

LA DWP

2025 Urban Water Management Plan

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Glossary of Abbreviations and Terms

AB	Assembly Bill
Action Plan	Water Loss Task Force Action Plan
AF	acre-feet
AFY	Acre-feet per Year
AKWWRF	AK Warren Water Resources Facility
AOP	Advanced Oxidation Process
AVGB	Antelope Valley Groundwater Basin
AWPF	Advanced Water Purification Facility
AWWA	American Waterworks' Association
Bay-Delta	San Francisco Bay and Sacramento-San Joaquin River Delta
BOE	Bureau of Engineering
BOU	Burbank Operable Unit
BOUTF	Burbank Operable Unit Treatment Facility
BWP	Burbank Water and Power
BWRP	Burbank Water Reclamation Plant
CalWEP	California Water Efficiency Partnership
CAMP4W	Climate Adaptation Master Plan for Water
CBWRP	Central Basin Water Rights Panel
CCC	cooperative containment concept
CDFW	California Department of Fish and Wildlife
CEQA	California Environmental Quality Act
cfs	cubic feet per second
CII	Commercial, Industrial, and Institutional
City	City of Los Angeles
CLCA	California Landscape Contractors Association
Conservation Ordinance	Emergency Water Conservation Plan
Cr(VI)	hexavalent chromium
CRA	Colorado River Aqueduct
CRB	Colorado River Board
CSLC	California State Lands Commission
CVP	Central Valley Project
CWC	California Water Code
CWP	LA County Water Plan
CY	calendar year
DAC	Disadvantaged Community
DCTWRP	Donald C. Tillman Water Reclamation Plant
DDW	State Water Resources Control Board Division of Drinking Water
DEOC	Department Emergency Operations Center
DFA	State Water Resources Control Board Division of Financial Assistance
DIM	dedicated irrigation meters

DPR	Direct Potable Reuse
DPR Pilot	LADWP Headworks DRP Pilot
DTSC	California Department of Toxic Substances Control
DWR	California Department of Water Resources
ECLWRF	Edward C. Little Water Recycling Facility
EIR	Environmental Impact Report
EMD	Emergency Management Department
EOC	Emergency Operations Center
EOO	Emergency Operations Organization
ERPs	Emergency Response Plans
ESD	explanation of significant differences
ETo	Evapotranspiration Rate
EWCP	Emergency Water Conservation Program
FAT	Full advanced treated
FY	Fiscal Year
GAC	granular activated carbon
GBUAPCD	Great Basin Unified Air Pollution Control District
GCMs	global climate models
GPCD	gallons per capita per day
gpf	gallons per flush
gpm	gallons per minute
GSA	Groundwater Sustainability Agency
GSIS	Groundwater System Improvement Study
GSP	Groundwater Sustainability Plan
HSG	Hansen Spreading Grounds
HWRP	Hyperion Water Reclamation Plant
IPR	Indirect Potable Reuse
IRP	Integrated Resources Plan
IRWM	Integrated Regional Water Management
IRWMP	Integrated Regional Water Management Plan
kWh/AF	kilowatt hours per acre feet
LA GWR	Los Angeles Groundwater Replenishment
LA River	Los Angeles River
LAA	Los Angeles Aqueduct
LAAFP	Los Angeles Aqueduct Filtration Plant
LACDPH	Los Angeles County Department of Public Health
LACFCD	Los Angeles County Flood Control District
LADWP	Los Angeles Department of Water and Power
LAGWRP	Los Angeles - Glendale Water Reclamation Plant
LAMC	Los Angeles Municipal Code
LARWQCB	Los Angeles Regional Water Quality Control Board
LASAN	Los Angeles Bureau of Sanitation and Environment
LAUSD	Los Angeles Unified School District

LAX	Los Angeles International Airport
LEAP	Landscape Efficiency Assistance Program
LEF	Landscape Efficiency Factor
LORP	Lower Owens River Project
LTWA	Long Term Water Agreement
MAF	million acre-feet
MBR	membrane bioreactor
MCL	Maximum Contaminant Level
mgd	million gallons per day
MOU	memorandum of understanding
MWD	Metropolitan Water District of Southern California
MWELO	Model Water Efficient Landscape Ordinance
MWIP	Manhattan Wellfields Improvement Project
MWOIP	Manhattan Wellfields Operational Improvement Project
NCP	National Contingency Plan
NdN	nitrification/denitrification
NFT	non-functional turf
NHOU	North Hollywood Operable Unit
NHOU-1IR	North Hollywood Operable Unit First Interim Remedy
NL	Notification Level
NOAA	National Oceanic and Atmospheric Association
NPR	Non-Potable Reuse
NRW	Non-revenue Water
OLMP	Owens Lake Master Project
Ozone-BAC	ozone and biologically activated carbon
PCE	perchloroethylene
PEIR	Programmatic Environmental Impact Report
PFAS	Poly- and Perfluoroalkyl Substances
PFOA	Perflurooctanoic Acid
PFOS	Perfluorooctanesulfonic Acid
ppb	parts per billion
PPIC	Public Policy Institute of California
PRP	potentially responsible parties
R-LAM	Residential Landscape Area Measurement
RO	Reverse Osmosis
ROD	record of decision
RTP/SCS	Regional Transportation Plan/Sustainable Communities Strategy
RWA	Raw Water Augmentation
RWQCB	Regional Water Quality Control Board
RY	Runoff Year
SB	Senate Bill
SCAG	Southern California Association of Governments'
SCMP	Stormwater Capture Master Plan

sf	square foot/feet
SFB	San Fernando Basin
SGMA	Sustainable Groundwater Management Act
SIP	State Implementation Plan
SMB	Santa Monica Basin
SoCalGas	Southern California Gas Company
SSPs	Shared Socioeconomic Pathways
State	State of California
SWP	California State Water Project
SWRCB	State Water Resources Control Board
TAF	thousand acre-feet
TAP	Technical Assistance Program
TCE	trichloroethylene
TDS	total dissolved solids
TIWRP	Terminal Island Water Reclamation Plant
TOC	total organic carbon
TRDS	Turf Replacement Design Services
TWA	Treated Water Augmentation
TWB2	Tillage with Shallow Flood BACM Back-up
UCLA	University of California, Los Angeles
ULARA	Upper Los Angeles River Area
ULF	ultra low flush
US EPA	United States Environmental Protection Agency
USBR	United States Bureau of Reclamation
UV	Ultraviolet Light
UWMP	Urban Water Management Plan
UWMP Act	Urban Water Management Planning Act
UWUO	Urban Water Use Objective
VOCs	volatile organic compounds
WBMWD	West Basin Municipal Water District
WCM	water conservation model
WCPS	Water Conservation Potential Study
WCRU	Water Conservation Response Unit
WECC	Water Emergency Command Center
WELDCP	Water Efficient Landscape Dual Certification Program
WRD	Water Replenishment District of Southern California
WRF	Water Recycling Facility
WSCP	Water Shortage Contingency Plan
WSDM	Water Surplus and Drought Management

Executive Summary

This executive summary satisfies the requirements of California Water Code (CWC) Section 10630.5 to include a simple lay description of the Los Angeles Department of Water and Power's (LADWP) future water supply reliability.

ES.1 Overview and Purpose of Plan

In 1902, the City of Los Angeles (City) established a municipal water system by acquiring title to the Los Angeles City Water Company and affiliate corporations to serve its population of 142,000 residents. In 1925, the City Charter established LADWP. LADWP has since met the City's needs for water resources and supported the City's growth into the nation's second-largest city, with nearly four million residents across 473 square miles of service area. Today, LADWP is the largest municipal water and power utility in the nation, providing clean, reliable water and power and excellent customer service in a safe, environmentally responsible, and cost-effective manner.

Overview

LADWP has a strong record of water resources management and integrated resource planning. Faced with continually evolving water demand trends and multi-year dry periods, LADWP is addressing the challenge of providing a reliable water supply for a growing population by expanding local water supply programs. LADWP continues to make significant investments in local groundwater, recycled water, stormwater capture, water conservation, and water use efficiency to further diversify its water supply portfolio. LADWP is committed to meeting all the City's current and future water needs while increasing supply reliability by continuing to:

- Maintain access to imported supplies
- Diversify LADWP's water supply portfolio through the development of local supplies
- Improve water use efficiency and achieve significant water conservation

Purpose of Plan

The California Urban Water Management Planning Act (UWMP Act) requires that every urban water supplier prepare and adopt an Urban Water Management Plan (UWMP) every five years. Since its enactment in 1983, there have been several amendments. However, no new amendments have been adopted since the publication of LADWP's 2020 UWMP. The main purpose of the UWMP is to forecast future water demands and available water supplies under various hydrologic scenarios, identify future water supply projects and programs, provide a reliability assessment for average, single dry year, and multi-dry years, and assess near term drought risk.

LADWP's 2025 UWMP complies with the requirements of the UWMP Act and details how LADWP plans to meet all the City's water supply goals and objectives while serving customers' projected water needs. The UWMP serves two purposes:

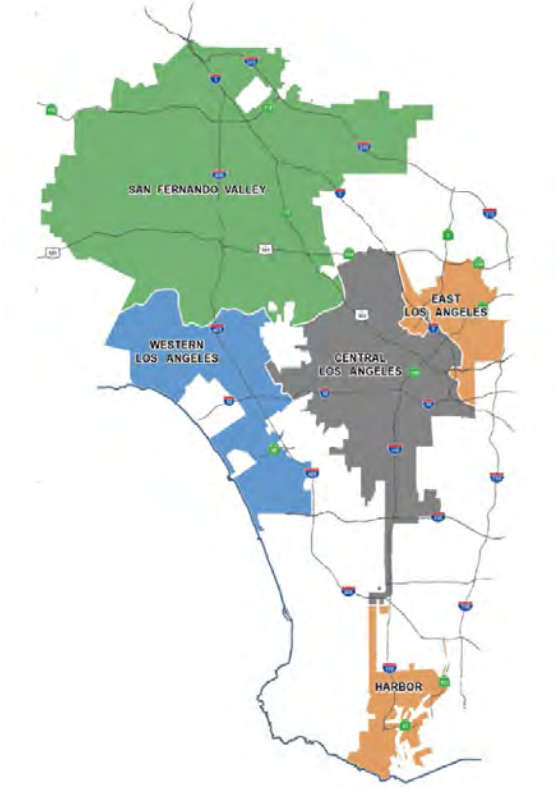
- It identifies long-term strategies for the City's reliable water supply and managing water resources consistent with the City's goals and policy objectives; and
- It provides the information required by the UWMP Act.

ES.2 LADWP's Service Area

Demographics and Climate

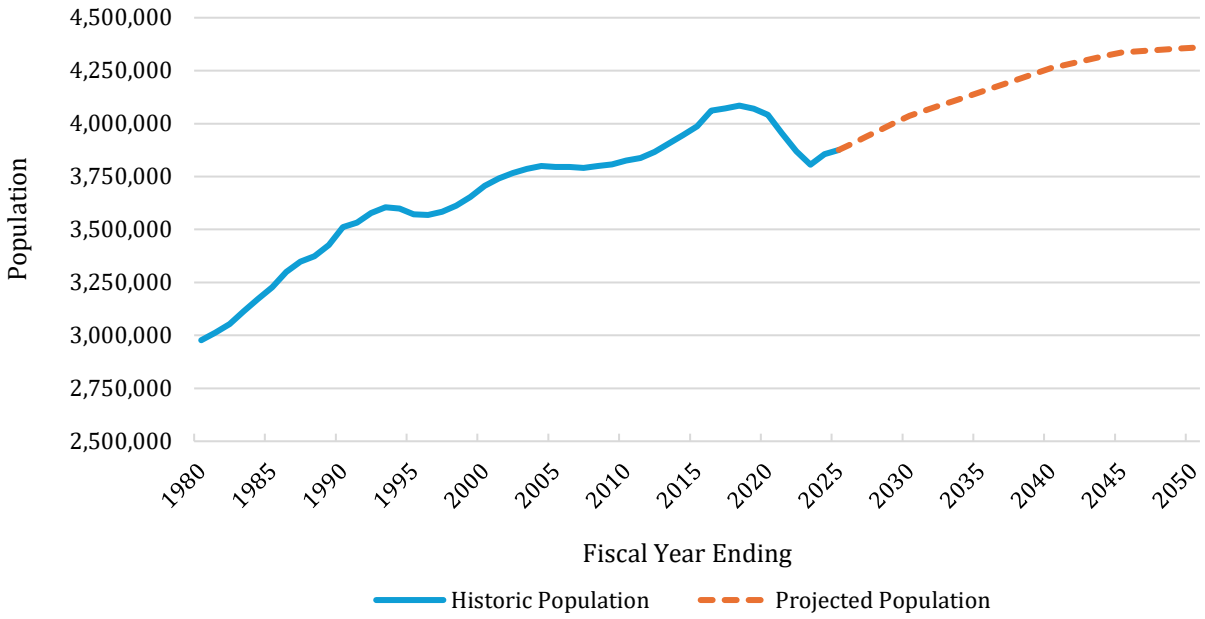
Nearly four million people reside in the LADWP service area, which extends slightly beyond the legal boundary of the City in certain areas. LADWP also provides water to portions of Beverly Hills, Burbank, Calabasas, Culver City, Inglewood, Lomita, Lynwood, Santa Monica, West Hollywood, and unincorporated areas of Los Angeles County, as shown in Exhibit ES-A. In 2025, LADWP's service area had a population of approximately 3.88 million residents and 1.49 million housing units with an average household size of 2.5 persons.

Exhibit ES-A
LADWP Service Area



Demographic projections for the LADWP service area are based on the Southern California Association of Governments' (SCAG) demographic growth forecast for their 2024 Regional Transportation Plan/Sustainable Communities Strategy (RTP/SCS). The Metropolitan Water District of Southern California (MWD) collaborates with SCAG to aggregate demographic data for each of its 26 member agencies' service areas using service area boundaries. LADWP has adopted these demographic projections, including population, occupied households, household size, and employment, for water demand forecast its UWMP and Exhibit ES-B summarizes the population projections for LADWP's service area. Based on SCAG's projections, LADWP's service area population is expected to grow over the next 25 years at a rate of approximately 0.5 percent annually. This rate is consistent with the historical 0.7 percent annual growth rate from 1980 to 2020 and projects approximately 475,900 new residents over the next 25 years.

Exhibit ES-B
Population Projections for LADWP's Service Area



The City's climate is predominantly mild, a key characteristic that attracts residents, businesses, and visitors. Due to its relative dryness, this climate is classified as Mediterranean. Exhibit ES-C provides a summary of average monthly rainfall, maximum temperatures, and evapotranspiration readings.

Exhibit ES-C
Average Climate Data for Los Angeles 2000-2025

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Annual
Average Maximum Temperature (°F)[1]	68.67	68.51	70.26	72.48	74.12	77.76	82.99	84.19	83.42	78.98	73.48	67.45	75.19
Average Precipitation (inches)[1]	2.79	3.39	1.93	0.58	0.26	0.01	0.03	0.12	0.16	0.63	0.76	2.82	13.48
Average ETo (inches)[2]	2.28	2.60	3.88	4.78	5.23	5.58	6.34	6.17	4.79	3.55	2.54	1.95	49.68

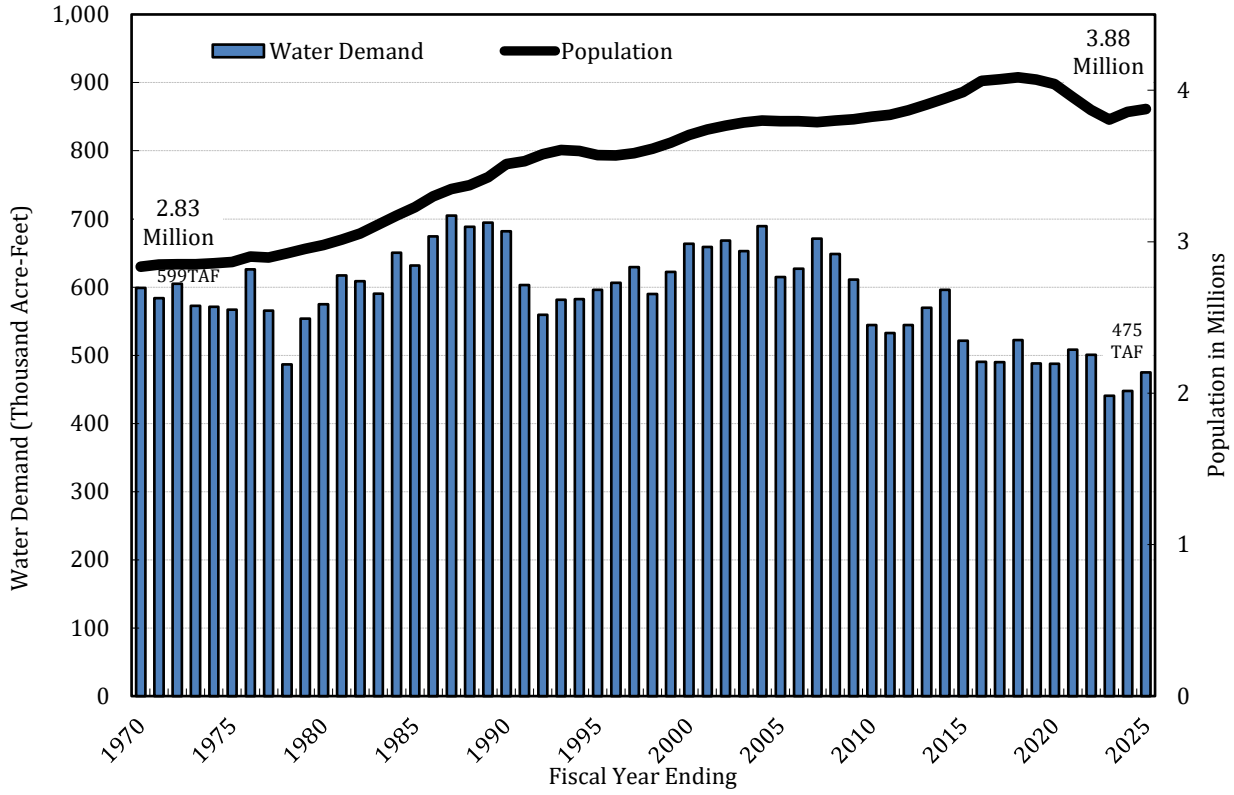
1. FY 2000/01 to 2024/25, National Oceanic and Atmospheric Administration Los Angeles Downtown Weather Station, USW00093134
2. www.cimis.water.ca.gov. Average of Santa Monica (Id. 99) and Pomona (Id. 78) from FY 2000/01 to 2024/25

In addition to historical observed climate data, potential climate change impacts to the LADWP service area were evaluated in collaboration with the University of California, Los Angeles (UCLA) through global climate modeling (2025 UCLA Study). The 2025 UCLA Study analyzed 12 global climate models (GCMs) under various shared socioeconomic pathways (SSPs). Under SSP 3-7.0, the projected change in projected 2050 average maximum temperature and annual precipitation from the 12 GCM average are an increase of approximately 5 percent and 6 percent, respectively.

ES.3 Historical Water Use

LADWP's historical water demand, as illustrated in Exhibit ES-D, shows that population growth in the City was a primary driver of total demand until 1990. However, LADWP's water demand trends began to deviate from population trends beginning around 1990 as conservation measures helped reduce and continued to reduced water usage. As a result, average water demand in recent years is lower than demand observed in 1970, despite the City's population increasing by more than one million people.

Exhibit ES-D
Historical City of Los Angeles Water Use



The City has long recognized that water conservation is the cornerstone of multiple strategies to improve water supply reliability for its residents. LADWP has taken a leadership role in managing its demand for water by creating a robust program to reduce water waste, educate its customers in water conservation and efficient water use, incentivize the installation of water saving devices in homes and businesses, and transform Angeleno's mindset on long-term water use behaviors. Through its investments in conservation, it is estimated that more than 150,000 acre-feet per year (AFY) of historical savings has been achieved.

LADWP has developed many progressive water conservation and use efficiency programs in conjunction with state and local conservation ordinances and plumbing codes to achieve water conservation throughout its service area and customer classes. These include:

- **State laws and City Ordinances** - Such as the Model Water Efficient Landscape Ordinance, installation of efficient fixtures, plumbing retrofit ordinance (LAMC, Article II, Chapter XII), and Emergency Water Conservation Plan Ordinance (LAMC, Article I, Chapter XII)

- **Conservation Pricing** - Use of an ascending tier rate structure that is completely volumetric, which applies a lower first tier rate for water within a specified allocation and higher successive tier rates for every billing unit exceeding the first tier allocation
- **Water Conservation Outreach Program** - Includes education in schools, public awareness/support campaigns, hands on workshops, and seminars
- **Rebate programs** - Participation in MWD's SoCal Water$mart Program for single-family residences, MWD's Save Water Save a Buck Program for Commercial, Industrial, and Institutional (CII) customers and multi-family residences, and LADWP inhouse programs

ES.4 Existing Water Supplies

LADWP's water supply portfolio consists of imported water from the Los Angeles Aqueduct (LAA) and MWD, local groundwater, and recycled water. MWD supplies are sourced from the State Water Project and the Colorado River. A map depicting the relative location of these sources is shown in Exhibit ES-E. Exhibit ES-F details historical water supplies from fiscal year (FY) 1980/81 to 2024/25 and illustrates LADWP's growing reliance on purchased supplemental supplies from MWD over the last 30 years, as supply availability from the LAA has been impacted by hydrologic variability and environmental and regulatory restrictions and local groundwater production became limited due to groundwater contamination.

Exhibit ES-E
LADWP Water Supply Sources

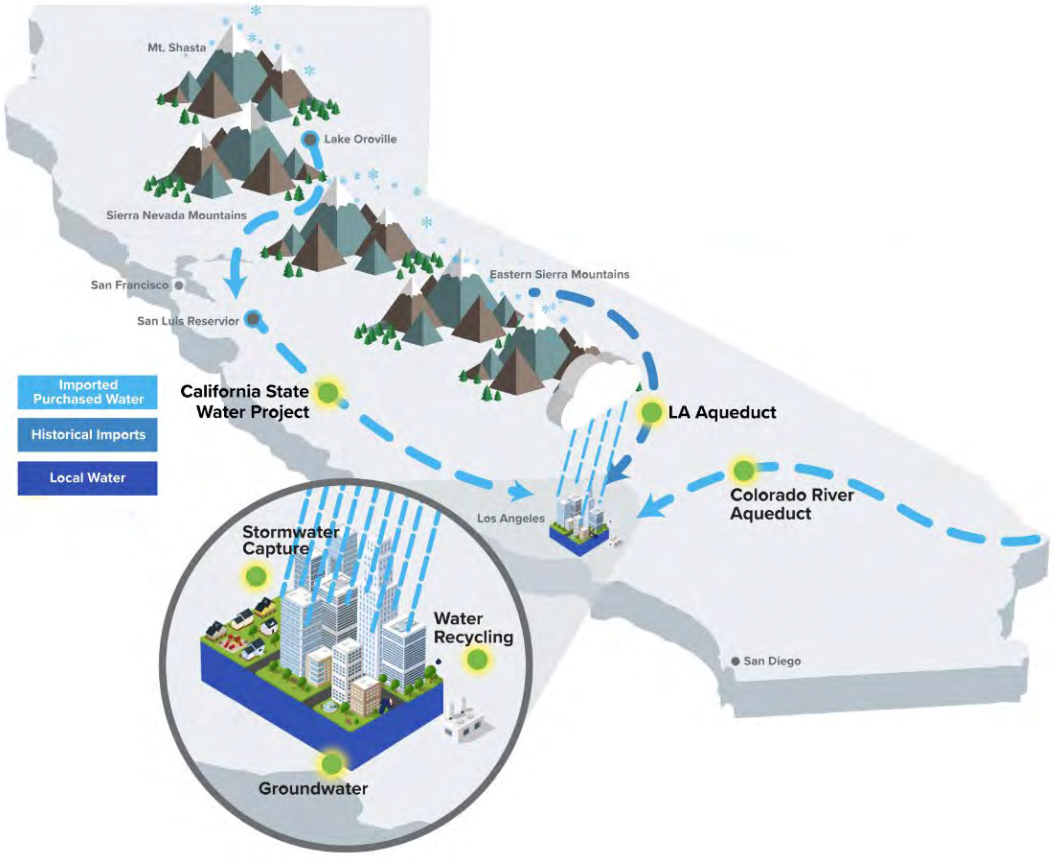
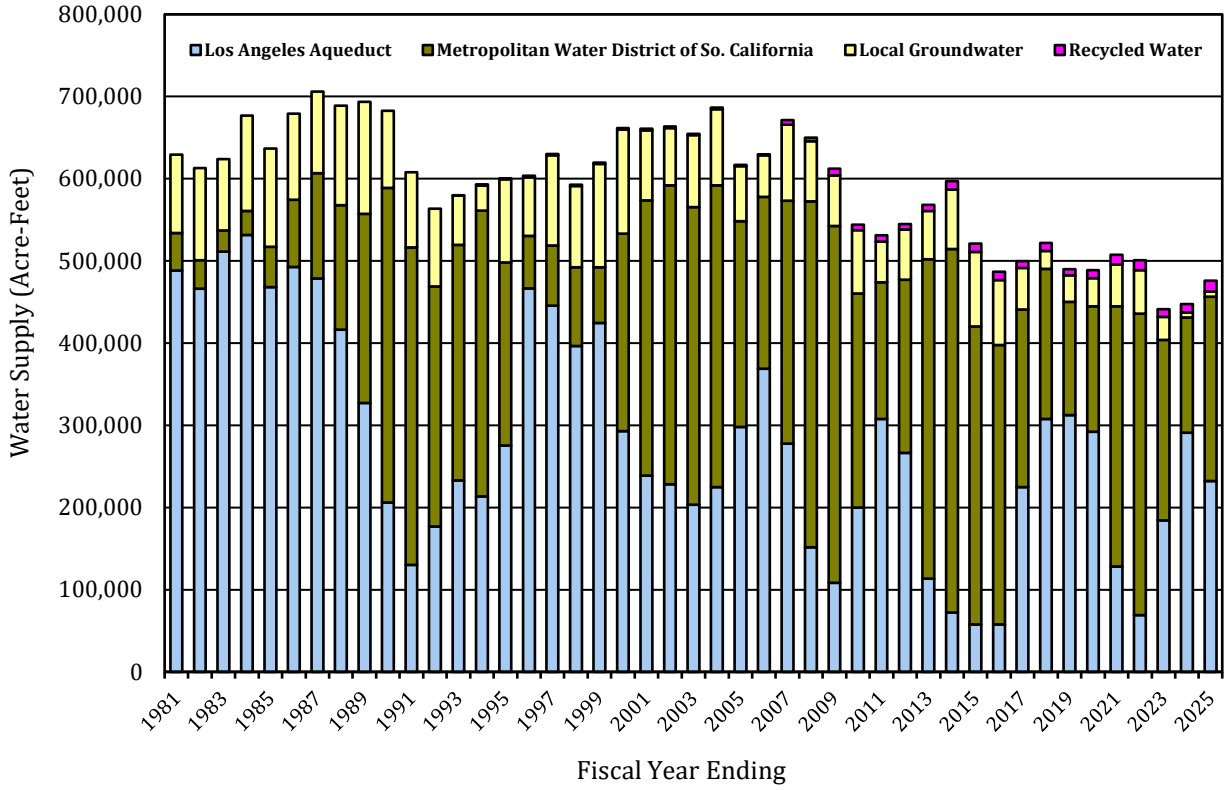


Exhibit ES-F
LADWP Historical Water Supply from FY 1980/81 to 2024/25



Los Angeles Aqueduct Supplies

Since its completion in 1913, the LAA has been the foundational supply for the City. The LAA historically supplied the vast majority of water for the City, supplying 531,729 acre-feet (AF) at its peak in FY 1983/84. LAA deliveries are dependent on the Eastern Sierra Nevada hydrology, years with abundant snowpack typically yield larger LAA water deliveries while dry years yield less. Since 1989, LAA deliveries to the City have been significantly reduced due to requirements to release supply water for environmental enhancement efforts in the Eastern Sierra. Over the most recent 5-year period from FY 2020/21 to FY 2024/25, LAA deliveries averaged 181,022 AFY.

