

### 1. INTRODUCTION

This section of the draft EIR discusses water supply and demand within the project area. This section analyzes the proposed project's impact on the ability of the Los Angeles Department of Water and Power (LADWP) to meet project demands and includes the results of the Water Supply Assessment, dated May 22, 2007, prepared for the Wilshire and La Brea project. This Water Supply Assessment is included as **Appendix IV.L.1**. The letter from the LADWP to the City of Los Angeles Planning Department with the LADWP's Resolution adopting the Water Supply Assessment for the Wilshire and La Brea Project is provided in **Appendix IV.L.1** following the Water Supply Assessment. In addition, a list of water conservation measures the applicant has committed to implement as part of the project is included as **Appendix IV.L.1**.

### 2. EXISTING CONDITIONS

Delivery of adequate water supplies to the desert and semi-desert environments of Southern California has been a central issue to the area for more than 200 years. Over that time, increasingly sophisticated water delivery systems have been developed, together with the wholesale, retail, and regulatory agencies necessary to ensure reliable supplies of quality water to accommodate the demands of a growing region. In 2005, the customers of the LADWP purchased 220 billion gallons of water, of which 90 percent came from other regions via the Los Angeles Aqueduct System, the State Aqueduct System, and the Colorado River Aqueduct System.<sup>1</sup> The LADWP has complete charge and control of its distribution system inside the City of Los Angeles under the provisions of the City Charter. The LADWP's Water Operating Division, under authority extended by the Board of Water and Power Commissioners, owns, operates and maintains all water facilities within the City and is responsible for ensuring that the delivered water meets all applicable state quality standards. The Wilshire and La Brea project is proposed within the City of Los Angeles, and as such, the LADWP would be the water provider to the project site.

The California Urban Water Management Planning Act requires every municipal water supplier who serves more than 3,000 customers or provides more than 3,000 acre-feet per year (afy) of water to prepare an Urban Water Management Plan (UWMP). In the UWMP, the water supplier must describe the water supply projects and programs that may be undertaken to meet the total water use of the service area. The LADWP has prepared a 2005 UWMP that includes estimates of past, current and projected probable and recycled water use, identifies conservation and reclamation measures currently in practice, describes

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<sup>1</sup> City of Los Angeles Department of Water and Power, Los Angeles Department of Water and Power 2006 Water Quality Report.

alternative conservation measures, and provides an urban water shortage contingency plan. LADWP's UWMP relies on the Southern California Association of Governments' (SCAG) projections of regional population growth.<sup>2</sup> As described in **Section IV.I, Population and Housing**, the proposed project would add 562 new residential units occupied by an estimated 1,220 new residents based on the 2000 Census approximation of 2.17 persons per multi-family dwelling unit. The projected population increase would account for approximately 0.4 percent of the Los Angeles Subregion's projected population growth between 2005 and 2010.

The current UWMP indicates that LADWP is planning for future growth in the population in its service area. According to the UWMP projections, water demand by the year 2010 will be 683,000 afy, or approximately 610 million gallons per day (mgd).<sup>3</sup> LADWP estimates that the long-term safe yield of its own water supplies in 2010 is approximately 383,950 afy during average weather conditions, 232,250 afy during a single-dry-year period, and 217,250 afy during a multi-dry-year period.<sup>4</sup> The plan for meeting the increasing demand for water relies on continued conservation measures, increased use of recycled water as well as reliance on three primary sources of water, the Los Angeles Aqueduct, local groundwater, and water purchases from the Metropolitan Water District (MWD). Currently LADWP purchases approximately 208,684 afy from the MWD.<sup>5</sup> According to LADWP, there are adequate supplies available to serve City needs over the next two decades. Imported water is forecasted to remain as the City's primary water resource.

In recent years, conservation has become an important aspect of water supply planning. Today's total water consumption is nearly equal to that of 20 years ago, despite an increase of approximately 700,000 people during the same time period. LADWP attributes the savings in water consumption to the City's successful water conservation measures. The Los Angeles City Council has enacted ordinances mandating measures to reduce water consumption. Ordinance Nos. 163,532 and 164,093, enacted in 1988, require new buildings to install all low-flush toilets and urinals (1.5 gallons per flush) in order to obtain building permits. In addition, Title 20 of the California Code of Regulations, Section 1604(g) establishes efficiency standards (i.e., maximum flow rates) for all new showerheads, lavatory faucets and sink faucets, and Section 1606(a) prohibits the sale of fixtures that do not comply with the regulations. Ordinance No. 163,532 also contains provisions requiring xerophytic or low water consumption landscaping. However, this was superseded by Ordinance 170,978, enacted in July 12, 1996, which

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<sup>2</sup> City of Los Angeles Department of Water and Power, 2005 UWMP, pg. 1-1.

<sup>3</sup> Ibid., Exhibit 1K

<sup>4</sup> Ibid., Exhibit 6C – 6E

<sup>5</sup> City of Los Angeles Department of Water and Power, Los Angeles Department of Water and Power 2006 Water Quality Report. Based on 30 percent of 227 billion gallons supplied to LADWP users in 2005.

involves a comprehensive landscape ordinance that applies to all projects except single-family dwellings that create 2,000 square feet or more of non-permeable surface. The Ordinance replaces the original requirement for xeriscape with “Water Management.” The xeriscape point system chart has been slightly augmented by increased choices as well as requiring projects to propose and document substantive water conserving features and techniques. The measures included in the above mentioned ordinances are considered baseline project permitting conditions.

The proposed project is also subject to the requirements outlined in Senate Bill 610 (SB 610). Under SB610, it is the responsibility of the water service provider to prepare a Water Supply Assessment requested by a City or County for any “project” defined by Section 10912 of the Water Code that is subject to the California Environmental Quality Act (CEQA). Section 10912 of the Water Code defines a “project” as the following:

- A proposed residential development of more than 500 dwelling units;
- A proposed shopping center or business establishment employing more than 1,000 persons or having more than 500,000 square feet of floor space;
- A proposed commercial office building employing more than 1,000 persons or having more than 250,000 square feet of floor space;
- A proposed hotel or motel, or both, having more than 500 rooms;
- A proposed industrial, manufacturing or processing plant, or industrial park, planned to house more than 1,000 persons, occupying more than 40 acres of land, or having more than 650,000 square feet of floor space;
- A proposed mixed-use project that includes one or more of the previously listed projects; or
- A proposed project that would demand an amount of water equivalent to, or greater than, the amount of water required by a 500 dwelling unit project.

The proposed Wilshire and La Brea project includes the provision of approximately 562 residential dwelling units; therefore, the Wilshire and La Brea project constitutes a “project” under Section 10912 of the Water Code and a Water Supply Assessment is required.

The LADWP prepared an assessment of the water supply for the Wilshire and La Brea project on May 22, 2007. LADWP’s findings considered not only the proposed project, but also other future smaller uses of water within LADWP’s service area that are not subject to Water Supply Assessment statutes. Based on LADWP’s calculations, included in **Appendix IV.L.1**, the project is expected to generate a total additional water demand of 94 afy. The WSA prepared for the Wilshire and La Brea project originally determined that the project would generate a total additional water demand of 94 afy. The original

estimate was based on a residential mix of 131 one-bedroom studio units, 253 one-bedroom apartment units, 251 two-bedroom apartment units, and 10 two-bedroom townhome units and a retail mix of 37,500 square feet of general retail and 5,000 square feet of restaurant space. After preparation of the WSA the unit residential and retail mix was modified resulting in a lower water demand of 75 afy. See **Table IV.L.1-3** for the water demand based on the currently proposed residential and retail mix.

### **3. REGULATORY FRAMEWORK**

A number of regulations and ordinances regarding water supply and water use apply to the project site and the proposed development. These regulations and ordinances are discussed below.

#### **a. Los Angeles General Plan Framework**

Long-term goals are set forth by the City of Los Angeles in the general plan Framework Element related to water services. The LADWP manages the water supply for Los Angeles. Its goal is to insure that the City's water quality and demand are met by available water supplies. The City obtains water from the Los Angeles Aqueduct, local wells, purchases from the MWD and use of reclaimed wastewater. The quantities of water obtained from these sources vary from year to year and are dependent on weather conditions and water demand.

In recent years, the long-term water supply available from the Los Angeles Aqueduct has become uncertain, and the City has committed itself to increasing the reliability of its water supply. Future increases in the use of reclaimed wastewater will help make the total water supply more reliable. The Los Angeles City Council has established a goal for the reuse of 40 percent of its wastewater by the year 2010. Reclaimed wastewater will be used for groundwater recharge, agriculture, recreation, landscaping, industry, seawater intrusion barriers, and environmental enhancement. The use of reclaimed wastewater will displace or supplement potable water supplies and, therefore, increase the reliability of the City's water supply.

Through a combination of continued demand side management and increased use of reclaimed wastewater, Los Angeles' future water demands can be reliably met with available water supplies.

#### **b. Los Angeles Water Conservation Policies**

The City of Los Angeles has adopted a mandatory water conservation plan for landscaping. Section 12.41 of the Los Angeles Municipal Code describes a program the City is implementing to contribute to conservation of the City's imported water resources mandated by state law by setting minimum standards for water delivery systems to landscapes. The proposed project is anticipated to have a large

strip of landscaping along Sycamore Avenue and smaller intermittent planters along Wilshire Boulevard, La Brea Avenue and West 8<sup>th</sup> Street. Landscaping will also be provided on the podium level and roof top deck. Because the proposed project proposes landscaping within these areas the provisions of Section 12.41 of the Los Angeles Municipal Code are applicable to the project site.

**c. Senate Bill 221 and Senate Bill 610**

These two pieces of legislation amend existing California law regarding land use planning and water supply availability by requiring more information and assurance of supply than required in the City UWMPs. As of January 1, 2002, the law requires water retail providers, like the LADWP, to demonstrate that sufficient and reliable supplies are available to serve large-scale developments prior to completion of the environmental review process and approval of such large-scale projects. The Water Supply Assessment prepared for the Wilshire and La Brea project fulfills this requirement.

**d. Urban Water Management Plan**

The California Urban Water Management Planning Act (California Water Code Division 6, Part 2.6, Sections 10610–10656) requires water suppliers to develop water management plans every five years to identify short-term and long-term water demand management measures to meet growing water demands during normal, dry, and multiple-dry years. The plan includes the following:

- A description of existing and planned sources of water available to the water supplier;
- Conservation efforts to reduce water demand;
- Alternative sources of water;
- Assessment of reliability and vulnerability of water supply; and
- Water shortage contingency analysis

Details of LADWP's efforts to promote the efficient use and management of its water resources are contained in its Year 2005 UWMP. The 2005 UWMP is available at the LADWP's website.

**e. State Regulations**

The Wilshire and La Brea project is required to comply with Title 20 and Title 24 and of the California Code of Regulations. Title 24 contains California Building Standards, including the California Plumbing Code (Part 5), that promote water conservation. Title 20 of the code addresses Public Utilities and Energy and includes appliance efficiency standards that promote water conservation.

## f. MWD and LADWP Plans for Future Water Supply

### *Metropolitan Water District of Southern California*

MWD is the largest water wholesaler for domestic and municipal uses in Southern California. As one of 26 member agencies, LADWP purchases water from MWD to supplement LADWP supplies from local groundwater and the Los Angeles Aqueduct (LAA). MWD imports its water supplies from Northern California through the State Water Project's (SWP) California Aqueduct, operated by the California Department of Water Resources (DWR), and from the Colorado River through MWD's own Colorado River Aqueduct. Each of these sources is described below, along with efforts by MWD to diversify its sources of supply and increase storage of water within its service area to enhance the reliability of its two main sources. LADWP will continue to rely on MWD to meet its current and future supplemental water needs.

All 26-member agencies have preferential rights to purchase water from MWD. Pursuant to Section 135 of the MWD Act:

*Each member public agency shall have a preferential right to purchase from the district for distribution by such agency, or any public utility therein empowered by such agency for the purposes, for domestic and municipal uses within the agency a portion of the water served by the district which shall, from time to time, bear the same ratio to all of the water supply of the district as the total accumulation of amounts paid by such agency to the district on tax assessments and otherwise, excepting purchase of water, toward the capital cost and operating expense of the district's works shall bear to the total payments received by the district on account of tax assessments and otherwise, excepting purchase of water, toward such capital cost and operating expense.*

This is known as a preferential right. Under the preferential rights system, Los Angeles is entitled to approximately 22 percent of MWD's water.

