmetered

SYSTEM DATA

Length of mains: + ? 9 392.0 miles
Number of active AND inactive service connections: + ? 9 22,073
Service connection density: ? 56 conn./mile main

Are customer meters typically located at the curbside or property line? Yes

Average length of customer service line: + ? (length of service line, beyond the property boundary, that is the responsibility of the utility)

Average length of customer service line has been set to zero and a data grading score of 10 has been applied

Average operating pressure: + ? 8 80.0 psi

COST DATA

Total annual cost of operating water system: + ? 9 \$25,084,704 \$/Year
Customer retail unit cost (applied to Apparent Losses): + ? 9 \$2.50 \$/100 cubic feet (ccf)
Variable production cost (applied to Real Losses): + ? 9 \$814.57 \$/acre-ft

WATER AUDIT DATA VALIDITY SCORE:

***** YOUR SCORE IS: 84 out of 100 *****

A weighted scale for the components of consumption and water loss is included in the calculation of the Water Audit Data Validity Score

PRIORITY AREAS FOR ATTENTION:

Based on the information provided, audit accuracy can be improved by addressing the following components:

1: Volume from own sources

2: Unauthorized consumption

3: Systematic data handling errors

APPENDIX J

SB X7-7 VERIFICATION FORM

SB X7-7 Table 0: Units of Measure Used in UWMP**(select one from the drop down list)*

Acre Feet

**The unit of measure must be consistent with Table 2-3*

NOTES:

SB X7-7 Table-1: Baseline Period Ranges

Baseline	Parameter	Value	Units
10- to 15-year baseline period	2008 total water deliveries	41,430	Acre Feet
	2008 total volume of delivered recycled water	4,079	Acre Feet
	2008 recycled water as a percent of total deliveries	9.85%	Percent
	Number of years in baseline period ^{1, 2}	10	Years
	Year beginning baseline period range	1996	
	Year ending baseline period range ³	2005	
5-year baseline period	Number of years in baseline period	5	Years
	Year beginning baseline period range	2004	
	Year ending baseline period range ⁴	2008	

¹ If the 2008 recycled water percent is less than 10 percent, then the first baseline period is a continuous 10-year period. If the amount of recycled water delivered in 2008 is 10 percent or greater, the first baseline period is a continuous 10- to 15-year period. ² The Water Code requires that the baseline period is between 10 and 15 years. However, DWR recognizes that some water suppliers may not have the minimum 10 years of baseline data.

³ The ending year must be between December 31, 2004 and December 31, 2010.

⁴ The ending year must be between December 31, 2007 and December 31, 2010.

NOTES:

SB X7-7 Table 2: Method for Population Estimates

Method Used to Determine Population (may check more than one)	
<input type="checkbox"/>	1. Department of Finance (DOF) DOF Table E-8 (1990 - 2000) and (2000-2010) and DOF Table E-5 (2011 - 2015) when available
<input type="checkbox"/>	2. Persons-per-Connection Method
<input type="checkbox"/>	3. DWR Population Tool
<input checked="" type="checkbox"/>	4. Other DWR recommends pre-review
NOTES: Refer to description in Section I.C.2 of the 2015 UWMP.	

SB X7-7 Table 3: Service Area Population		
Year		Population
10 to 15 Year Baseline Population		
Year 1	1996	85,481
Year 2	1997	85,690
Year 3	1998	85,897
Year 4	1999	86,106
Year 5	2000	86,372
Year 6	2001	86,516
Year 7	2002	86,659
Year 8	2003	86,803
Year 9	2004	86,946
Year 10	2005	87,090
Year 11		
Year 12		
Year 13		
Year 14		
Year 15		
5 Year Baseline Population		
Year 1	2004	86,946
Year 2	2005	87,090
Year 3	2006	87,223
Year 4	2007	87,376
Year 5	2008	87,520
2015 Compliance Year Population		
2015		88,517
NOTES:		