Local Groundwater Supplies

Local groundwater is a critical component of the City's local water supply portfolio. The City holds water rights to produce in the San Fernando, Sylmar, Eagle Rock, Central, and West Coast Groundwater Basins. Each of these basins have been adjudicated by California courts and are governed by judicial decrees. The City's combined adjudicated water rights in these basins are approximately 109,800 AFY. Over the last five years, local groundwater has provided approximately 28,985 AFY for the City. Groundwater provided 136,376 AF at its peak in FY 1988/89. As demonstrated in Exhibit ES-F, groundwater production has reduced over the last 30 years as the presence of groundwater contamination has significantly impeded LADWP's ability to fully exercise its groundwater rights. LADWP has made significant investments in its groundwater remediation program to address contamination and restore the beneficial uses of the basins.

Recycled Water Supplies

LADWP's water recycling program relies on the City's wastewater treatment and reclamation facilities located within and outside of the City's boundaries. Wastewater in the City is collected and conveyed to four water reclamation plants: the Donald C. Tillman Water Reclamation Plant (DCTWRP), Los Angeles – Glendale Water Reclamation Plant (LAGWRP), Terminal Island Water Reclamation Plant (TIWRP), and Hyperion Water Reclamation Plant (HWRP). The City of Los Angeles Department of Public Works, Los Angeles Bureau of Sanitation and Environment (LASAN) owns and operates these wastewater treatment facilities, with the exception of LAGWRP which is jointly owned by the City and the City of Glendale. The treated effluent meeting recycled water standards from the City's four water reclamation plants is utilized by LADWP to meet recycled water demands. LADWP's water recycling program also utilizes recycled water sourced from reclamation facilities located outside of the City to supplement its supply. Current uses of recycled water are for non-potable reuse only and, LADWP's use of recycled water has steadily increased over the last 30 years, with peak deliveries of 13,241 AF in FY 2024/25, as shown in Exhibit ES-F.

Metropolitan Water District Supplies

The Metropolitan Water District of Southern California (MWD) is Southern California's regional water wholesaler. MWD is comprised of 26 member agencies with a combined service area of approximately 5,200 square miles, serving a population of approximately 19 million people. MWD imports water from the Colorado River and the State Water Project. As a founding member of MWD, the City, through LADWP, purchases supplemental supplies to meet its demands and maintain reliability, particularly as LAA supplies have been reduced due to increasing environmental mitigation and enhancement requirements and groundwater contamination has limited LADWP's groundwater production. While LADWP plans to improve its water supply reliability through investments in additional local supply development and conservation, the City has made significant investments in contributions to MWD and will continue to rely on the wholesaler to meet current and future supplemental water needs.

ES.5 Water Supply Reliability Assessment

Service Area Reliability Assessment

LADWP defined the following three hydrologic conditions based on historic Eastern Sierra Nevada conditions to determine its overall service area reliability in compliance with CWC Section 10635(a):

- Average year (30-year median hydrology from FY 1990/91 to FY 2019/20)
- Single dry year (repeat of the FY 2021/22 hydrology)
- Multiple dry year (repeat of FY 2011/12 to FY 2015/16 hydrology)

These defined hydrologic scenarios are used to forecast the corresponding level of LAA water supply availability, the availability of local supplies, corresponding demands, and resulting need for supplemental MWD supplies. Exhibits ES-G, ES-H, and ES-I detail the service reliability assessment for average year, single dry year, and multiple dry year conditions, respectively. Exhibit ES-I shows the driest year of the multiple dry year sequence to demonstrate projected reliability under the most extreme condition in the five-year sequence. No water supply shortages are anticipated as projected demands are met by the available supplies under all hydrologic scenarios.

Exhibit ES-G
Service Area Reliability Assessment for Average Year

Demand and Supply Projections (in acre-feet)	FY 24/25 Actuals	Average Year (30-year median hydrology) Fiscal Year Ending June 30				
		2030	2035	2040	2045	2050
Water Demand	**475,900***	**472,300**	**457,200**	**462,900**	**467,000**	**467,700**
Supplies						
Los Angeles Aqueduct	232,200	193,400	193,400	193,400	193,400	193,400
Groundwater	6,100	103,800	109,300	109,300	109,300	109,300
Recycled Water – Groundwater Replenishment Project (LA GWR)	-	22,000	40,000	40,000	40,000	40,000
Recycled Water – Non-potable Use	13,200	19,200	19,300	19,400	19,600	19,700
Metropolitan Water District	224,400	133,900	95,200	100,800	104,700	105,300
Total Supplies	***475,900***	***472,300***	***457,200***	***462,900***	***467,000***	***467,700***

*Includes demand to and (from) storage
Note: Values rounded to nearest 100 AF

Exhibit ES-H
Service Area Reliability Assessment for Single Dry Year

Demand and Supply Projections (in acre-feet)	FY 24/25 Actuals	Single Dry Year (FY 2021/22 hydrology) Fiscal Year Ending June 30				
		2030	2035	2040	2045	2050
Water Demand	**475,900***	**472,300**	**457,200**	**462,900**	**467,000**	**467,700**
Supplies						
Los Angeles Aqueduct	232,200	59,400	58,900	58,300	57,800	57,200
Groundwater	6,100	103,800	109,300	109,300	109,300	109,300
Recycled Water – LA GWR	-	22,000	40,000	40,000	40,000	40,000
Recycled Water – Non-potable Use	13,200	19,200	19,300	19,400	19,600	19,700
Metropolitan Water District	224,400	267,900	229,700	235,900	240,300	241,500
Total Supplies	***475,900***	***472,300***	***457,200***	***462,900***	***467,000***	***467,700***

*Includes demand to and (from) storage
Note: Values rounded to nearest 100 AF

Exhibit ES-I
Service Area Reliability Assessment for Multiple Dry Years

Demand and Supply Projections (in acre-feet)	FY 24/25 Actuals	Multiple Dry Year (FY 2011/12 to FY 2015/16 hydrology) Fiscal Year Ending June 30				
		2030	2035	2040	2045	2050
Water Demand	**475,900***	**472,300**	**457,200**	**462,900**	**467,000**	**467,700**
Supplies						
Los Angeles Aqueduct	232,200	62,200	61,600	61,000	60,500	59,900
Groundwater	6,100	103,800	109,300	109,300	109,300	109,300
Recycled Water – LA GWR	-	22,000	40,000	40,000	40,000	40,000
Recycled Water – Non-potable Use	13,200	19,200	19,300	19,400	19,600	19,700
Metropolitan Water District	224,400	265,100	227,000	233,200	237,600	238,800
Total Supplies	***475,900***	***472,300***	***457,200***	***462,900***	***467,000***	***467,700***

*Includes demand to and (from) storage
Note: Values rounded to nearest 100 AF

Drought Risk Assessment

In addition to the water supply reliability assessment, LADWP conducted a drought risk assessment in compliance with CWC Section 10635(b). This analysis evaluates anticipated water demands and supplies over a five-year dry period assumed to start in FY 2025/26. As detailed in Exhibit ES-J, the drought risk assessment simulates LAA hydrology from LADWP's driest five-consecutive year sequence on record from FY 2011/12 to FY 2015/16. No water supply shortages are anticipated as projected demands are met by the available supplies under the drought risk assessment.

Exhibit ES-J
Service Area Drought Risk Assessment

Demand and Supply Projections (in acre-feet)	FY 24/25 Actuals	Drought Risk Assessment (FY 2011/12 to FY 2015/16 hydrology) Fiscal Year Ending June 30				
		2026	2027	2028	2029	2030
Water Demand	**475,900***	**474,100**	**473,400**	**473,000**	**472,500**	**472,300**
Supplies						
Los Angeles Aqueduct	232,200	90,500	71,900	66,800	61,700	184,800
Groundwater	6,100	92,300	94,900	94,900	94,900	103,800
Recycled Water – LA GWR	-	-	-	-	22,000	22,000
Recycled Water – Non-potable Use	13,200	13,700	16,100	16,300	17,900	19,200
Metropolitan Water District	224,400	277,600	290,500	295,000	276,000	142,500
Total Supplies	***475,900***	***474,100***	***473,400***	***473,000***	***472,500***	***472,300***

*Includes demand to and (from) storage
Note: Values rounded to nearest 100 AF

ES.6 Water Demand and Supply Forecasts

Water Demand Forecast

LADWP has developed a statistical demand forecast model to project demand through 2050. The demand forecast model incorporates various demand drivers including population, housing, employment, land use, and long-term climate projections to estimate demand over the next 25 years. Forecasted results show that demand is projected to increase gradually over the planning horizon prior to accounting for demand reductions due to additional planned conservation savings.

With the addition of planned future conservation savings, overall demand is expected to decrease in the near-term, followed by a gradual increase through 2050. This response is driven by reaching conservation savings saturations by 2035 and followed by increasing demands driven by projected growth. Savings saturations were identified in LADWP's Water Conservation Potential Study, which identified a maximum cost-effective savings potential of approximately 140,000 AFY by 2035 compared to the FY 2013/14 baseline. These projected savings were incorporated into the statistical demand forecast and the resulting demands are presented in Section ES.5.

Supply Forecasts

Los Angeles Aqueduct Supplies

LAA supplies were forecasted based on modeling assumption of repeating historical Eastern Sierra hydrologic sequences as described in Section ES.5. Additional adjustments to modeling of historic sequences were made to incorporate current operating conditions and potential climate impacts. Potential climate impacts are based on results from a 2023 Climate Study developed in collaboration with the University of California, Los Angeles. The study results suggest minimal changes to long term availability of LAA supplies under average year conditions, however, intensifying hydrologic extremes may result in reduced supply availability under dry year conditions. As a result, long term availability of LAA supplies under average year conditions remain constant, and a reduction of approximately 0.19 percent annually is applied under dry year supply forecast.

Groundwater Supplies

The groundwater production forecasts reflect LADWP's anticipated capacity to pump and treat available groundwater supplies up to annual entitlements with the following assumptions: (1) groundwater basin elevations can support this level of pumping on a safe yield basis (2) LADWP's planned groundwater treatment facilities will be operational by FY 2025/26; and (3) Sylmar and Central Basin production capacity will increase based on the completion of various wellfield improvement projects.

LADWP continues to prioritize stormwater capture as a core component of its water management strategy through continued investment in both centralized and distributed capture systems to replenish the basin in supporting LADWP's ability to produce groundwater on a safe yield basis. Stormwater runoff from urban areas is a valuable yet underutilized local water resource that is critical to help sustain healthy groundwater basins. Most stormwater runoff in the City is directed into storm drains and ultimately discharged into the ocean. Meanwhile, local groundwater aquifers are receiving less natural recharge due to increased urbanization. Maximizing stormwater capture for groundwater recharge is the fundamental goal of the City's watershed management efforts.

Recycled Water Supplies

LADWP is planning for continued investments into its recycled water program by expanding irrigation and industrial for non-potable reuses, groundwater replenishment with indirect potable reuse (IPR), and exploring other IPR and direct potable reuse (DPR) opportunities. Major recycled water initiatives over the UWMP planning horizon include the Los Angeles Groundwater Replenishment Project (LA GWR) replenishing the SFB, and supplying the Dominguez Gap Seawater Intrusion Barrier with 100 percent recycled water. Upon completion of these projects, available wastewater from DCTWRP, LAGWRP, and TIWRP will become fully utilized, resulting in stable projections for future RW production. The Pure Water Los Angeles Program seeks to maximize use of wastewater from HWRP and is discussed further in Section ES.8.

Metropolitan Water District Supplies

Despite facing uncertain hydrological conditions, water quality issues, and operational constraints, MWD's 2025 Urban Water Management Plan indicates that MWD projects to maintain a surplus supply condition for its member agencies through 2050 during average (calendar year (CY) 1922 – 2021 hydrology), single dry (CY 1977 hydrology), and multiple dry years (CY 1988 - 1992 hydrology). The anticipated surplus condition under all hydrologic scenarios represents MWD's ability to meet the City's supplemental water demands in

LADWP's water supply reliability analysis. Additional information on MWD's water supplies and its UWMP can be found at www.mwdh2o.com/how-we-plan/.

ES.8 Pure Water Los Angeles

The Pure Water Los Angeles Program, formerly known as LADWP's Operation NEXT and LASAN's Hyperion 2035, is the City's largest local water supply and reuse initiative and is being developed through a partnership between LADWP and LASAN. The Pure Water Los Angeles Program aims to maximize reuse of wastewater from the HWRP and improve the health of the Santa Monica Bay. The Pure Water Los Angeles Program is currently in the pre-planning phase and is supported by two foundational documents: the Program Implementation Plan for Hyperion and Pure Water Los Angeles Master Plan. These plans define the technical and institutional framework for implementation and were developed by LASAN and LADWP. The Pure Water Los Angeles Program may deliver up to potential maximum capacity as outlined in the Program Implementation Plan for Hyperion and Pure Water Los Angeles Master Plan; however, the final capacity is subject to adjustment as the City evaluates the Pure Water Los Angeles Program scale, affordability, operational flexibility, partnerships, and supply reliability.

ES.9 Water Shortage Contingency Plan

As required by CWC Section 10632, LADWP has developed a Water Shortage Contingency Plan (WSCP), which is included as Appendix A. The WSCP establishes six standard water supply shortage levels and corresponding shortage response actions as reflected in Exhibit ES-K. The decision-making process LADWP utilizes each year to determine shortage conditions begins with an assessment of its water demand and availability of water supplies. LADWP's assessment also includes a review of local and regional infrastructure to determine possible limitations to supply availability. If available supplies are sufficient to meet projected demands, then a condition of no shortage will be determined. If a shortage condition is identified, the magnitude of the shortage will determine LADWP's response to the shortage, corresponding to the established standard water shortage levels.

Exhibit ES-K
Summary of LADWP Water Shortage Level Response Actions

Water Shortage Level	Percent Shortage	Emergency Water Conservation Plan Phase	Additional WSCP Actions
No Shortage		Phase 1 & Phase 2	
Shortage Level 1	Up to 10%		Operation Changes
Shortage Level 2	Over 10% and up to 20%	Phase 3	
Shortage Level 3	Over 20% and up to 30%	Phase 3	Supply Augmentation
Shortage Level 4	Over 30% and up to 40%	Phase 4	
Shortage Level 5	Over 40% and up to 50%	Phase 5	
Shortage Level 6	Greater than 50%	Phase 6	

Note: Actions identified under specific shortage levels are cumulative and will encompass all actions identified in preceding shortage levels.

ES.10 Conclusion

LADWP's 2025 UWMP not only meets the current requirements of the UWMP Act, but also outlines strategies for water supply and resource management for the next 25 years. It lays out a detailed plan to develop a reliable water supply portfolio that includes maintaining access to existing supplies, diversifying LADWP's water supply portfolio through the development of local supplies, and improving water use efficiency and achieving significant water conservation by FY 2049/50. In the event of water shortages, LADWP will implement its WSCP and take reasonable actions to balance water demand with limited water supplies. Based on the overall service area reliability assessment in compliance with CWC Section 10635(a), LADWP anticipates all demands are met by the available supplies under all reliability scenarios.

Chapter 1 Introduction

1.0 Overview

In 1902, the City of Los Angeles (City) established a municipal water system by acquiring title to the Los Angeles City Water Company and affiliate corporations to serve its population of 142,000 residents. In 1925, the City Charter established the Los Angeles Department of Water and Power (LADWP). LADWP has since met the City's increasing needs for water resources and supported the City's growth into the nation's second-largest city, with nearly four million residents across 473 square miles of service area. Today, LADWP is the largest municipal water and power utility in the nation, providing clean, reliable water and power and excellent customer service in a safe, environmentally responsible and cost-effective manner.

LADWP has a strong record of water resources management and integrated resource planning. Faced with increasing water demands and dry periods, LADWP is addressing the challenge of providing a reliable water supply under rapidly changing climate and highly dynamic socio-economic conditions. LADWP continues to make significant investments in local groundwater, recycled water, stormwater capture, and water conservation and use efficiency to further diversify its water supply portfolio. LADWP is committed to meeting all the City's current and future water needs while increasing supply reliability by continuing with the strategy to:

Maintain access to imported supplies by:

- Increasing operational integrity of the Los Angeles Aqueduct (LAA)
- Ensuring continued reliability of the water supplies from the Metropolitan Water District of Southern California (MWD) through active representation of the City's interests on the MWD Board of Directors

Diversify LADWP's water supply portfolio through the development of local supplies including:

- Maximizing and expanding local groundwater production
- Expanding water reuse
- Increasing stormwater capture capacity

Continuing to improve water use efficiency and achieving significant water conservation by:

- Continuing existing and developing new water efficiency and conservation programs
- Reaching the savings targets identified in the 2017 Water Conservation Potential Study (WCPS)
- Meeting the State's Urban Water Use Objectives (UWUO)

1.1 Purpose

LADWP's 2025 Urban Water Management Plan (UWMP) has two purposes: (1) it identifies long-term strategies for the City's reliable water supply and managing water resources consistent with the City's goals and policy objectives, and (2) it fulfills LADWP's obligations under the California Urban Water Management Planning Act (UWMP Act), as codified in California Water Code (CWC) Division 6, Part 2.6, Section 10610, et seq.

UWMP Requirements and Checklist

This 2025 UWMP complies with the UWMP Act, and details how LADWP plans to meet all the City's water supply goals and objectives while serving customers' projected water needs. The UWMP Act became effective on January 1, 1984, and mandates that every urban water supplier that provides municipal and industrial water to more than 3,000 customers (or supplies more than 3,000 acre-feet per year (AFY)) prepare and adopt a UWMP every five years in compliance with state guidelines and requirements.

The UWMP Act was originally developed to address potential water supply shortages throughout California. It required information that focused primarily on water supply reliability and water use efficiency measures. While there have been several amendments to the UWMP Act since its enactment, no amendments have been made since the submission of the 2020 UWMP. A checklist cross-referencing UWMP Act requirement to applicable pages in this UWMP is provided in Appendix A.

With the amendments to CWC Sections 10631 and 10656 (through the passage of SB 610 and 221 in 2001 and SB x7-7 in 2009), UWMPs have become more important in the role of supporting developments. SB 610 and 221 require counties and cities to consider the availability of adequate water supplies for certain proposed large developments and to have written verification of sufficient water supply to serve them. UWMPs are identified as key source documents for this verification. Based on these statutes, LADWP prepares individual Water Supply Assessments for these qualifying large developments. Excluding certain exceptions, failure to meet adopted targets will result in the ineligibility of a water supplier to receive state grants or loans.

1.2 Service Area

LADWP's demand projections are influenced by demographics, land use, climate, and conservation. The following sections outline these components.

Demographics

Nearly four million people reside in the LADWP service area, which extends slightly beyond the City's legal boundary. LADWP also provides water to portions of Beverly Hills, Burbank, Calabasas, Culver City, Inglewood, Lomita, Lynwood, Santa Monica, West Hollywood, and unincorporated areas of Los Angeles County. The extents of LADWP's service are shown in Exhibit 1A.

The population within LADWP's service area increased from 2.97 million in 1980 to 3.88 million in 2025, representing an average annual growth rate of approximately 0.6 percent. The total number of housing units increased from 1.10 million in 1980 to 1.49 million in 2025, representing an average annual growth rate of 0.7 percent. During this time, average household size decreased from 2.7 persons in 1980 to 2.5 persons in 2025.

Employment grew by about 0.7 percent annually from 1980 to 1990 but declined from 1990 to 2010 as a result of two economic recessions. The first recession began in 1991 and was followed by another larger recession that began in 2008. Overall, employment decreased by about 0.3 percent annually from 1990 to 2010 and increased between 2010 and 2020 by approximately 1.7 percent, reflecting an improved economy. From 2020 to 2025, employment increased by 0.8 percent annually, reflecting a slowdown from previous growth following the COVID-19 pandemic. Exhibit 1B summarizes the recent historical demographics for the LADWP service area.

Exhibit 1A
LADWP Service Area

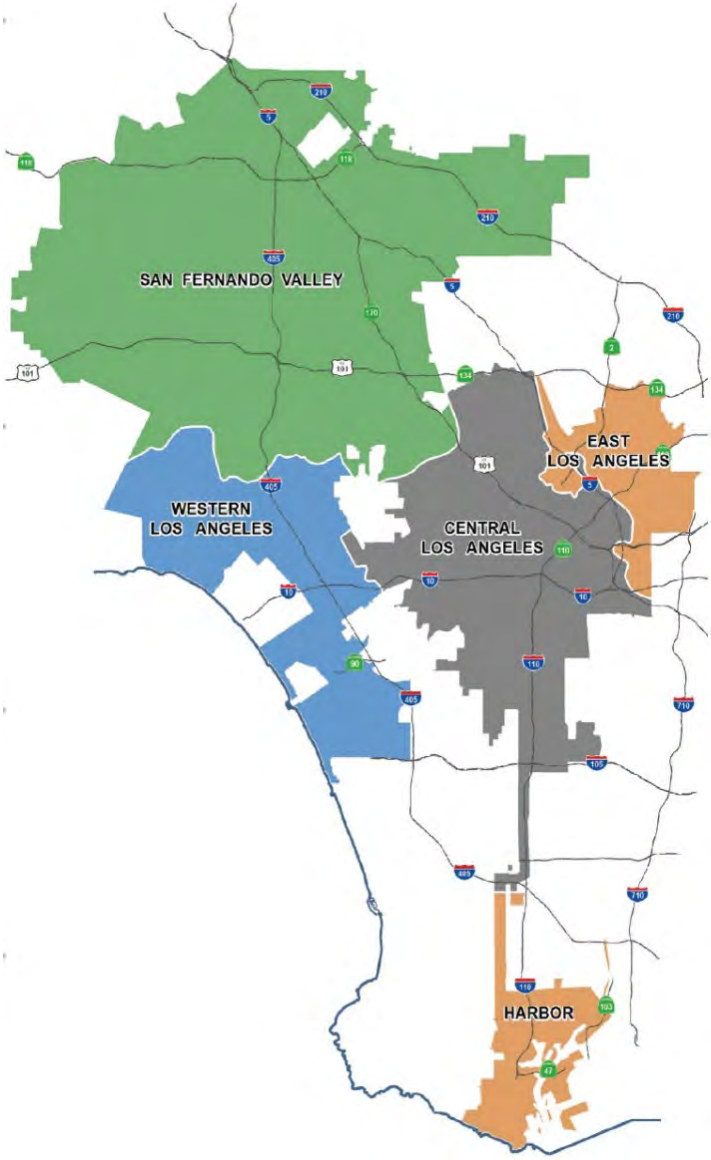
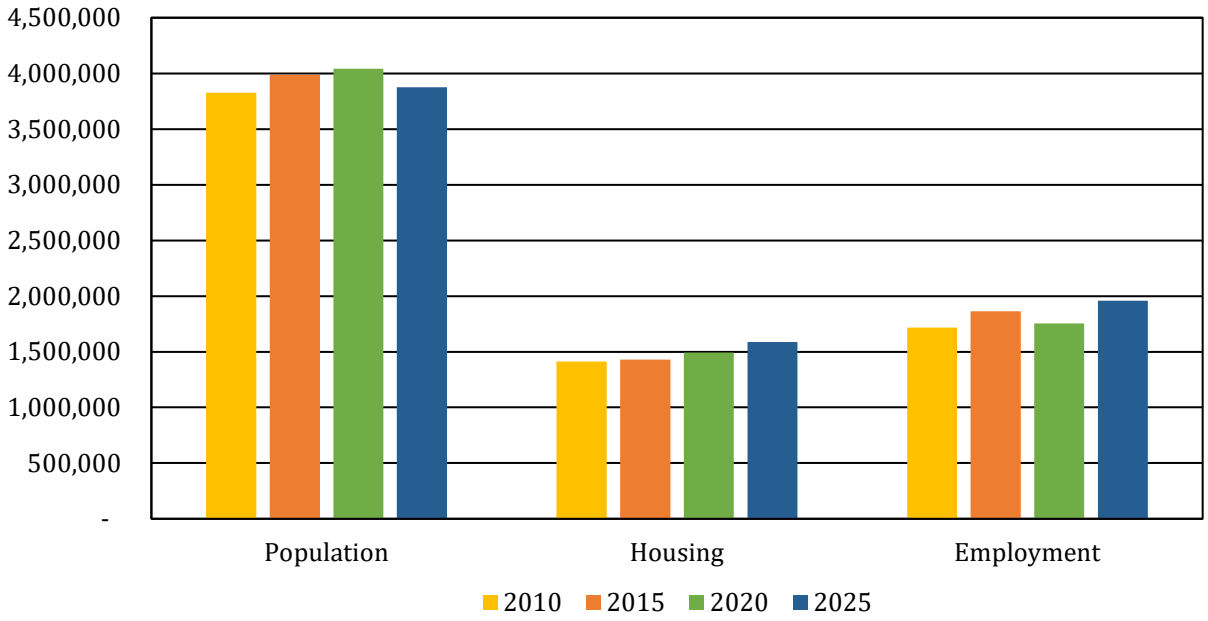


Exhibit 1B
Historical Demographics for LADWP Service Area by Fiscal Year



Source: Latest available estimates from the California Department of Finance and California Employment Development Department.

Demographic projections for LADWP's service area are based on the Southern California Association of Governments' (SCAG) demographic growth forecast for their 2024 Regional Transportation Plan/Sustainable Communities Strategy (RTP/SCS). MWD collaborates with SCAG to aggregate demographic data for each of its 26 member agencies' service areas using service area boundaries. LADWP and MWD have adopted these demographic projections for water demand forecast in their respective UWMPs. SCAG and other regional California governments are projecting increases in housing over time to address the housing shortage that Southern California has experienced over the last two decades. Projected SCAG 2024 RTP/SCS data reflects these adjustments resulting in a reduction in persons per household seen in Exhibit 1C. The SCAG 2024 RTP/SCS was adopted by SCAG's Regional Council on September 5, 2024.

Based on SCAG's forecast, LADWP's service area population is projected to grow over the next 25 years at a rate of approximately 0.5 percent annually. While this is substantially less than the historical 1.0 percent annual growth rate from 1980 to 2010, it will still lead to approximately 475,900 new residents over the next 25 years. Total housing is projected to grow at a slightly higher rate than population over the next 25 years at 0.9 percent annual growth versus 0.5 percent annual growth for population, and it is anticipated that household size will decline over the forecast period. By 2050, average household size is projected to decrease to 2.29 persons per household. Multi-family housing units are projected to increase at over two times the rate of single-family housing units throughout the forecast period at approximately 1.15 percent annual growth and 0.50 percent annual growth, respectively.

Employment is projected to increase by 0.26 percent annually throughout the forecast period. This growth is primarily driven by the current and long-term opportunities available from the economic base within the five-county metropolitan region of Southern California. The economic base is wide-ranging and includes professional and business services, wholesale and retail trade, manufacturing, public administration, financial service industries, information, transportation, warehousing, utilities, construction, education and health services, and leisure and hospitality. Over the 25-year forecast period, industrial employment is projected to

gradually decline between now and 2050 by 0.36 percent annually. Commercial employment is projected to increase by about 0.28 percent annually.

Exhibit 1C
Demographic Projections for LADWP Service Area

Demographic	2030	2035	2040	2045	2050
Population	4,037,000	4,148,800	4,262,700	4,336,900	4,358,100
Housing (occupied units)					
Single-Family	653,600	671,000	689,300	702,500	710,600
Multi-Family	989,700	1,056,200	1,104,400	1,134,200	1,145,800
Total Housing	*1,643,300*	*1,727,200*	*1,793,700*	*1,836,600*	*1,856,500*
Persons per Household	2.39	2.33	2.31	2.30	2.29
Employment					
Commercial	2,026,800	2,089,600	2,114,900	2,115,900	2,118,000
Industrial	93,100	92,200	90,700	86,300	82,600
Total Employment	*2,119,800*	*2,181,700*	*2,205,700*	*2,202,200*	*2,200,500*

Source: 2024 Regional Transportation Plan/Sustainable Communities Strategy, Southern California Association of Governments

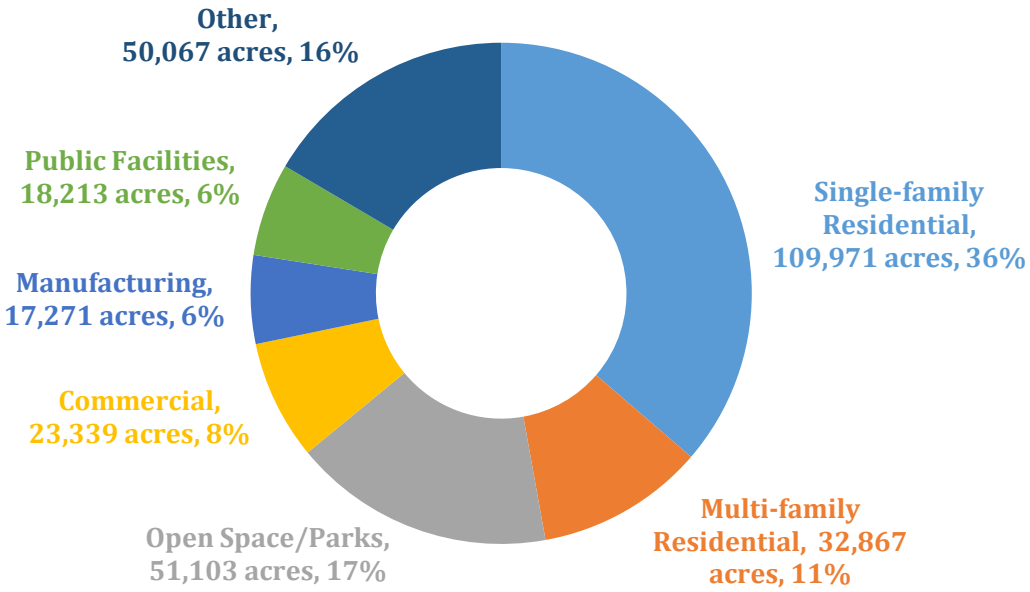
The 2025 UWMP presents higher projections for employment and housing but lower projections for population compared to projections presented in the 2020 UWMP. The 2020 UWMP was based on SCAG's 2020 RTP/SCS while the current 2025 projections incorporate the latest population, households, and employment data from multiple local, state, and federal agencies.