LADWP has worked with MWD in developing a framework for allocating water supplies during periods of shortage as well as surplus. MWD has a Water Surplus and Drought Management Plan that provides such a framework. LADWP intends to work within the framework established through the Water Surplus and Management Plan in acquiring its drought supplies from MWD in the future.

Even during shortages, MWD expects that it will be able to meet its member agencies' long-term needs through a combination of actions, including water transfer programs, outdoor conservation measures, and development of additional local resources, such as recycling, brackish water desalination, and seawater desalination. Additionally, MWD has approximately 3.8 million acre-feet of storage capacity

available in reservoirs and banking/transfer programs, with approximately 2.5 million acre-feet currently in that storage.

### Overview of MWD Water Supplies

Based on the water supply planning requirements imposed on its member agencies and ultimate customers, such as the requirements to adopt urban water management plans, water supply assessments and written verifications, MWD has adopted a series of official reports on the state of its water supplies. As described below, MWD has consistently stated that its water supplies are fully reliable to meet the demands of its customers, in all hydrologic conditions through at least 2030.

In March 2003, MWD published a document entitled the *Report on Metropolitan Water Supplies: A Blueprint for Water Reliability* (Blueprint Report). The objective of the Blueprint Report was to provide member agencies, retail water utilities, cities, and counties within the MWD service area with information that may assist in their preparation of urban water management plans, water supply assessments, and written verifications. The Blueprint Report stated that the approach taken to evaluate water supplies and demands was consistent with MWD's 2000 Regional UWMP. MWD utilized SCAG's regional growth forecast in calculating regional water demands for its service area, which was the same method used by LADWP in its 2005 UWMP. Thus, MWD considered the water demands of the LADWP in the Blueprint Report.

The Blueprint Report fully discusses MWD's historical and projected deliveries of Colorado River and SWP water. The conclusion of the Blueprint Report and supplemental information published by MWD, such as its Integrated Resources Plan Update and annual Implementation Reports, is that with its current water supply portfolio and planned actions, MWD will have sufficient water to deliver to LADWP to meet all of the water demands in the LADWP service area, for the next 20 years.

By comparing total projected water demands and conservatively estimating water supplies over the next 20 years, MWD has found that if its supply programs were implemented under its Integrated Resource Plan "[b]ased on water supplies that are currently available, Metropolitan already has in place the existing capability to...[m]eet 100 percent of its member agencies' projected supplemental demands (consumptive and replenishment) over the next 20 years" in average, wet, multiple dry- and single dry years.<sup>6</sup> In multiple dry years, MWD reports that it will "[m]eet 100 percent of its member agencies' projected supplemental demands (consumptive and replenishment) even under the repeat of the worst multiple-year drought event over the next 15 years,"<sup>7</sup> while in a single dry year it can "[m]eet 100 percent

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<sup>6</sup> Report on Metropolitan Water Supplies: A Blueprint for Water Reliability, March 2003, (Blueprint Report), 24-25.

<sup>7</sup> *Ibid.*

of its member agencies' projected supplemental demands (consumptive and replenishment) even under the repeat of the worst single-year drought event over the next 15 years."<sup>8</sup> MWD's additional reserve supplies will provide a "margin of safety to guard against uncertainties in demand projections and risks in fully implementing all supply programs under development."<sup>9</sup>

**Table IV.L.1-1** shows MWD's projected supply and demand under normal, dry, and multiple-dry years. LADWP has provided significant input to MWD in developing this analysis, which includes the City of Los Angeles' projected water requirements from MWD. In fact, MWD's projections are 6 to 16 percent higher than member agencies projections. This difference indicates that MWD's supplies provide a level of margin of safety or flexibility to accommodate potential delays to planned projects.

**Table IV.L.1-1**  
**Metropolitan Water District Supply and Demand Forecast**

	Normal Year				Single-Dry Year				Multiple-Dry Year			
	2005	2010	2015	2020	2005	2010	2015	2020	2005	2010	2015	2020
<b>Current Supplies</b>												
Colorado River	0.695	0.222	0.719	0.707	0.721	0.833	0.833	0.833	0.721	0.833	0.833	0.833
California Aqueduct	1.781	1.783	1.724	1.715	0.997	0.997	0.822	0.822	1.290	1.376	1.146	1.120
In-Basin Storage	-	-	-	-	0.730	0.790	0.788	0.758	0.455	0.532	0.530	0.513
<b>Under Development</b>												
Colorado River	0.322	0.229	0.261	0.350	0.209	0.231	0.417	0.417	0.167	0.417	0.417	0.417
California Aqueduct	0.020	0.065	0.220	0.220	0.020	0.195	0.390	0.390	0.020	0.195	0.390	0.390
In-Basin Storage	-	-	-	-	-	0.089	0.200	0.200	-	0.089	0.200	0.200
<b>Supply</b>	<b>2.818</b>	<b>2.812</b>	<b>2.924</b>	<b>2.995</b>	<b>2.678</b>	<b>3.135</b>	<b>3.450</b>	<b>3.420</b>	<b>2.654</b>	<b>3.442</b>	<b>3.517</b>	<b>3.473</b>
<b>Demand</b>	<b>1.970</b>	<b>1.887</b>	<b>2.055</b>	<b>2.274</b>	<b>2.189</b>	<b>2.096</b>	<b>2.267</b>	<b>2.488</b>	<b>2.245</b>	<b>2.176</b>	<b>2.321</b>	<b>2.534</b>
<b>Potential Reserve</b>	<b>0.848</b>	<b>0.926</b>	<b>0.889</b>	<b>0.721</b>	<b>0.506</b>	<b>1.039</b>	<b>1.184</b>	<b>0.932</b>	<b>0.603</b>	<b>1.266</b>	<b>1.196</b>	<b>0.939</b>

*Notes: Figures are from the Blueprint Report.*

*Units are in million acre-feet per year*

*Supply represents expected supply capability for resource programs.*

*Demand is based on SCAG 98 RTP, SABDAG 1998 forecasts and member agency projections of local supplies.*

The findings of this water supply assessment were developed based on MWD's stated ability to reliably provide water to LADWP. Furthermore, based on MWD's current long-term water resources outlook, LADWP presently does not anticipate the need to formally invoke preferential rights over the next 20 years.

<sup>8</sup> *Ibid.* at 25.

<sup>9</sup> *Ibid.* at 23.



Based on the Blueprint Report, MWD anticipates the following future water supplies:

- Colorado River Aqueduct Deliveries:
  - Available by 2005: Basic Apportionment (Priority 4)
    - IID/MWD Conservation Program
    - Priority 5 Apportionment
    - Coachella and All-American Canal Lining Projects
    - Off Aqueduct Storage
      - Hayfield Storage Program
      - Central Arizona Banking Demonstration Program
  - Under Development: IID/MWD Conservation Program (Including Coachella Option)
    - Interim Surplus Guidelines
    - IID/SDCWA Transfer
    - PVID Land Management Program
    - Off-Aqueduct Storage/Transfer Programs
      - Lower Coachella Valley Groundwater Storage Program
      - Chuckwalla Storage Program
      - Central Arizona Banking Program
- California Aqueduct Deliveries:
  - Available by 2005: SWP Deliveries
    - San Luis Reservoir Carryover Storage
    - Advance Delivery with Coachella Valley WD and Desert WA
    - Semi tropic Water Banking and Exchange Program
    - Arvin-Edison Water Management Program
    - San Bernardino Valley MWD Program
    - Kern Delta WD Program
    - Market Transfer Options
  - Under Development: Delta Improvements (CALFED Implementation)

Additional Transfers/Storage (San Bernardino Conjunctive Use Program, Westside Valley Transfers, and Eastside Valley Transfers):

- In-Basin Storage Deliveries:
  - Available by 2005: MWD Surface Storage (DVL, Lakes Matthews and Skinner)
    - Flexible Storage in Castaic Lake and Lake Perris

- Groundwater Conjunctive Use Programs
  - Long-Term Seasonal Storage Programs
  - North Las Posas Storage Program
- Under Development: Groundwater Conjunctive Use Programs
  - Raymond Basin Storage Programs
  - Proposition 13 Storage Programs
  - Additional Programs

Summaries of MWD’s individual supplies, along with the challenges facing each supply, are presented below. These sections also include specific actions that MWD is taking to meet each of the challenges facing its water supplies. Over the past several decades, MWD has demonstrated that it can adapt to continuous change and address uncertainties in supply by developing a diverse portfolio, setting supply targets, monitoring its progress on a regular basis, and adapting its strategy to meet its targets.

### **The Colorado River**

MWD diverts water from the Colorado River at Lake Havasu on the California/Arizona border and conveys it across the Mojave Desert via the agency’s Colorado River Aqueduct to Lake Mathews near Riverside. From there, MWD pumps the water into its feeder pipeline distribution system for delivery to its member agencies throughout southern California.

MWD possesses the right to divert water from the Colorado River pursuant to a contract with the US Secretary of the Interior under Section 5 of the federal Boulder Canyon Project Act.<sup>10</sup> The Blueprint Report includes a description of MWD’s 550,000 afy base apportionment water right, along with the Colorado River supply projects that MWD is implementing to maximize the reliability of Colorado River supplies.<sup>11</sup> Following distribution of the Blueprint Report, a Quantification Settlement Agreement (QSA) and other related agreements were approved on October 10, 2003. These agreements address the supplies of all California users of Colorado River water, including MWD. Signing of the QSA and related agreements will allow implementation of the Colorado River supply projects identified in the Blueprint Report, as well as other projects. MWD described the QSA and related agreements and their impact on the reliability of MWD’s supplies in its 2006 Integrated Water Resources Plan Implementation Report.<sup>12</sup>

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<sup>10</sup> 45 Stat. 1057 (December 21, 1928).

<sup>11</sup> Blueprint Report at Appendix B.

<sup>12</sup> MWD, *2006 Integrated Water Resources Plan Implementation Report* at 1-2 to 1-10 (October 10, 2006).

According to MWD, it is expected that its fourth priority apportionment of 550,000 afy of Colorado River water will be available every year for the next 20 years.<sup>13</sup> This supply is “expected to be available during all year types, including wet, average, single dry-year, and multiple dry-year weather.”<sup>14</sup>

Current challenges facing MWD’s Colorado River supply include risk of continued drought in the Colorado River Basin and pending litigation that may threaten implementation of part or all of the QSA. MWD has been aggressively preparing for these two risks to its Colorado River supply for many years.<sup>15</sup> Its responses to these challenges are described in detail below.

The Colorado River Basin has experienced below-normal runoff in recent years. During 2006, Lake Mead was at its lowest level in 41 years.<sup>16</sup> As a result, the US Bureau of Reclamation has proposed shortage guidelines that would introduce new operating and accounting procedures to address the ability of MWD and others to store water in Lake Mead. Despite the challenges of recent Colorado River Basin hydrology, however, MWD “does not anticipate adverse water supply impacts resulting from the implementation of [the] shortage guidelines because California’s 4.4 million acre-foot apportionment has a higher priority than a portion of Arizona and Nevada’s apportionments during shortage conditions.”<sup>17</sup>

Programs that will help to implement the QSA and meet Colorado River water supply targets and that are currently in operation, close to completion or in progress include: the Imperial Irrigation District (IID) and MWD water conservation and transfer program; the Coachella and All-American Canal lining projects; the IID and San Diego County Water Authority (SDCWA) water transfer; the Palo Verde Irrigation District land management and crop rotation program; and the Interim Surplus Guidelines adopted by the US Secretary of the Interior.<sup>18</sup> MWD is actively working to implement several of these QSA-related programs. In addition, MWD is participating in the “Intentional Created Surplus” program to store water in Lake Mead for withdrawal during dry years. During 2006 and 2007, MWD stored 50,000 acre-feet of water in Lake Mead that it had saved under the Palo Verde Irrigation District Land Management and Crop Rotation Program.<sup>19</sup> Collectively, these programs are expected to maintain the reliability of MWD’s Colorado River supplies.

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<sup>13</sup> Blueprint Report at B-6.

<sup>14</sup> *Ibid.*

<sup>15</sup> *Ibid* at 25.

<sup>16</sup> MWD, *2006 Integrated Water Resources Plan Implementation Report*, at 12 (October 10, 2006).

<sup>17</sup> *Ibid* at 13.

<sup>18</sup> *Ibid* at 11. *See also* 66 Fed. Reg. 7772-7782 (January 25, 2001).