SB X7-7 Table 4: Annual Gross Water Use *								
Baseline Year <i>Fm SB X7-7 Table 3</i>		Volume Into Distribution System <i>This column will remain blank until SB X7-7 Table 4-A is completed.</i>	Deductions					Annual Gross Water Use
			Exported Water	Change in Dist. System Storage (+/-)	Indirect Recycled Water <i>This column will remain blank until SB X7-7 Table 4-B is completed.</i>	Water Delivered for Agricultural Use	Process Water <i>This column will remain blank until SB X7-7 Table 4-D is completed.</i>	
10 to 15 Year Baseline - Gross Water Use								
Year 1	1996	42,310			-		-	42,310
Year 2	1997	40,080			-		-	40,080
Year 3	1998	40,080			-		-	40,080
Year 4	1999	42,210			-		-	42,210
Year 5	2000	42,690			-		-	42,690
Year 6	2001	42,315			-		-	42,315
Year 7	2002	43,440			-		-	43,440
Year 8	2003	41,440			-		-	41,440
Year 9	2004	44,635			-		-	44,635
Year 10	2005	43,070			-		-	43,070
<i>Year 11</i>	0	-			-		-	-
<i>Year 12</i>	0	-			-		-	-
<i>Year 13</i>	0	-			-		-	-
<i>Year 14</i>	0	-			-		-	-
<i>Year 15</i>	0	-			-		-	-
10 - 15 year baseline average gross water use								42,227
5 Year Baseline - Gross Water Use								
Year 1	2004	44,635			-		-	44,635
Year 2	2005	43,070			-		-	43,070
Year 3	2006	44,780			-		-	44,780
Year 4	2007	44,580			-		-	44,580
Year 5	2008	41,430			-		-	41,430
5 year baseline average gross water use								43,699
2015 Compliance Year - Gross Water Use								
2015		29,091	-		-		-	29,091
* NOTE that the units of measure must remain consistent throughout the UWMP, as reported in Table 2-3								
NOTES:								

NOTES:

SB X7-7 Table 4-A: Volume Entering the Distribution System(s)

Complete one table for each source.

Name of Source		Potable Water System		
This water source is:				
<input checked="" type="checkbox"/>	The supplier's own water source			
<input type="checkbox"/>	A purchased or imported source			
Baseline Year <i>Fm SB X7-7 Table 3</i>	Volume Entering Distribution System	Meter Error Adjustment* <i>Optional</i> (+/-)	Corrected Volume Entering Distribution System	
10 to 15 Year Baseline - Water into Distribution System				
Year 1	1996	42,310		42,310
Year 2	1997	40,080		40,080
Year 3	1998	40,080		40,080
Year 4	1999	42,210		42,210
Year 5	2000	42,690		42,690
Year 6	2001	42,315		42,315
Year 7	2002	43,440		43,440
Year 8	2003	41,440		41,440
Year 9	2004	44,635		44,635
Year 10	2005	43,070		43,070
Year 11	0			-
Year 12	0			-
Year 13	0			-
Year 14	0			-
Year 15	0			-
5 Year Baseline - Water into Distribution System				
Year 1	2004	44,635		44,635
Year 2	2005	43,070		43,070
Year 3	2006	44,780		44,780
Year 4	2007	44,580		44,580
Year 5	2008	41,430		41,430
2015 Compliance Year - Water into Distribution System				
2015	29,091			29,091
<i>* Meter Error Adjustment - See guidance in Methodology 1, Step 3 of Methodologies Document</i>				
NOTES:				

SB X7-7 Table 4-B: Indirect Recycled Water Use Deduction *(For use only by agencies that are deducting indirect recycled water)*

Baseline Year <i>Fm SB X7-7 Table 3</i>		Surface Reservoir Augmentation					Groundwater Recharge			Total Deductible Volume of Indirect Recycled Water Entering the Distribution System
		Volume Discharged from Reservoir for Distribution System Delivery	Percent Recycled Water	Recycled Water Delivered to Treatment Plant	Transmission/ Treatment Loss	Recycled Volume Entering Distribution System from Surface Reservoir Augmentation	Recycled Water Pumped by Utility*	Transmission/ Treatment Losses	Recycled Volume Entering Distribution System from Groundwater Recharge	
10-15 Year Baseline - Indirect Recycled Water Use										
Year 1	1996			-		-			-	-
Year 2	1997			-		-			-	-
Year 3	1998			-		-			-	-
Year 4	1999			-		-			-	-
Year 5	2000			-		-			-	-
Year 6	2001			-		-			-	-
Year 7	2002			-		-			-	-
Year 8	2003			-		-			-	-
Year 9	2004			-		-			-	-
Year 10	2005			-		-			-	-
Year 11	0			-		-			-	-
Year 12	0			-		-			-	-
Year 13	0			-		-			-	-
Year 14	0			-		-			-	-
Year 15	0			-		-			-	-
5 Year Baseline - Indirect Recycled Water Use										
Year 1	2004			-		-			-	-
Year 2	2005			-		-			-	-
Year 3	2006			-		-			-	-
Year 4	2007			-		-			-	-
Year 5	2008			-		-			-	-
2015 Compliance - Indirect Recycled Water Use										
2015				-		-			-	-
*Suppliers will provide supplemental sheets to document the calculation for their input into "Recycled Water Pumped by Utility". The volume reported in this cell must be less than total groundwater pumped - See Methodology 1, Step 8, section 2.c.										
NOTES: Desert Water Agency is not deducting indirect recycled water; therefore, this table does not apply to Desert Water Agency's 2015 Urban Water Management Plan.										