Demographic projections are primary drivers of water demand forecasting. Using the latest available information available is crucial, as projection errors may lead to an over-estimate or under-estimate of future water demands. The 2025 UWMP water demand forecast, detailed in Chapter 2, *Water Demand*, utilizes the latest available forecast from SCAG's 2024 RTP/SCS.

Land Use

The City is comprised of approximately 302,831 acres. Residential development constitutes approximately 47 percent of the total land use within the City. Single-family residential is the largest category within residential land use, covering approximately 110,000 acres, or 36 percent of the total land use within the City. Multi-family residential is approximately 33,000 acres or 11 percent of the total land use. Open space/parks are the second largest land use within the City at approximately 17 percent. Commercial, public facilities and manufacturing land uses combined account for approximately 20 percent of the total. Public facilities include land uses such as libraries, public schools, and other government facilities. Exhibit 1D provides a breakdown of the land uses within the City. The "Other" category includes City port and airport, transportation, freeways, parking, rights of way, and other miscellaneous areas without a designation. Projected land uses from the SCAG 2024 RTP/SCS were utilized to prepare the demographics projections used for demand forecasting described in Chapter 2, *Water Demand.*

Exhibit 1D
City of Los Angeles Land Uses



Source: http://planning.lacity.org/

1. Includes agriculture use as defined by City of Los Angeles, Department of City Planning
2. Includes specific plans, transportation, freeways, parking, rights of way, and other miscellaneous areas without a designation

Climate

The City's climate is predominantly mild, a key characteristic that contributes to the City's appeal for residents, businesses, and visitors. Due to its relative dryness, this climate is classified as Mediterranean. Exhibit 1E provides a summary of average monthly rainfall, maximum temperatures, and evapotranspiration readings.

The City's average monthly maximum temperature is 75.19 degrees Fahrenheit based on the period of Fiscal Year (FY) 2000/01 through FY 2024/25. This is based on data from the National Oceanic and Atmospheric Administration's (NOAA) Los Angeles Downtown weather station. Total precipitation averages 13.48 inches per year, with over 91 percent of this total amount typically falling from November through April. The standard annual average evapotranspiration rate (ETo) for the City is 49.68 inches per year. ETo measures the loss of water to the atmosphere by evaporation from soil and plant surfaces and transpiration from plants. ETo serves as an indicator of how much water plants need for healthy growth.

Exhibit 1E
Average Climate Data for Los Angeles FY 2000/01 to FY 2024/25

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Annual
Average Maximum Temperature (°F)[1]	68.67	68.51	70.26	72.48	74.12	77.76	82.99	84.19	83.42	78.98	73.48	67.45	75.19
Average Precipitation (inches)[1]	2.79	3.39	1.93	0.58	0.26	0.01	0.03	0.12	0.16	0.63	0.76	2.82	13.48
Average ETo (inches)[2]	2.28	2.60	3.88	4.78	5.23	5.58	6.34	6.17	4.79	3.55	2.54	1.95	49.68

1. FY 2000/01 to FY 2024/25, National Oceanic and Atmospheric Administration Los Angeles Downtown Weather Station, USW00093134
2. www.cimis.water.ca.gov. Average of Santa Monica (Id. 99) and Pomona (Id. 78) from FY 2000/01 to FY 2024/25

1.3 Water Demand Supply Overview

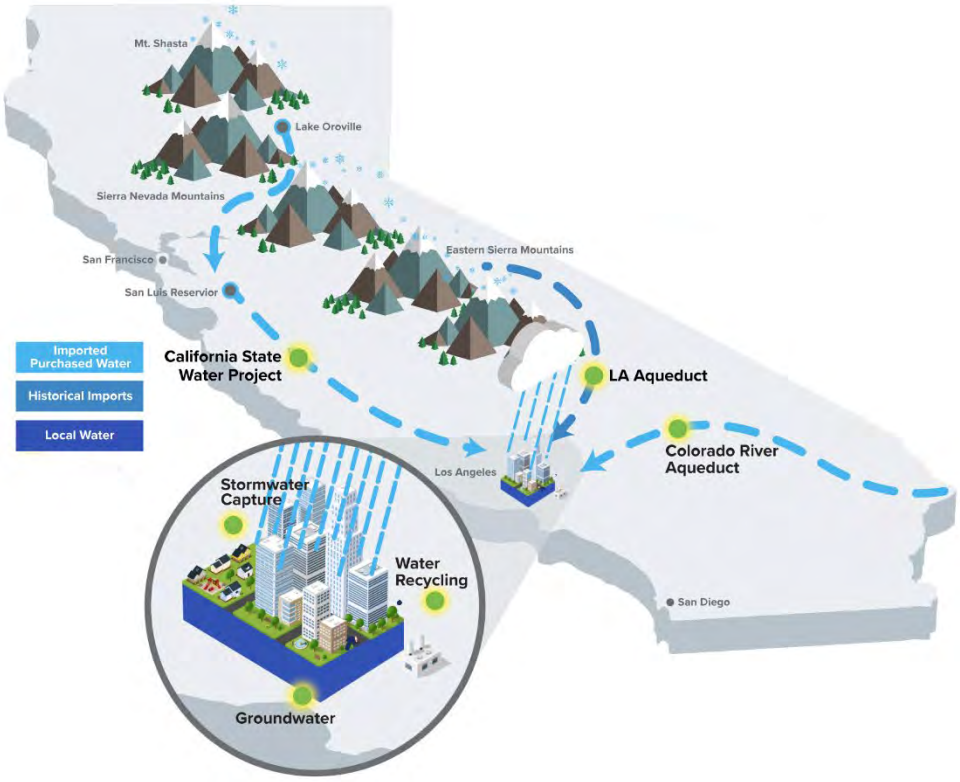
LADWP tracks historical water use data separated into the following sectors: single-family residential, multi-family residential, commercial, industrial, government, and non-revenue water (NRW). Single-family residential water use is the largest category of demand in LADWP's service area, representing about 34 percent on average during the previous five years. Multi-family residential water use is the next largest category of demand, representing about 30 percent on average. Industrial use is the smallest category, representing only 3 percent of the total demand. NRW is the difference between total water delivered to the City and total water sales. Chapter 2, *Water Demand* provides additional discussion of water demand trends and projections through the next 25 years.

Over the past 30 years, the City's water demand has undergone a drastic reduction, from a peak of 689,467 acre-feet (AF) in FY 2003/04 to 474,458 AF in FY 2024/25. Successive multi-year dry periods have reduced supplies and increased conservation efforts and water use efficiency.

Most recently, the start of a three-year dry period in 2020 resulted in diminished LAA supplies and placed a heavier reliance on purchased MWD water. In 2022, MWD implemented their Emergency Water Conservation Program (EWCP) that limited supplies to LADWP and select portions of MWD's service area due to infrastructure limitations in MWD's distribution system. Chapter 8, *Metropolitan Water District* provides additional discussion regarding MWD's water supplies and the EWCP. In response, LADWP implemented Level 3 of its Water Shortage Contingency Plan (WSCP) which restricted outdoor watering to two days per week. These restrictions were deescalated back to Level 2 in July 2023 following a historic wet year. The increased conservation efforts during this period resulted in a record low demand of 440,855 AF in FY 2022/23.

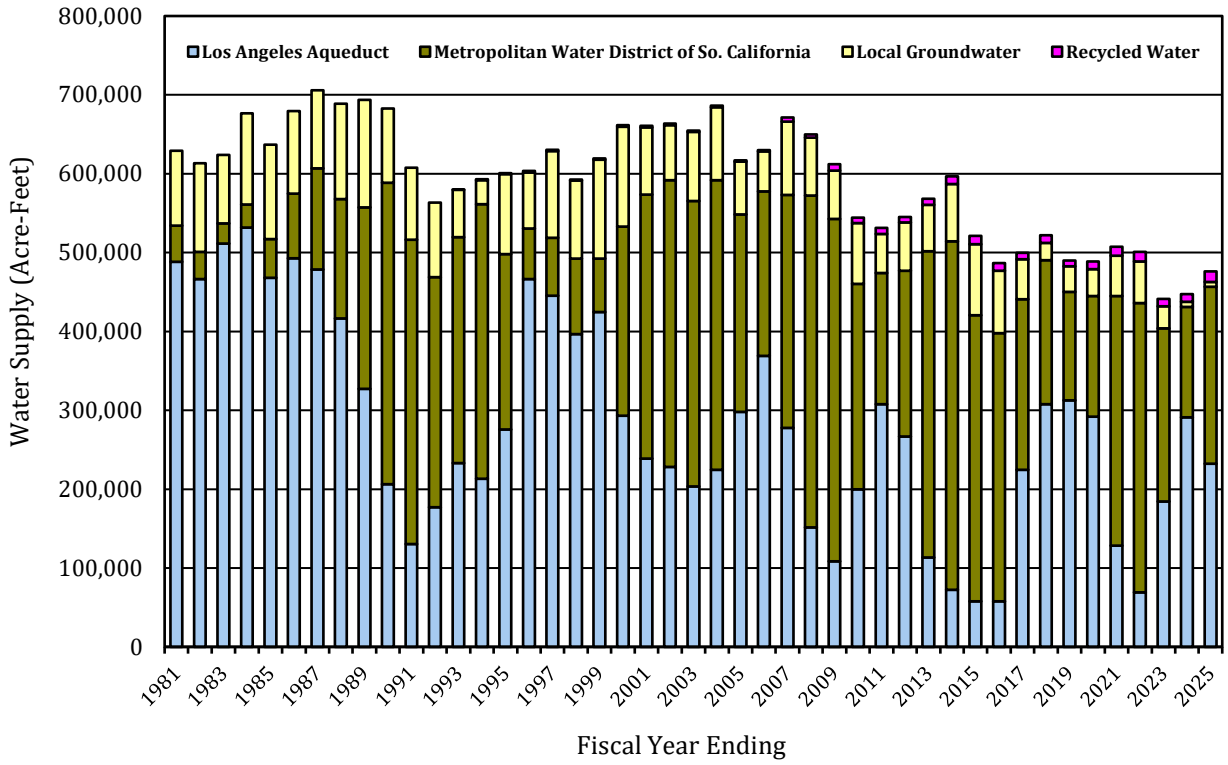
LADWP's supply sources include the LAA, local groundwater, recycled water, and imported supplemental water purchased from MWD. Water from the LAA and MWD are classified as imported because these supplies are obtained from outside LADWP's service area. MWD's supplies are sourced from the California State Water Project (SWP) and the Colorado River Aqueduct (CRA). Groundwater is local and obtained within the service area. Stormwater capture supports local groundwater replenishment and improves supply reliability. Recycled water is another local supply source that is becoming a larger part of LADWP's overall supply portfolio. A map depicting the relative location of these sources is shown in Exhibit 1F.

Exhibit 1F
LADWP Water Supply Sources



Supply sources face growing constraints from hydrologic variability, climate impacts, groundwater contamination, and water reallocation for environmental obligations. Despite these challenges, LADWP remains committed to meeting all of the City's current and future water needs by maintaining existing supplies, diversifying its water supply portfolio, and promoting water conservation and water use efficiency. Exhibit 1G illustrates historical water supplies from FY 1980/81 to FY 2024/25. From FY 2020/21 to FY 2024/25 LADWP average water supply mix include: 38 percent from the LAA, 6 percent from local groundwater, 54 percent from MWD, and 2 percent from recycled water.

Exhibit 1G
LADWP Historical Water Supply Sources FY 1980/81 to 2024/25



Chapter 2 Water Demand

2.0 Overview

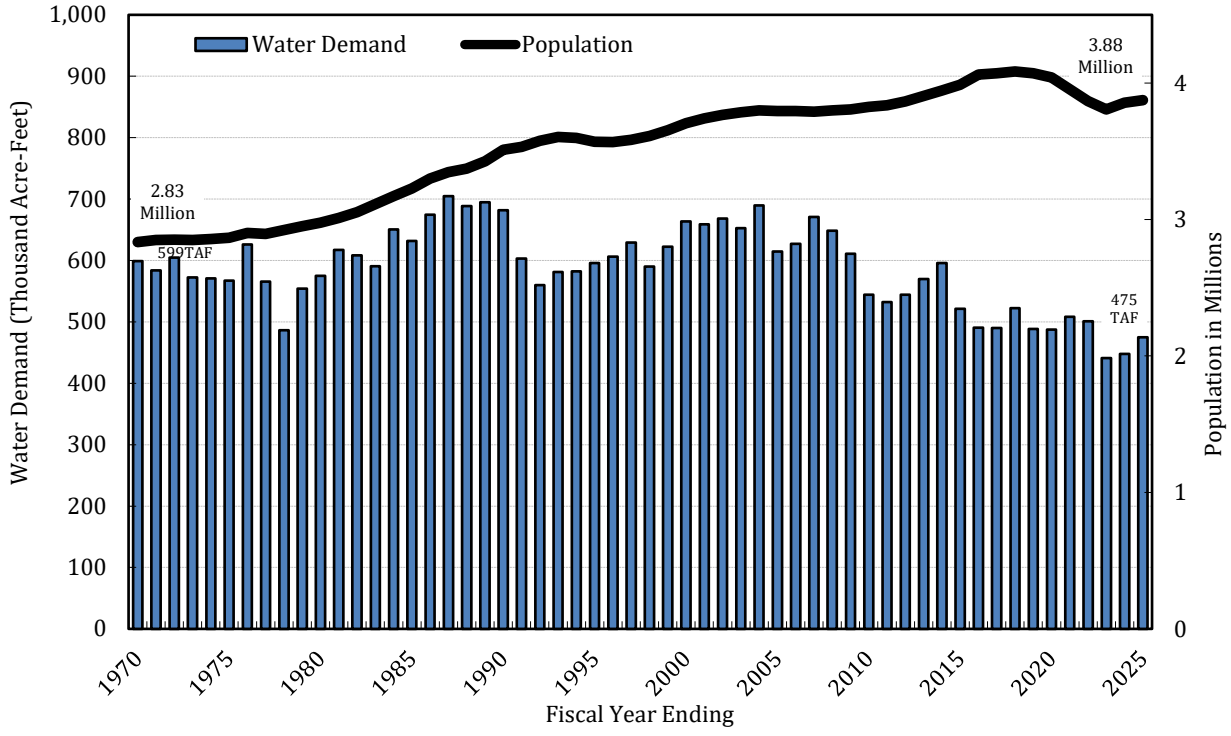
Understanding water demands and the factors that influence them over time is critical to water supply planning. LADWP maintains historical water use data separated into six categories: single-family residential, multi-family residential, commercial, industrial, governmental, and NRW. This categorization of demand allows LADWP to better evaluate water use trends over time and to implement more targeted water conservation and water use efficiency measures.

2.1 Historical Use

Prior to 1990, population growth in the City was a strong indicator of total demands, as depicted in Exhibit 2A. During the 1980's, population and water use in the City increased at similar rates. However, LADWP's water demand trends began to deviate from population trends beginning around 1990 as conservation measures helped maintain reduced water usage. As a result, average water demand in recent years is lower than demand in 1970, despite the City's population increasing by more than one million people.

Over time, per capita water use in the City has declined as a result of long-term investments in water conservation. Since the early 1990's, per capita use has continued to trend downward, reflecting the influence of updated plumbing standards, customer conservation efforts, and local and state-wide efficiency initiatives. Recent per capita use levels remain significantly lower than historical levels, demonstrating the lasting effects of these efforts and the shift toward more efficient water use across all customer sectors.

Exhibit 2A
Historical City of Los Angeles Water Use



While historic demand trends demonstrate past trends in water use behavior, historic patterns alone cannot be extrapolated to predict future water use behavior. Water demand forecasts must account for future conditions such as projected population growth, climate change impacts, advancements in water use efficiency, and economic activity to develop more robust projections.

Historical Use by Sector

Exhibit 2B shows the breakdown of average total water use among LADWP's major demand categories and NRW. The breakdown is shown in five-year intervals for the past 25 years. For FY 2020/21 through FY 2024/25, single-family residential water use comprises the largest category of demand in LADWP's service area, representing about 34 percent of the total. Multifamily residential water use is the next largest category of demand, representing about 30 percent of the total. Commercial, Industrial, and Institutional/Governmental (CII) water use combined represents 29 percent of the total. Finally, non-revenue use is the smallest category, representing the remainder of the total demand (about eight percent). Although total water use has varied substantially from year to year, the breakdown in percentage of total demand between the major demand categories has remained relatively consistent.

Exhibit 2B
Historical Water Use by Sector

Fiscal Year Ending Average	Single-Family		Multi-Family		Commercial		Industrial		Government		Non-Revenue[1]		Total
	AF	%	AF	%	AF	%	AF	%	AF	%	AF	%	AF
2021-2025	162,825	34%	141,374	30%	83,638	18%	14,285	3%	34,580	8%	39,782	8%	474,506
2016-2020	170,660	35%	141,088	28%	88,680	18%	14,938	3%	39,628	8%	40,690	8%	495,685
2011-2015	206,652	37%	161,592	29%	96,832	18%	17,855	3%	43,573	8%	26,139	6%	552,768
2006-2010	236,154	38%	180,277	29%	106,964	17%	23,196	4%	42,956	7%	30,617	5%	620,165
2001-2005	239,754	37%	190,646	29%	109,685	17%	21,931	3%	41,888	6%	52,724	8%	656,628
25-Year Average	201,651	36%	162,367	29%	96,855	17%	17,964	3%	40,631	7%	36,627	7%	556,210

Note: Percentages may not add up to 100% due to rounding
1. Calculated using AWWA Water Audit Software

Non-Revenue Water

In addition to tracking water use by customer sector, LADWP also tracks NRW use. LADWP's historical NRW volume is presented in Exhibit 2C. NRW consists of unbilled authorized consumption and water losses. Unbilled authorized consumption is the volume of NRW for uses such as mainline flushing to improve water quality and firefighting. Water losses are broken down into two categories: apparent losses and real losses. Apparent losses include meter inaccuracies and theft while real losses include leakage from distribution system pipelines.

NRW has varied in recent years. In FY 2024/25, NRW was estimated at 8 percent, based on the American Waterworks' Association's (AWWA) Free Water Audit Software. The AWWA Water Audit worksheets for FY 2024/25 are provided in Appendix E. Historically, NRW has averaged 7.7 percent of total water demand over the period FY 2020/21 through FY 2024/25. This consistently low level of NRW over the last 25 years indicates that LADWP has an efficient, well-maintained water system. For planning purposes, the water demand forecast assumes a constant percentage of NRW, consistent with the most recent 5-year average. LADWP is committed to continuing to minimize its water loss percentages through its Water Loss Task Force, as discussed in Chapter 3, *Water Conservation.*

Exhibit 2C
Historical Non-Revenue Water for LADWP

Fiscal Year	Total Potable Water Supplied (AF)	Unbilled Metered and Unbilled Unmetered Volume (AF)	Apparent Loss Volume (AF)	Real Loss Volume (AF)	Non-Revenue Water Volume (AF)	Non-Revenue Water Percentage (%)
2020/21	500,585	3,109	5,945	26,216	35,270	7.0%
2021/22	488,722	3,347	5,005	30,779	39,131	8.0%
2022/23	431,428	4,933	6,561	20,484	31,978	7.4%
2023/24	437,693	3,856	6,654	23,735	34,245	7.8%
2024/25	461,609	8,778	8,080	22,934	39,792	8.6%
5-Year Average	464,007	4,805	6,449	24,830	36,083	7.7%

2.2 Demand Forecast Model Development Methodology

LADWP developed a statistical demand model to forecast long-term water use for each of its sectors of demand. This approach allows for the integration of demographic, economic, and climate factors to produce a more comprehensive forecast that accounts for sector specific water use characteristics. LADWP's demand forecast methodology combines historical data analysis, growth projections, and statistical modeling for robust forecasting.

The modeling process began with identifying candidate drivers of demand (e.g., population, household size, employment, weather, lot size, water rates) and compiling historical data for these drivers and water consumption by sector. Sources of model data include: the United States Census Bureau, California Department of Finance, California Employment Development Department, SCAG, and NOAA. Statistical methods were then applied to determine the statistical significance of each driver in modeling historic consumption. Drivers that were determined to be statistically significant were incorporated into the final demand forecasting model and are summarized in Exhibit 2D.

Forecasting Drivers of Water Demand

Water demand drivers were forecasted using regional projections, historical data, and planning level assumptions for long-term water supply planning. The demand forecast assumes that long-term relationships between water use and key drivers remain consistent over the planning period and that future conditions follow regional growth forecasts and specific climate projections.

Exhibit 2D
LADWP Water Demand Model Drivers

Sector	Demand Drivers
Single-Family Residential	Maximum Temperature Precipitation Household Size Occupied Housing Units Lot size Work From Home Percentage Drought Event Responses
Multifamily Residential	Maximum Temperature Precipitation Household Size Occupied Housing Units Work From Home Percentage Drought Event Responses
Commercial/Governmental	Maximum Temperature Precipitation Commercial and Governmental Employment Commercial, Industrial, and Governmental Water Rate Work From Home Percentage Drought Event Responses
Industrial	Maximum Temperature Precipitation Commercial, Industrial, and Governmental Water Rate Work From Home Percentage Drought Event Responses

Potential climate change impacts to the LADWP service area were evaluated in collaboration with the University of California, Los Angeles (UCLA) through global climate modeling (2025 Climate Study). The 2025 Climate Study analyzed 12 global climate models (GCMs) under various shared socioeconomic pathways (SSPs). SSP2-4.5, SSP3-7.0 and SSP5-8.5 were analyzed to represent an intermediate emission scenario, an intermediate-high scenario, and a very high scenario, respectively. Modeling results for average daily maximum temperature and precipitation are shown in Exhibit 2E and 2F, respectively.

The 2025 UWMP demand forecast considered SSP 3-7.0 to best represent a moderate level of emissions relative to the other models. Under SSP 3-7.0, the projected change in average maximum temperature and annual precipitation from the 12-GCM average are an increase of approximately 5 percent and 6 percent, respectively.

Occupied housing units, household size, and employment projections for LADWP's service area were obtained from MWD and were based on SCAG's 2024 RTP/SCS. Occupied housing units and household size were forecasted separately for single-family and multifamily residential to capture differences in water use patterns between residential sectors. Employment projections were also obtained from the 2024 RTP/SCS data. Projections of demographic driver variables derived from the 2024 RTP/SCS are presented in Chapter 1, *Introduction,* Exhibit 1C.

Historic estimated work from home percentages were obtained through American Community Survey data from the US Census Bureau and were forecasted assuming work from home percentages would remain consistent with recent trends throughout the forecast period. Commercial, industrial, and governmental water rates were assumed to increase at a real rate above inflation of 1.0 percent annually.

Drought event response variables were incorporated into the model to capture acute responses to declared drought emergencies in historic water usage. Although these drivers were critical for model development, no additional drought response was assumed for the forecast period.

Exhibit 2E
Climate Change Impacts to Local Average Daily Maximum Temperature 2040-2060 vs Baseline 1950-1970

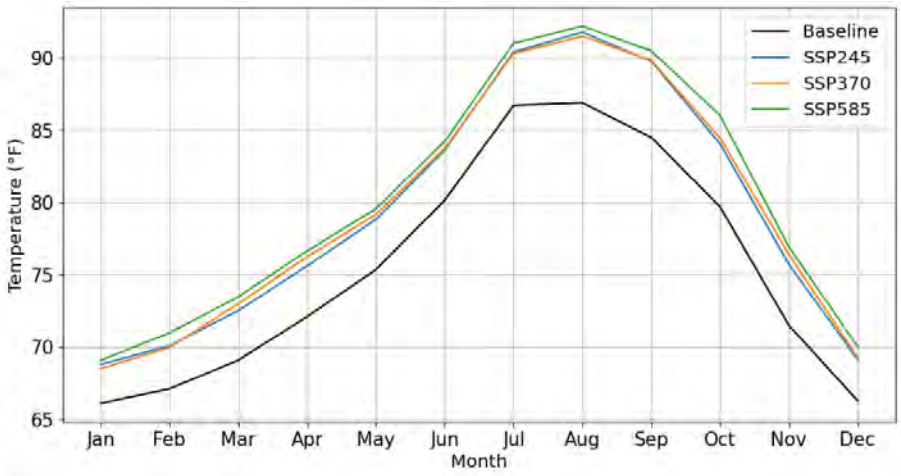
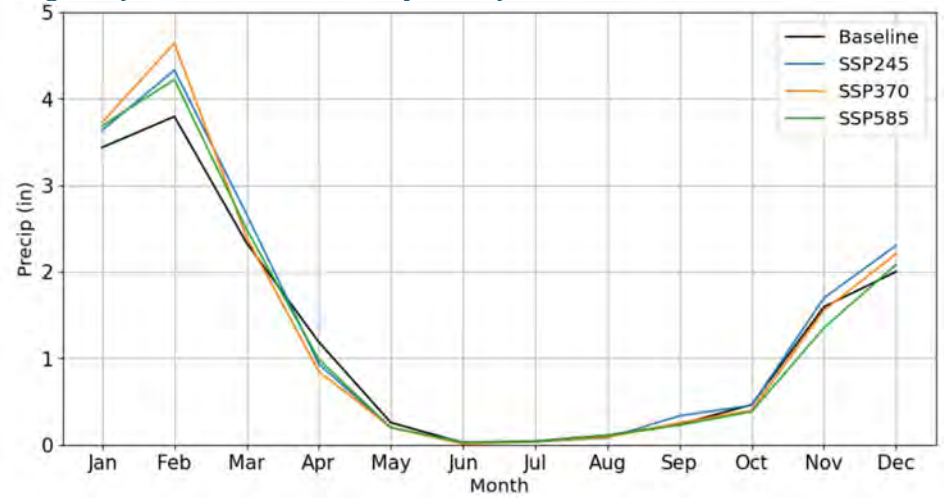


Exhibit 2F
Climate Change Impacts to Local Monthly Precipitations 2040-2060 vs Baseline 1950-1970



Water Demand Forecast Results

Demand forecasting results are summarized in Exhibit 2G. Overall, the demand forecast results reflect the combined influence of demographic and employment growth, declining unit water use across residential and non-residential sectors, reductions in household size, and projected average climate conditions.

Single-family and multifamily residential demands are projected to increase gradually over the planning period, largely driven by the forecasted growth in occupied housing units. However, per unit household use is forecasted to decrease due to declining household size.

Commercial and governmental demands are projected to increase initially over the planning period, which is consistent with projected employment growth. However, as the projected employment growth rate declines in the middle of the planning period, impacts from assumed increasing water rates outpace employment and result in slightly decreased demand. Industrial demands are projected to decrease over the planning horizon, consistent with declining industrial employment.

Total NRW volume is projected to increase gradually over the planning period as overall water demand increases. This is driven by the assumptions of a constant percentage of NRW, consistent with the most recent 5-year average, for the overall forecast.