<sup>19</sup> *Ibid.*

MWD's fourth priority apportionment of Colorado River water has been delivered to MWD every year since 1939, in all hydrologic year types.<sup>20</sup> By existing contract, this supply "will continue to be available in perpetuity" due to California's senior rights on the Colorado River.<sup>21</sup> MWD has affirmed that "[t]he historical record for available Colorado River water indicates that Metropolitan's fourth priority supply has been available in every year and can reasonably be expected to be available over the next 20 years."<sup>22</sup> Thus, according to MWD, its Colorado River supply is secure through at least 2025. Pursuant to the analysis in more recent MWD assessments of its water supplies and this WSA, there are no substantial challenges that are currently predicted to arise between 2025 and 2030. Therefore, the same reliability that MWD declared through 2025 is also applicable through 2030.

The second challenge to MWD's Colorado River supplies is the pending litigation concerning the QSA and related agreements. That litigation has taken two forms: (1) a series of lawsuits against the lining of the All-American Canal; and (2) a series of lawsuits which challenge the IID/SDCWA transfer. The All-American Canal litigation has been litigated and resolved in favor of the QSA parties thus, increasing the certainty of MWD's Colorado River supplies since the publication of the Blueprint Report.<sup>23</sup>

Several lawsuits against the IID/SDCWA transfer were brought by the County of Imperial, various landowners within IID and environmental advocacy groups, and have been consolidated in Sacramento County Superior Court. In two of those lawsuits, the County of Imperial sued the State Water Resources Control Board (SWRCB), IID, and SDCWA regarding the legitimacy of the QSA approvals. In November 2004, the Superior Court dismissed those cases with prejudice on the ground that the County had failed to name MWD and the Coachella Valley Water District as necessary and indispensable parties to the actions on a timely basis. The County appealed that decision and the Court of Appeal affirmed the dismissal in 2007, which lifted a stay on the other QSA cases.<sup>24</sup> Several demurrers were filed and sustained in the consolidated cases, reducing the number of causes of action pending in the litigation.<sup>25</sup>

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<sup>20</sup> MWD's 2005 UWMP at A.3-2.

<sup>21</sup> *Ibid.*

<sup>22</sup> *Ibid.*

<sup>23</sup> On April 6, 2007, the US Court of Appeals for the Ninth Circuit dismissed the challenge to the lining of the All-American Canal and lifted the court-imposed injunction that for a period of time halted construction. The ruling allowed IID to commence work on the project to conserve water lost by seepage from the existing earthen canal. See *Consejo de Desarrollo Economico de Mexicali, A.C. v. United States*, 482 F.3d 1157 (2007).

<sup>24</sup> *County of Imperial v. Superior Court*, 152 Cal.App.4th 13 (2007).

<sup>25</sup> October 10, 2007, Order by Judge Candee in *Imperial Irrigation District v. All Persons Interested in Any of the Following Contracts*. Imperial County Case No. ECU01649 (Sacramento County Case No. 04CS00875) filed November 5, 2003.

The water transfer challengers filed motions for preliminary injunction,<sup>26</sup> which were dismissed by the Court of Appeal, along with all claims for damages. The only remaining claims are that validation of the QSA is inappropriate and that there are violations of CEQA.<sup>27</sup>

While all significant issues in the QSA litigations have been resolved in favor of MWD and the other QSA parties to date, including the entire All-American Canal case, it is impossible to predict with absolute certainty how the remaining litigation will be resolved. MWD is actively involved in the litigation and plans to defend the QSA fully to prevent any impacts to its Colorado River supplies.

Consistent with the QSA, MWD has developed a number of water supply programs to supplement its basic apportionment of Colorado River water, including agricultural water transfers and storage programs. Current programs will provide MWD with approximately 1.13 million acre-feet by 2020. Proposed programs could add another 300,000 afy. **Table IV.L.1-2** summarizes MWD's Colorado River Aqueduct supply by 2020.

**Table IV.L.1-2**  
**MWD's Colorado River Aqueduct Supplies: 2020–2030**

Supply Source	Description	Project Status	Annual Deliveries (afy)
Basic Apportionment	MWD's basic apportionment of Colorado River water.	Current	503,000
IID/MWD Conservation	Imperial Irrigation District (IID) and MWD are parties to a long-term water conservation and transfer agreement. Pursuant to the agreement, MWD pays the costs of water conservation measures in exchange for conserved water.	Current	85,000
Coachella and All American Canal Lining Projects	The Coachella Canal Lining Project was completed in December 2006, when 26,000 afy of conserved water began flowing to project beneficiaries. The All-American Canal Lining Project began construction in June 2007. This project will be completed in 2010 and will conserve 67,700 afy of water.	Current	78,000

<sup>26</sup> See Notice of Motion and Motion of Putative Class Representatives for Preliminary Injunction or Other Immediate Provisional Relief, Case No. 4353 (Filed October 15, 2007); POWER's and James Albert Abatti's Combined Joinder in the Putative Class Representatives' Motion for Preliminary Injunction or Other Immediate Provisional Relief; Additional Points and Authorities in Support of Preliminary Injunction Based on CEQA, Case No. 4353 (Filed October 16, 2007).

<sup>27</sup> See Final Ruling on Motion and Demurrers Heard on February 5, 2008.

Supply Source	Description	Project Status	Annual Deliveries (afy)
SDCWA/IID Transfer and MWD/SDCWA Exchange	San Diego County Water Authority (SDCWA) and IID are parties to a water transfer agreement, pursuant to which, beginning in 2003, IID began making transfers to SDWCA. The transfer volumes will increase in accordance with an annual build-up schedule, reaching 100,000 afy by 2013 and stabilizing at 200,000 afy in 2023. The water transferred to SDCWA is made available to MWD via an exchange agreement.	Current	200,000
PVID Land Management Program	Palo Verde Irrigation District (PVID) and MWD are joint participants in a long-term land management, crop rotation, and water supply program. Pursuant to the program, participating farmers in PVID are paid to reduce their water use. The water savings are made available to MWD.	Current	111,000
Hayfield Groundwater Storage	MWD authorized the Hayfield Groundwater Storage project in April 1999. It is estimated that the Hayfield aquifer can hold up to 500,000 acre-feet of additional water.	Current	150,000
<b>Subtotal</b>			1,127,000
Lower Coachella Storage Program	MWD has identified the Lower Coachella Groundwater Basin as a feasible location for conjunctive use storage. It has the potential to provide up to 500,000 acre-feet of storage capacity.	Under Development	150,000
Chuckwalla Storage Program	MWD is investigating the Chuckwalla Groundwater Basin as a possible location for off-stream storage of CRA supplies. It is estimated that the basin could hold up to 500,000 acre-feet of water.	Under Development	150,000

Sources: LADWP, *Urban Water Management Plan (2005)*, at 3-32; MWD, *Regional Urban Water Management Plan (2005)*, at A.3-1 through A.310; SDCWA, *Fact Sheet re QSA (August 2007)*.

To further ensure reliability of Colorado River supplies, on April 8, 2008, MWD's Board of Directors authorized \$28.7 million to join agencies in Arizona and Nevada in funding construction of a new reservoir that will save up to 228 billion gallons of water per year. In return for its funding, Metropolitan will receive 100,000 acre-feet of water, including up to 34,000 acre-feet this year that will be created

through construction and operation of the Drop 2 Reservoir, adjacent to the All American Canal in Imperial County.<sup>28</sup> This water could be fully recovered within three years, and any portion of the water not recovered remains in MWD's credit account through 2036 and would not be reduced because of reservoir evaporation loss or spill.

Based on the foregoing, MWD expects that it will continue to be able to provide a reliable water supply via the Colorado Aqueduct. In reaching this conclusion, MWD has taken into consideration various hydrologic conditions that may occur in the Colorado River Basin as well as the competing rights and priorities to use the water.

### State Water Project

MWD possesses a contract with DWR that entitles it to water from the SWP.<sup>29</sup> MWD's share of the total SWP supply is approximately 46 percent.<sup>30</sup> This supply is diverted from the Feather River at Lake Oroville, released and conveyed through the Sacramento-San Joaquin River Delta (delta) and rediverted at the Harvey O. Banks Delta Pumping Plant for conveyance through the California Aqueduct to Southern California and MWD. MWD described and analyzed the reliability of its SWP supplies in the Blueprint Report.<sup>31</sup> MWD estimated the availability of SWP supplies "according to the historical record of hydrologic conditions, existing system capabilities, requests of the state water contractors and SWP contract provisions for allocating Table A, Article 21 and other SWP deliveries to each contractor."<sup>32</sup> MWD estimated that in 2025, it will have 794,700 acre-feet available in multiple dry years, 418,000 acre-feet in a single dry year, 1,523,300 acre-feet in an average year and 1,741,000 acre-feet in a wet year.<sup>33</sup>

Following the Blueprint Report, SWP supplies have been challenged through environmental litigation concerning the delta. In addition, MWD has acknowledged that conveyance of water through the delta can present challenges for SWP supplies due to water quality and environmental issues that can affect pumping operations. Risks to this supply also include potential levee failure. Actions being taken by DWR and MWD to avoid or mitigate these risks are described below.

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<sup>28</sup> See *Metropolitan Partners with Arizona, Nevada to Fund Construction of a New Reservoir, Add to Colorado River Flexibility*, MWD News Release, April 8, 2008, available at [http://www.mwdh2o.com/mwdh2o/pages/news/press\\_releases/2008-04/Drop%20%20Reservoir.pdf](http://www.mwdh2o.com/mwdh2o/pages/news/press_releases/2008-04/Drop%20%20Reservoir.pdf).

<sup>29</sup> See Contract Between the State of California Department of Water Resources and the Metropolitan Water District of Southern California For a Water Supply (November 4, 1960), as amended through Amendment No. 28, available at [http://www.swpao.water.ca.gov/wsc/pdfs/MWDSC\\_O\\_C.pdf](http://www.swpao.water.ca.gov/wsc/pdfs/MWDSC_O_C.pdf).

<sup>30</sup> MWD, *2006 Integrated Water Resources Plan Implementation Report*, at 14 (October 10, 2006).

<sup>31</sup> Blueprint Report at 11.

<sup>32</sup> *Ibid* at 11.

<sup>33</sup> *Ibid*. MWD's contract with DWR expires in 2035, at which time MWD has an option to renew under the same basic conditions. MWD's 2005 UWMP at A.3-12.

### *Environmental Litigation*

Specific threats to the SWP include litigation concerning the delta. In 2007, two courts ruled that California's major water delivery systems, the SWP and the Central Valley Project (CVP), were violating state and federal environmental laws regarding a threatened fish species, the delta smelt. First, Alameda County Superior Court Judge Roesch concluded that the SWP had failed to obtain a permit required under the California Endangered Species Act (CESA) that would provide protections for delta smelt, salmon, and steelhead from the effects of water pumping for activities at the Harvey O. Banks Delta Pumping Plant in Tracy, California.<sup>34</sup> Accordingly, Judge Roesch ordered the SWP pumps to be turned off unless appropriate permits were obtained within 60 days. As a practical response to the pending litigation in state and federal courts, the DWR shut down the Harvey O. Banks Delta Pumping Plant from May 31 to June 10, 2007, to protect the delta smelt. DWR resumed pumping at normal operating levels on June 10, 2007 but has since reduced pumping capacity due to the increased salvage of adult smelt at the pumping plant.<sup>35</sup>

In May 2007, US District Court Judge Oliver Wanger ruled that a federal Endangered Species Act (ESA) take permit that had been issued to protect delta smelt at both the SWP pumps and the federal Jones Pumping Plant was not legally sufficient.<sup>36</sup> By the time this decision was released, the SWP and CVP water agencies were aware that the incidental take permit was not preventing take of delta smelt and had requested a new permit. In August 2007, Judge Wanger issued an interim oral decision that allowed the SWP and CVP to continue operating under the prior take permit as long as they complied with a USFWS-proposed five-point action matrix with a few modifications, plus certain increased monitoring plans requested by the plaintiffs and other actions that do not have a water cost. The court pieced together certain operational restrictions that vary depending on fish, weather, and flow conditions in the delta, as well as how curtailments are divided between state and federal projects.

DWR has anticipated that in an average year, when combined deliveries of the CVP and SWP would be 5.9 million acre-feet, reductions in deliveries due to compliance with the USFWS matrix will range from 820,000 to 2.17 million acre-feet, which represent 14 and 37 percent of baseline deliveries, respectively.<sup>37</sup> In a dry year, when combined deliveries would be 3.2 million acre-feet, reductions will range from

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<sup>34</sup> *Watershed Enforcers v. California Department of Water Resources*, Case No. RG06292124. Order (Alameda County Sup. Ct. March 22, 2007).