SB X7-7 Table 5: Gallons Per Capita Per Day (GPCD)

Baseline Year <i>Fm SB X7-7 Table 3</i>		Service Area Population <i>Fm SB X7-7 Table 3</i>	Annual Gross Water Use <i>Fm SB X7-7 Table 4</i>	Daily Per Capita Water Use (GPCD)
10 to 15 Year Baseline GPCD				
Year 1	1996	85,481	42,310	442
Year 2	1997	85,690	40,080	418
Year 3	1998	85,897	40,080	417
Year 4	1999	86,106	42,210	438
Year 5	2000	86,372	42,690	441
Year 6	2001	86,516	42,315	437
Year 7	2002	86,659	43,440	448
Year 8	2003	86,803	41,440	426
Year 9	2004	86,946	44,635	458
Year 10	2005	87,090	43,070	442
<i>Year 11</i>	0	-	-	
<i>Year 12</i>	0	-	-	
<i>Year 13</i>	0	-	-	
<i>Year 14</i>	0	-	-	
<i>Year 15</i>	0	-	-	
10-15 Year Average Baseline GPCD				437
5 Year Baseline GPCD				
Baseline Year <i>Fm SB X7-7 Table 3</i>		Service Area Population <i>Fm SB X7-7 Table 3</i>	Gross Water Use <i>Fm SB X7-7 Table 4</i>	Daily Per Capita Water Use
Year 1	2004	86,946	44,635	458
Year 2	2005	87,090	43,070	442
Year 3	2006	87,223	44,780	458
Year 4	2007	87,376	44,580	455
Year 5	2008	87,520	41,430	423
5 Year Average Baseline GPCD				447
2015 Compliance Year GPCD				
2015		88,517	29,091	293
NOTES:				

SB X7-7 Table 6: Gallons per Capita per Day <i>Summary From Table SB X7-7 Table 5</i>	
10-15 Year Baseline GPCD	437
5 Year Baseline GPCD	447
2015 Compliance Year GPCD	293
NOTES: 	

SB X7-7 Table 7: 2020 Target Method*Select Only One*

Target Method		Supporting Documentation
<input checked="" type="checkbox"/>	Method 1	SB X7-7 Table 7A
<input type="checkbox"/>	Method 2	SB X7-7 Tables 7B, 7C, and 7D <i>Contact DWR for these tables</i>
<input type="checkbox"/>	Method 3	SB X7-7 Table 7-E
<input type="checkbox"/>	Method 4	Method 4 Calculator

NOTES:

SB X7-7 Table 7-A: Target Method 1 20% Reduction	
10-15 Year Baseline GPCD	2020 Target GPCD
437	349
NOTES:	

SB X7-7 Table 7-E: Target Method 3

Agency May Select More Than One as Applicable	Percentage of Service Area in This Hydrological Region	Hydrologic Region	"2020 Plan" Regional Targets	Method 3 Regional Targets (95%)
<input type="checkbox"/>		North Coast	137	130
<input type="checkbox"/>		North Lahontan	173	164
<input type="checkbox"/>		Sacramento River	176	167
<input type="checkbox"/>		San Francisco Bay	131	124
<input type="checkbox"/>		San Joaquin River	174	165
<input type="checkbox"/>		Central Coast	123	117
<input type="checkbox"/>		Tulare Lake	188	179
<input type="checkbox"/>		South Lahontan	170	162
<input type="checkbox"/>		South Coast	149	142
<input type="checkbox"/>		Colorado River	211	200
Target <i>(If more than one region is selected, this value is calculated.)</i>				0
NOTES: Desert Water Agency (DWA) used Target Method 1 to determine its urban water use target; therefore, this table does not apply to DWA.				