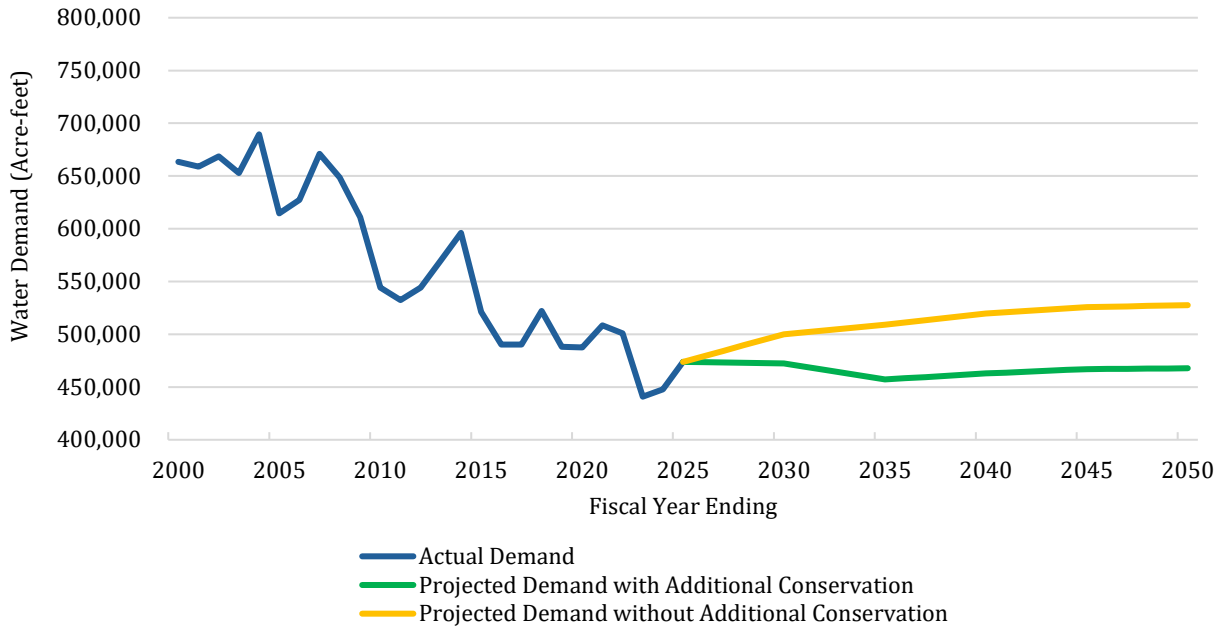
With the addition of planned future conservation savings, overall demand is expected to decrease in the near-term, followed by a gradual increase. This response is driven by reaching savings saturations by 2035 for an initial drop in demands and followed by increasing demands driven by projected growth. Conservation savings are based on the 2017 WCPS and are applied to the water demand forecast results. Additional information on projected conservation savings can be found in Chapter 3, *Water Conservation*.

Exhibit 2H compares historical water demand with projected demand under scenarios with and without additional conservation. Historical demands have shown a general decline from the early 2000's through the mid-2010's, reflecting the combined effects of conservation, with variability driven by weather, economic and demographic conditions. Demand forecast results show a projected increase through 2050 prior to incorporating future planned conservation. After incorporation of additional conservation to the demand forecast, conservation efforts are able to reduce projected demand such that the resulting demand forecast remains relatively stable through 2050.

Exhibit 2G
LADWP Water Demand Projections by Sector

Fiscal Year	Single-Family (AF)	Multifamily (AF)	Commercial/ Government (AF)	Industrial (AF)	NRW (AF)	Additional conservation (AF)	Total (AF)
2029/30	164,131	152,690	136,265	13,169	33,770	27,687	472,337
2034/35	166,020	158,173	139,296	13,015	32,688	51,985	457,206
2039/40	170,517	163,090	140,190	12,864	33,091	56,910	462,841
2044/45	174,058	166,125	139,427	12,716	33,389	58,701	467,014
2049/50	175,987	166,815	138,656	12,671	33,437	59,883	467,683

Exhibit 2H
Comparing Water Demand Forecast with and without Conservation



Low-Income Water Demand Projections

The UWMP projections of water demand for low-income customers was evaluated utilizing the definition of "lower income households" established in California Health and Safety Code Section 50079.5. Under this definition, lower income households are those with incomes that fall below 80 percent of the area median income and are estimated to comprise 40 percent of the residential customer base. The estimated 40 percent is then applied to the single and multi-family sectors and presented in total AF for low-income residential customers in Exhibit 2I.

Exhibit 2I
Water Demand Forecast for Low-Income Residential Customers

	2030	2035	2040	2045	2050
Estimated Low-Income Residential Demand (AFY)	126,728	129,677	133,443	136,073	137,121

Note: Assumes same reduced usage found in low-income single-family residential customers also applies to multifamily homes.

Chapter 3 Water Conservation

3.0 Overview

The City has long recognized that water conservation is the cornerstone of multiple strategies to improve water supply reliability for its residents. LADWP has taken a leadership role in managing its demand for water by creating a robust program to reduce water waste, educating its customers in water conservation and efficient water use, incentivizing the installation of water saving devices in homes and businesses, and transforming Angelenos' mindset on long-term water use behaviors.

LADWP aims to advance water conservation to manage water use demands with two main objectives: water use behavior and water use efficiency. Water use behavior reduces demand through changing long-term behaviors associated with water use to reduce overall water demands (e.g., shorter showers). Water use efficiency reduces demands through upgrading water fixtures to use less water (e.g., replacing 1.8 gallons per minute (gpm) showerhead with a 1.5 gpm showerhead).

The City has obtained the following benefits from its water conservation and water use efficiency programs: (1) improved water supply reliability; (2) deferred water and wastewater system expansions and improvements; (3) lower water bills for customers that reduce their water consumption; (4) reduced site runoff from landscape irrigation and precipitation which in turn increases groundwater replenishment and improves the water quality of local rivers and the Pacific Ocean, and (5) reduced energy use for water treatment, water pumping and conveyance. As water conservation reduces energy demands, it also reduces associated greenhouse gas emissions as an added benefit. Ultimately, the primary beneficiaries are LADWP's water customers and the natural environment.

As demonstrated in Chapter 2, *Water Demand* Exhibit 2A, population has grown from FY 1969/70 to FY 2024/25 by over 1 million people while total water consumption has decreased by 25 percent, indicating the effectiveness of water conservation. Moreso, since 2015 water demand has gradually declined, indicating how customers have adopted water conservation as a way of life, which aligns with California's regulatory initiative to ensure water sustainability.

LADWP continues to invest in cost-effective water conservation programs and water use efficiency measures. Currently, multiple efforts are underway to further promote and expand LADWP's water conservation rebate programs, partnerships, direct installation programs, educational programs, and leak detection programs in the residential sector. LADWP is also increasing its efforts to implement unique programs to improve the water use efficiency of the CII customer sectors.

As LADWP continues advancing these initiatives, future efforts will be shaped by evolving state regulations and water use efficiency standards, including implementation of the California UWUO requirements developed under Senate Bill (SB) 606 and Assembly Bill (AB) 1668 and adopted by the State Water Resources Control Board (SWRCB) in 2024. Meeting these requirements will present both challenges and opportunities, requiring expanded customer engagement, enhanced data tracking, and innovative conservation strategies to sustain long-term water reliability for the City and the State of California (State).

3.1 Historical Development of Water Conservation Efforts

Water conservation efforts in the City began in the early 1900's with the installation of water meters on the highest use water service connections. In the 1902 LADWP annual report, William Mullholland stated "with a closely estimated population of 85,000 we reached the astounding consumption of over 26 million gallons per day, or about 306 gallons per capita … By the application of a few hundred meters the consumption was cut down nearly three million gallons per day." Metering led to reduced consumption of approximately 200 gallons per capita per day (GPCD) in the following year when the population grew to 175,000. This foundational measure resulted in an estimated 30 percent reduction in overall water use.

1976-77 Dry Period

The City has historically increased its water conservation and water use efficiency efforts when faced with prolonged dry periods. During the 1976 to 1977 dry period, the City became one of the first cities in Southern California to invoke mandatory water rationing through the adoption of the first Emergency Water Conservation Plan (Conservation Ordinance). The latest Conservation Ordinance (Los Angeles Municipal Code (LAMC), Article I, Chapter XII), is provided in Appendix B.

Emergency Water Conservation Plan

LADWP has adopted five amendments to the Conservation Ordinance since its inception. The amendments expanded prohibited uses, increased penalties for violating ordinances, added an additional phase, modified water conservation requirements, and deterred unreasonable use of water.

The Conservation Ordinance defines phases of incrementally more stringent water use restrictions which increase water use prohibitions and mandates with each sequential phase. Phase I prohibited use requirements are in effect permanently, regardless of water supply conditions. The Conservation Ordinance is the primary component of LADWP's WSCP, which provides for a sufficient and continuous supply of water in the event of various water supply shortage levels in the service area. LADWP's WSCP can be found in Appendix A.

1987-92 Dry Period

Another dry period, which occurred from 1987 to 1992, lasted much longer and left a permanent imprint on LADWP water customers. In response to the water shortages caused by this dry period, LADWP utilized multiple ordinances as a tool to reduce water waste, created an extensive public awareness campaign, and expanded its voluntary water use efficiency program.

Plumbing Retrofit and Retrofit on Resale Ordinance

Beginning in 1988, the City adopted its first version of a plumbing retrofit ordinance to reduce water waste and promote water use efficiency (LAMC, Article II Chapter XII). The ordinance mandated installation of water-efficient devices in all existing residential and commercial properties. Toilets were required to use less than 3.5 gallons per flush (gpf), urinals less than 1.5 gpf, and showerheads less than 2.5 gpm. Customers with three acres or more of turf were required to reduce water consumption by 10 percent from 1986 levels or face a 100 percent surcharge on their water bills.

The ordinance was later amended in 1998 requiring the installation of Ultra Low Flush (ULF) toilets and water saving showerheads prior to the close of escrow, this ordinance became known as Retrofit on Resale. This progressive requirement is now being implemented with the help of local real estate professionals.

Water Conservation Rebate Program

In the early 1990s, LADWP launched several foundational water conservation initiatives, beginning with the distribution of free low-flow showerheads and the ULF Toilet Rebate Program, which incentivized the replacement of high-volume toilets to 1.6 gpf in homes and businesses. This early effort paved the way for what would become the LADWP Water Conservation Rebate Program.

In 1992, the program expanded to the ULF Toilet Distribution Program, and by 2003 LADWP began offering free installation service which included free water-saving showerheads, faucet aerators and replacement toilet flapper valves. These hardware improvements, coupled with additional water conservation related habits lessened the severity of the water shortage, and set a precedent for actively managed water conservation programs at LADWP. Today, distribution of free faucet aerators and showerheads are continually available for all single family, multi-family, and commercial customers.

In 2008, MWD initiated the region-wide SoCal Water$mart Program to streamline and standardize water use efficiency rebates across its service area, which includes the City. This program replaced LADWP's previous individual rebate offerings by providing a centralized clearinghouse for processing rebates throughout MWD's service area. LADWP voluntarily supplements MWD's baseline rebate amounts to offer higher incentive levels to further encourage customer participation and maximize regional water savings.

Tiered Rate Structure

In 1993, LADWP replaced its older flat rate structure with a tiered water-rate volumetric pricing system. This tiered system was designed to promote conservation and align with California's water-rate reform by increasing the unit cost with higher consumption.

LADWP's water rates were restructured in 2016 to incorporate and further reinforce foundational water conservation, water use efficiency, and financial principles. The rates, approved by the City Council on March 15, 2016, were first proposed to the Board of Water and Power Commissioners in July 2015, and followed by five months of extensive community outreach at over 890 Neighborhood Council, community, business and civic meetings and webinars.

LADWP's rate design is influenced by a variety of factors, including the importance of additional conservation and water use efficiency in response to more frequent dry periods facing California and the need to comply with legal and regulatory requirements. LADWP established its rate structure to include the following primary objectives:

- Minimizing individual bill impacts for low water usage customers;
- Complying with all legal requirements, including Proposition 218;
- Designing rates based on water cost of service study;
- Aligning water supply costs to sources of supply;
- Retaining marginal cost-based rate structure and conservation principles;
- Achieving full recovery of costs (without over-billing) in a cost causative manner;
- Implementing symmetrical decoupling mechanism for base rate revenue;
- Simplifying where possible;
- Making bills easier to understand; and
- Considering implications for LADWP's customer care and billing system

2007-10 Dry Period

The 2007 to 2010 drought period was a critically dry episode that affected the City and much of the State. In response, the State incorporated many actions, one of which led to amendments to the UWMP Act, and LADWP amended its ordinances including the Emergency Water Conservation Ordinance in 2009 to include phased restrictions on outdoor watering, limits on water waste, and enforcement mechanisms such as fines for non-compliance. These measures were intended to reduce water demand during the drought while maintaining reliability for essential services.

High Efficiency Plumbing Fixture Ordinance

In the late 2000s, AB 715 (2007), SB 407 (2009), and the CALGreen Building Standards required indoor plumbing fixtures be high-efficiency for residential and non-residential customers, required disclosure of non-water efficient fixtures during property sales, and required high water use efficiency fixtures on all new construction. The City responded by updating its water efficiency mandates in 2009 with the adoption of the High Efficiency Plumbing Fixture Ordinance (LAMC, Article V, Chapter XII). This ordinance establishes water efficiency requirements for new developments and renovations of existing buildings by requiring installation of high efficiency plumbing fixtures in all residential and commercial buildings.

Water Conservation Act – 20 Percent Water Use Reduction by 2020

In November 2009, SB X7-7, the Water Conservation Act of 2009, stipulated that water agencies achieve a 20 percent reduction in urban per capita water use by December 31, 2020 (20x2020). LADWP had a final 2020 target of 142 GPCD, based on 95 percent of the applicable State hydrologic region target. LADWP's actual GPCD in 2020 was 106 GPCD which was 36 GPCD less than the SB X7-7 2020 target.

2012-16 Dry Period

The 2012 to 2016 dry period was one of the most severe in California's history both in intensity and duration. In response, the City expanded its Water Conservation Outreach Programs and updated the Conservation Ordinance to include enforceable water waste provisions and mandatory outdoor watering restrictions. In response to this prolonged dry period, local and State government offices enacted requirements to avoid future water shortage crises. The provisions enacted included: (1) the California Governor set a statewide water use reduction target of 25 percent (from 2013 levels); and (2) then-Mayor, Eric Garcetti, released an executive directive in to enact water use reduction goals in collaboration with LADWP.

Water Loss Control

In 2015, SB 555 was adopted to establish performance standards for real water loss volumes for urban retail water suppliers. The real loss performance standard for LADWP is set at 34.9 gallon per connection per day with a five gallon per connection per day buffer amount above the standard. An urban retail water supplier must meet the standard in any year between 2025 and 2027 by 2028. After 2028, the standard must be met using the three-year average of real losses per connection per day. LADWP had been proactive in addressing water system losses before the adoption of SB 555, having established a dedicated Water Loss Task Force to identify, monitor, and reduce distributed system losses. Further details are described in Section 3.2.

Statewide Water Use Efficient Standards and Water Efficient Landscaping

On April 8, 2015, the California Energy Commission approved new standards for urinals not to use greater than 0.125 gpf, pursuant to Governor Brown's Executive Order (EO B-29-15). Also included were new standards reducing the flow of bathroom faucets to 1.2 gpm. In the same year, the State revised the Model Water Efficient Landscape Ordinance (MWELO) to establish a new statewide standard for irrigation of urban

landscapes by increasing water efficiency standards for new landscaping and retrofits via more efficient landscape irrigation systems, graywater systems, and onsite stormwater capture. MWELO also placed limits on total turf areas allowed on site, along with more stringent landscape design parameters such as reduced reference evapotranspiration factors and limits on use of plants with high water use factors. The threshold size for applicability subject to MWELO was set to 500 square feet (sf) for new residential, commercial, industrial and institutional projects and the previous threshold size of 2,500 sf was maintained only for retrofit projects.

In response, LADWP initiated updates to the City's High Efficiency Plumbing Fixture Ordinance in 2016 to include the MWELO standards as well as other fixture efficiency levels. Exhibit 3B summarizes the current minimum requirements for new construction and replacement of fixtures in existing buildings. Leading by example, LADWP retrofitted all its facilities with efficient water fixtures and completed upgrading its 600 buildings with water efficient faucets, toilets, urinals, and showerheads in 2019. LADWP also repaired leaks, malfunctioning flush valves and faulty pressure reducing valves.

Exhibit 3B
Water Efficiency Requirements Ordinance Summary

Device	Requirement
High Efficiency Toilets	1.28 gpf
Urinals	0.125 gpf
Faucets	
Indoor Faucets (Maximum)	2.2 gpm
Private Lavatory Faucets	1.2 gpm
Public Use Lavatory Faucets[1]	0.5 gpm
Kitchen Faucets (Residential)	1.5 gpm
Pre-rinse Spray Valve	1.6 gpm
Showerheads	1.8 gpm
Dishwashers	
Commercial Dishwashers	0.54 to 1.16 gallons per rack (depending on type)
Domestic Dishwashers	4.25 gallons per cycle
Cooling Towers	5.5 cycles of concentration
Single-Pass Cooling Systems	Prohibited[2]

1. Metering faucets shall not deliver more than 0.25 gallons per cycle.
2. Single pass cooling systems are prohibited unless installed for health and safety purposes.

Emergency Water Conservation Plan Ordinance - Update

In 2016, then Governor Brown signed into law SB 814, which provides that, in times of limited water supplies, residential customers, such as single-family and multi- family housing customers, are prohibited from excessive water use. SB 814 also requires that urban water retail suppliers identify high water consumers and develop methods to discourage excessive water use, which may include the establishment of water use ordinances that apply penalties for excessive water use. In response to this and other local conditions, LADWP amended the City's Conservation Plan to clarify prohibited uses, added an additional phase to include limits for outdoor watering two days a week, and defined and enabled fines for unreasonable uses of water (LAMC, Article I, Chapter XII).

LA City's Executive Directive 20 Percent Reduction by 2017

In response to the historic dry period, in October 2014, then-Mayor Eric Garcetti issued Executive Directive No. 5 to address extreme drought conditions. Among other things, it established a target of 20 percent reduction in per capita water use by 2017. LADWP met this water use reduction target on January 1, 2017. Moreover, LADWP met the subsequent reduction target of 22.5 percent by 2025 in September of 2024 and plans to meet the remaining water use reduction target of 25 percent by 2035.

Urban Water Use Objective

In March 2016, then-Governor Brown's Executive Order (EO) B-37-16 charged the SWRCB and the California Department of Water Resources (DWR) with developing new efficient water use targets, paving the way for AB 1668 and SB 606 in May 2018. AB 1668 and SB 606 regulations, also known as the "Making Conservation a California Way of Life" framework, became effective on January 1, 2025. It set standards for efficient indoor and outdoor residential water use, and efficient outdoor use for CII properties with dedicated irrigation meters (DIMs), incorporated a supplier's real water loss budget, and established performance measures for the CII indoor and mixed-use sectors. These components of AB 1668 and SB 606 are summated to develop an agency's UWUO at the service area level, or an overall target for efficient water use.

AB 1668 and SB 606 were enacted in 2018, UWUO regulations and performance measures were formally adopted in 2024, and made effective in 2025, with the intent to prepare the state for future long-term drought conditions. SB 606 mandates that starting in 2024, urban retail water suppliers annually calculate a multi-faceted annual UWUO, which is essentially a service area level efficient water use budget. UWUO calculation components are illustrated in Exhibit 3C. AB 1668 required the SWRCB to adopt standards for various water use objectives, which are described in the following sections.

Exhibit 3C
UWUO Calculation Components



Residential Indoor Water Use

AB 1668 included volumetric standards for residential indoor water use and were subsequently modified to the values shown in Exhibit 3D in September 2022 with the approval of SB 1157. The residential indoor budget is calculated by multiplying the respective indoor water use rate by the supplier's service area population, and number of days in a year. This calculation must be completed every year as part of the UWUO and reported to the SWRCB. DWR and the SWRCB, as part of SB 1157, were also tasked with evaluating the 2030 standard of 42 GPCD and recommending any changes based on impacts to both upstream water systems and downstream wastewater systems, including recycled water flows. A summary of the findings from this study is due to the Legislature by October 1, 2028.

Exhibit 3D
Residential Indoor Water Use Standards

Indoor Water Use Rate	Compliance Date
55 GPCD	Until December 31, 2024
47 GPCD	January 1, 2025 to December 31, 2029
42 GPCD	Starting January 1, 2030

Residential and CII with Dedicated Irrigation Meters Outdoor Use

The formal adoption of AB 1668 and SB 606 established supplier-specific outdoor water use budgets for both residential and CII sectors. The residential outdoor budget is based on a supplier's Residential Landscape Area Measurement (R-LAM), the service area's spatially weighted reference ETo and effective precipitation provided by DWR, and a Landscape Efficiency Factor (LEF) established by the SWRCB. Similarly, AB 1668 and SB 606 require outdoor irrigation budgets for CII properties with DIMs, calculated using the same parameters—CII-DIM Landscape Area Measurement, ETo, effective precipitation, and CII-DIM LEF. The LEF is scheduled to decrease over time to promote continued water use efficiency and reduce outdoor water use budgets using the factor shown in Exhibit 3E.

Exhibit 3E
Outdoor Water Use Landscape Efficiency Factors

Compliance Date	Residential Outdoor Water Use LEF	CII Outdoor Irrigation with Dedication Meters LEF
Until June 30, 2035	0.80	N/A
July 1, 2028 to June 30, 2035	N/A	0.80
July 1, 2035 to June 30, 2040	0.63	0.63
Beginning July 1, 2040	0.55	0.45
	1.0 for Special Landscaping Areas[1]	1.0 for Special Landscaping Areas[1]
	0.55 for Newly Constructed Landscape Areas	0.45 for Newly Constructed Landscape Areas

1. Special landscape areas include, but are not limited to pools, spas, areas dedicated solely to edible plants, recreational areas, areas irrigated with recycled water, ponds or lakes that help sustain wildlife, etc.

Variances and temporary provisions allow suppliers to modify their UWUO to reflect special water uses within their service area, such as residential indoor use from evaporative coolers, seasonal population fluctuations, or residential and CII-DIM outdoor uses including livestock, wildlife-supporting ponds, high total dissolved solids (TDS) recycled water irrigation, emergency responses (excluding drought), and irrigation of existing trees or misclassified agricultural landscapes. Suppliers must submit requests to the SWRCB and meet all eligibility criteria for variances to be approved.

SB 606 also provides a bonus incentive to recognize suppliers delivering potable reuse water from augmented sources such as groundwater basins, reservoirs, and direct potable reuse. This incentive increases a supplier's UWUO by the volume of potable reuse water from augmented sources which is delivered to residential and CII irrigation customers. The adjustment is limited to 15 percent of the UWUO for existing facilities and 10 percent for new facilities producing water after January 1, 2022, promoting the adoption of recycled water while supporting conservation objectives.

Finally, CII performance measures establish qualitative compliance requirements that supplement the UWUO. While not numeric targets, these measures ensure that suppliers implement water efficiency practices in the CII sector. Suppliers must classify all CII accounts using ENERGY STAR Portfolio Manager categories, maintain at least 95 percent classification accuracy annually, identify and convert large landscapes with mixed-use meters to DIMs or implement best management practices, and target top water users with conservation programs incorporating multiple best management practices. Additionally, suppliers must provide water use data for all disclosable buildings upon owner request.

The reporting for the UWUO began in 2024 through the SWRCB Annual Conservation report. LADWP's UWUO budgets and actual uses for 2024 and 2025 reporting year are listed by sector in Exhibit 3F.

Exhibit 3F
LADWP UWUO Budgets and Actuals

FY	Res-Indoor[1] (AF)	Res-Outdoor[2] (AF)	CII-DIM Outdoor[3] (AF)	Real Losses (AF)	Total UWUO (AF)	Total Reported Use (AF)
2023/24	238,214	97,446	25,988	29,485	391,134	334,715
2024/25	221,543	113,764	31,690	29,485	396,483	352,871

1. Residential indoor uses the January 1st population for the LADWP service area for the respective year.
2. Residential outdoor uses R-LAM based on 2018 aerial imagery.
3. CII-DIM outdoor values are actual usage until 2028 when the SWRCB LEF of 0.8 takes effect.

2020-22 Dry Period

During the most recent dry period from 2020 to 2022, California experienced another extreme dry period, resulting in a statewide emergency declaration. Due to unfavorable hydrology and limited carryover storage in State reservoirs, SWP dependent member agencies within the MWD, including LADWP, were placed on severe restrictions and limited purchase to human health and safety deliveries from the SWP (see Chapter 8, *Metropolitan Water District* for additional details). In response, LADWP elevated its Conservation Ordinance implementation from Phase II to Phase III. Ultimately, LADWP was able to reduce its rolling 12-month average water usage from 113 GPCD at peak dry period in 2021 to 101 GPCD in 2024.

AB 1572 Non-Functional Turf

In 2023, AB 1572 was adopted prohibiting the use of potable water for irrigation of non-functional turf (NFT) on CII and common areas of properties of homeowner's associations. AB 1572 requires suppliers to incorporate the NFT irrigation ban into their regulations, governing policies, and ordinances by January 1, 2027. Furthermore, AB 1572 phases in compliance with the NFT irrigation ban starting from 2027 through 2029.

3.2 Current Water Conservation Programs

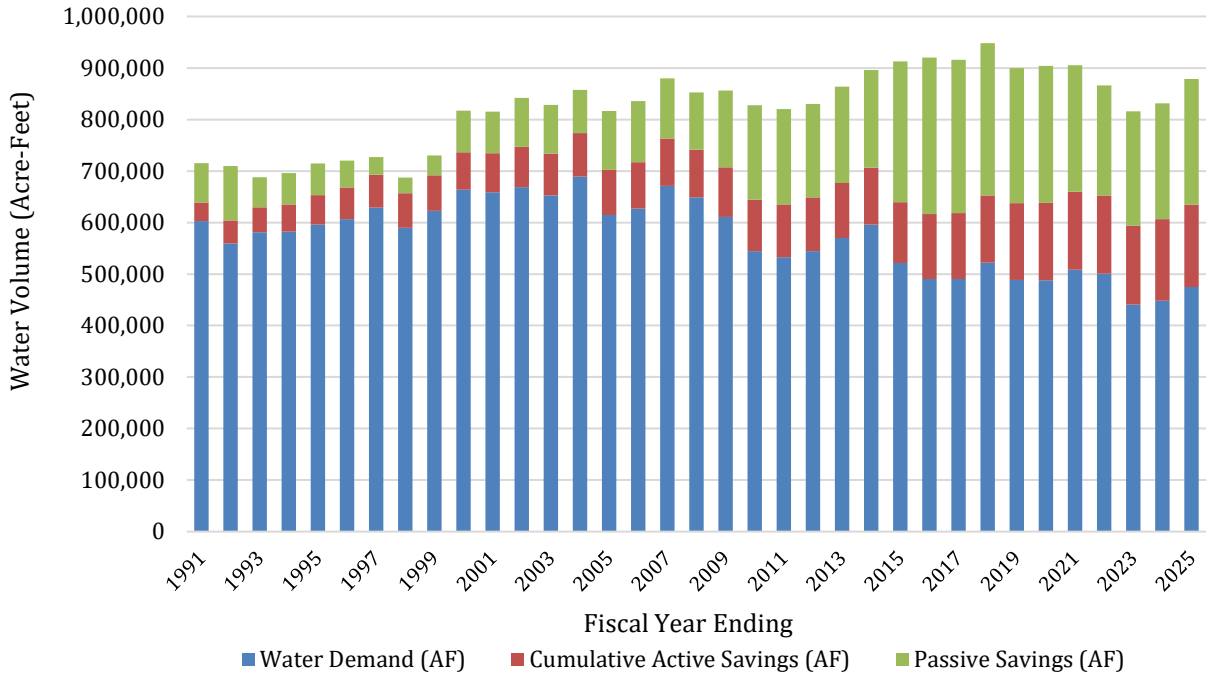
LADWP operates a multifaceted water conservation program focused on reducing water demand, improving water use efficiency, and compliance with state mandated water use requirements. Program initiatives are designed to maximize water savings and cost effectiveness, but more importantly seek to normalize water-saving behaviors by empowering City residents to incorporate water efficient practices into their everyday lives. Dedicated environmental experts, engineers, utility service and marketing specialists are staffed to manage these efforts, stay up to date with the latest water efficiency innovations, and participate in California Water Efficiency Partnership (CalWEP). Outside of LADWP offices, field staff perform onsite work and customer outreach, and the Water Conservation Response Unit (WCRU) investigates claims of water waste, educates customers about prohibited water uses, and issues citations for water waste when warranted.