<sup>35</sup> See DWR News Release, *DWR Announces New Delta Pumping Cutbacks*, March 13, 2008, available at: <http://www.water.ca.gov/news/newsreleases/2008/031308delta.pdf>.

<sup>36</sup> *Natural Resources Defense Council v. Kempthorne*, 506 F.Supp.2d 322 (E.D.Cal. 2007).

<sup>37</sup> DWR, Comparison of the Water costs Associated with the Proposed Remedy Acts, Table produced from John Leahigh Supplemental Declaration Filed August 3, 2007 in *Natural Resources Defense Council v. Kempthorne*, 506 F.Supp.2d 322 (E.D.Cal. 2007).



183,000 to 814,000 acre-feet, which represent reductions from baseline deliveries of 6 and 25 percent, respectively. The modifications to the USFWS matrix by Judge Wanger will increase the delivery reductions by an amount that was not modeled by DWR, but it is expected that the actual impacts of Judge Wanger's order may be slightly greater than those figures. DWR estimates that its water deliveries will be reduced up to 30 percent this year as a result of the court order.<sup>38</sup>

Judge Wanger's order will impact diversions from December 25, 2007, until the new USFWS Biological Opinion (BiOp) is issued in approximately September 2008. However, it should be expected that the USFWS will include similar restrictions in the final BiOp to those that were in its action matrix adopted by Judge Wanger. Thus, the SWP and CVP will likely see long-term reductions in deliveries based on this litigation. Among other results, the decision likely will increase the political pressure for construction of the Peripheral Canal to avoid use of the south delta pumping plants. In response to this decision and other water supply and quality issues, MWD has reported that "[i]n the short and long term, continued investment in regional and local resources will help ensure and diversify reliable water supplies to meet Southern California's future needs."<sup>39</sup>

#### ***Mitigation of Risks Posed by Environmental Litigation***

MWD has embarked on many proactive programs to deal with potential future delivery restrictions as described above, should they occur. For example, MWD is one of the parties that are drafting the Bay-Delta Conservation Plan (BDCP) to provide state and federal ESA coverage for its SWP operations. The BDCP allows water contractors, who must comply with the federal and state ESAs, to work cooperatively to attain incidental take coverage via a habitat conservation plan and natural community conservation plan. Development of this plan is now underway under the aegis of the California Resources Agency, with the appropriate permits and completion of an environmental impact statement/impact report (EIS/EIR) expected in late 2009. The NOP for the BDCP EIS/EIR was circulated for public comment on March 17, 2008.

MWD is also focusing on voluntary Central Valley storage and transfer programs to bank MWD's SWP water supplies. In its 2006 Integrated Water Resources Plan Implementation Report, MWD reported that "492,000 acre-feet of dry-year yield has been developed in Central Valley storage and transfer programs" and "potential partners and programs have been identified to meet IRP targets."<sup>40</sup> This flexibility will

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<sup>38</sup> DWR News Release, *DWR Announces New Delta Pumping Cutbacks*, March 13, 2008.

<sup>39</sup> See *Metropolitan Looks to Statewide Water Market to Secure Supply Insurance in the Face of Uncertainties*, MWD News Release, November 20, 2007, available at [http://www.mwdh2o.com/mwdh2o/pages/news/press\\_releases/2007-11/water\\_transfers.pdf](http://www.mwdh2o.com/mwdh2o/pages/news/press_releases/2007-11/water_transfers.pdf).

<sup>40</sup> MWD, *2006 Integrated Water Resources Plan Implementation Report*, at 18 (October 10, 2006).

assist MWD in addressing shortages due to drought or court-imposed cutbacks to protect delta smelt. Further, MWD has employed conjunctive use programs which utilize groundwater basins to store water during wet seasons, which provides a buffer supply that MWD can extract during dry periods. In 2006, MWD developed groundwater storage capable of providing 135,000 acre-feet of dry-year supply.<sup>41</sup> MWD continues to seek additional opportunities in southern California to expand groundwater conjunctive use storage programs.<sup>42</sup>

### Delta Vision Process

The state is actively studying the risk of levee failure and potential impacts to SWP supplies and developing a plan to protect the delta. There are several concurrent processes for resolving these challenges. In the spring of 2006, at the recommendation of CALFED,<sup>43</sup> an interagency effort that includes 23 state and federal agencies that have management or regulatory responsibility for the delta, DWR began and completed a two-year Delta Risk Management Strategy (DRMS) to analyze risks to the levee system. Phase I included a discussion of the region's assets, existing problems with the system, the degree of risk that exists, and the potential consequences of multiple levee failures. Phase II addressed levee risk reductions. The DRMS reports were part of the Delta Vision Report submitted to the state legislature and governor in January 1, 2008.

Also as part of the Delta Vision process, in April, 2007, MWD released its Delta Action Plan. The Delta Action Plan calls for analyzing alternative strategies for reducing longstanding conflicts in the delta and improving water reliability, water quality, levee stability, and the environment. The plan includes the following elements:

- Short-Term Action Plan. Actions over next 18 months to secure short-term permits for operating the State Water Project Banks pumping plant and avoiding incidental take of threatened or

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<sup>41</sup> Ibid at 20.

<sup>42</sup> Ibid at 21.

<sup>43</sup> In 1994, to address the Bay-Delta's problems, 18 federal and state agencies formed a consortium, known as CALFED, to design and implement a long-term and comprehensive plan to restore the Bay-Delta's ecological health and to improve management of Bay-Delta water. CALFED prepared a program EIS/EIR for this plan, which was certified in August 2000. Legal challenges under CEQA to the program EIS/EIR were filed, claiming that it was inadequate for following reasons: because it did not examine in detail a program alternative requiring reduced water exports from the Bay-Delta; because it did not identify with adequate specificity the potential sources of water required for the proposed projects or analyze in sufficient detail the environmental impacts of taking water from those specific sources; and because it did not provide sufficient detail about the proposed "Environmental Water Account" (a specific project within the CALFED Program). These challenges were recently heard by the California Supreme court, which held on June 5, 2008, that the CALFED program EIS/EIR is not legally defective in any of these ways. (In re. Bay-Delta Programmatic Environmental Impact Report Coordinated Proceedings S138974 Ct.App. 3 C044267 & C044577).

endangered species; implementing/funding a Delta Levee Emergency Preparedness and Response Plan; and selection and approval of key elements of the Bay-Delta Conservation Plan and long-term Delta Vision.

- Mid-Term Action Plan. Actions prior to a long-term delta solution to secure long-term operating permits for the State Water Project under the Bay-Delta Conservation Plan; develop an implementation plan and environmental documentation for the preferred long-term Delta Vision; and implementation of early start “no regrets” ecosystem restoration projects.
- Long-Term Action Plan. Actions to fully implement, govern, and finance the elements of a long-term Delta Vision. These elements include water quality/supply infrastructure, delta habitat protection and restoration, flood control and levees, and others.

On September 11, 2007, MWD clarified its position on the water supply conveyance element of the long-term delta plan to further enhance the delta ecosystem, water quality, and water supply reliability. MWD’s vision included water supply conveyance options that allow the greatest flexibility in meeting water demands by taking water where and when it is least harmful to migrating salmon and in-delta fish species. The vision also focused on reducing longer-term risks associated with Climate Change by placing intake locations that are able to withstand an estimated 1- to 3-foot sea-level rise in the next 100 years.

Following completion of the Delta Vision Report, the panel established by Governor Schwarzenegger began studying long-term strategic solutions for the conflicts in the delta. That process, which will take place from January through December 2008, is a strategic planning stage that will assess alternative implementing measures and management practices to implement the Delta Vision recommendations. The final recommendations will include modifications to existing land uses and services in the delta, and will assess governance, funding mechanisms, water resource uses, and ecosystem management practices. The Delta Vision Committee will publish a public review draft of its Delta Strategic Plan by October 31, 2008, and submit the final plan to the Governor and Legislature by December 31, 2008.

In response to concerns over the integrity of the levee system, the state significantly increased the budget for levee repairs in 2006, and a \$5.4 billion natural resources bond was approved by voters in November 2006 (Proposition 84), which assigns additional funds for flood control in the delta and to plan for future water supplies. In 2007, both Governor Arnold Schwarzenegger and Senator Don Perata, the Democratic leader of the state Senate, began promoting multi-billion-dollar water bond measures to be placed on a statewide ballot in 2008. As a result, California voters could decide whether to approve billions of dollars to build new water projects, including a canal to divert water around the delta, a program to protect the aging levees, funding for three new reservoirs, delta restoration, environmental restoration projects, water recycling, conservation, and other supply reliability projects. Initiative No. 07-0069, which authorizes \$6.8 billion in bonds for water-related projects, is currently pending signature verification by the California Secretary of State’s office. Assuming the initiative is placed on the

ballot and adopted by California voters, the bonds would allocate approximately 29 percent to statewide water supply reliability projects, including conservation, reclamation, distribution, storage, and restoration. Approximately 35 percent of the bonds would be allocated to Sacramento-San Joaquin delta sustainability projects including ecosystem improvements.

At the regional and local levels, numerous water decision-makers are actively addressing the threats facing the delta. A review of MWD's resource development programs demonstrates that although SWP supplies are facing challenges and may become more expensive based on the cost of ultimately adopted solutions, MWD's adaptive planning framework, which includes conservation, in-region surface water storage, groundwater storage programs, and local water production within the MWD area, will allow MWD to adapt to changing conditions and ensure a reliable, diverse water supply to its members agencies that supply water to municipal customers. MWD has spent the past decade increasing the capacity of its reservoirs and its overall water reserve is several times larger than it was during the 1991-1992 drought. Further, actions that are being taken by the CALFED process and the state should enhance reliability of the SWP supplies in the future. Both MWD and state agencies are aware of changing conditions that may impact the SWP and are planning accordingly to ensure a safe, reliable supply of SWP water.

### **Climate Change**

Current literature suggests that global warming is likely to have an effect on the hydrological cycle, changing California's precipitation pattern and amount from that shown by the historical record. According to DWR, there is evidence that some changes have already occurred, such as an earlier beginning of snowmelt in the Sierras, an increase in water runoff as a fraction of the total runoff, and an increase in winter flooding frequency. More variability in rainfall, wetter at times and drier at times, would place more stress on the reliability of existing flood management and water supply systems, such as the SWP. Other uncertainties include future sea level rise associated with global climate change, which could increase salinity in the delta and the risk of interruptions in SWP diversions from the delta due to levee failures. As to estimating future demand for SWP water, DWR has identified uncertainty factors, including population growth, water conservation, recycling efforts, other supply sources, and global climate change. In addition to the above identified factors affecting water delivery reliability, DWR has reported other limitations and assumptions, all of which are explained in the *Draft State Water Project Delivery Reliability Report 2007*. This report has also identified the status of four major concurrent delta planning efforts that are underway with objectives related to providing a sustainable delta over the long-term. The planning efforts are the Delta Vision (described above), the Delta Risk Management Strategy, the CALFED Ecosystem Restoration Program Conservation Strategy, and the Bay-Delta

Conservation Plan. Each planning effort is explained in detail in the *Draft State Water Project Delivery Reliability Report 2007*.

### **Additional Actions to Mitigate Supply Risks**

In addition to the actions described above that seek to avoid or mitigate risks facing the Colorado River or SWP individually, MWD also has several programs that address its overall supply reliability, as described in detail below.

### ***Water Surplus and Drought Management Plan***

In 1999, MWD incorporated the water shortage contingency analysis that is required as part of any urban water management plan into a separate, more detailed plan, called the Water Surplus and Drought Management Plan (WSDM).<sup>44</sup> That plan provides policy guidance to manage MWD's supplies and achieve the goals laid out in the agency's Integrated Resources Plan. The WSDM also "identifies the expected sequence of resource management actions that [MWD] will execute during surpluses and shortages to minimize the probability of severe shortages and eliminate the possibility of extreme shortages and shortages allocations."<sup>45</sup> MWD's 10 year WSDM categorizes its ability to deliver water to its customers by distinguishing between surpluses, shortages, severe shortages, and extreme shortages.<sup>46</sup> The WSDM's integration of management actions taken during times of surplus and shortages reflects MWD's belief that these actions are interrelated.