SB X7-7 Table 7-F: Confirm Minimum Reduction for 2020 Target

5 Year Baseline GPCD <i>From SB X7-7 Table 5</i>	Maximum 2020 Target ¹	Calculated 2020 Target ²	Confirmed 2020 Target
447	425	349	349
¹ Maximum 2020 Target is 95% of the 5 Year Baseline GPCD ² 2020 Target is calculated based on the selected Target Method, see SB X7-7 Table 7 and corresponding tables for agency's calculated target.			
NOTES:			

SB X7-7 Table 8: 2015 Interim Target GPCD		
Confirmed 2020 Target <i>Fm SB X7-7 Table 7-F</i>	10-15 year Baseline GPCD <i>Fm SB X7-7 Table 5</i>	2015 Interim Target GPCD
349	437	393
NOTES:		

SB X7-7 Table 9: 2015 Compliance

Actual 2015 GPCD	2015 Interim Target GPCD	Optional Adjustments <i>(in GPCD)</i>					2015 GPCD <i>(Adjusted if applicable)</i>	Did Supplier Achieve Targeted Reduction for 2015?
		Enter "0" if Adjustment Not Used			TOTAL Adjustments	Adjusted 2015 GPCD		
		Extraordinary Events	Weather Normalization	Economic Adjustment				
293	393	<i>From Methodology 8 (Optional)</i>	<i>From Methodology 8 (Optional)</i>	<i>From Methodology 8 (Optional)</i>	-	293	293	YES

NOTES:

APPENDIX K

DESERT WATER AGENCY
SEASONAL POPULATION TECHNICAL MEMO

Desert Water Agency Seasonal Population Technical Memo

Summary

The Palm Springs area is known as a destination for visitors and a place where many have second homes. Capturing data on seasonal population figures in our community is a challenging task, especially given that our boundaries do not coincide with a specific census-designated area.

Desert Water Agency worked with the Department of Water Resources staff to determine a methodology to appropriately account for the seasonal population within the agency's retail water service area. This memorandum details how the seasonal population was determined.

Methodology

Census data provides us with the number of housing units in each Census block. Using Desert Water Agency's boundaries and 2010 Census data we were able to determine that in 2010 there were 38,332 housing units within our retail water service area, which includes the City of Palm Springs and portions of Cathedral City and unincorporated Riverside County.

There is also Census data that notes the number of housing units that are for seasonal, recreational or occasional use – though this data is not available at the block level. Based on the 2010 Census data, 23.4% of the total number of households within Palm Springs were seasonal. Using this same percentage for the Cathedral City and unincorporated areas, the total number of seasonal homes within the Agency's service area for 2010 was 8,979.

In order to determine how many people these seasonal homes account for, DWA requested occupancy data from the Greater Palm Springs Convention and Visitors Bureau (GPSCVB). The data provided from the GPSCVB showed a 62% occupancy rate in Palm Springs from July of 2017 to July of 2018. This figure was used to get an idea of how often the seasonal homes are occupied. Water use for those homes is not directly tied to occupancy since irrigation is the largest factor in local water consumption.

The seasonal housing total was then converted to a housing equivalent unit by multiplying the seasonal home total by the occupancy rate. 2010 Census data for City of Palm Springs and Cathedral City was used to determine the number of persons per household. These values were then multiplied by the number of equivalent housing units for an estimation of the seasonal population. These findings are displayed in **Table A**.

We repeated this process for 2000 to determine the core seasonal populations during those timeframes, which you can see in **Table B**.

In **Table D**, we list the RV and mobile home parks. We list the total number of spaces in those developments that have both RVs and mobile homes. Park managers were able to tell us how many units are occupied yearround versus those that are occupied seasonally. We did not include yearround residents given that they would have been captured in the Census. We took the number of seasonal units and used the same occupancy data provided by GPSCVB. We assumed 1.93 people per RV/mobile home per the Census data. We did not go back to 2000 but only used recent data for all three time periods as historical data was not readily available.

In **Table E**, we take the total number of hotel rooms (provided by GPSCVB and additional research) and the GPSCVB occupancy data to determine how many room nights there were in a twelve-month period. We incorporated data from the 2015 Greater Palm Springs Convention and Visitors Bureau Interceptor study that an average of 2.5 people stay per hotel room. We did not go back to 2000 but only used recent data for all three time periods as historical data was not readily available.

In order to determine the estimated 2015 population (since it was not a Census year), we plotted the previous baseline, core seasonal population, RV and hotel population and used a trend line for the growth (**Graph 1**). This exercise resulted in an estimated 52,067 baseline population and 88,493 total population for 2015. Both baseline seasonal population, RV and hotel populations for years 2000 to 2017 are included in **Table F**.