LADWP has implemented active water savings measures by incentivizing LADWP customers to install water-saving technology in their homes and businesses. These active water demand management measures include rebates for the installation of efficient devices, direct installation programs, and tailored incentive programs for the CII sector. The water savings resulting from active savings measures are estimated by tracking the number of incentivized device installations and calculating the cumulative savings over the useful life of the specific device. In addition, LADWP has invested heavily in educational and public awareness and support campaigns to empower customers to become advocates for water use efficiency. These indirect conservation efforts, or passive savings programs, include developing codes, ordinances, and standards and enforcing these requirements to instill the concept of everyone becoming stewards of water conservation. The cultural

shift towards water saving behaviors began during dry periods and has grown over time to account for the majority of the water savings observed in the City. More recently, when compared to previous dry periods, the lasting effect of this shift in behavioral changes has become ingrained as customers have adapted to using water efficiently in both dry and wet periods. In effect, water conservation has truly become a way of life in the City.

Exhibit 3G shows historical conservation savings from FY 1990/91 through FY 2024/25 based on the estimated annual savings achieved through LADWP and MWD rebate programs, as well as the savings achieved through codes, ordinances, and behavior changes contributed from customer outreach and educational programs. The cumulative annual water savings from Water Conservation Rebate and Free Device Programs since the inception of LADWP's conservation program through FY 2024/25 totals 159,483 AFY are classified as active savings. Additional water savings that are achieved through non-rebated conservation savings due to codes, ordinances, and changes in customer behavior via outreach and educational programs are classified as passive savings. Together, active and passive savings represent the total water conservation achieved through both efficient technologies and sustained customer water-use practices.

Exhibit 3G
Total Water Demand with Conservation Breakdown



Water Loss Task Force

Water loss control consists of the management and reduction of NRW, apparent losses, and real losses. NRW consists of various categories of water loss, along with authorized consumption that was not billed. Apparent losses are losses that occur due to customer meter inaccuracies, data handling errors, and water theft. Real losses are physical water losses such as leaks, breaks, and overflows. Real losses can be further characterized as reported leaks (leaks that are reported and repaired), unreported leaks (leaks that are uncovered through proactive leak detection), and background leaks (volume lost through continuously running seeps and drips).

Maintaining water system infrastructure reduces water waste and allows for greater accountability. Infrastructure maintenance is a high priority for LADWP. LADWP maintains continuous leak response operation to repair known leaks and major blowouts. Additional ongoing programs such as pipeline replacement, meter replacement, pressure management, and leak detection preserve the operational integrity of LADWP water facilities and reduce water losses.

In 2013, LADWP completed a Water Loss Audit and Component Analysis study that included a full-scale assessment of LADWP's infrastructure and resulted in the development of the Water Loss Task Force Action Plan (Action Plan) in 2014. The Action Plan serves as a strategic guide that in parallel with the ongoing infrastructure replacement program, addresses meter inaccuracies, database management, equipment testing, leak detection and prevention, and improved tracking of water balance volumes. In addition, the recommendations from the Action Plan assist in meeting California's SB 555 requirements, requiring urban retail water suppliers to submit annual validated water loss audits to DWR, which started in 2016, and meet real water loss performance standard of 34.9 gallons per connection per day in 2028; this standard was adopted by the SWRCB. Based on its most recent water loss audit, LADWP has met the standard, with real losses of 27.1 gallons per connection per day. For additional information on LADWP's historic water loss audit results, please see Chapter 2, *Water Demand*.

Water Conservation Rebate Programs

LADWP's water conservation rebate programs began in the early 1990s with residential offerings, and later expanded to CII customers, broadening the range of eligible water-saving fixtures and equipment. These programs eventually merged with the SoCalWater$mart program through partnership with MWD, a regional platform that provides customers with a centralized website for rebate information and management.

The SoCalWater$mart Program consists of two components: the Residential Rebate Program, serving residential properties with four or less dwelling units, and the CII Rebate Program, serving businesses and multifamily properties with five or more dwelling units.

Since the 2020 UWMP (FY 2020/21 to FY 2024/25), LADWP's Residential and CII Rebate Programs have achieved an additional estimated annual savings of 13,188 AFY, including in-house initiatives and partnership programs. While participation levels have varied, LADWP continues to adapt; most notably by increasing the turf replacement rebate from $3/sf to $5/sf in July 2022 for both residential and CII customers, and by introducing new incentives such as flow monitoring devices (i.e. Flume) for single-family homes and food defrosters for CII customers.

Current rebate offerings and program details are available on our website at www.ladwp.com/wc .

Other Programs

- **My Water Insights** - In July of 2023, LADWP expanded implementation of the customized home water use report pilot known as the My Water Insights Program to nearly all single-family residential customers. Customers receive a bi-monthly water use report with comparison of their water usage to other households in the neighborhood with similar characteristics. Customers also receive targeted information about water conservation rebates and incentives based on their water use patterns to help further conservation. The initial pilot from 2015 to 2022 resulted in roughly 4 percent customer water savings amongst approximately 73,000 participants, and the full launched program now reaches roughly 475,000 households.
- **Flume Direct Distribution Program** - In an additional effort to raise awareness of water use patterns and trends for customers, LADWP launched a pilot program in July 2022 offering single-

family residential customers the Flume Smart Home Water Monitoring Device at a significantly reduced cost. The Flume device provides real-time leak detection, detailed insights on water use, and easy installation, enabling customers to take greater control of their household water consumption and identify areas they can conserve more. While the retail price of the Flume device is $249, LADWP customers are eligible to purchase it for just $24 plus shipping and taxes. Between July 2022 and June 2025, over 30,000 customers have participated in the program.

- **Southern California Gas Company (SoCalGas) Partnerships** - Since 2012, LADWP has partnered with SoCalGas to jointly deliver energy and water efficiency solutions to their mutual residential customers located within the greater Los Angeles region through various customer-focused joint programs and services. More information on these joint programs can be found at www.socalgas.com/savings .
- **Los Angeles Unified School District (LAUSD) Memorandum of Understanding (MOU) "Securing a Resilient and Sustainable Future for Our Kids"** - Through MOUs, the program provides direct installation and incentives for energy and water efficient fixtures, education and awareness, and pilot of new technologies. Incentives are provided for installation of water efficient fixtures including showerheads, faucet aerators, toilets, and urinals. This MOU is effective from October 2025 to April 2030.
- **Cooling Tower and Water Fixture Assessments** - In 2021, LADWP offered a limited time assessment program for commercial customers to better understand the operational efficiency of their cooling towers and commercial water fixtures. Customized surveys were sent to commercial customers to identify interested. Subsequently, a qualified contractor conducted a site visit assessment of cooling towers and water dispensing fixtures on the premises. After the assessment, LADWP provided customized recommendations for efficiency upgrades and assistance in demonstrating return on investment in upgrading their systems. The program concluded in June 2023. A total of 122 assessments were completed as part of the program.
- **CalConserve Loan Program** - In September 2017, LADWP was awarded a $3 million CalConserve Water Use Efficiency Loan from DWR. This zero-interest loan is intended to provide up-front funding for customers to assist in implementing their water use efficiency retrofits and will be distributed to interested City Departments. Loans are provided via the Proposition 1 CA Water Use Efficiency Revolving Fund Loan Program and will be paid back by City Departments based on a combination of bill savings from reduced water use and through LADWP's existing incentive programs. Based on the results from the program effectiveness with other City entities, LADWP will explore the potential for expansion to the entire CII sector.
- **Technical Assistance Program (TAP)** - Established in 1992, the program was created to provide customized incentives for retrofitting water-intensive equipment in the CII or multi-family customer sector. TAP encourages site-specific, innovative projects, and the incentives are based on a given project's water savings. LADWP recently increased the rebate payments for this program to $7.00 per 1,000 gallons saved over a two-year period with a cap not to exceed whichever is less of the actual cost of the installed product, or $2,000,000 to help spur increased participation. Projects must save a minimum of 150,000 gallons over a two-year period and operate for a minimum of five years. Some of the past innovative solutions include cooling tower controller upgrades, x-ray processor recirculation systems, and groundwater recycling systems.

Awareness and Support Measure Programs

Awareness and support measures play a critical role in sustaining a culture of water conservation across Los Angeles. These measures can be direct or indirect. Direct measures include full metering of water use, volumetric sewer charges based on water usage, and tiered rate structures that promote efficient use.

Indirect measures include educational programs, community presentations, customer hotlines, and a wide range of information distributed through LADWP's website, direct mail, email, public advertising, and partnerships with community-based organizations to inform broad audiences. Together, these efforts provide the foundation for long-term conservation awareness, program visibility, and community engagement.

LADWP's water conservation outreach program is the cornerstone of these awareness efforts. The program aims to make water conservation a social and cultural norm in Los Angeles through innovative marketing strategies and targeted community outreach. Strategies include earned media opportunities through timely news releases and interviews; social media campaigns across platforms such as X, Facebook, Instagram, NextDoor, and YouTube; branded print materials for community events; and paid advertising across television, radio, online, and outdoor venues. LADWP also regularly participates in community workshops, neighborhood council meetings, and school programs, and collaborates with elected officials, the LAUSD, and non-profit partners to amplify conservation messaging.

The outreach efforts continue to evolve to maintain public engagement. LADWP conducted hands-on workshops in 2019 through 2023 and these provided residents with practical experience in turf removal, drip irrigation installation, and native plant installation instructions. The intent of these workshops was to not only educate do-it-yourself customers on how to properly create a sustainable landscape to ensure it thrives once established, but also demonstrate how to comply with the turf replacement rebate terms and conditions.

In response to dry conditions, in 2022, LADWP launched a drought awareness campaign highlighting updated watering restrictions, conservation tips, and enhanced program incentives, including the Turf Replacement Rebate increase to $5/sf and the introduction of the Flume Smart Water Use Monitoring Device. Promotion of the rebate program continued into 2023 with the addition of the Turf Replacement Design Library to the LADWP California Friendly Landscaping website and the expansion of the My Water Insights program to all single-family residential customers.

In 2024, LADWP introduced the "Lawn to Garden" campaign to guide customers through the process of transforming lawns into sustainable gardens. The campaign was rolled out in phases to first educate customers on free design resources, followed by promoting free landscape conversion classes, and culminating in rebate participation. Social media videos and a dedicated webpage supported customer engagement throughout the process.

Additionally, the Community Partnership Grant Program continues to strengthen LADWP's connection with local communities by funding non-profit organizations to deliver creative, water-focused education and outreach. Partners such as the Theodore Payne Foundation, TreePeople, Mujeres de la Tierra, SELVA International, the Los Angeles Beautification Team, LA Waterkeeper, and the Los Angeles Community Garden Council have implemented projects ranging from native plant maintenance workshops and bilingual environmental plays to gardener certification programs and conservation-focused mobile apps. Feedback from these initiatives informs the design of future outreach and education efforts, ensuring LADWP's programs remain effective, inclusive, and community driven.

Sustainable CA Friendly Landscaping

LADWP recognizes that a substantial amount of water is used outdoors for irrigation and offers a variety of resources to assist customers in transforming traditional, high-water-use landscapes into water-efficient, sustainable landscapes while providing educational opportunities to promote these transformations. Beyond promoting efficiency, LADWP emphasizes a more holistic, "Watershed Approach" to landscape sustainability, which goes beyond water-use efficiency to deliver multiple benefits, including abatement of dry-season

runoff, onsite retention of stormwater, embedded energy savings, reduced green waste generation, lower greenhouse gas emissions, minimized pesticide application, and enhanced urban wildlife habitat. This approach is intended as a system-wide upgrade to the urban landscape environment, integrating water efficiency with broader environmental and sustainability objectives. The following programs incorporate sustainable landscaping:

- **Turf Replacement Design Services (TRDS)** - The TRDS program launched in 2020 and offered services to develop free professionally designed California Friendly landscapes to customers at no cost. A total of 1,120 customers received free landscape design plans that could be used to apply for a rebate through the Turf Replacement Program. An online library of all TRDS designs was created and can be accessed for free by all customers at www.ladwp.cafriendlylandscaping.com/LibraryScan/designs.php .
- **California Friendly Landscape Training classes** - LADWP's California Friendly Landscape Training classes offer fundamental information about the benefits of using California Friendly plants and outdoor best management practices that result in lower water usage. Participants learn about soil composition, site design, plant selection, efficient irrigation and landscape transformation, including turf removal techniques, rain barrel installation, rainwater capture features, and healthy soil construction. Classes are available online for all customers.
- **California Friendly Landscaping website** - LADWP also offers its California Friendly Landscaping Website (www.ladwp.cafriendlylandscaping.com) to provide resources to residents interested in replacing turf with California Friendly Landscaping. The California Friendly Landscaping website is an interactive tool that allows customers to take virtual tours of California Friendly gardens, search for climate appropriate plants, and create shopping lists of plants for easy reference when visiting nurseries. Customers can also access planting templates created for the City's regional climates. The templates can be used by the homeowner or provided to a contractor for installation of a California Friendly landscape.
- **Water Efficient Landscape Dual Certification Program (WELDCP)** - In 2025, LADWP in partnership with MWD and the California Landscape Contractors Association (CLCA), hosted the WELDCP. The WELDCP certification classes were offered for free and combined the CLCA Water Management Certification program with the Qualified Water Efficient Landscaper program to offer landscape professionals the ability to obtain two nationally recognized United States Environmental Protection Agency (US EPA) WaterSense Professional Certifications. Landscape professionals were able to learn about landscaping fundamentals about landscape water and irrigation to increase their knowledge and make their business more marketable.
- **Demonstration Garden** - Leading by example, LADWP has implemented a program to retrofit outdoor landscaping at LADWP's own facilities to California Friendly and native plantings with efficient irrigation systems. To demonstrate the beauty and appeal of a water efficient landscaping, LADWP's John Ferraro Building's California Friendly Garden was redesigned in 2015 to showcase a variety of plants used primarily in Mediterranean and Southwestern landscape designs. The garden includes educational signage explaining the benefits of introducing California Friendly plants and displays smartphone scannable QR (quick response) codes which conveniently display specific plant information on a mobile device. Currently, there are plans to revitalize the garden and add more California native and pollinator friendly plants to further promote and increase biodiversity within the City.

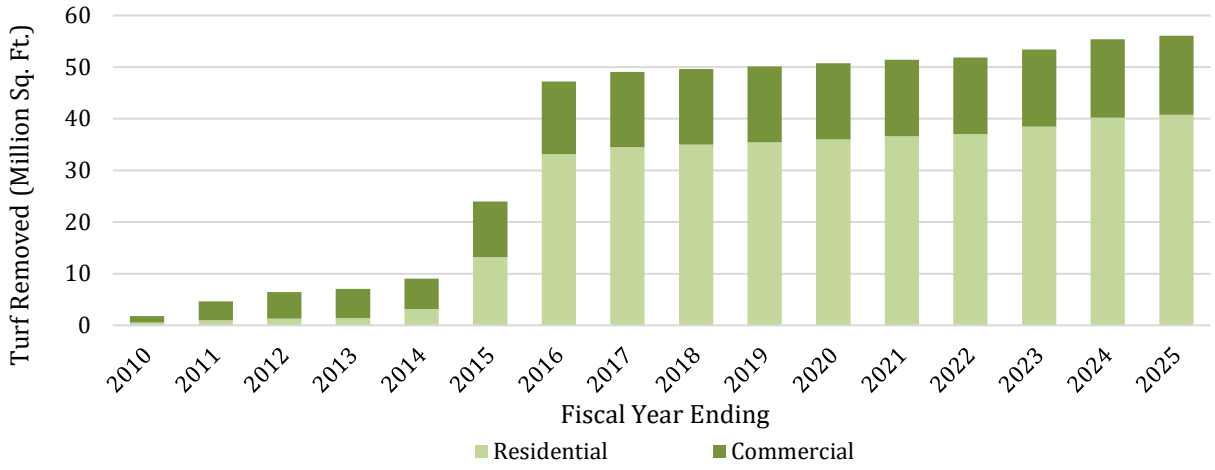
Public engagement is an important component in advancing the water efficient landscaping paradigm. Partnerships with non-profits and community-based organizations afford LADWP the opportunity to reach large numbers of customers.

In efforts to promote sustainable landscaping, LADWP has worked closely with non-profit organizations to offer a variety of outreach and educational opportunities.

In April 2024, the LADWP Board of Commissioners approved a motion integrating biodiversity initiatives and nature-based solutions throughout LADWP's operations. LADWP will continue to advance environmental stewardship initiatives and promote equity and conservation by increasing stormwater capture, planting shade trees, habitat restoration and enhancement projects, biodiversity monitoring and research, and integrating vegetation management practices. While adopting these changes, LADWP will ensure all approaches take water use efficiency into account.

Building on this integrated approach, LADWP's Turf Replacement program has demonstrated long-term success since its inception in 2009, removing over 56 million sf of turf in the last 16 years as shown in Exhibit 3H. Over time, the program has evolved to improve both environmental sustainability and habitat development. LADWP surveyed customers and they noted landscape design was one of the primary barriers to participation, which led LADWP to introduce the Turf Replacement Design Service program, as noted in Section 3.2, to assist customers in developing plans compliant with the updated rebate terms and conditions.

Exhibit 3H
Cumulative Residential and Commercial Square Feet of Turf Removed by Fiscal Year

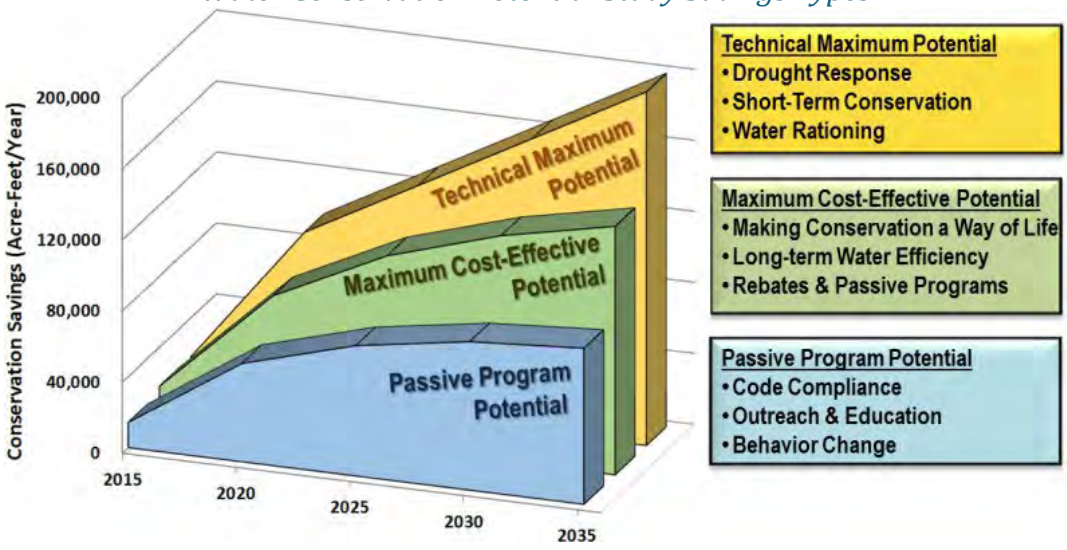


3.3 Water Conservation Potential Goals and Progress

LADWP completed the country's largest and most comprehensive WCPS in 2017, which provided a better understanding of how historical investment efforts have impacted existing water use efficiency and device saturation levels. The overarching goal of the WCPS was to help LADWP prioritize future water conservation and water use efficiency investments in the City by understanding the remaining potential water savings for its service area. Exhibit 3I shows the different types of potential savings. The remaining potential was identified for each customer sector: single-family residential, multi-family residential, commercial, industrial, institutional, and City. The results from the WCPS helped LADWP develop a targeted strategy to maximize water savings going forward.

Central to the WCPS was the development of a robust Water Conservation Model (WCM) to project water savings potentials for the City into the future. In determining the WCPS future savings levels, the WCM considers baseline water use, demographic growth projections, and program data for each customer sector.

Exhibit 3I
Water Conservation Potential Study Savings Types



The WCPS utilized FY 2013/14 as its baseline to forecast the water conservation and water use efficiency potentials through FY 2034/35, which are displayed in in Exhibit 3J. The results show that LADWP has the maximum cost-effective potential to reach a total water savings of 140,000 AFY by FY 2034/35.

Exhibit 3J
Water Conservation Potential Study Projected Savings by FY (AFY)

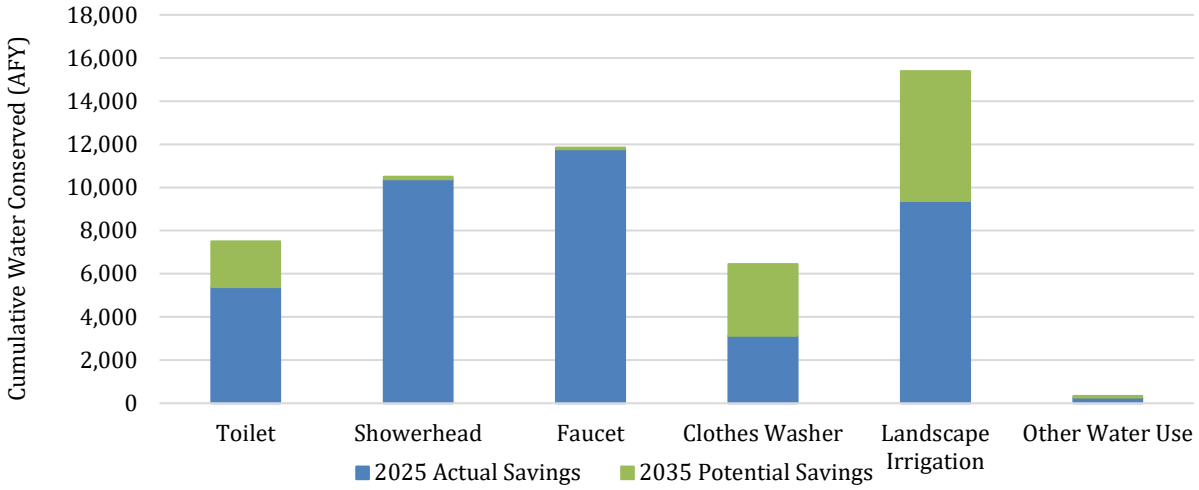
	2019/20	2024/25	2029/30	2034/35
Maximum Cost-Effective Potential	77,000	107,000	127,000	140,000

In addition to the potentials identified in Exhibit 3I, the WCM allows LADWP to evaluate annual participation levels across all the incentive and direct install programs, allowing for program adjustments as necessary to further drive potentials where available, and scale back others that have either reached full potential or where market factors have begun to drive participation on their own.

Single-Family Residential Sector

Exhibit 3J presents the remaining conservation potential by fixtures in the single-family sector as of 2025 and the maximum cost-effective remaining potential in FY 2034/35. Notable gains include near maximum savings in ultra-conserving showerheads and faucets, as well as improvements in high efficiency clothes washers, likely due to the rebate increase from $400 to $500 in February 2022. Landscape irrigation has the largest remaining potential water savings, followed by high efficiency clothes washers and toilets. Achieving the additional water savings will come from increased investments in both active and passive programs. Many efforts are in place to promote efficient landscape transformations such as the Landscape Efficiency Assistance Program (LEAP) as well as continuing educational programs. LADWP maintains rebate programs for indoor fixtures such as high efficiency clothes washers and toilets and will consider additional program investments to progress towards the remaining potential water savings identified in Exhibit 3K.

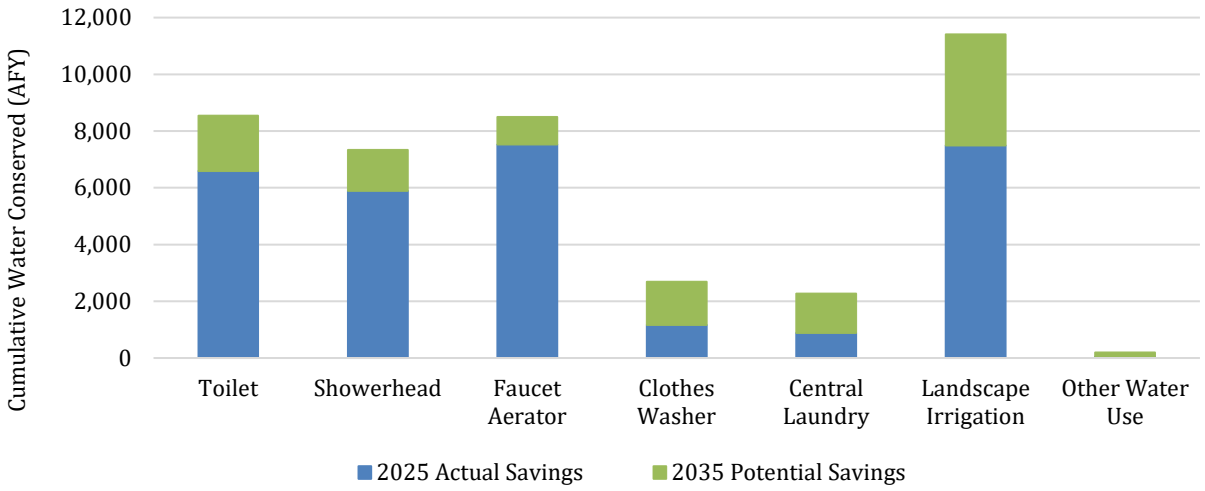
Exhibit 3K
Single-Family Sector FY 2034/35 Maximum Conservation Potential = 52,000 AFY



Multifamily Residential Sector

Exhibit 3L presents the remaining conservation potential by fixtures in the multifamily sector as of 2025 and the maximum cost-effective remaining potential in FY 2034/35. Similar to the single-family sector, achieving the remaining water savings potential will require a combination of active and passive program investments. In October 2023, LADWP launched its first dedicated incentive program for vended clothes washers in the multi-family sector. This program targets central laundry facilities commonly found in multi-family buildings. Eligible LADWP customers who are within the service territories of SoCalGas and the MWD may qualify for combined rebates of up to $675 per unit. This new offering fills a critical gap in LADWP's portfolio of multifamily conservation programs and supports continued water savings in common-area laundry systems. LADWP will continue to support fixture upgrades and evaluate additional program enhancements as new technology develops in order to meet the long-term conservation potentials.

Exhibit 3L
Multi-Family Sector FY 2034/35 Maximum Conservation Potential = 40,500 AFY

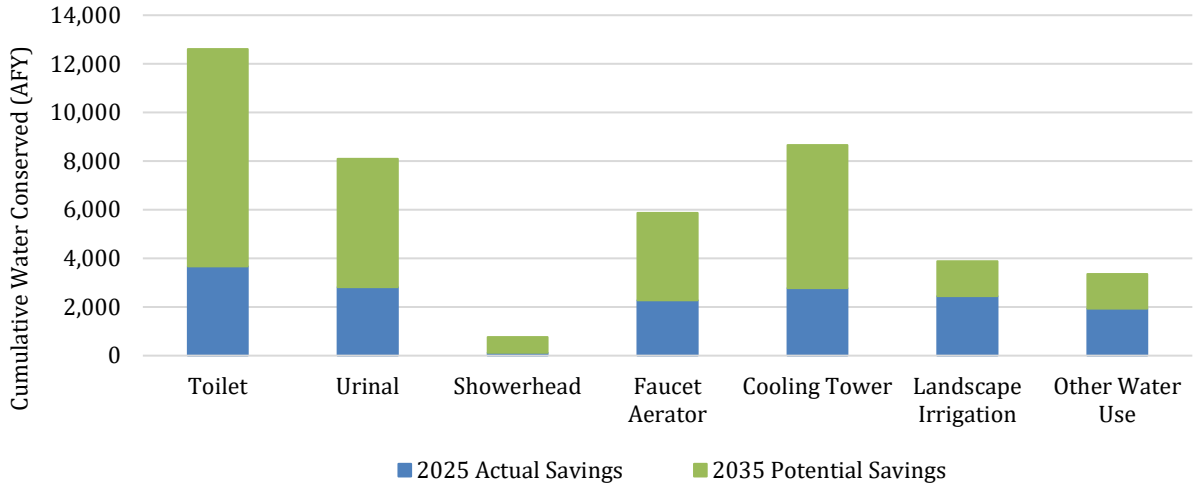


Commercial, Industrial, and Institutional Sector

Participation in CII programs between 2020 and 2025 was lower than anticipated, which limited the pace of retrofits during this period. Exhibit 3M presents the remaining conservation potential by fixtures in the CII sector, including City facilities, as of 2025 and the maximum cost-effective remaining potential in FY 2034/35. Several factors contributed to the decline, including access restrictions due to the COVID-19 pandemic, and staffing constraints that reduced the number of on-site audits and installations. A major factor was the widespread shift to telecommuting work during and after the pandemic. The shift resulted in lower office occupancy, which led to fewer occupants and decline in water use. The reduced water use extended the payback period for these water-efficient fixture upgrades, making some projects less financially attractive. Due to these changes, many customers may have deferred their water conserving improvement projects.