For example, MWD's regional storage facilities, such as Lake Skinner, Lake Mathews, and Diamond Valley Lake, along with storage capacity available to MWD in Castaic Lake and Lake Perris, provide MWD with flexibility in managing its supplies.<sup>47</sup> MWD's storage supplies and existing management practices allow MWD to mitigate shortages without having to impact retail municipal and industrial demands, except in severe or extreme shortages.<sup>48</sup> MWD's 2005 UWMP shows its expected ability to meet demands in single dry years by water supply source. For example, in 2010 MWD expects to have 831,000 acre-feet in potential reserve and replenishment supplies, primarily through in-basin storage.<sup>49</sup> In 2030, MWD estimates that it will have 716,000 acre-feet in potential reserve and replenishment supplies.<sup>50</sup>

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<sup>44</sup> See Cal. Water Code Section 10632; MWD's *Water Surplus and Drought Management Plan*, Report No. 1150 at 1 (August 1999).

<sup>45</sup> MWD 2005 UWMP at II-15.

<sup>46</sup> *Ibid.* at II-16.

<sup>47</sup> WSDM Plan at 20.

<sup>48</sup> *Ibid.* at 23.

<sup>49</sup> MWD 2005 UWMP at III-2.

<sup>50</sup> *Ibid.*

Anytime MWD withdraws from storage to meet demands, it is considered to be in a shortage stage.<sup>51</sup> MWD has spent decades building up its storage reserves and groundwater management programs in order to prepare for a variety of shortage conditions. “Each [shortage] stage is associated with specific resource management actions designed to (1) avoid an Extreme Shortage to the maximum extent possible and (2) minimize adverse impacts to retail customers if an Extreme Shortage occurs.”<sup>52</sup> MWD notes that the “overriding goal of the WSDM Plan is to never reach Shortage Stage 7, an Extreme Shortage.”<sup>53</sup>

In an actual shortage, MWD will take one or more of the following actions: (1) draw on storage out of reservoirs; (2) draw on out-of-region storage in the Semitropic and Arvin-Edison groundwater banks; (3) reduce or suspend long-term seasonal and groundwater replenishment deliveries; (4) draw on groundwater storage programs; (5) draw on SWP terminal reservoir storage; (6) call for voluntary conservation and public education; (7) reduce Interruptible Agricultural Water Program (IAWP) deliveries; (8) call on water transfer options contracts; (9) purchase transfers on the spot market; and (10) reduce imported supplies to its members agencies by an allocation method.<sup>54</sup>

MWD clarifies that this list is not in any particular order, “although it is clear that the last action [taken] will be the curtailment of firm deliveries to the member agencies.”<sup>55</sup> If MWD were obligated to curtail firm deliveries, it would enforce these shortage allocations using rate surcharges.<sup>56</sup> For example, if deliveries exceed 102 percent of a customer’s allotment, the customer will be assessed a surcharge. MWD’s actions in 2007 are instructive in demonstrating how the WSDM Plan is implemented in practice.

Prior to the start of calendar year 2007, MWD estimated that water demands would exceed annual supplies (not including stored water) by approximately 300,000 acre-feet.<sup>57</sup> In response, MWD took the following actions: (1) called for water stored in its Central Valley storage programs, (2) initiated replenishment cuts and notified participating agencies with in-basin groundwater storage programs,

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<sup>51</sup> *Ibid.* at II-16.

<sup>52</sup> *Ibid.*

<sup>53</sup> *Ibid.* at II-17

<sup>54</sup> WSDM Plan at 23. Notably, the threat of water shortages was much greater in the late 1980s and early 1990s when the agency only had about 225,000 AF of water stored. Since then, MWD has increased its storage capacity significantly and today has more than 2.5 million AF of water stored around Southern California, including Diamond Valley Lake in Riverside County.

<sup>55</sup> *Ibid.*

<sup>56</sup> MWD 2005 UWMP at II-16 to II-17.

<sup>57</sup> Metropolitan Water District of Southern California, *Water Surplus and Drought Management Plan* at 3 (June 21, 2007) [Appendix J]. That figure did not include the risk of the SWP supply being restricted to protect delta smelt, which in fact occurred.

(3) embarked on a public outreach and media conservation campaign, and (4) announced reductions in IAWP agricultural supplies.<sup>58</sup>

Regarding reductions in agricultural water deliveries, before MWD imposes any restrictions on water, it will reduce deliveries of discounted agricultural supplies. In 1994, MWD established the IAWP to deliver surplus water for irrigation purposes at a reduced rate that is more affordable for certain sectors of the agricultural industry.<sup>59</sup> In exchange for the discounted rate, the MWD General Manager has the authority to reduce IAWP deliveries up to 30 percent before it imposes mandatory allocations to municipal and industrial retail customers under its WSDM.<sup>60</sup>

Due to dry conditions and the delta smelt litigation in 2007 that may affect MWD's supplies, MWD will implement the water shortage actions which it outlined in its WSDM, which include a 30 percent reduction in IAWP deliveries. On October 9, 2007, MWD's Board of Directors announced that it will reduce IAWP deliveries over a 12-month calendar year beginning in January 2008.<sup>61</sup> At this time, MWD has stated that it will not reduce water purchased by its member agencies at the full service rate.<sup>62</sup>

MWD has announced a strategic approach for 2008 regarding its WSDM Plan. Besides exercising interruptions to the IAWP, MWD's major strategies are as follows:

- Continue conservation campaign;
- Maximize recovery of water from Central Valley storage and banking programs;
- Purchase additional supplies to augment existing supplies; and
- Develop and implement a shortage allocation plan.<sup>63</sup>

On February 12, 2008, MWD adopted a long-term Water Supply Allocation Plan that may require reductions of full service deliveries during periods of drought.<sup>64</sup> MWD has used several of these types of initiatives in the past (e.g., during the droughts of 1977-78 and 1989-92), which allowed the agency to meet the needs of its member agencies.<sup>65</sup> The plan serves as the final piece of the WSDM Plan and would

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<sup>58</sup> *Ibid.* at 4.

<sup>59</sup> MWD Administrative Code §4900 *et seq.*

<sup>60</sup> *Ibid.* at §4905.

<sup>61</sup> MWD Board of Directors Agenda Item 8-4 at 1 (October 9, 2007).

<sup>62</sup> *Ibid.* at Attachment 2 at 3.

<sup>63</sup> MWD's *Water Surplus and Drought Management Plan Board Report* at 4 (June 21, 2007).

<sup>64</sup> See *Water Supply Allocation Plan Adopted by Metropolitan Board*, MWD News Release, February 12, 2008, available at: [http://www.mwdh2o.com/mwdh2o/pages/news/press\\_releases/2008-02/allocation\\_plan.pdf](http://www.mwdh2o.com/mwdh2o/pages/news/press_releases/2008-02/allocation_plan.pdf).

<sup>65</sup> 2005 UWMP at 3-4.

allocate water based on member agency dependency on MWD supplies, while taking into account other local sources of supply. The plan relies on pricing to encourage agencies to reach their targeted allocated supplies. These "penalty rates" are similar to drought pricing used in many cities during the 1987–92 drought, calling for agencies to pay up to four times Metropolitan's highest priced water, depending how far they exceed their allocation. Any funds collected through penalty rates will be applied toward investments in conservation and local resources development.<sup>66</sup>

### *Integrated Resources Plan*

MWD first adopted its Integrated Resources Plan (IRP) in 1996. The most updated IRP, which was adopted in 2004, discussed local water supply initiatives (e.g., local groundwater conjunctive use programs) and established a buffer supply to mitigate against the risks associated with implementation of local and imported water supply programs.<sup>67</sup> The 2004 IRP noted that future water supply reliability depends not only upon actions by MWD to secure reliable imported supplies, but also further development of local projects by local agencies such as LADWP (See discussion of LADWP's Water Supply Action Plan, "Securing L.A.'s Water Supply," below)

On October 10, 2006, MWD released its 2006 Integrated Water Resources Plan Implementation Report (2006 Implementation Report) to report on progress toward implementing the targets from the 2004 IRP Update. The 2006 Implementation Report included a summary of each of MWD's water resource development categories: (1) conservation, (2) local resources, (3) Colorado River Aqueduct, (4) SWP supplies, (5) Central Valley storage and transfer programs, (6) in-region groundwater conjunctive use storage, and (7) in-region surface water storage. This recent report concluded that "while changes occur in all resource areas, Metropolitan is able to maintain supply reliability through its diversified water resources portfolio."<sup>68</sup>

MWD supported this conclusion by providing detailed updates for each of its resource categories, restating dry-year IRP targets and examining current considerations, changed conditions, implementation strategies and identified programs, implementation challenges and cost information. A brief summary of each of MWD's water resource development categories (other than the Colorado River and SWP supplies, which were discussed in detail in previous sections of this WSA) is provided below:

- *Conservation:* In 2006, MWD invested \$10.6 million in conservation programs and initiatives, including executing a 10-year residential master conservation funding agreement with member agencies, encouraging the use of high-efficiency toilets, strengthening outdoor conservation

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<sup>66</sup> See *Water Supply Allocation Plan Adopted by Metropolitan Board*, MWD News Release, February 12, 2008.

<sup>67</sup> MWD, *Integrated Resources Plan Update* (2004).

<sup>68</sup> MWD, *2006 Integrated Water Resources Implementation Report* (2006).



programs and introducing new Industrial Process Improvement programs. In 2005–2006, MWD programs conserved approximately 762,000 acre-feet, which was an increase of approximately 30,000 acre-feet over the previous fiscal year. MWD’s 2010 target for conservation savings is 865,000 acre-feet.<sup>69</sup>

- *Local Resources—Recycling, Groundwater Recovery and Seawater Desalination:* MWD has invested \$213 million with its member agencies to develop local resource programs. MWD contributed approximately \$24.5 million toward the production of 127,000 acre-feet of local resource production supplies in 2006, which is an increase of 16,000 acre-feet from 2005. MWD’s 2010 target for regional water recycling and groundwater recovery is 410,000 acre-feet. Further, three desalination project agreements have been signed.<sup>70</sup>
- *Central Valley Storage and Transfer Programs:* MWD has developed significant water storage and transfer program partnerships in the Central Valley and has witnessed increased cooperation with DWR and federal agencies to facilitate water transfers. MWD continues to pursue transfers with Central Valley parties and has worked to improve existing storage programs with existing SWP storage partners.<sup>71</sup> For 2008, MWD is currently seeking to acquire up to 250,000 acre-feet by temporary transfer from the Central Valley.
- *In-Region Groundwater Storage:* The 2006 Implementation Report identified that components of MWD’s in-region groundwater storage program may not meet its 2010 dry-yield target of 275,000 acre-feet. As of October 2006, groundwater storage had been developed to provide about 135,000 acre-feet.<sup>72</sup> In response, MWD conducted a groundwater basin assessment to explore other groundwater storage opportunities. MWD’s recent Groundwater Basin Assessment Study provided new information to focus on meeting this goal.<sup>73</sup> MWD will continue to develop new strategies for groundwater storage.<sup>74</sup>

MWD’s 2007 Implementation Report demonstrates that the agency has continued to react aggressively to address challenges facing water resources.<sup>75</sup> By amending existing strategies, MWD has made significant progress in most resource areas toward meeting the IRP targets. For example, in fiscal year 2006–2007, MWD saved approximately 812,000 acre-feet through conservation efforts and is expected to meet its 2010 target.<sup>76</sup> MWD’s Board has taken a number of actions to strengthen conservation efforts, including:

- Program refinements; more options, streamlined administrative processes, upgraded and new incentives, and more standardization across programs to increase program participation;

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<sup>69</sup> *Ibid.* at 5-6.

<sup>70</sup> *Ibid.* at 7-8.

<sup>71</sup> *Ibid.* at 19.

<sup>72</sup> *Ibid.* at 20.

<sup>73</sup> *Ibid.* at I-6.

<sup>74</sup> *Ibid.* at 22.

<sup>75</sup> MWD, *2007 Integrated Water Resources Implementation Report* (2007).

<sup>76</sup> *Ibid.* at I-5.