Table A – 2010 Seasonal Population Determination

	All housing units	Seasonal housing units	Occupancy (62%)	Persons per household	Total estimated seasonal population
DWA in Palm Springs	34,794 housing units (from Census)	8,151 housing units (from Census) (23.4%)	5,054 housing unit equivalents (8,151*62%)	1.93 people (from Census)	9,754 people (5,054*1.93)
DWA in Cathedral City and unincorporated	3,538 housing units (38,332-34,794)	828 housing units (3,538*23.4%)	513 housing unit equivalents (828*62%)	2.99 people (from Census)	1,535 people (513*2.99)
All DWA	38,332 housing units	8,979 housing units	5,567 housing unit equivalents	-	11,289 people

Table B – 2000 Seasonal Population Determination

	All housing units	Seasonal housing units	Occupancy (62%)	Persons per household	Total estimated seasonal population
DWA in Palm Springs	30,823 housing units (from Census)	7,240 housing units (from Census) (23.5%)	4,489 housing unit equivalents (7,240 *62%)	2.05 people (from Census)	9,202 people (4,489*2.05)
DWA in Cathedral City and unincorporated	3,577 housing units (30,823-34,400)	841 housing units (3,577*23.5%)	521 housing unit equivalents (841 *62%)	3.03 people (from Census)	1,579 people (521*3.03)
All DWA	34,400 housing units	8,081 housing units	5,010 housing unit equivalents	-	10,781 people

Table D – RV Population

	RV spaces	Occupancy (62%)	Persons per household	Total estimated RV population (full-time equivalents)
DWA	313	194 housing unit equivalents (313*62%)	1.93 people (from 2010 Census)	375 people (194*1.93)

Table E – Hotel Population

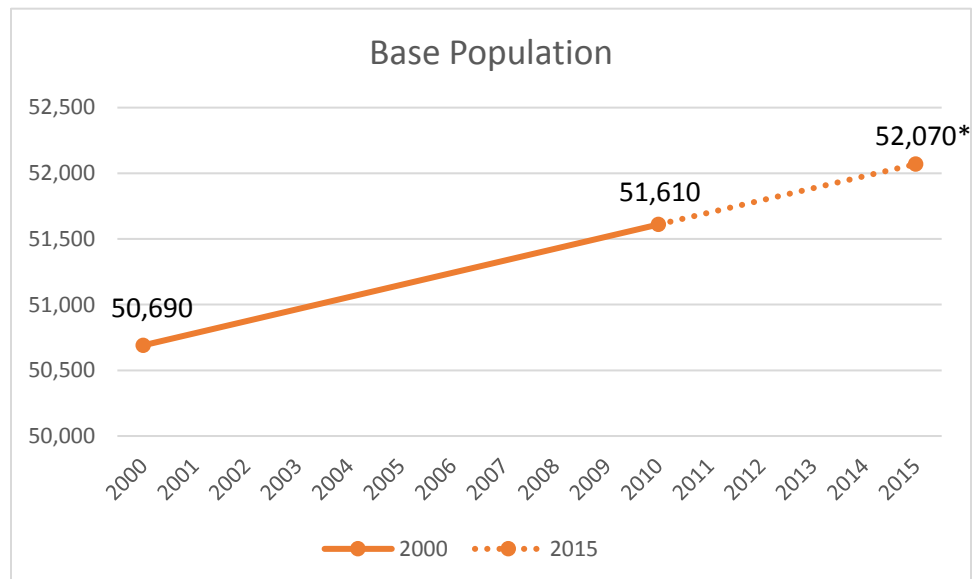
	Hotel rooms	Occupancy (62%)	Persons per room	Total estimated hotel population (full-time equivalents)
Palm Springs	15,824	9,811 room nights (15,824*62%)	2.5 people (from GPSCVB Intercept Study)	24,528 people (9,811*2.5)

Table F – Population Determination (2000, 2010, 2015)

Year	Base Population*	Seasonal Population*	RV population	Hotel population	Total
2000	50,690	10,780	345	24,528	86,343
2010	51,610	11,290	345	24,528	87,773
2015 estimate	52,070	11,550	345	24,528	88,493