Despite the slower participation in this period, significant cost-effective potential remains in the CII sector. Toilets are identified to have the highest water savings potential. Achieving the water savings potentials will come from a combination of increased investments in active and passive programs. Future CII programs to help increase water savings are discussed later in Section 3.4.

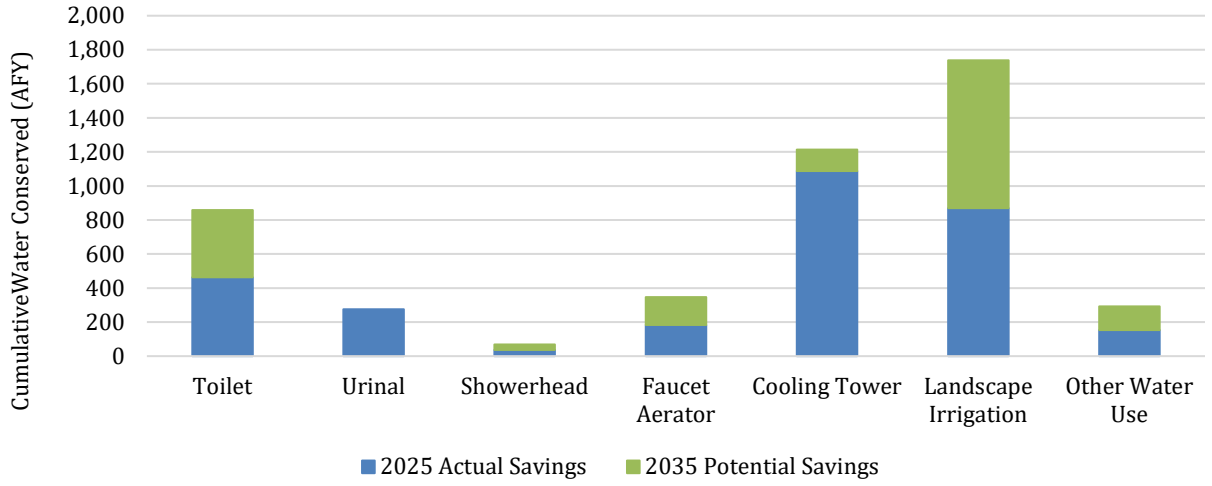
Exhibit 3M
CII (Including City) Sector FY 2034/35 Maximum Conservation Potential = 43,000 AFY



City-Owned Sector

Other City Departments continue to implement conservation measures, and their progress is reflected through estimated values based on historical project activities and expected adoption patterns. While these values are estimates, the water use data indicates that the City sector has reduced its total water consumption by 8 percent between FY 2019/20 to FY 2024/25. By comparison, the Commercial sector achieved a 7 percent reduction, this suggests that the City sector is on a strong trajectory towards its water conservation efforts. These results reflect the City's growing accountability in water stewardship and broader commitment to sustainable water management.

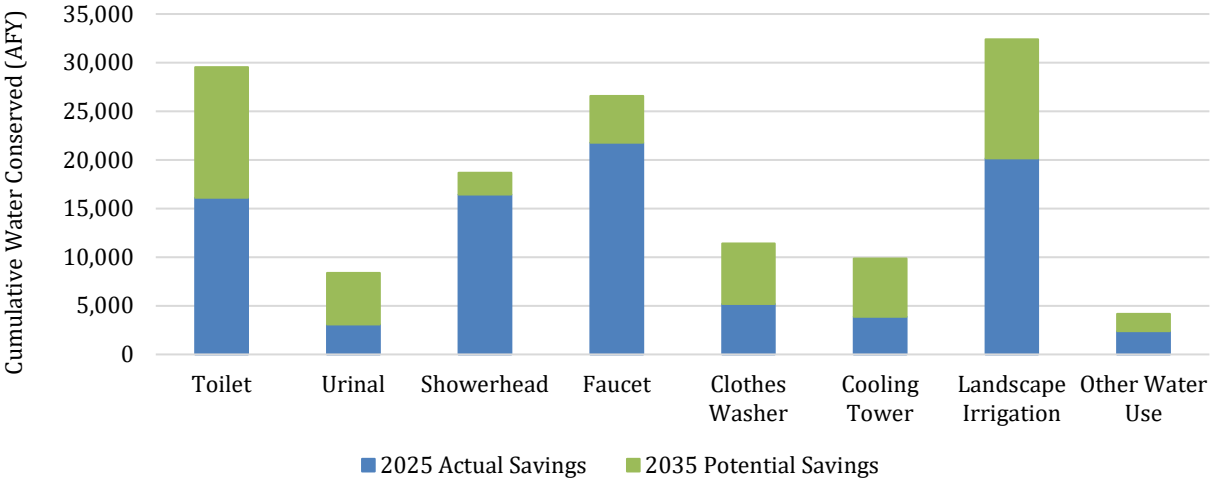
Exhibit 3N
City-Owned Sector FY 2034/35 Maximum Conservation Potential = 4,500 AFY



Water Savings

LADWP is continuing towards the maximum cost- effective potential water savings by FY 2034/35. Exhibit 3O presents the water conservation potentials for each fixture type as identified from the WCM, as well as the estimated progress of the total water conserved. LADWP needs to achieve an additional 51,985 AFY to reach the maximum cost-effective savings potentials identified in the WCPS. The WCPS identified conservation potentials beyond what is shown in Exhibit 3O (referred to as the Technical Maximum Conservation Potential in Exhibit 3I); however these potentials were determined to be cost-prohibitive. LADWP has also obtained more precise indoor and outdoor residential water end-use data through the Flume Direct Distribution Program, which is currently being studied to identify further efficiency opportunities. These data sources and studies will allow LADWP to better estimate remaining conservation potential. As such, the WCPS forecasts will be updated in the coming years to re-estimate remaining conservation potential and saturation levels by sector.

Exhibit 3O
WCPS Progress FY 2034/35 Maximum Conservation Potential =140,000 AFY



3.4 Future Programs, Practices, and Technology

LADWP remains committed to advancing water efficiency through the development and implementation of innovative programs, partnerships, and technologies. Future initiatives will focus on expanding access, improving performance across all sectors, and addressing equity by removing participation barriers. These initiatives are designed to build on existing successes while adapting to emerging conservation needs and regulatory requirements. The following programs and strategies reflect a forward-thinking approach that supports continued efforts towards a water efficient future.

Single-Family Residential Future Programs

LEAP - LEAP is a grant-funded direct installation program available to eligible LADWP customers located within Disadvantaged Communities (DAC) as defined by DWR. High upfront construction costs for turf replacement pose barriers for homeowners interested in removing their turf and installing sustainable landscaping, especially those in DACs. To reduce these barriers and improve accessibility to its outdoor efficiency programs, LADWP launched LEAP in August 2025. The program provides free services for turf removal, CA friendly landscape planting, installation of stormwater capture features, conversion of existing sprinkler systems to drip irrigation, and installation of a smart home water monitoring device. The program is funded by a $14.625 million grant awarded to LADWP through DWR's Urban Community Drought Relief Grant Program. LADWP expects to transform approximately 700 to 1000 single family residential lawns, ranging between 1,000 to 3,000 sf per project.

- **Updated Water Energy Kits** - LADWP has previously partnered with SoCalGas to provide residential customers water-energy kits at no cost to reduce water and natural gas consumption. Moving forward, plans are in development to send out additional water-energy kits that contain high-efficiency irrigation nozzles with a goal to highlight outdoor water savings programs and opportunities.

Multi-Family Residential Future Programs

- **Direct Install Partnership Expansions** - LADWP plans to continue its partnerships with other utilities to take advantage of direct install programs already underway in the multi-family sector. LADWP and SoCalGas also expanded their Energy Savings Assistance Program to include additional measures for qualifying customers such as thermostatic shower valves. The partnership agreement with SoCalGas expired July 2025, and LADWP is working to renew the program due to its effectiveness. In addition, LADWP in partnership with SoCalGas was awarded a $2 million Water and Energy Efficiency Grant for "Los Angeles Multifamily Affordable Housing Direct Install Project" by the United States Bureau of Reclamation (USBR). The grant will fund the replacement of high efficiency showerheads, bathroom faucet aerators, kitchen faucet aerators, thermostatic shower valves, toilets, irrigation controllers, turf replacement and leak detection devices.

CII and City-Owned Future Programs

- **Restaurant Water-Energy Kits Program** - LADWP is partnering with the SoCalGas to implement a new program aimed at providing free water-energy kits to customers operating restaurants or commercial kitchens. Eligible customers may sign up for the program and receive no-cost kits that include water-saving and energy-saving equipment. This program aims to assist CII customers in reducing their natural gas and water consumption.

- **CII Water Use Efficiency Educational Classes** - LADWP is partnering with CalWEP and SoCalGas to offer no-cost trainings for commercial customers on water and energy efficiency best practices and LADWP programs. Two-hour classes will be offered to targeted customer segments including Hotels, Commercial Kitchens, and Restaurants to educate on indoor water use efficiency, improving landscape irrigation efficiency, and CII best management practices
- **SoCal Water$mart Program Expansion** - In partnership with MWD So Cal WaterSmart rebate program, as new studies and new technologies develop, new CII devices are being added to the rebate program that show significant water savings. Examples of such devices include flow monitoring devices, irrigation water master valves, irrigation flow sensors, and kitchen defrosters. These new water saving devices will help LADWP continue to reach our water savings goals.
- **Targeted CII Outreach Campaigns** - Plans are also being developed to focus on specific commercial sector groupings, such as food services companies, that have high water usage. Also, with the new NFT irrigation ban regulation, outreach efforts will also be made to target customers that have NFT and promote the turf replacement incentive program.
- **Cooling Tower Optimization Program** - As confirmed by the WCPS, cooling towers make up a large percentage of LADWP's total water usage in the CII sector. To help customers reduce their water usage, LADWP is working towards developing a Cooling Tower Optimization Program to help customers save water through efficient management and control of their cooling tower operations.
- **TAP** - LADWP currently offers the TAP to our CII customers. LADWP is developing a more streamlined approach for TAP incentives, including an approach to calculate incentives based on water savings performance to further encourage customer participation, including projects that improve operational efficiency but may not involve the installation of a physical device or system.

City-Wide Practices

- **Retrofit on Resale Ordinance Update** - As part of a broader effort to strengthen water conservation, the City is planning to update the Retrofit on Resale Ordinance, also known as Plumbing Retrofit Ordinance, with a particular focus on incorporating new measures for outdoor irrigation. Previously amended in 1998, the ordinance currently does not address outdoor water use. The updated requirements will ensure the installation of efficient indoor and outdoor fixtures prior to the transfer of properties to new owners. By targeting both indoor and outdoor water efficiency at the time of resale, the ordinance will accelerate the replacement of older, high-water-use fixtures and landscapes, support the City's long-term water conservation goals.

These programs and practices represent a multi-faceted approach to ensure LADWP achieves its goals for efficient water use throughout Los Angeles. Collectively, these initiatives are designed to expand participation while directly addressing common barriers. For example, DAC customers have historically faced financial constraints that limited their ability to invest in turf replacement, while commercial customers, (e.g., restaurants) are reluctant to adopt water-efficient technologies like food defrosters due to its prolonged return-on-investment. By addressing these specific challenges through initiatives such as the LEAP and SoCal Water$mart's new food defroster rebate, LADWP is positioned to expand access to conservation programs to achieve the water savings identified in the WCM and maintain compliance with California's UWUO.

Chapter 4 Los Angeles Aqueduct

4.0 Overview

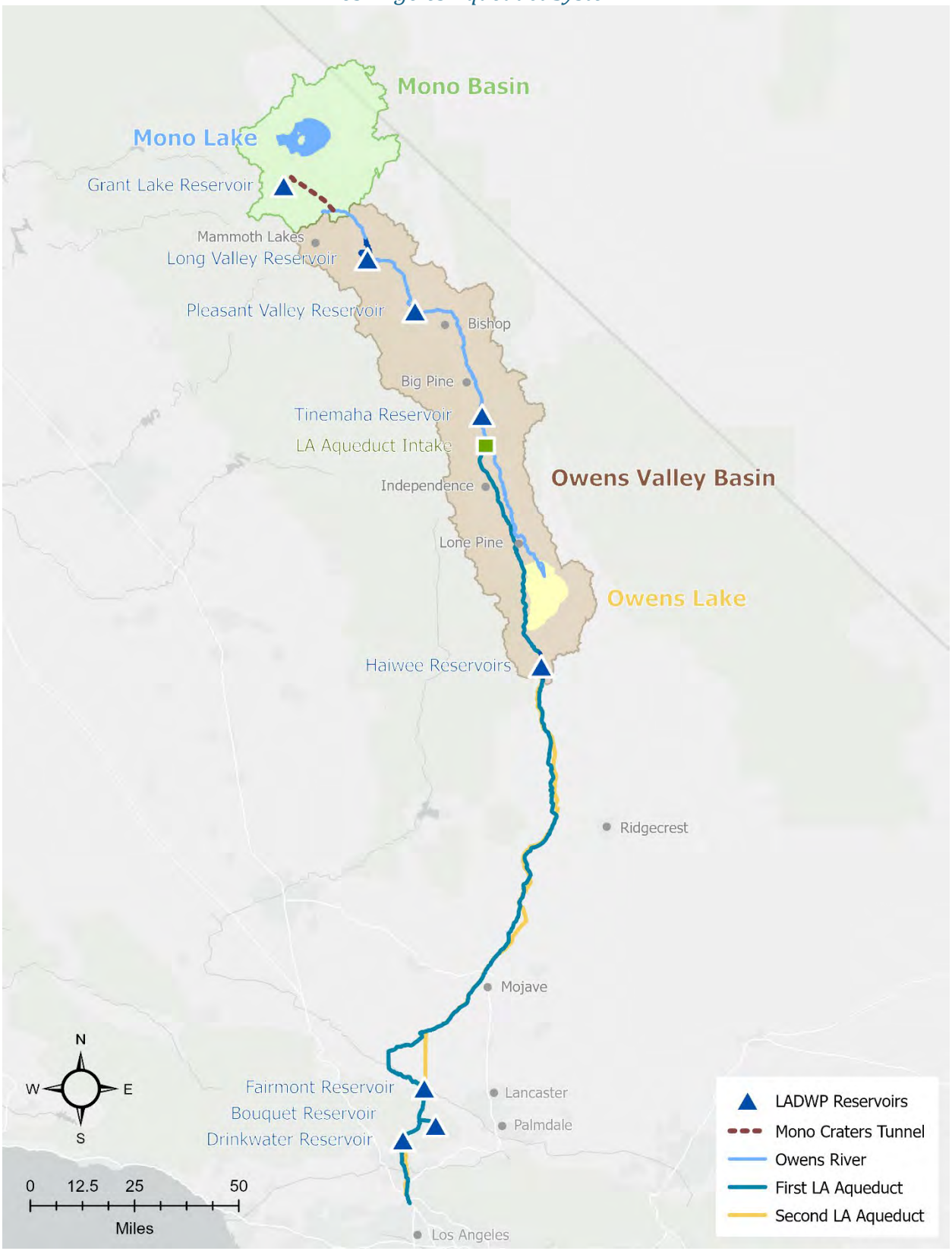
Local water supplies have been an integral part of the City's history. The City's population and economy was initially supported through a combination of local surface flows, primarily from the Los Angeles River (LA River), and local groundwater pumping, primarily from the San Fernando Basin. When it became apparent that the local groundwater supply and local surface flows were insufficient to meet the future water needs of the City, the residents of Los Angeles, under the leadership of William Mulholland, approved by a 10 to 1 margin a
$23 million bond measure to construct the First Los Angeles Aqueduct in 1907. This investment was equal to 12 percent of the entire City's assessed valuation at that time. Construction of the First Los Angeles Aqueduct was completed in 1913. Then, in 1940, an additional $40 million was invested to extend the first aqueduct 40 miles north from the Owens River to Mono Basin. Exhibit 4A provides an overview of the LAA System.

To meet the additional water needs of its population, a second barrel of the LAA was constructed, later to become known as the Second LAA. Construction of the Second LAA was completed in 1970. The second aqueduct increased the City's capacity to deliver water from the Mono Basin and the Owens Valley to the City from 485 cubic feet per second (cfs) to 775 cfs. The value of the City's historical investment in the LAA System is substantial. For over a century, the City has benefited from this investment into its foundational water supply through the delivery of high-quality, cost-effective water supplies from the Eastern Sierra Nevada.

At its peak in FY 1983/84, the LAA delivered 531,729 AF to the residents of the City. The City has since reallocated approximately 70 percent of the LAA water supply to other uses within the Owens Valley and Mono Basin due to environmental concerns. The last major reallocation was implemented in 2007, setting a new reality for LAA deliveries to the City. Between 2007 and 2025, the City provided approximately 174,000 AFY of LAA water to supply a variety of environmental projects and uses throughout the Eastern Sierra, including water releases to Mono Lake. As indicated in Exhibit 4B, LAA deliveries to the City account for 31 percent of the total water runoff from the Eastern Sierra Nevada in an average year, from runoff year (RY) 2007/08 to RY 2024/25. A RY is measured from April 1st to March 31st of the following year. Approximately 70 percent of all total water supply (rainfall, runoff, pumped groundwater, and flowing groundwater) in the Eastern Sierra Nevada now remains in the Mono Basin, Owens River, and Owens Valley Basin, supplying environmental and other uses.

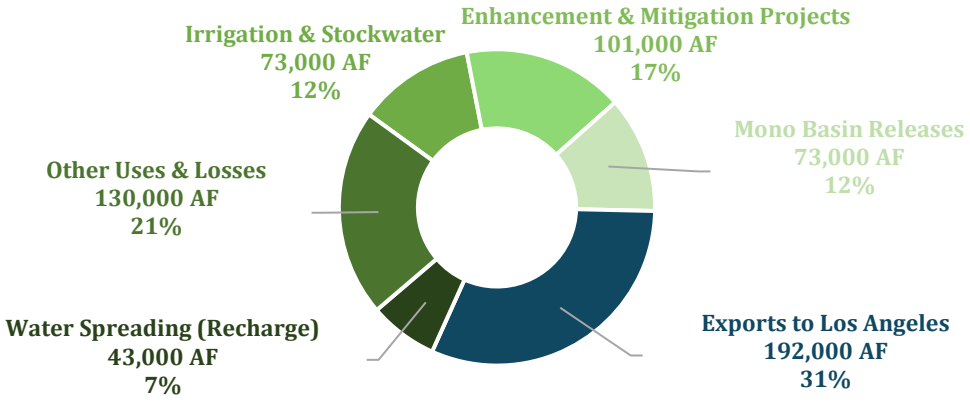
Within the Owens Valley, the primary framework that governs LADWP groundwater pumping is the Long Term Water Agreement (LTWA). The LTWA is a stipulated court order between Inyo County and LADWP, issued in 1991, which established an overall goal for managing groundwater resources within Inyo County. The intent is "to avoid certain described decreases and changes in vegetation, and to cause no significant effect on the environment which cannot be acceptably mitigated, while providing a reliable supply of water for export to the City and for uses in Inyo County." The LTWA does not impact LADWP's surface water rights, but manages LADWP's groundwater pumping, and groundwater use within Inyo County. The LTWA also requires LADWP to implement and maintain a variety of "Enhancement/Mitigation Projects."

Exhibit 4A
Los Angeles Aqueduct System



In the Mono Basin, LADWP historically diverted water from four tributary streams feeding Mono Lake. Between 1970 and 1988, LADWP averaged approximately 85,000 AFY of exports from the Mono Basin. Following the landmark California Supreme Court decision in *National Audubon Society v. Superior Court* in 1983, the SWRCB was required to reconsider LADWP's water rights licenses. In 1994, the SWRCB issued Decision 1631, which established flow requirements for streams tributary to Mono Lake and other environmental protections. In balancing the public trust, the SWRCB acknowledged the importance for ongoing water deliveries and established export criteria based on the lake level. LADWP's amended water rights licenses allow it to export up to 16,000 AFY, as discussed in detail in Section 4.3. Since 1994, LADWP's average Mono Basin export has been 13,000 AFY. The various reductions in water deliveries to the City from the LAA has resulted in increased dependence on imported water supplies from MWD.

Exhibit 4B
Mono Basin and Owens Valley Water Use Allocations[1]



1. The average shown for the period RY 2007/08 to RY 2024/25

4.1 Historical Deliveries

Annual LAA deliveries to the City are dependent on snowfall in the Eastern Sierra Nevada. Years with abundant snowpack result in larger water deliveries from the LAA and typically reduce purchases of supplemental water from MWD. Conversely, low LAA deliveries in dry years increase the demand for supplemental water from MWD.

The impact to LAA water supplies due to fluctuating hydrology in the Mono Basin and Owens Valley is amplified by the requirements to release supply water for environmental enhancement efforts in the Eastern Sierra Nevada. Since 1989, the City's water exports from Mono Basin have been significantly reduced to comply with SWRCB orders to enhance the Mono Basin's ecosystem. The cyclical nature of hydrology is exhibited best by LAA deliveries over the last 30 years, as shown in Exhibit 4C.

A long-term perspective of the general cycle of wet and dry years for the Owens Valley is evident in Exhibit 4D. This graph shows Eastern Sierra runoff as a percent of normal, where 60 percent of the years are below average. As illustrated, reliance solely on one water supply source is not practical. Therefore, the City relies on the foundational LAA in combination with supplies from MWD sourced from the CRA and the SWP as the City's primary imported water sources. These imported sources, combined with local sources such as groundwater, stormwater, and recycled water, make up the City's total water supply portfolio. This portfolio of water resources is fundamental to LADWP's ability to deliver safe and reliable water supply to meet the needs of the City's roughly 4 million residents.

Exhibit 4C
Historical Los Angeles Aqueduct Deliveries

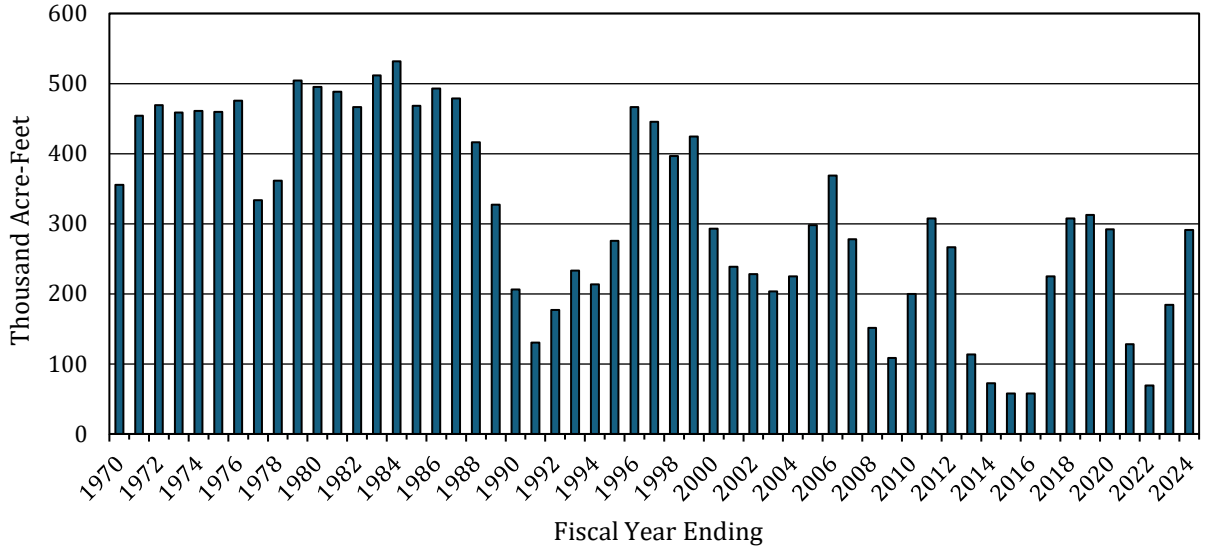
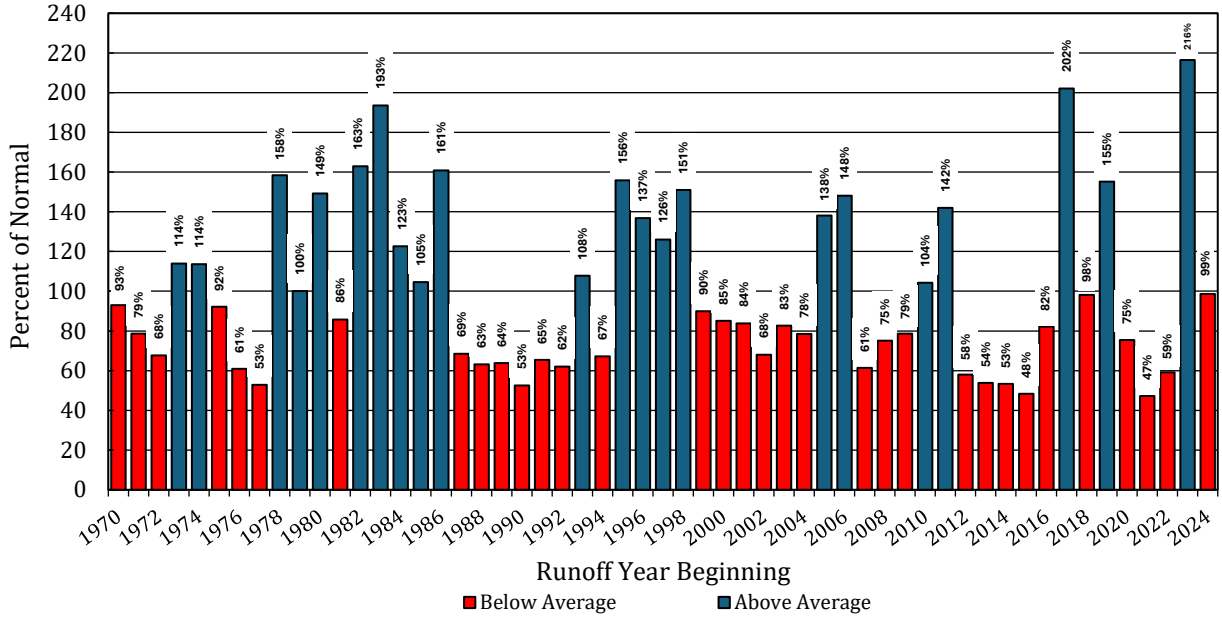


Exhibit 4D
Eastern Sierra Nevada Runoff Owens Valley – Percent of Normal



4.2 Mono Basin and Owens Valley Supplies

Surface runoff from snowmelt in the Eastern Sierra Nevada Mountains is the primary source of supply for the LAA. The LAA System extends approximately 340 miles from the Mono Basin to the City, where water is conveyed the entire distance by gravity alone through the First and Second LAAs. LADWP regulates deliveries to the Los Angeles Aqueduct Filtration Plant (LAAFP) utilizing regulatory storage at nine reservoirs. Six reservoirs are used for storage: Grant Lake, Long Valley, Tinemaha, North Haiwee, South Haiwee, and Bouquet Reservoirs. The remaining three reservoirs are used to regulate flow for hydroelectric power plant generation, which include Pleasant Valley, Fairmont, and Drinkwater Reservoirs. The total combined reservoir storage capacity of the system is 311,000 AF. Hydroelectric power is generated at 12 power plants along the LAA with a combined maximum capability of 215 mega-watts. Additional infrastructure includes hundreds of miles of canals and ditches. Runoff reaches its peak in the late spring and early summer, after most of the year's precipitation has already occurred. The snowpack in the Eastern Sierra Nevada provides natural storage for the LAA system. This snowpack storage is essential due to relatively limited storage capacity along the LAA system.