- Expanded incentives; new incentives have been added to facilitate the installation of water conserving devices; grants and like funding from other agencies help expand incentive programs;
- New programs; novel programs like recently approved Public Sector Water Efficiency Partnership Demonstration Program (MWD's Board authorized \$15 million for the Program) allows MWD to work with member agencies to save water through public agencies within MWD's service area that have high potential to achieve accelerated conservation or water recycling use.<sup>77</sup>

Local resource production is expected to exceed the 2010 target of 426,000 acre-feet based on current production and expansion of existing programs.<sup>78</sup> Existing supplies in Central Valley storage programs are also expected to exceed the 2010 target of 300,000 acre-feet.<sup>79</sup> While in-region groundwater storage programs are currently falling short of MWD's 2010 IRP target, MWD is actively working to find new ways to meet this goal and the success of other programs, such as Central Valley storage, can avoid any negative impacts from failure to meet this single goal.<sup>80</sup> For example, MWD has already exceeded its 2010 for dry-year surface water storage.<sup>81</sup> While SWP dry-year resources met financial year 2006–2007 target level estimates (446,000 acre-feet), the 2010 IRP target of 463,000 acre-feet (or longer-term targets) are not projected to be met. However, MWD is actively seeking to resolve the risks associated with that supply, as discussed above.<sup>82</sup>

MWD's 2008 Implementation Report is scheduled for release in October 2008. In addition, MWD is currently planning to fully update the 2004 IRP itself scheduled for 2009. The updated IRP will address existing and new challenges such as the delta smelt litigation and climate change.<sup>83</sup> As can be seen by these ongoing studies, MWD is continually updating its plans to meet ever-changing challenges to its water supplies.

### **Storage and Water Transfers**

Since the completion of the first Integrated Resource Plan in 1996, MWD has developed and implemented a number of storage projects and water transfers. These projects and programs have been beneficial in ensuring MWD's reliability despite reductions in water deliveries. Below is a list of some of the significant projects and programs in MWD's portfolio:

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<sup>77</sup> *Ibid.*

<sup>78</sup> *Ibid.*

<sup>79</sup> *Ibid.* at I-6.

<sup>80</sup> *Ibid.*

<sup>81</sup> *Ibid.* at I-7.

<sup>82</sup> *Ibid.*

<sup>83</sup> *Ibid.* at I-3.

- *Diamond Valley Reservoir.* An 800,000 acre-foot surface reservoir used for drought and emergency situations.
- *Various Conjunctive Use Programs.* A variety of groundwater conjunctive use and groundwater storage programs have been or are being developed between MWD and its member agencies that will provide up to 275,000 acre-feet of dry-year yield.
- *Palo Verde Irrigation District Land Management Program.* A water transfer that can provide up to 111,000 afy of supply for the Colorado River Aqueduct.
- *Hayfield Storage Program, Mojave Desert.* A groundwater conjunctive use project that can provide up to 150,000 afy of supply for the Colorado River Aqueduct.
- *Arvin-Edison Program, Kern County.* A groundwater-banking program that can provide up to 90,000 afy to augment SWP supplies.
- *Semitropic Program, Kern County.* A groundwater-banking and exchange program that can provide up to 107,000 afy to augment SWP supplies.
- *San Bernardino Valley MWD Program.* A groundwater conjunctive use program that can provide up to 20,000 afy.

A full list of MWD's storage projects and transfer programs is provided in MWD's 2003 IRP Update Report and MWD's 2005 Regional Urban Water Management Plan. Additional information is provided in MWD's 2007 Groundwater Assessment Study.

### **Summary of MWD Water Supply Reliability**

MWD has engaged in significant water supply projection and planning efforts. As noted above, those efforts have included the water demands of the LADWP service area and the Proposed Project in their projections. In its 2003 Blueprint Report and 2005 Regional Urban Water Management Plan, MWD has consistently found that its existing water supplies, when managed according to its water resource plans, such as the WSDM and IRP, are and will be 100 percent reliable for at least a 20-year planning period. Since publication of those reports, MWD has continued to implement its water supply programs, as reported in its 2006 and 2007 Implementation Reports, the latter of which was published on October 9, 2007. Although water supply conditions are always subject to uncertainties, MWD has maintained its supply reliability in the face of such uncertainties in the past, and is actively managing its supplies to ensure the same 100 percent reliability for the future.

### ***LADWP Water Supply Action Plan***

In response to water supply uncertainties, including those impacting the MWD, the mayor and LADWP released a Water Supply Action Plan (action plan) on May 17, 2008. The plan, entitled "Securing L.A.'s

Water Supply,” serves as a blueprint for creating sustainable sources of water for the future of Los Angeles to reduce dependence on imported supplies. It is an aggressive multi-pronged approach that includes: investments in state-of-the-art technology; a combination of rebates and incentives; the installation of smart sprinklers, efficient washers and urinals; and long-term measures such as expansion of water recycling and investment in cleaning up the local groundwater supply.<sup>84</sup> The action plan also takes into account the realities of climate change and the dangers of drought and dry weather.

The premise of the action plan is that the City will meet all new demand for water due to projected population growth through a combination of water conservation and water recycling. In total, the City will conserve or recycle 32.6 billion gallons of water—enough to fill 1 foot of water across the entire San Fernando Valley, and enough to supply water to 200,000 homes for one year.<sup>85</sup> By the year 2019, half of all new demand will be filled by a six-fold increase in recycled water supplies and by 2030 the other half will be met through ramped-up conservation efforts.<sup>86</sup>

The action plan also specifically addresses current and future SWP supply shortages. LADWP estimates that the federal court decision on delta smelt will limit MWD exports of their anticipated SWP supply by up to 30 percent.<sup>87</sup> The action plan concludes, however, that MWD’s actions in response to this threat will ensure continued reliability of its water deliveries. The action plan further states that “[d]espite concerns about ongoing water shortages and higher costs, MWD has upheld its pledge to plan for emergencies and natural disasters throughout this region. The agency has approximately 1.7 million acre-feet in surface and groundwater storage accounts—including Diamond Valley Lake near Hemet—and 600,000 acre-feet of storage reserved for emergencies.”<sup>88</sup> In total, this reserve of water supplies buffers the severity of a potential shortage.<sup>89</sup> Furthermore, by focusing on demand reduction, implementation of the action plan will ensure that long-term dependence on MWD supplies will not be exacerbated by potential future shortages.

The action plan includes key short-term and long-term strategies to secure water supply described below.

### Short-Term Conservation Strategies

1. *Enforcing prohibited uses of water.* The prohibited uses of water are intended to eliminate waste and increase awareness of the need to conserve water. While in effect at all times, the prohibited uses have not

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<sup>84</sup> Mayor Antonio Villaraigosa and LADWP, *Securing L.A.’s Water Supply*, at 1 (May 2008).

<sup>85</sup> *Securing L.A.’s Water Supply* at 1.

<sup>86</sup> *Ibid.* at 1.

<sup>87</sup> *Ibid.* at 8.

<sup>88</sup> *Ibid.*

<sup>89</sup> *Ibid.*

been actively enforced since the early 1990s. In November 2007, LADWP resurrected its Drought Buster Program to heighten awareness and educate customers about the prohibited uses. Under enforcement, failure to comply would be subject to penalties, which can range from a written warning for a first violation to monetary fines and water service shutoff for continued non-compliance.<sup>90</sup>

2. *Expanding the prohibited uses of water.* LADWP will update and strengthen the existing Emergency Water Conservation Ordinance by expanding the prohibited uses. Possible new prohibited uses include: further restrictions on watering landscape (i.e., prohibiting watering on certain days of the week or for a limited period of time); prohibit landscape watering during rain; and prohibit washing/rinsing vehicles with a hose when the hose does not have a functioning self-closing nozzle attached or allowing the hose to run continuously.<sup>91</sup>

3. *Extending outreach efforts.* LADWP has committed to \$2.3 million for an aggressive conservation outreach and education campaign. Some activities include: step up communication with ratepayers to include bus placards, LADWP vehicle placards, newspapers, radio, and television, among other types of media; outreach to Homeowner Associations and Neighborhood Councils to promote water conservation; train LADWP field staff as well as field staff from Public Works, Recreation and Parks, and other appropriate City departments in identifying and reporting prohibited uses of water; and ramp up marketing of water conservation incentive and rebate programs.<sup>92</sup>

4. *Encouraging regional conservation measures.* Work with MWD to encourage all water agencies in the region to adopt water conservation ordinances which include prohibited uses and enforcement.<sup>93</sup>

### Long-Term Strategies

1. *Increasing water conservation through reduction of outdoor water use and new technology.* The following are new and continuing water conservation programs as well as goals and benchmarks designed to measure their progress through 2030:

**Residential Smart Sprinkler Systems:** Smart sprinkler systems which improve water efficiency and are already used in parks and golf courses around the City will be extended to homes throughout LA's neighborhoods.

- **Goal:** Install 5,250 smart sprinkler controllers per year, with a total of 63,500 by 2020.

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<sup>90</sup> *Ibid.* at 11.

<sup>91</sup> *Ibid.*

<sup>92</sup> *Ibid.* at 12.

<sup>93</sup> *Ibid.*

- Water Savings: 4,962 afy by 2030.
- Action Plan: LADWP will begin to provide smart controllers and installation services free of charge to qualifying residential customers. Program plans include the installation of 2,500 controllers in the first year of program, moving to 5,250 controllers per year on a sustained basis. The program is scheduled to launch in early 2009.<sup>94</sup>

#### Conservation Rebates and Incentives:

- Goal: Increase participation in Water Conservation Rebate and Incentive Programs.
- Water Savings: 48,457 afy by 2030.
- Action Plan: LADWP is continuing to expand rebates and incentives for homeowners and business owners to encourage them to purchase water-saving technology.<sup>95</sup> Rebate and incentive programs include the following:
  - High Efficiency Clothes Washer Program. LADWP increased the rebate offered for residential high efficiency clothes washers from \$150 to \$250. LADWP will further expand the program through “Point of Purchase” rebates, offering customers an instant rebate when they buy the appliance from a Los Angeles retailer. Since the program was launched in 1998, more than 60,000 water-saving clothes washers have been installed in Los Angeles residents’ homes through the program.<sup>96</sup>
  - Commercial Rebate Program. Water conservation rebates and incentives were increased significantly in 2007 to offset the costs of replacing water-wasting toilets and urinals with high efficiency models. The current rebates offset most or all of the total replacement cost (including installation). LADWP will increase program promotion to raise awareness of these significant financial incentives, resulting in increased program participation. Since this program’s inception, more than 32,800 toilets have been replaced by commercial, industrial and institutional customers, and LADWP is working to implement a grant-funded Cooling Tower program for commercial customers.<sup>97</sup>
  - High Efficiency Urinal Programs. Offering perhaps the greatest potential for quick implementation is the replacement of standard urinals with high efficiency urinals (0.5 gallon per flush (gpf) or less, including no-flush). In addition, recent changes in the Los Angeles Building Code now provide for the installation of completely water-free urinals.<sup>98</sup>
  - Additional Water Saving Efficiency Measures and Programs. As part of the City’s ongoing effort to encourage customers to adopt passive water conservation measures (i.e., measures that can help customers conserve water on a daily basis without thinking about it) in their

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<sup>94</sup> *Ibid.* at 13.

<sup>95</sup> *Ibid.* at 14.

<sup>96</sup> *Ibid.*

<sup>97</sup> *Ibid.*

<sup>98</sup> *Ibid.* at 14-15.

homes and businesses, LADWP will continue to distribute water-saving bathroom and kitchen faucet aerators and shower heads free of charge. LADWP also plans to add rebates for products such as high-efficiency dishwashers and synthetic turf for residential customers to help increase their daily conservation efforts.<sup>99</sup>

#### Action by Public Agencies:

- **Goal:** Improving water efficiency at all City Department facilities. LADWP provides incentive funding and technical assistance to City Departments for the installation of high efficiency urinals and smart irrigation controllers, and helps them identify other opportunities to improve water use efficiency.
- **Water Savings:** Estimated to save at least 10 percent from existing use, totaling as much as 1,888 afy in water savings.
- **Action Plan:** LADWP will assist City Departments and other public agencies in leveraging incentive funds to retrofit their facilities. The Public Sector Conservation Incentive Program, offered through MWD in conjunction with LADWP, provides up-front incentives for public agencies to purchase water-efficiency technology.<sup>100</sup>

#### Enhancing Conservation through Review of New Developments:

- **Goal:** Ensure specifications for the Los Angeles Green Building program include water efficiency measures.
- **Water Savings:** The Green Building Program can yield significant water savings through water conservation measures.
- **Action Plan:** LADWP will continue working with the City's Green Building Team to pursue desired changes in local codes and standards to promote water efficiency in new construction projects and major building renovations.<sup>101</sup>

2. **Maximizing water recycling.** The City's goal is to increase the total amount of recycled water used in the City of Los Angeles six-fold by 2019—expanding from the current 1 percent to 6 percent of annual water demand. This will result in an estimated water savings of 50,000 afy by 2019.<sup>102</sup> In order to achieve this goal, the City will take the following actions:

**Develop a Recycled Water Master Plan.** LADWP and the Bureau of sanitation will prepare a detailed Recycled Water Master Plan that will outline the steps and costs of boosting the City's recycled water level to 6 percent of total demand for the City. The Master Plan will provide a blueprint for reaching this

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<sup>99</sup> *Ibid.* at 15.