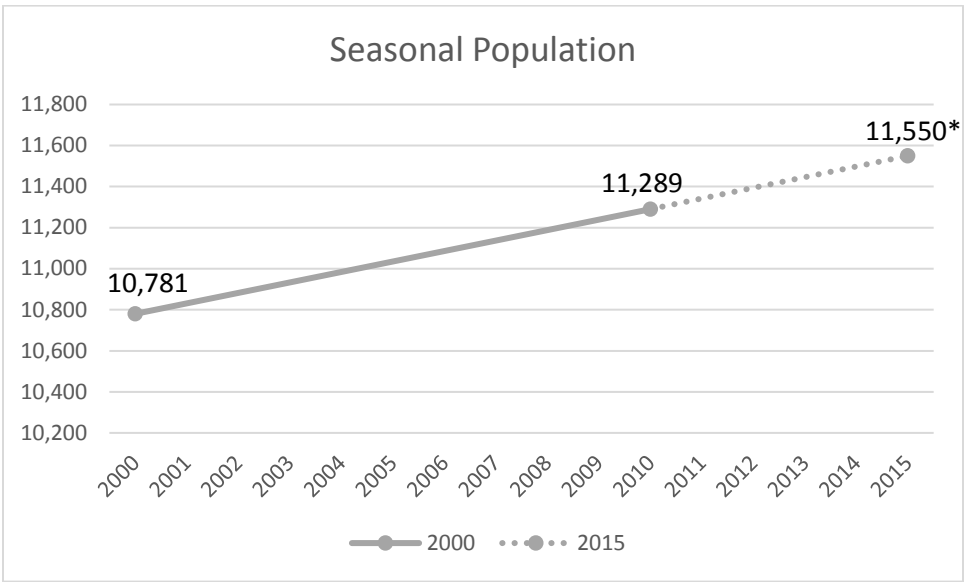
*Rounded to nearest ten

Graph 1



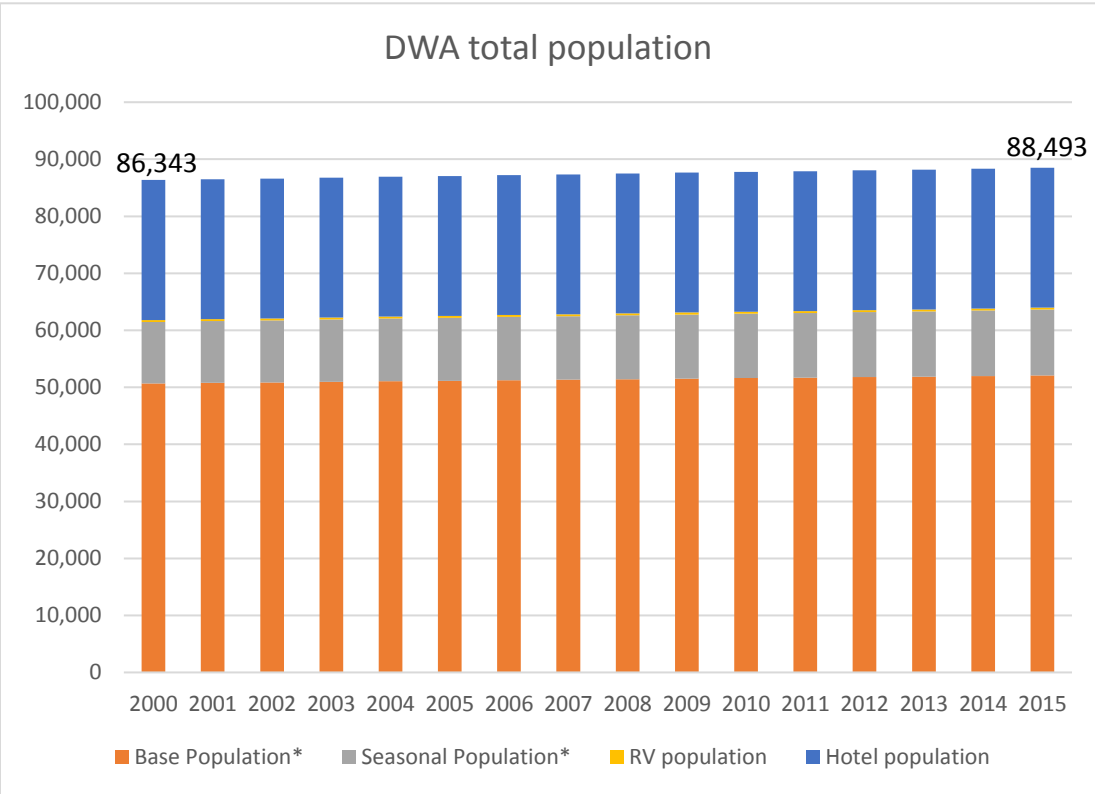
* based on growth rate from 2000 to 2010

Graph 2



* based on growth rate from 2000 to 2010

Graph 3





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