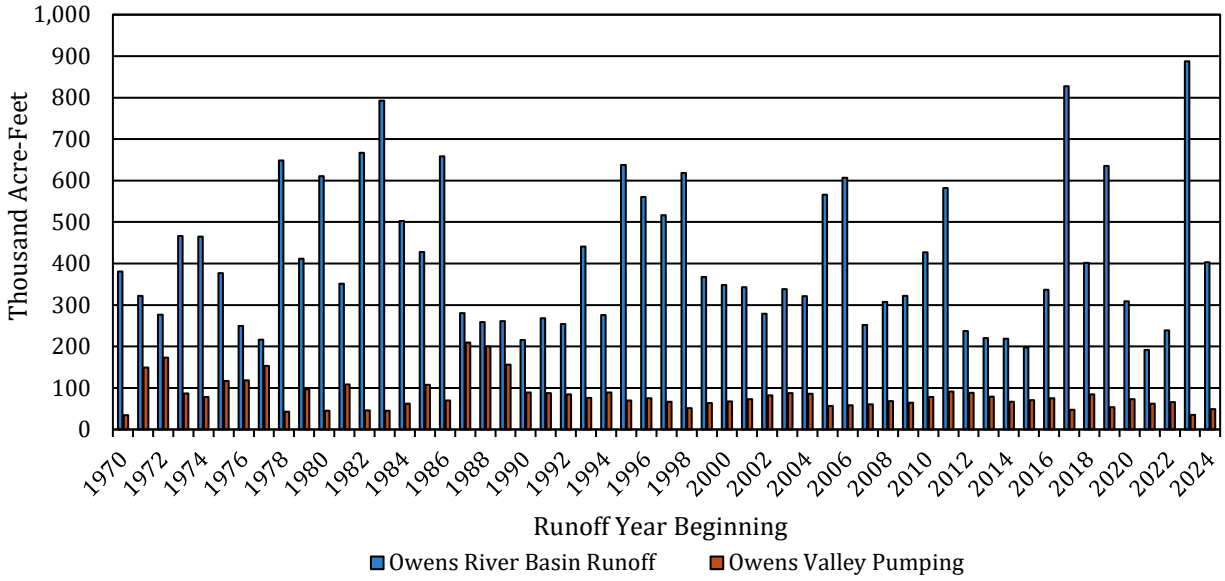
Water Rights

The City's water rights in the Eastern Sierra Nevada are comprised of riparian rights, pre-1914 appropriations, and post-1914 appropriation licenses held on various streams in the Mono Basin and Owens Valley. Riparian rights are for streamflow used on land adjacent to a stream. Appropriations by the City based on post-1914 water rights are made pursuant to licenses issued by the SWRCB. Most of the City's water rights are pre-1914 water rights established prior to enactment of the State Water Commission Act. The most significant basis for export of surface water from the Eastern Sierra Nevada is an appropriation claim filed in 1905. This filing was for the diversion of up to 50,000 miner's inches (1,250 cfs) from the Owens River at a location approximately 15 miles north of the town of Independence into the LAA for transport to the City. The City files annual supplemental statements (for riparian and pre-1914 water rights) and licensee reports (for post-1914 water rights) of water diversion and use with the SWRCB.

The City's water right licenses in the Mono Basin were amended by the SWRCB in 1994 following Decision 1631, and again in 2021 as part of an agreement to provide new flow regimes to Lee Vining Creek and Rush Creek to enhance stream ecosystem habitats. As of RY 2024/25, the Mono Lake water level was above the Decision 1631 trigger elevation of 6,380 feet, allowing up to 16,000 AF of water exports from Mono Basin for RY 2025/26.

The City's primary groundwater rights in the Owens Valley are based on majority ownership of land in the Valley (approximately 252,000 acres) and the appurtenant water rights within this acreage. Management of the groundwater supply in the Owens Valley is governed by the LTWA. Groundwater Pumping is regulated under the LTWA by assessing the existing vegetation's water demand and the available soil moisture to determine whether groundwater wells can be pumped. Groundwater is pumped from nine Owens Valley wellfields and began in 1970 after completion of the Second LAA. Since 1991, the average pumping has been approximately 70,000 AF compared to 107,000 AF from 1974 to 1990, as shown in Exhibit 4E.

Exhibit 4E
Owens River Basin Runoff and Owens Valley Groundwater Pumping

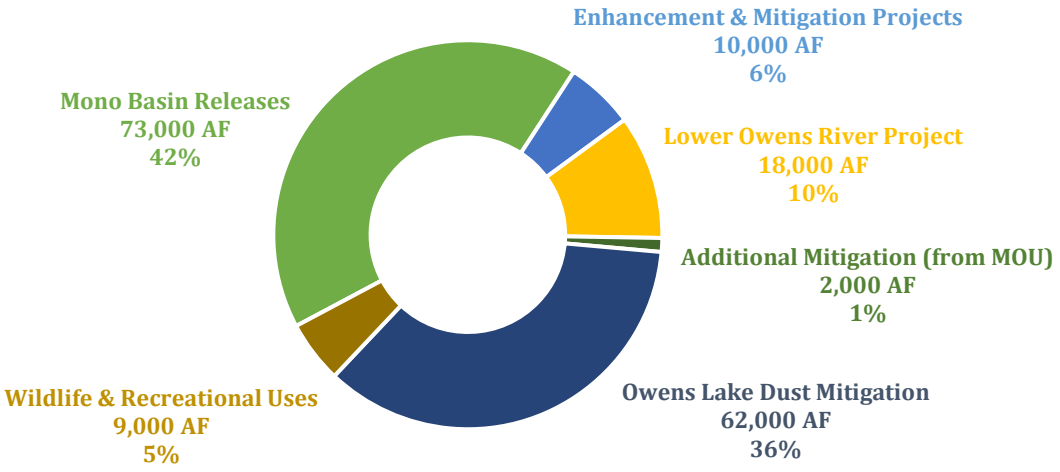


4.3 Environmental Enhancement and Mitigation

Over time, an increasingly larger portion of LAA water supply has been reallocated to Owens Valley environmental projects and uses. As a result, the City's average supply for environmental enhancement in the Owens Valley and Mono Basin has amounted to 174,000 AFY. LADWP has compensated for this loss of foundational LAA water supplies by increasing purchases of supplemental supplies from MWD.

Exhibit 4F illustrates the breakdown of LAA water supply by category. The environmental enhancement and mitigation projects that have been implemented as part of the City's commitment under the LTWA are also shown as part of Exhibit 4F. Among the environmental projects, LADWP is diverting 9,000 AFY for wildlife and recreational uses, 73,000 AFY for Mono Basin releases, 62,000 AFY for Owens Lake Dust Mitigation, 18,000 AFY for the Lower Owens River Project (LORP), 10,000 AFY of water from the LAA for Owens Valley environmental enhancement and mitigation projects, and 2,000 AFY for additional mitigation pursuant to a 1997 MOU among LADWP, the County of Inyo, the California Department of Fish and Game, the California State Lands Commission (CSLC), the Sierra Club, and the Owens Valley Committee (1997 MOU).

Exhibit 4F
Mono Basin and Owens Valley Environmental Enhancement Commitments[1]



1. Average shown for the period RY 2007/08 to RY 2024/25

Mono Basin

Exhibit 4G displays the maximum export levels from the Mono Basin allowed under the conditions defined in the SWRCB Decision 1631. Prior to 1994, the recent historic long-term average of Mono Basin exports was approximately 85,000 AFY. After export conditions were implemented in 1994, exports managed under the transition phase were reduced by an estimated 72,000 AFY, resulting in an average export of approximately 13,000 AFY post-1994. The Mono Lake annual average elevation reached 6,383 feet in RY 2024/25, which sets LADWP's allowable Mono Lake exports at 16,000 AF for RY 2025/26. Once Mono Lake reaches an elevation of 6,391 feet, exports will be managed under the conditions outlined for the post-transition phase.

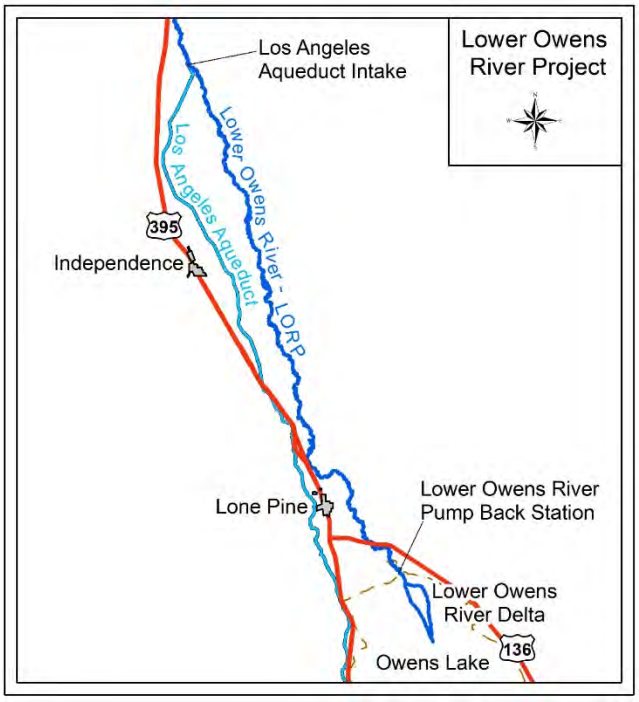
Exhibit 4G
SWRCB Decision D1631 Mono Lake Elevation and Exports Conditions

Phase	Mono Lake Elevation (feet)	Export Allowance (AFY)
Transition	< 6,377	0
	6,377 - 6,380	4,500
	6,380 - 6,391	16,000
	≥ 6,391	Enter Post-Transition Phase
Post-Transition (Begins when Mono Lake elevation reaches 6,391 ft)	< 6,388	0
	6,388 - 6,391	10,000
	> 6,391	Export all runoff less minimum streamflow requirements and restoration flows

Lower Owens River Project

In December 2006, the LORP, depicted in Exhibit 4H, was implemented to establish a warm water fishery along a 62-mile stretch of the Owens River. The LORP releases water near the LAA intake facility and a pump back station located downstream returns flows to the LAA and/or to Owens Lake for dust control measures. In accordance with the 1997 MOU and the approved Environmental Impact Report (EIR), annual monitoring reports are prepared to measure project success. The LORP EIR describes requirements for LORP flows. It is estimated that the long-term use and transit losses from the project are approximately 18,000 AFY.

Exhibit 4H
Lower Owens River Project Area



4.4 Owens Lake Dust Mitigation Program

Historically, the Owens River was the primary source of water for Owens Lake. Diversion of water from the river, first by farmers in the Owens Valley and then by the City, contributed to the lake being reduced to a small brine pool. Regulators concluded that the exposed lakebed became a major source of windblown dust, resulting in the US EPA classifying the southern Owens Valley as a serious non-attainment area for particulates (dust), also known as PM10 emissions, in 1991. The PM standard includes Particulate Matter with a diameter of 10 micrometers or less (0.0004 inches or one-seventh the width of a human hair). US EPA's health-based national air quality standard for PM10 is below 50 microgram per cubic meter for an annual mean and below 150 microgram per cubic meter for daily concentration.

The US EPA required California to prepare a State Implementation Plan (SIP) to bring the region into compliance with Federal air quality standards by 2006. In July 1998, LADWP and the Great Basin Unified Air Pollution Control District (GBUAPCD) entered into a Memorandum of Agreement that: 1) delineated the dust producing areas on the lakebed to be controlled; 2) specified what measures could be used to control the dust; and 3) outlined a timetable for implementation of the control measures.

The Memorandum of Agreement was incorporated into a formal air quality control SIP by the GBUAPCD, and the plan was approved by the US EPA in October 1999. The regulators approved only three methods of dust control: Shallow Flooding, Managed Vegetation, and Gravel Cover. Two of these methods require significant water use and, while gravel cover is a waterless method and requires low maintenance, its widespread use is limited because the CSLC believes gravel does not promote public trust values by preserving the natural landscape and aesthetics for public use.

In addition, starting with the 1998 SIP, the GBUAPCD issued multiple SIPs and dust control orders over the years, which significantly expanded LADWP's obligations from the original 16.5 square mile dust control area to 48.6 square miles with implementation of the 2016 SIP. The 2016 SIP incorporated provisions from the 2014 Stipulated Judgment including an upper limit of 53.4 square miles and allowing LADWP to implement new waterless dust control measures, such as tillage, on Owens Lake as detailed in the next section.

In July 2021 and July 2023, the GBUAPCD ordered installation of supplemental contingency dust controls on adjacent 34-acre and 90-acre areas, respectively. In June 2024, LADWP completed both orders well ahead of their three-year regulatory deadlines. The reduced scale of these recent orders is a clear indicator that anthropogenic dust sources have been addressed, and that the Owens Lake dust mitigation program has achieved its air quality goals. Exhibit 4I provides a summary of the square miles of dust mitigation ordered by the SIPs.

Exhibit 4I
Owens Dust Mitigation Area Ordered by SIPs

SIP	Total Area Mitigated (Square Miles)
1998	16.5
2003	29.8
2008	43
2013	45
2016	48.6

2014 Stipulated Judgment

In 2011, a dispute arose between LADWP and GBUAPCD regarding GBUAPCD's requirements for LADWP to control dust from additional areas at Owens Lake, beyond those areas identified in the 2008 SIP, followed by a series of appeals to the California Air Resources Board. This dispute occurred concurrently with one of the most severe dry periods in California history, causing major water supply reliability concerns. After extensive negotiations, LADWP and GBUAPCD reached a historic settlement agreement. The settlement agreement was memorialized by the Sacramento County Superior Court in a case entitled *City of Los Angeles v. California Air Resources Board*, Sacramento Superior Court, Case No. 34-2013-80001451-CU-WM-GDS (Stipulated Judgment) on December 30, 2014. The Stipulated Judgment set an upper limit of 53.4 square miles, defined by the regulatory shoreline at 3,600 feet above sea level, that the City could potentially be ordered to mitigate dust from Owens Lake lakebed by the GBUAPCD.

Furthermore, the Stipulated Judgment allows LADWP to implement new waterless dust control measures on Owens Lake lakebed and includes a commitment by the GBUAPCD to collaboratively work with LADWP to develop other water-efficient and non-water dust control methods for use on Owens Lake. The GBUAPCD has also agreed to support LADWP in securing the necessary approvals, right-of-way, leases, and permits for installation of approved water efficient and waterless dust control measures from regulatory and oversight

agencies such as the CSLC and the California Department of Fish and Wildlife (CDFW). As a result, LADWP succeeded in getting GBUAPCD's approval to expand the Shallow Flood Best Available Control Measure to include water-efficient dust control options. Exhibit 4J provides a description of the Best Available Control Measures.

Owens Lake Dust Mitigation Program Water Use

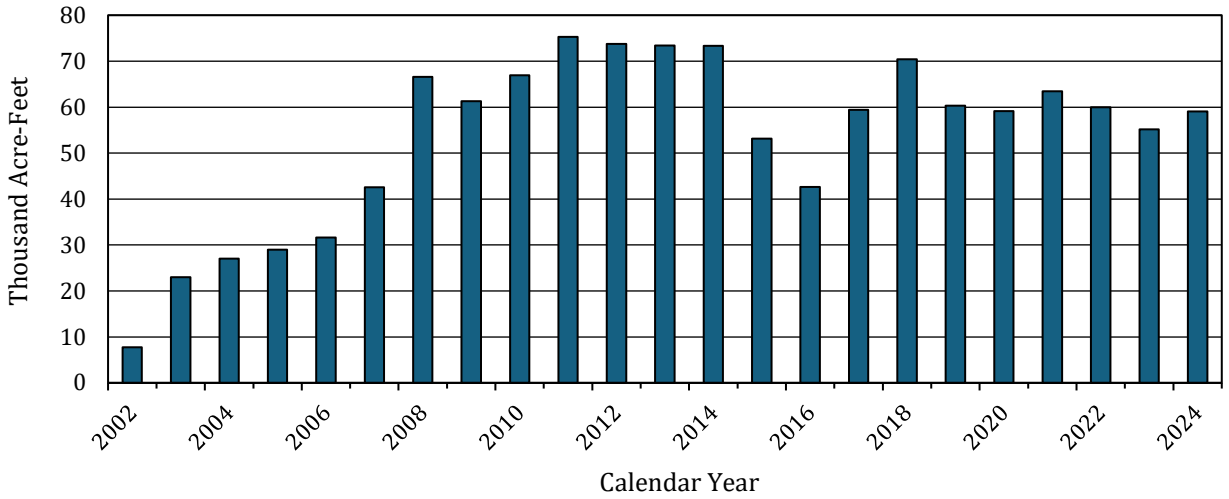
Since 2001, LADWP has diverted water from the LAA for the Owens Lake Dust Mitigation Program to supply water-using dust control measures, such as shallow flooding ponds and managed vegetation. Over the years, annual water use for Owens Lake significantly increased as a result of additional dust control orders, eventually exceeding 75,000 AFY. However, due to the water conservation measures in the 2014 Stipulated Judgment, LADWP has been able to slowly decrease water use by implementing new water-efficient dust control measures in recent years.

Exhibit 4K summarizes annual water use for the Owens Lake Dust Mitigation Program. It should be noted that water use on Owens Lake decreased between 2014 and 2016, due to a record setting dry period in California that significantly impacted snowpack in the Owens Valley and strained water supplies. In addition, during that period, three square miles of existing shallow flood ponds were taken out of service to allow for construction of the Phase 7a Project, and an additional four square miles of existing shallow flood ponds were taken out of service for construction of the of a water conservation project known as Tillage with Shallow Flood BACM Back-up (TWB2), see Exhibit 4J for a description of TWB2. Following this, in March 2017, the City's then-Mayor Eric Garcetti declared a local State of Emergency to protect lands and communities along the LAA from flooding. Consequently, overall water use increased from the previous calendar year (CY) due to increased water spreading activities necessary to mitigate the potential impacts of excess snowmelt runoff. Since completion of the Phase 9/10 Project and recent contingency projects, Owens Lake water use has remained steady at approximately 60,000 AFY.

Exhibit 4J
Dust Control Mitigation Best Available Control Measures

Dust Control Measures		Description
Shallow Flooding	Sheet Flooding (Lateral)	Releases water from arrays of low-flow water outlets spaced at intervals of between 60 and 100 feet along pipelines laid along lakebed contours. Pipelines are spaced between 500 and 800 feet apart. This arrayed configuration of water delivery creates large, very shallow sheets of braided water channels. Water depths in sheet flooded areas are typically at most a few inches deep. The lower edge of sheet flooded areas has containment berms to capture and pond excess flows. The water slowly flows across the typically flat lakebed surfaces downhill to tail-water ponds where pumps recirculate the water back to the outlets. To maximize the project's water use efficiency, flows to sheet flow areas are regulated at the outlets so that only sufficient water is released to keep the soil wet. Any water that does reach the lower end of the control area is collected and recirculated back through the water delivery system.
	Shallow Flooding (Pond)	Water containment berms that allow ponds to be formed that submerge the emissive lakebed areas. These ponds are up to four feet deep. The containment berms are typically rock-faced to protect them from delivery to the pond area until the pond reaches a size and depth sufficient to submerge the required amount of emissive water. Water delivery then ceases until evaporation reduces the pond size to a set minimum.
	Dynamic Water Management	An operational modification of shallow flooding that allows for later start dates and/or earlier end dates to reduce water use in areas that have had historically low PM10 emissions.
	Tillage with Shallow Flood BACM Back-up (TWB2)	TWB2 consists of soil tilling within all or a portion of Shallow Flooding areas where sufficient shallow flood infrastructure and available water supply exists. Tilling involves running a plow through the Owens Lake lakebed to create deep furrows which reduce wind velocity and thereby dust emissions.
	Brine Shallow Flooding	Brackish water containment berms that allow ponds to be formed that submerge the emissive lakebed areas. These ponds are up to four feet deep. The containment berms are typically rock-faced to protect them from delivery to the pond area until the pond reaches a size and depth sufficient to submerge the required amount of emissive water. Brackish water delivery then ceases until evaporation reduces the pond size to a set minimum.
Managed Vegetation		Control measure consists of creating a farm-like environment from barren lakebed. The saline soil must first be reclaimed with the application of relatively fresh water and then planted with salt-tolerant plants that are native to the Owens Lake basin. Thereafter, soil fertility and moisture inputs must be managed to encourage rapid plant development and maintenance. Existing Managed Vegetation areas are irrigated with buried drip irrigation tubing and a complex network of buried drains to capture excess water for reuse on the Managed Vegetation area or in Shallow Flooding areas. Managed Vegetation is sustainable at Owens Lake only if salt from the naturally occurring shallow groundwater is prevented from rising back into the rooting zone.
Gravel Cover		Two to four-inch layer of coarse gravel laid on the surface of the Owens Lake lakebed will prevent emissions by preventing the formation of efflorescent evaporate salt crusts, because the large pore spaces between the gravel particles disrupt the capillary movement of saline water to the surface where it can evaporate and deposit salts. The gravel also creates a surface that has a high threshold wind velocity so that direct movement of the large gravel particles is prevented and the finer particles of the underlying lakebed soils are protected. Gravel Blankets are effective on essentially any type of soil surface.

Exhibit 4K
Yearly Water Use on Owens Lake



Owens Lake Master Project

LADWP's Owens Lake Master Project (OLMP) has been a 15-year ongoing effort to research multiple options that are cost-effective and optimize multiple benefits. Development of the OLMP has been a collaborative effort with governmental and non-governmental organizations.

The primary objective of the OLMP is to implement a flexible and adaptive management approach that:

- Mitigates dust emissions in compliance with governing air quality regulations;
- Conserves water usage on Owens Lake to the greatest extent possible; and
- Maintains habitat and protects cultural resources.

Other major considerations incorporated into developing the OLMP include:

- Optimizing operational efficiency and flexibility;
- Adding infrastructure redundancy to decrease consequences of failure;
- Replacing aging and failing infrastructure to reduce the probability of failure; and
- Maintaining public trust values and improving public access and reducing LAA water used for dust mitigation by utilizing sustainable amounts of groundwater from beneath Owens Lake.

4.5 Water Quality

The City owns approximately 315,000 acres of land in Inyo and Mono Counties, most of which are leased for agricultural purposes. LADWP has imposed strict limitations on the extent of development to protect the integrity of these City-owned watersheds. Snowmelt from the Eastern Sierra Nevada is a high-quality water source, containing very low concentrations of total organic carbon (TOC), bromide, and other constituents that can form disinfectant byproducts during the water treatment process. LADWP routinely monitors all its water supplies for over 170 constituents and contaminants, over 100 of which have enforceable standards.

In 2010, LADWP adopted the Owens Valley Land Management Plan to address potential impacts to the LAA's water supply and quality. The plan identifies best management practices for recreation and range management that have been implemented to protect water quality in the Owens Valley. LADWP continues to

use adaptive management practices, working with its lessees to ensure water quality objectives outlined in the Owens Valley Land Management Plan are achieved.

The LAA supply is the main source of natural arsenic in LADWP's water supply. The Owens River flows through volcanic formations and receives arsenic input from geothermal springs throughout the Owens Valley, however, most of the arsenic inputs originate from Hot Creek in Long Valley. Geothermal springs in these areas have arsenic concentrations of around 200 parts per billion (ppb). Concentrations are dramatically reduced as the water mixes with snowmelt and other pristine water sources in the area. Historic untreated LAA water arsenic concentrations have ranged from 10 to 74 ppb. From 2020 to 2024, routine compliance monitoring showed that the average post-treatment arsenic level at the Cottonwood Treatment Plant was 7.9 ppb and LAAFP was 2.5 ppb. Meanwhile, the average arsenic concentration in LADWP's distribution system was 2.2 ppb. These figures are well below the current drinking water standard of 10 ppb, established in 2000 by the US EPA.

In anticipation of more stringent arsenic regulations in the future, LADWP is taking a proactive approach in addressing this issue by investigating and planning enhanced treatment. LADWP completed an evaluation and preliminary design report for sedimentation basins at the Fairmont Reservoir site in December 2019 to address current and future water quality regulations, including arsenic. LADWP's Fairmont Sedimentation Plant Project was approved by the LADWP Board of Commissioners in 2024 and is currently in the design phase. The project will serve as a pretreatment facility to the LAAFP and will support addressing current and future water quality regulations and is expected to be in service by 2031.

4.6 Projected Deliveries

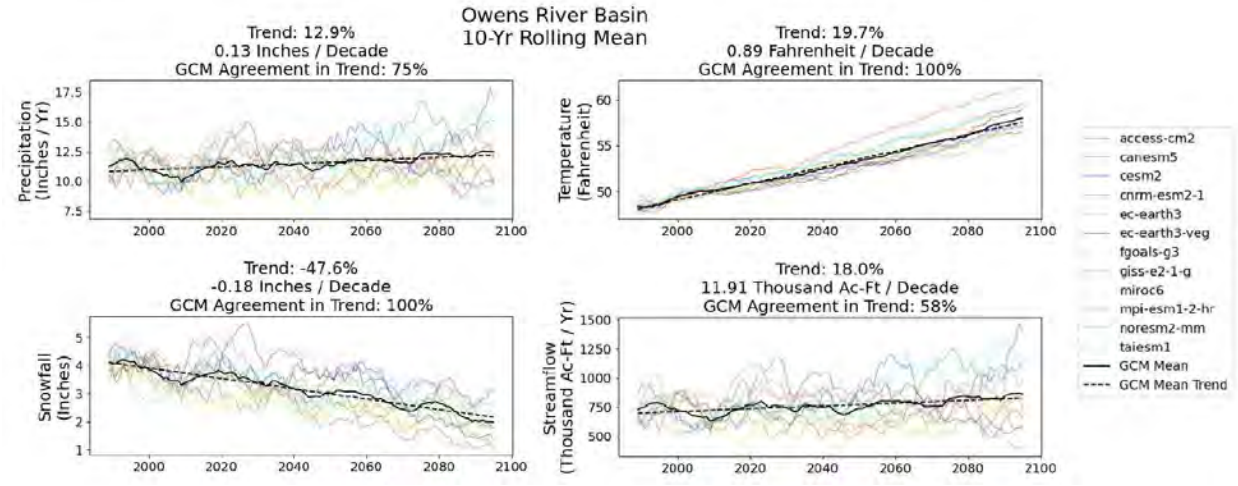
Projected LAA deliveries are forecasted utilizing LADWP LAA modeling tools and considerations of input hydrology, antecedent conditions, and Owens Valley uses. LADWP forecasting methodology considers average hydrologic conditions to reflect 30-year median hydrology. The 30-year period considered in the median currently covers the period FY 1990/91 through FY 2019/20 and is reevaluated every five years. A single dry year considers the driest hydrologic conditions on record in the Eastern Sierras during FY 2021/22. The multiple-dry year scenario considers the driest consecutive five-year period in the Eastern Sierras, which occurred over the period of FY 2012/13 through 2016/17.

In addition to historically observed hydrologic conditions, projected LAA deliveries also incorporate climate change considerations. LADWP has conducted several studies in recent years to evaluate potential climate impacts in the Eastern Sierra watershed and resulting impacts to deliveries from the LAA system. In 2011, LADWP completed a climate study (2011 Climate Study) that utilized a set of GCMs and various greenhouse gas emission scenarios to model potential climate impacts in the Eastern Sierras. The results from the 2011 Climate Study suggested future climate conditions show an increase in temperature, reduction in precipitation, reduction in snowpack volumes, increased ratios of precipitation as rain to snow, and shifts in snowmelt timing that ultimately resulted in a reduction in projected runoff.

Recognizing the significant advancements in global climate modeling that have been achieved since 2011, LADWP collaborated with UCLA to complete subsequent studies in 2020 (2020 Climate Study) and 2023 (2023 Climate Study) to reevaluate potential climate impacts on the Eastern Sierra watershed. The 2020 Climate Study analyzed data generated from 12 GCMs to determine potential changes to temperature and precipitation in the Eastern Sierra watershed through 2099. Furthermore, the 2023 Climate Study modeled projected potential changes to Eastern Sierra runoff through 2099, utilizing the findings from the 2020 Climate Study. All GCM modeling was conducted under SSP 3-7.0. SSP 3-7.0 was selected to best represent a moderate level of emissions relative to other models.

Results from the 2023 Climate Study found the model average temperature increased by 19.7 percent and 12.9 percent in precipitation between the historical reference period of 1984 through 2014 to end of century values, which resulted in an increase in average streamflow of 18 percent by end of century. Although average streamflow is projected to increase, the 2023 Climate Study found potential seasonal changes to runoff patterns, likely driven by the change of precipitation in the form from snow to rain. This change is expected to cause runoff to start earlier in the season and decrease in the summer. These seasonal shifts may pose operational challenges for supply management that are not considered in this UWMP. A summary of results from the 2023 Climate Study is presented in Exhibit 4L.