<sup>100</sup> *Ibid.* at 18-19.

<sup>101</sup> *Ibid.* at 21.

<sup>102</sup> *Ibid.* at 22.

goal by expanding the existing recycled water pipeline system and using recycled water for groundwater replenishment.<sup>103</sup>

**Increase Recycled Water for Irrigation and Industrial Use.** LADWP's current Water Recycling Capital Budget provides funding for 21 projects that will increase recycled water deliveries from 4,500 afy to 19,350 afy by 2014, adding more than 106,300 feet of new pipe and saving potable water for nearly 31,000 households throughout the City.<sup>104</sup> Potential customers in future years include several parks (Taylor Yard, Elysian, Branford, Woodley, and Balboa parks); Harbor and Scattergood Generating Stations; Hansen Dam and Van Nuys golf courses; oil refineries in the Harbor area; LAX cooling towers; schools in the Sepulveda Basin, the Los Angeles Zoo, and the Playa Vista development. Under the City's Water/Wastewater Integrated Resources Plan, 30,250 afy of treated water will continue to be used to support habitat in the Japanese Gardens, Lake Balboa, the Wildlife Lake, and the Los Angeles River.<sup>105</sup>

**Use Recycled Water for Groundwater Replenishment.** Advanced treated recycled water can be sent to spreading basins to percolate underground and become part of the City's groundwater system for later use. This process, also termed groundwater replenishment, is a proven alternative for expanding locally produced, safe, high-quality drinking water. The process has been successfully implemented in Orange County, Australia, and Singapore, and is being considered in other US and worldwide locations.<sup>106</sup>

**Initiate Stakeholder Planning Process.** LADWP will engage stakeholders from the Water/Wastewater Integrated Resources Plan (IRP) process in analyzing alternatives necessary for maximizing recycled water. These alternatives include implementing groundwater recharge with advanced treatment in the San Fernando Valley as well as expanding the purple pipe system to supply recycled water for irrigation and industrial uses.<sup>107</sup>

**Upgrade Tillman Wastewater Treatment Plant.** Groundwater replenishment will require upgrading the Tillman Plant with state-of-the-art, advanced treatment capability similar to the Orange County Water District's recently implemented Groundwater Replenishment System, which has received widespread support. Advanced treatment would be constructed at the Tillman Plant, and the highly treated wastewater would be piped to spreading basins for groundwater recharge.<sup>108</sup>

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<sup>103</sup> *Ibid.* at 24.

<sup>104</sup> *Ibid.*

<sup>105</sup> *Ibid.*

<sup>106</sup> *Ibid.*

<sup>107</sup> *Ibid.* at 25.

<sup>108</sup> *Ibid.*



3. *Enhancing stormwater capture.* The City's goal is to increase groundwater recharge by retrofitting the Big Tujunga Dam and other large-scale projects through cooperative efforts with the Los Angeles County Flood Control District and other agencies. LADWP is moving forward with several stormwater capture projects with the goal of increasing long-term groundwater recharge by a minimum of 20,000 afy.<sup>109</sup> The following are the large-scale projects that are expected to be completed or in construction within the next five years:

**Big Tujunga Dam – San Fernando Basin Groundwater Enhancement Project:** On September 18, 2007, the LADWP Board approved Agreement No. 47717 to provide \$9 million to the Los Angeles County Flood Control District for the construction of the Big Tujunga Dam Project – an effort to seismically retrofit the dam, increase its water storage capacity, improve its reliability as a supply source, enhance flood protection measures, and green the environment. The restoration of the dam is conservatively estimated to result in the additional capture and recharge of 4,500 afy at the Hansen and Tujunga Spreading Grounds, and more in wet years. The project will make structural improvements to Big Tujunga Dam to restore its historical retention capacity of 6,000 acre-feet; currently the dam is restricted to 1,500 acre-feet of storage capacity.<sup>110</sup>

- Schedule: In construction; scheduled to be completed by December 2010.
- Budget: \$100 million of which LADWP is providing \$9 million.
- Resources: Los Angeles County Flood Control District is the project manager.
- Potential Water Savings: Capture an additional 4,500 afy of stormwater on average, up to 10,000 afy or more in extremely wet years.

**Sheldon-Arleta Project – Cesar Chavez Recreation Complex Project Phase I:** On December 19, 2006, the Board of Water and Power Commissioners approved Agreement No. 47448 to provide up to \$5.25 million to the City of Los Angeles Department of Public Works for the construction of the project (the total project cost is about \$9 million). The project will upgrade the methane gas extraction system at the Sheldon-Arleta Landfill that is necessary to allow the full use of the adjacent Tujunga Spreading Grounds. Currently, the spreading grounds are restricted to an operating capacity of 50 cubic feet per second (cfs) or 20 percent of the full operating capacity of 250 cfs.<sup>111</sup>

- Schedule: In construction; scheduled to be completed by late 2008.
- Budget: \$9 million of which LADWP is providing \$5.25 million.

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<sup>109</sup> *Ibid.* at 26.

<sup>110</sup> *Ibid.* at 27.

<sup>111</sup> *Ibid.*

- Resources: Los Angeles Department of Public Works is the project manager.
- Potential Water Savings: Capture of an additional 6,000 to 10,000 afy of stormwater.

**Hansen Spreading Grounds Enhancement Project:** LADWP has entered into Agreement No. 47739 to share the costs of the construction of the Hansen Spreading Grounds Project with the District. The project will increase the capacity and efficiency of the spreading grounds by (1) combining and deepening the existing basins, and (2) installing and building a new rubber dam, intake structure, control house, and upgrading the telemetry system. The Los Angeles County Board of Supervisors approved the agreement on March 11, 2008, and the LADWP Board of Commissioners approved it on April 1, 2008.<sup>112</sup>

- Schedule: Commenced construction in summer 2008; completion expected within 18 months.
- Budget: Up to \$15 million; LADWP is providing up to \$7.5 million, with remaining costs covered by the LA County Flood Control District.
- Resources: Los Angeles County Flood Control District is the project manager.
- Potential Water Savings: Capture of an additional 1,200 to 3,000 afy of stormwater.

**Tujunga Spreading Grounds Enhancement Project:** This project proposes to deepen the spreading basins, increase their storage capacity, replace the existing diversion structure with two diversion structures, and add remote automation of the operating structures.<sup>113</sup>

- Schedule: Planning and design 2008–09; construction in 2010.
- Budget: \$1.3 million for design; \$24 million for construction (LADWP funded).
- Resources: LADWP will be the project manager.
- Potential Water Savings: Capture of an additional 8,000 to 12,000 afy of stormwater.

**Pacoima Spreading Grounds Enhancement Project:** This project proposes to deepen the spreading basins, increase their storage capacity, replace existing diversion structure, and add remote automation of the operating structures.<sup>114</sup>

- Schedule: Planning and design 2008–09; construction in 2011.
- Budget: \$1.3 million for design; \$20 million for construction (LADWP may provide some funding for this project).

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<sup>112</sup> *Ibid.* at 27-28.

<sup>113</sup> *Ibid.* at 28.

<sup>114</sup> *Ibid.*

- Resources: Los Angeles County Flood Control District will be the project manager.
- Potential Water Savings: Capture of an additional 1,500 to 3,000 afy of stormwater.

4. *Accelerating clean-up of the groundwater basin.* The City's goal is to clean up the contaminated San Fernando Groundwater Basin to expand groundwater storage and the ability to fully utilize the City's groundwater supplies. The result will be a reduction of imported water supply of up to 87,000 afy – LADWP's annual allocation of San Fernando Valley groundwater supplies.<sup>115</sup> LADWP will also work to ensure that this basin remains a consistent, stable, and reliable resource for years to come. The following actions are proposed to achieve this goal:

**Work with Regulatory Agencies and Governmental Officials:** LADWP will continue to encourage the EPA to develop a long-term, comprehensive solution for existing and emerging contamination issues in the basin. In addition to the EPA, LADWP will work with the Los Angeles Regional Water Quality Control Board and the California Department of Toxic Substances to find and hold polluters accountable for cleaning up the basin.<sup>116</sup>

**Groundwater System Improvement Study (GSIS):** LADWP will conduct a comprehensive groundwater study for the basin. This study is a necessary step to evaluate the groundwater quality in the basin and recommend treatment options to maximize the utility of the groundwater supply.<sup>117</sup>

- Schedule: Contract award in mid 2008; contract term is six years.
- Budget: \$10 million (LADWP funded).
- Resources: LADWP will serve as contract manager and administrator.
- Benefit: Will provide vital information to develop a long-term strategy to remediate groundwater contamination in the San Fernando Basin.

**Monitoring Well Drilling Contract:** LADWP will install up to 40 new monitoring wells throughout the basin to provide vital water quality information necessary for the Groundwater System Improvement Study.<sup>118</sup>

- Schedule: Construction contract award in mid 2009; contract term is two years.
- Budget: \$7.5 million (LADWP funded)

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<sup>115</sup> *Ibid.* at 29.

<sup>116</sup> *Ibid.* at 30.

<sup>117</sup> *Ibid.*

<sup>118</sup> *Ibid.*

- Resources: LADWP will serve as contract manager and administrator
- Benefit: The monitoring wells can be routinely sampled during and after the GSIS to provide vital information on groundwater contaminants and their concentration levels.

**Interim Wellhead Treatment:** LADWP will install interim treatment for select wellheads in the Tujunga Well Field in order to maintain groundwater pumping production. An amount of \$3 million has been included in the budget for this work.<sup>119</sup>

5. *Expanding groundwater storage.* LADWP is investigating opportunities for increased storage of groundwater, creating a cost-effective, environmentally friendly reserve of water resources in case of extreme drought or other emergencies. Currently, the City has significant amounts of stored groundwater in the San Fernando Basin. However, as noted above, contamination restricts the ability to effectively utilize this resource.<sup>120</sup>

LADWP is investigating the following opportunities: groundwater storage along the Los Angeles Aqueduct; a groundwater conjunctive use storage project in the L.A. County groundwater basins; and construction of an interconnection between the Los Angeles Aqueduct and the California Aqueduct, located where the two aqueducts intersect in the Antelope Valley. The interconnection will allow for water transfers or exchanges, and could be used to help move water to facilitate groundwater storage opportunities. The design phase of the interconnection is almost complete. LADWP is waiting for a permit to build on land owned by DWR. LADWP plans to begin construction in 2008.<sup>121</sup>

### *Proposed Revisions to the Emergency Water Conservation Ordinance*

As an initial step toward implementing the Short-Term Conservation Strategies of the Water Supply Action Plan described above, LADWP has proposed revisions to the City's existing Emergency Water Conservation Ordinance.<sup>122</sup> Approved by the DWP Board of Commissioners on June 4, 2008, these revisions would discourage water waste by expanding prohibited uses of water and increasing the penalties for violations. If approved by the City Council and signed by the Mayor, the revised ordinance would go into effect immediately.<sup>123</sup>

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<sup>119</sup> *Ibid.*

<sup>120</sup> *Ibid.*

<sup>121</sup> *Ibid.* at 31.

<sup>122</sup> Ordinance No. 166,080, effective July 25, 1990.

<sup>123</sup> See DWP News Release, *LADWP Strengthens Water Use Ordinance to Encourage Conservation*, June 4, 2008, available at: <http://www.ladwpnews.com/go/doc/1475/204815/>, and proposed ordinance, available at: [http://www.ladwpnews.com/posted/1475/Emergency\\_Water\\_Conservation\\_Plan\\_Ordinance\\_6\\_4\\_08.205004.pdf](http://www.ladwpnews.com/posted/1475/Emergency_Water_Conservation_Plan_Ordinance_6_4_08.205004.pdf).

The ordinance, first instituted in the drought of 1990, allows officials to cite and fine water wasters for activities such as watering during expanded daytime hours, washing down sidewalks and other pavement, automatically serving drinking water at restaurants without the customer's request, allowing excess water to flow from lawns and other practices. Proposed changes include doubling existing monetary fines for residential customers (meters smaller than 2 inches) from \$50 for a first offense to \$100 and quadrupling existing monetary fines from \$50 to \$200 for a first offense for large customers, including businesses (meters 2 inches and larger).<sup>124</sup>

LADWP will also begin enforcement of the ordinance through its Drought Buster Team. Previously, the Drought Busters patrolled the City to remind customers wasting water of the prohibited uses and provide a tip sheet on simple ways to cut waste. Under the proposed changes the Drought Busters will begin issuing citations to offending property owners or occupant. First time offenders will get a warning, but repeat offenders will be fined on a sliding scale depending upon the rate and magnitude of the waste. The fine will appear as a charge on the customer's DWP water bill. Appeals will come directly to the Board of Water and Power Commissioners.<sup>125</sup>

The ordinance takes a phased approach to prohibited uses, allowing the Department to expand phases depending on severity of water supply conditions. Phase I seeks compliance of 14 prohibited uses and will be permanent, enforceable 24 hours a day, 12 months a year. Implementation of Phases II and subsequent phases will occur upon the assessment of the Board of Water and Power Commissioners of the City's water supply. Under Phase II as example, the City will institute non-watering days leaving Monday, Thursday, or Saturday as permissible days to irrigate landscaping. Under Phase III, watering outdoors will be cut back an additional day to Mondays and Thursdays only.<sup>126</sup>

### ***State Executive Order S-06-08***

In a recent effort to coordinate water conservation efforts at the state level, Governor Schwarzenegger signed Executive Order S-06-08. The Order comes in response to two straight years of below-average rainfall and very low snowmelt runoff.<sup>127</sup> As a result, the Governor proclaimed a statewide drought. The Executive Order took effect on June 4, 2008 and addresses water shortages that have forced numerous local California communities to mandate water conservation or rationing programs, such as the DWP

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<sup>124</sup> See LADWP *Strengthens Water Use Ordinance to Encourage Conservation*.

<sup>125</sup> *Ibid.*

<sup>126</sup> *Ibid.*

<sup>127</sup> See Office of the Governor Press Release, *Governor Schwarzenegger Proclaims Drought and Orders Immediate Action to Address Situation* (GAAS:307:08), June 4, 2008, available at: <http://gov.ca.gov/index.php?/print-version/press-release/9796/>.

programs discussed above. The lack of water has created other problems, such as extreme fire danger due to dry conditions, economic harm to urban and rural communities, loss of crops and the potential to degrade water quality in some regions.<sup>128</sup> The Executive Order directs the DWR to take the following actions:

- Facilitate water transfers to respond to emergency shortages across the state.
- Work with local water districts and agencies to improve local coordination.
- Help local water districts and agencies improve water efficiency and conservation.
- Coordinate with other state and federal agencies and departments to assist water suppliers, identify risks to water supply, and help farmers suffering losses.
- Expedite existing grant programs to help local water districts and agencies conserve.

The Executive Order also encourages local water districts and agencies to promote water conservation. They are encouraged to work cooperatively on the regional and state level to take aggressive, immediate action to reduce water consumption locally and regionally for the remainder of 2008 and prepare for potential worsening water conditions in 2009. As part of the Executive Order, DWR will work with locals to conduct an aggressive water conservation and outreach campaign.<sup>129</sup>

## 4. ENVIRONMENTAL IMPACT ANALYSIS

### a. Significance Criteria

The *Los Angeles CEQA Thresholds Guide* indicates that the determination of a project's significance to water resources shall be made on a case-by-case basis, considering:<sup>130</sup>

- The total estimated water demand for the proposed project;
- Whether sufficient capacity exists in the water infrastructure that would serve the project, taking into account the anticipated conditions at project buildout;
- The amount by which the project would cause the projected growth in population, housing or employment for the Community Plan area to be exceeded in the year of the project completion; and
- The degree to which scheduled water infrastructure improvements project design features, construction and operation would reduce or offset service impacts.

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<sup>128</sup> *Governor Schwarzenegger Proclaims Drought and Orders Immediate Action to Address Situation.*

<sup>129</sup> *Ibid.*

<sup>130</sup> *L.A. CEQA Thresholds Guide*, City of Los Angeles, Environmental Affairs Department, 2006, p. M.1-3.

## b. Project Impacts

Impacts related to water are considered significant as determined by

- the total estimated water demand for the proposed project.

Implementation of the proposed project would increase the demand for water over existing conditions and uses on the project site. The project water demand would result in an approximately 92,807 gpd, or 104 afy, as shown in **Table IV.L.1-3, Wilshire and La Brea Project Water Demand**. With the inclusion of water conservation measures, water demand associated with the project represents an increase of approximately 75 afy over existing conditions. This represents a relatively small fraction (approximately 0.01 percent) of the projected water demand of 683,000 acre-feet that LADWP plans to meet by 2010 under average weather conditions.<sup>131</sup> Therefore, the water demand generated by the proposed project is accounted for in LADWP's projections. The Water Supply Assessment prepared by LADWP for the Wilshire and LA Brea project determined that the project as originally proposed would demand 94 acre-feet of water per year and confirmed that there is adequate water supply to meet the proposed project's demand.<sup>132</sup> As shown in **Table IV.L.1-3**, the project currently proposed would result in an increase of approximately 75 afy over existing conditions which is lower than the original estimate in the Water Supply Assessment; therefore, the demand is accounted for in the LADWP's projections. As such, implementation of the proposed project and the resulting increase in water demand in the project area would not have the potential to result in significant impacts associated with water service.

Impacts related to water are considered significant based on

- whether sufficient capacity exists in the water infrastructure that would serve the project, taking into account the anticipated conditions at project buildout.

As stated above, a Water Supply Assessment was conducted to verify that enough water is available to serve the proposed project. According to LADWP, adequate water supplies will be available to meet project demand, in addition to the existing and planned future demands on LADWP, during normal, single-dry, and multiple-dry water years. Additionally, the project site is located in an urban area where adequate water infrastructure exists. Therefore, adequate water supplies exist to serve the project, and implementation of the proposed project would not have the potential to result in significant impacts associated with existing water infrastructure and capacity.

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<sup>131</sup> City of Los Angeles Department of Water and Power, 2005 UWMP, Exhibit 6C.

<sup>132</sup> The WSA prepared for the Wilshire and La Brea project originally determined that the project would generate a water demand of 94 AFY. After preparation of the WSA the unit residential and retail mix was modified resulting in a lower water demand of 75 AFY.

**Table IV.L.1-3  
Wilshire and La Brea Project Water Demand**

<b>Land Use<sup>1</sup></b>	<b>Quantity</b>	<b>Demand Factor<sup>2</sup> (gpd/unit)</b>	<b>Daily Demand (gal/day)</b>	<b>Annual Demand (afy)</b>
<b>Existing</b>				
Commercial	30,000 sq.ft	0.08	2,400	3
Church	400 seats	4	1,600	2
Parking	87,150 sq. ft.	0.02	1,743	2
Outdoor water use <sup>3</sup>	--	--	1,120	1
<b>Total Existing Water Usage:</b>			<b>6,863</b>	<b>8</b>
<b>Proposed</b>				
Retail	37,000 sq.ft.	0.08	2,960	3
Restaurant	8,000 sq.ft.	0.30	2,400	3
Residential: Studio	138 d.u.	80	11,040	12
Residential: 1 Bedroom	315 d.u.	120	37,800	42
Residential: 2 Bedrooms	99 d.u.	160	15,840	18
Residential: Townhome	10 d.u.	180	1,800	2
Parking	375,000 sq.ft.	0.02	7,500	8
Outdoor Water Use <sup>3</sup>			13,467	15
<b>Total Proposed Water Usage:</b>			<b>92,807</b>	<b>104</b>
<b>Water Conservation Savings (20% of Proposed)</b>			<b>18,561</b>	<b>21</b>
<b>Project Total (Proposed – Existing – Conserved)<sup>4</sup></b>			<b>67,383</b>	<b>755</b>

Source: Los Angeles Department of Water and Power Water Supply Assessment for the Wilshire and La Brea Project, May 2007, Table 1, page 5. The Water Supply Assessment is provided in **Appendix IV.L.1**.

d.u. – dwelling unit; sq. ft. – square feet; gpd – gallons per day; afy – acre-feet per year.

<sup>1</sup> Provided by the City of Los Angeles Department of City Planning

<sup>2</sup> Based on City of Los Angeles Department of Public Works, Bureau of Sanitation Sewer Generation Rates Table – March 20, 2002. Uses not listed are estimated by the closest type of use available in the table.

<sup>3</sup> Estimated to be 28 percent of indoor usage for commercial use, 18 percent for multi-family residential.

<sup>4</sup> Preliminary estimates: Assume 5.5 flushes per person per day, one dishwasher load per unit per day, and one load of clothes washed per unit every two days for residential. For retail, assume one toilet, one urinal, and faucet per 1,000 square-feet.

<sup>5</sup> The Water Supply Assessment prepared for the Wilshire and LA Brea Project indicated that the proposed project would demand 94 acre-feet of water per year. This projection was based on an earlier commercial space and unit mix count for the proposed project. The correct commercial space and unit mix count substituted to provide the water demand estimate, which is lower than the original estimate.

Impacts related to water are considered significant based on:

- The amount by which the project would cause the projected growth in population, housing, or employment for the Community Plan area to be exceeded in the year of the project completion.



LADWP relies upon SCAG's growth projections in projecting future water demand. The proposed project is consistent with and planned for within SCAG's growth projections, as detailed in **Section IV.I, Population and Housing**. Therefore, the water demand generated by the proposed project is accounted for in LADWP's projections, and implementation of the proposed project would not result in potentially significant impacts associated with growth in population, housing, or employment beyond those projected by SCAG.

Impacts related to water are considered significant based on

- the degree to which scheduled water infrastructure improvements, project design features, construction, and operation would reduce or offset service impacts.

Where estimated water requirements for the proposed project can be served by existing water mains in the adjacent streets, water service would be provided routinely in accordance with the LADWP Rules and Regulations. The project site is a developed urban space, which is currently served by existing water mains, and would be routinely serviced by LADWP, thereby reducing water service impacts. In addition, project design features for water conservation, as recommended by LADWP, would reduce water service impacts. Project design features for water conservation include the following:

- Ultra-low-flush water closets, ultra-low-flush urinals, and water-saving showerheads and faucets would be installed.
- Water conserving clothes washers and dishwashers would be installed.
- A landscape irrigation system controlled by a weather satellite based ET Controller (i.e. Weather Track) would be installed.

In addition, the project must comply with Section 12.41 of the Los Angeles Municipal Code, which includes abiding by standards for water delivery systems to landscapes. Therefore, the existing water infrastructure and project design features reduce impacts to water service to less than significant.

Based on the above, adequate water supplies and infrastructure exist to meet the project's water demand, and, thus, there is no potential for significant impacts to water supply or infrastructure.

### c. Cumulative Impacts

Development of the proposed Wilshire and La Brea project, in association with the list of related projects identified in **Section III, General Description of Environmental Setting**, would cumulatively increase water demand in the Wilshire Community Plan area and the Los Angeles Subregion. However, as detailed in **Section IV.I, Population and Housing**, the proposed development and identified related projects accounts for an approximately 6.7 percent (4,114 dwelling units of the projected 61,739 units)

contribution towards the projected dwelling unit increase in SCAG's growth projections for the Los Angeles Subregion. Using SCAG's growth forecasts, LADWP has projected that there will be an adequate supply of water to accommodate anticipated growth for the next several decades. Given that the UWMP plans for water supplies to serve existing and projected needs, it is anticipated that the LADWP will be able to supply the demands of the proposed project and related projects through the foreseeable future, and no significant cumulative impacts related to water demand are anticipated. The LADWP states in the Water Supply Assessment for the proposed project that adequate water supplies exist to meet the demands of the proposed project, as well as existing and planned future demands, and, therefore, the proposed project does not have the potential to result in potentially significant cumulative impacts on water supply.

**d. Mitigation Measures**

Implementation of the proposed project would not result in significant impacts to water supply and infrastructure; therefore, no mitigation is required.

**e. Adverse Effects**

No adverse impacts associated with water supply and infrastructure are anticipated to result from development of the proposed project.