Exhibit 4L
Summary of 2023 Climate Study Findings



LADWP conducted further analysis to project LAA deliveries for consideration in the UWMP reliability analysis scenarios. Results from this analysis showed that on average, runoff under average year conditions experienced minimal changes through 2050, despite a larger projected increase of runoff at end of century. To provide a conservative estimate for average year projections, average year deliveries are projected to remain constant for the reliability analysis. An analysis of dry year conditions found that dry periods are expected to intensify through the end of century, resulting in an estimated 0.19 percent annual reduction in dry year deliveries through 2050.

Taking the foreseeable climate change driven factors discussed earlier in this chapter into consideration, the expected annual long-term LAA delivery over the next 25 years, using the 30-year median hydrology from FY 1990/91 through FY 2019/20, is approximately 193,000 AFY for average years. Deliveries for a consecutive five-year period, assuming a repeat of FY 2011/12 through 2015/16 hydrology, are expected to range from approximately 62,000 AFY to 187,000 AFY. A single dry year of approximately 60,000 AFY is expected with a repeat of FY 2021/22 hydrology. An annual reduction factor of 0.19 percent per year due to climate impacts is applied to single dry and multiple dry years periods to capture projected intensifying dry periods, while no factor is applied to average year conditions. Detailed projections of LAA deliveries by year are provided in Chapter 9, *Water Supply Reliability*.

Chapter 5 Groundwater

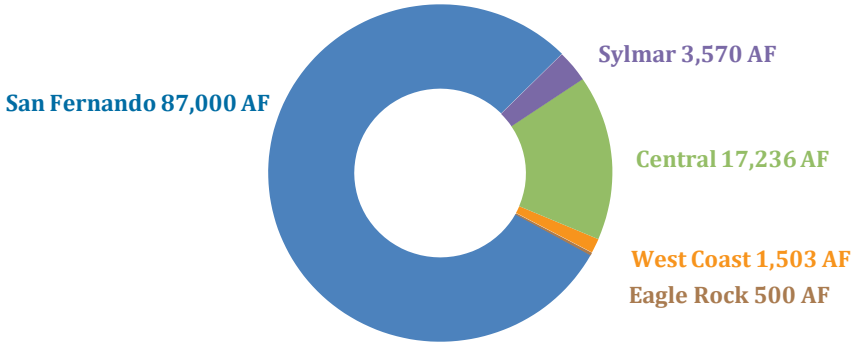
5.0 Overview

Local groundwater is a critical component of the City's local water supply portfolio. Over the last five years, local groundwater has provided approximately 8 percent of the total water supply for the City, and since 1970 has provided up to 23 percent of the total water supply during extended dry periods when availability of imported supplies was reduced.

Of the Los Angeles area groundwater basins, shown in Exhibit 5B, the City holds water rights in the San Fernando, Sylmar, Eagle Rock, Central, and West Coast Basins. Each of these basins have been adjudicated by California courts and are governed by judicial decrees. The Upper Los Angeles River Area (ULARA) watershed, which includes the San Fernando Basin (SFB) and Sylmar Basin, is the principal groundwater resource where the City recharges and extracts local groundwater. The City also owns and extracts its local groundwater rights from the Central Basin and is entitled to produce water from the neighboring West Coast Basin.

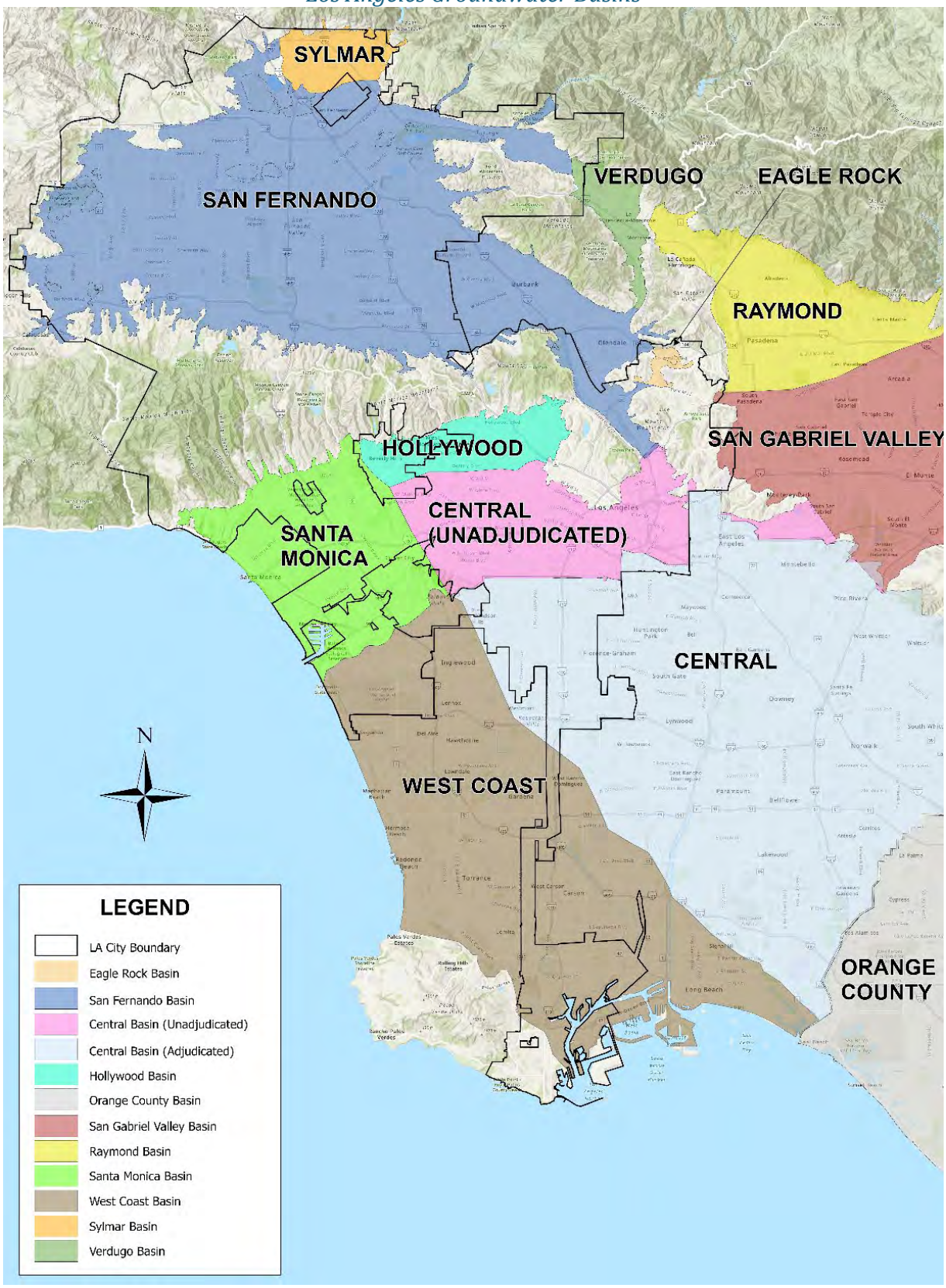
The City's combined adjudicated water rights in these basins are about 109,800 AFY, with approximately 87,000 AFY in the SFB, 500 AFY in the Eagle Rock Basin, 3,570 AFY in the Sylmar Basin, 1,503 AFY in the West Coast Basin and 17,236 AFY in the Central Basin. Exhibit 5A graphically depicts the City's annual local groundwater entitlements by basin. The unadjudicated Hollywood, Santa Monica, and northern Central Basins are other local groundwater resources that do not currently provide groundwater to the City, though there may be opportunity to develop water supplies from these groundwater basins in the future.

Exhibit 5A
Annual Local Groundwater Entitlement



Total: 109,809 AFY

Exhibit 5A
Los Angeles Groundwater Basins



5.1 Historical Groundwater Production

On average over the past five years, about 91 percent (26,316 AFY) of the City's local groundwater supply was extracted from ULARA groundwater basins, while the Central Basin has provided the remaining 9 percent (2,564 AFY). LADWP's Central Basin and Sylmar Basin production has been greatly reduced over the last five years due to ongoing construction of projects that will improve wellfield operations and water quality. Exhibit 5C summarizes the City's local groundwater production by basin over the last five years.

LADWP utilizes conjunctive use strategies to optimize available surface water and groundwater to balance supplies with demand. Through conjunctive use, the timing of groundwater pumping can be altered to meet varying demands under different hydrologic conditions. During consecutive dry-year periods, groundwater can be pumped at an elevated rate to meet demands. Pumping is then lowered to allow for increased surface water use during wet years to facilitate groundwater basin replenishment. This strategic pumping serves to meet dry year needs while also preventing overdraft of our groundwater basins.

Most recently, LADWP responded to the 2012 to 2016 dry period and resulting reduction in available supplies by increasing groundwater pumping. This response is reflected in the increased volumes pumped across all basins from 2014 to 2016. However, these increases were limited due to the presence of groundwater contaminant plumes in the vicinity of LADWP production wells. Following the wet winter of 2017, LADWP temporarily reduced groundwater production to accommodate increased deliveries from the LAA and to facilitate groundwater basin replenishment. These events highlight the need for operational flexibility to adjust groundwater pumping and utilize various basins for groundwater storage.

Groundwater contamination in the SFB has greatly limited LADWP's ability to strategically pump, replenish, and store groundwater. As the contamination is remediated and beneficial uses are restored, LADWP will be able to use the basin more effectively to maintain water supply reliability.

Exhibit 5C
Local Groundwater Basin Supply in AF

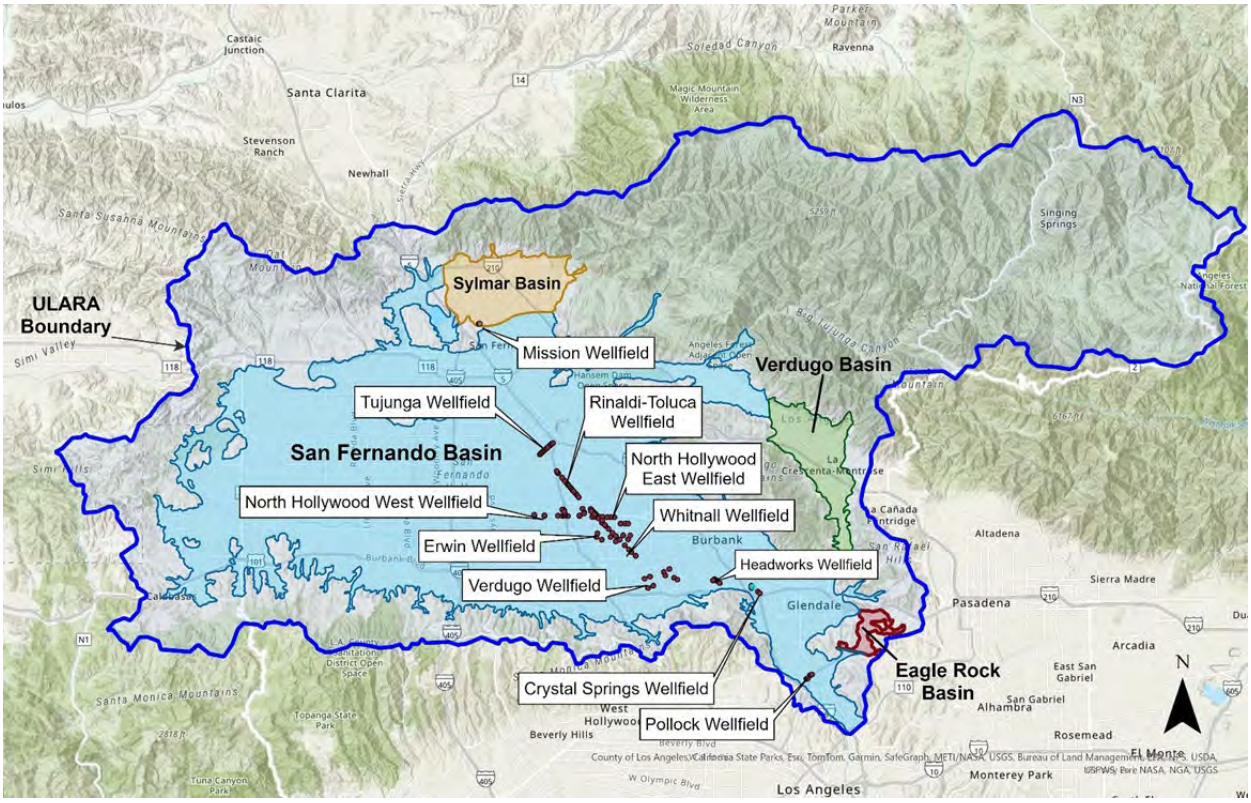
Groundwater Basin	FY 2020/21	FY 2021/22	FY 2022/23	FY 2023/24	FY 2024/25	Average	Percentage
San Fernando	51,070	45,395	23,013	6,521	6,107	26,316	91%
Sylmar	0	2,862	1,638	0	0	900	3%
Central	0	4,799	3,519	0	0	1,664	6%
Total	51,070	53,056	28,170	6,521	6,107	28,880	100%

5.2 ULARA Groundwater Basin Adjudication

The ULARA watershed encompasses four primary groundwater basins: San Fernando, Sylmar, Verdugo, and Eagle Rock Basins, as shown in Exhibit 5D. DWR Bulletin 118 identifies the ULARA watershed, in its entirety, as basin number 4-012. The City's groundwater rights in these basins are recognized in the judgment entered by the Los Angeles Superior Court in *The City of Los Angeles v. City of San Fernando* in 1979 (Case No. 650079) (ULARA Judgment) and the subsequent Sylmar Basin Stipulations (Sylmar Stipulation).

The ULARA Judgment requires safe yield operations for each of the basins to ensure groundwater extractions over the long term do not cause overdraft. Basin management in the ULARA is achieved by collective efforts of a court-appointed Watermaster and ULARA Administrative Committee, which is comprised of representatives from five public water supply agencies overlying the ULARA Basins: the City of Burbank, City of Glendale, City of Los Angeles, City of San Fernando, and Crescenta Valley Water District. Reports furnished by the ULARA Administrative Committee members enable the ULARA Watermaster to publish annual reports that account for actual and projected groundwater extractions, water imports and exports to and from each basin, natural and artificial groundwater recharge, generation and reuse of recycled water, changes in groundwater elevations and storage, and groundwater quality. The ULARA Administrative Committee members have made significant contributions toward ensuring sustainable management of the ULARA basins. These efforts include operation of groundwater remediation systems, use of an extensive network of groundwater monitoring wells, routine reporting on groundwater elevations and water quality, management and mitigation of urban runoff water quality, and development of enhanced stormwater recharge and groundwater replenishment.

Exhibit 5D
ULARA Watershed and Basins



5.3 San Fernando Basin

The City's primary source of local groundwater is the SFB, which has provided 91 percent of the City's groundwater supply over the past five years, ranging from 5,581 AFY to 51,070 AFY. The SFB is the largest of four groundwater basins in the ULARA, spanning 112,000 acres. This basin is bounded on the east by the Verdugo Mountains; on the north by the Little Tujunga Syncline and the San Gabriel and Santa Susana Mountains; on the west by the Simi Hills; and on the south by the Santa Monica Mountains.

LADWP's SFB wellfields were generally installed over a 65-year period between 1924 to 1991 with the most recent being the Rinaldi-Toluca wellfield, established in 1988, and the Tujunga wellfield, established in 1991. LADWP wells span across 10 major wellfields within the SFB, comprising a total of 93 wells, although a significant number of these wells have become inoperable or restricted, mostly due to contamination. As of June 2025, LADWP has 38 operable wells from seven wellfields in the SFB: Tujunga, Rinaldi-Toluca, North Hollywood West, North Hollywood East, Erwin, Verdugo, and Pollock. While LADWP has a relatively high pumping capacity in the SFB, sustained yearly pumping at full capacity may be limited by water rights, available stored water credits, groundwater levels, and existing contamination.

Groundwater Rights

As recognized by the ULARA Judgment, the City has a prior and paramount right to utilize the surface waters of the LA River and all native groundwater within the SFB, which represents the Pueblo Water Right of the City of Los Angeles. The City also has the right to recapture Import Return Water, i.e., groundwater derived from percolation attributable to delivered imported water. This Import Return Water is calculated each year by the ULARA Watermaster based on 20.8 percent of water LADWP delivered to customers overlying the SFB, including delivery of recycled water. Native safe yield has been determined as 43,660 AFY and Import Return Water averages approximately 43,000 AFY; therefore, the City's estimated water right in SFB is 87,000 AFY. The ULARA Judgment allows groundwater to be stored within the basin when the City pumps less than its annual water right, and stored water credits may be pumped in future years to supplement the City's water supply. The direct spreading or injection of both imported surface water and recycled water for groundwater replenishment by the City increases the water rights by an equal amount. As of October 1, 2020, the City had accrued 675,731 AF of stored water credits.

Water Quality

During the 1980s, testing of water supply wells in the SFB revealed elevated levels of the contaminants trichloroethylene (TCE), perchloroethylene (PCE), and other volatile organic compounds (VOCs). The presence of these contaminants is due to past improper chemical handling and disposal practices by industries in the San Fernando Valley. Additionally, in the 1990s hexavalent chromium (chromium VI or Cr(VI)) and perchlorate were detected in various wells within the SFB. Nitrate concentrations have also been detected in an increasing trend since the 1990s as a result of agricultural activities across the San Fernando Valley. Since early 2000s, 1,4-dioxane has become an emerging chemical of concern with an increasing trend of concentration.

The presence of industrial contamination in groundwater has impeded LADWP's ability to fully exercise its groundwater rights in the SFB. Various contaminants have been recorded in 47 wells at concentrations exceeding the Maximum Contaminant Level (MCL) or Notification Level (NL) established by State and Federal regulatory agencies. Among these contaminants of concern are VOCs (TCE, PCE, and carbon tetrachloride), nitrates, 1,4-dioxane, and perchlorate. Cr(VI) has also been detected in some of LADWP's wells. However, LADWP is bringing remediation facilities online to remediate groundwater and restore the SFB to its full

beneficial uses. All water pumped from the SFB is treated to ensure it complies with all State and Federal safe drinking water standards.

LADWP established its two largest wellfields, Rinaldi-Toluca and Tujunga, in areas that were at the time of their development believed to have been located away from known contamination areas. Since that time, these important wellfields have been significantly impacted by contamination. LADWP has developed various programs to restore the beneficial use of the groundwater basin. These include: the comprehensive Groundwater System Improvement Study and monitoring well installation program, response actions to address contamination in the vicinity of the Rinaldi-Toluca, Tujunga and North Hollywood West Wellfields, LADWP cooperation with the US EPA response actions in the North Hollywood Operable Unit (NHOU), and other collaborative efforts with State and Federal regulatory agencies to investigate sources of contamination and identify potentially responsible parties (PRPs). In addition, Poly- and Perfluoroalky Substances (PFAS) are a group of synthetic (man-made) chemicals. This category of manufactured chemicals that have been used in industry and consumer products since the 1940s have characteristics that make them useful in a variety of products, including nonstick cookware, waterproof clothing, and firefighting foam, as well as in certain manufacturing processes. Studies indicate potential health consequences from exposure to significant levels of PFAS. Health effects may include high cholesterol, liver and thyroid cancer risks, immunotoxicity, pregnancy-induced hypertension, low birth weights, and decreased fertility. More information is available on the US EPA's website on Perflurooctanoic Acid (PFOA) and Perfluorooctanesulfonic Acid (PFOS) health advisories.

LADWP continues to monitor its groundwater sources for PFAS since it began testing in 2013 and has analyzed hundreds of samples utilizing US EPA approved testing methods. Although PFAS have been detected in some individual wells in the SFB; that well water is blended and diluted with large volumes of surface water before it is served to customers. LADWP has not detected any PFAS compounds regulated by the State or the US EPA in samples taken at entry points to the distribution system. LADWP's ongoing monitoring program and commitment to water quality and safety ensure that our water meets or exceeds all regulatory standards. For more information on water quality, please visit www.ladwp.com/waterquality.

Agency Cooperation of SFB Remediation

LADWP actively coordinates with the State Water Resources Control Board Division of Drinking Water (DDW), the Los Angeles Regional Water Quality Control Board (LARWQCB), the California Department of Toxic Substances Control (DTSC), and US EPA to pursue protective and remedial measures for the SFB. DDW, LARWQCB, and DTSC are the three state regulatory agencies with enforcement responsibilities within the SFB. The LARWQCB and the DTSC issue enforcement directives for polluted sites and guide the development and implementation of remediation of groundwater sites. DDW oversees the quality of potable water from groundwater sources. US EPA administers the Superfund Program in the SFB.

LADWP completed the Remedial Investigation of Groundwater Contamination in the San Fernando Valley (Remedial Investigation) in 1992 which included installation of monitoring wells to monitor contamination plumes of TCE, PCE, nitrates and emerging contaminants in the SFB and the development of a groundwater flow model (Flow Model).

The Flow Model is a three-dimensional computer simulated model of the SFB based on the modular finite-difference flow model (MODFLOW) program code that was developed by the United States Geological Survey. It consists of four layers that represent the various depth zones of the SFB. Geologic and hydrogeologic data for the basin, generated through field investigations, were analyzed to develop the physical site characterization of the basin for the MODFLOW Flow Model. The Flow Model produces simulated groundwater levels, gradients, and their fluctuations as a function of time and is updated annually with actual

extraction and recharge data. LADWP uses the Flow Model to prepare the Annual Watermaster Report, the Annual Pump and Spreading Report, and to evaluate all groundwater remediation projects and recycled water recharge projects that are ongoing or proposed in the SFB.

San Fernando Basin Groundwater Remediation

The remediation programs LADWP is implementing will help restore the beneficial uses of the SFB. Remediation of contamination present in the SFB is a prerequisite to being able to fully utilize LADWP's groundwater rights in the SFB and the storage capacity of the SFB. The remediation programs being pursued by LADWP are described next.

Groundwater System Improvement Study

In response to the continued degradation of water quality within the SFB, LADWP initiated the SFB Groundwater System Improvement Study (GSIS), a six-year study completed in 2015.

LADWP compiled the data acquired from the GSIS and included it in the GSIS Remedial Investigation Update Report. The Remedial Investigation Update Report summarizes investigative results from the GSIS as well as other data sources and updates the conceptual understanding of the SFB. Specifically, it presents LADWP's updated understanding of the groundwater basin physical characteristics, nature and extent of contamination, fate and transport characteristics, and the contaminants' risk to human health and the environment. This report serves as an update to the 1992 Remedial Investigation Report for the San Fernando Valley because many of the findings from that report form the basis of the updated Hydrogeologic Conceptual Site Model.

After the completion of the GSIS Remedial Investigation Update Report in 2015, LADWP conducted individual investigations/studies for each of the three interim response actions described in the next section. Following public comment and other extensive outreach efforts, LADWP selected three interim remedial actions, described below. LADWP is now in the process of completing permitting, construction, and startup of these response actions in substantial compliance with the National Contingency Plan (NCP). The NCP provides the organizational structure and procedures for responding to releases and threatened releases of hazardous substances, pollutants, and contaminants. Complying with the NCP is important as it ensures that the public is informed and engaged in the process and can lead to holding PRPs accountable for the contamination.

Groundwater Remediation Facilities

North Hollywood West Response Action

On July 2017, LADWP selected a response action for North Hollywood West area following an extensive study and public outreach process, consistent with the NCP. On August 1, 2017, the selected response action for North Hollywood West was approved by the Board of Water and Power Commissioners and is the first of several projects that aims to respond to releases of hazardous substances and restore the beneficial use of the SFB in the vicinity of the North Hollywood West Wellfield. The treatment system will remove 1,4-dioxane, which was historically used as a solvent in industrial and laboratory applications, and other contaminants from the North Hollywood West Wellfield's groundwater. Implementation of this response action by LADWP will help protect public health and the environment. It will also help to restore the beneficial use of groundwater by capturing groundwater contamination in the capture zone of the North Hollywood West Wellfield.

The North Hollywood West response action became operational in August 2024 and is expected to operate at approximately 13,000 AFY during the first two years. LADWP will operate three existing wells to capture the

plume of 1,4-dioxane and treat the extracted water using an ultraviolet AOP and liquid phase granular activated carbon (GAC) vessels for peroxide quenching. After contaminants are removed through this process, the water will be sent to the distribution system. The operation of the three remedial wells, together with other elements of the remedial program, is intended to enable other wells in the wellfield to be operated without the need for additional treatment. After the first two years of operation, LADWP is expected to have additional flexibility to operate two additional wells for a capacity of up to 21,000 AFY. This response action is partially funded by the State's Proposition 1 Water Quality, Supply, and Infrastructure Improvement Act of 2014. LADWP works in close coordination with the State Water Resources Control Board Division of Financial Assistance (DFA), DDW, DTSC, US EPA and the LARWQCB on its implementation.

Tujunga Response Action

In December 2018, LADWP selected a response action for Tujunga Wellfield area following an extensive study and public outreach process, consistent with the NCP. On January 22, 2019, LADWP's selected response action for the Tujunga Wellfield was approved by the Board. Studies have identified the presence and/or threat of 1,4-dioxane and VOC contamination in the vicinity of most of the Tujunga Wellfield. Due to groundwater contamination, pumping of some of the wells is currently restricted, and these wells are not used to produce drinking water. The goal of the Tujunga Wellfield Response Action Treatment Facility is to address the contamination present in groundwater at the wells by capturing the groundwater plume, protect public health and the environment, and restore the beneficial use of the groundwater and operation of the full wellfield. Among other things, the response action involves constructing and operating treatment equipment capable of removing the groundwater contamination. Like the North Hollywood West response action, treatment equipment includes the use of an AOP and liquid phase GAC vessels for groundwater remediation.

Construction for the Tujunga Wellfield response action was completed in June 2024 and is expected to become operational by 2026. The facility is expected to have a treatment capacity of approximately 43,000 AFY for the first two years of operation, which can then increase to approximately 55,000 AFY once additional wells are brought online. The operation of the remedial wells, together with other elements of the remedial program, is intended to enable other wells in the wellfield to be operated without the need for additional treatment. This response action is partially funded by the State's Proposition 1 Water Quality, Supply, and Infrastructure Improvement Act of 2014. LADWP coordinates closely with DFA, DDW, DTSC, US EPA and the LARWQCB on its implementation.

North Hollywood Central Response Action

In December 2018, LADWP selected a response action for North Hollywood Central Wellfield area, following an extensive study and public outreach process, consistent with the NCP. On December 11, 2018, LADWP's selected response action for North Hollywood Central was approved by the Board of Water and Power Commissioners. The North Hollywood Central response action will address the releases of hazardous substances in the vicinity of the Rinaldi-Toluca Wellfield. Studies have identified the presence and threat of 1,4-dioxane and VOC contamination in the capture zone of the Rinaldi-Toluca Wellfield and pumping of some of the wells is currently restricted. The goal of the response action is to address the contamination present in groundwater at the wells by capturing the groundwater plume, protecting public health and the environment, and restoring the beneficial use of the groundwater and operation of the full wellfield. This project involves constructing and operating treatment equipment capable of removing the groundwater contamination, including the use of an AOP and liquid phase GAC vessels.

Construction of the North Hollywood Central response action was completed in June 2024 and the facility is expected to become operational by 2026. The facility is expected to have a capacity of approximately 28,000 AFY. The operation of the remedial wells, together with other elements of the remedial program, is intended to enable other wells in the wellfield to be operated without the need for additional treatment. This response

action is partially funded by the State's Proposition 1 Water Quality, Supply, and Infrastructure Improvement Act of 2014. LADWP works in close coordination with DFA, DDW, DTSC, US EPA and the LARWQCB on its implementation.

North Hollywood Operable Unit

The North Hollywood Operable Unit First Interim Remedy (NHOU-1IR), located in the North Hollywood Wellfield, was completed in December 1989 to contain the contamination from various potentially PRPs, including Honeywell International, Inc. (Honeywell) and Lockheed Martin Corporation (Lockheed). The NHOU-1IR was designed to extract up to 4.5 cfs of groundwater utilizing an Aeration Facility. The NHOU-1IR was designed to focus on the most concentrated part of the contamination plume. However, in 2005, it was determined by the US EPA that NHOU-1IR was not able to fully contain the contamination, and the plume continued to migrate towards LADWP production wells. In September 2009, US EPA issued a record of decision (ROD) for the NHOU- 2IR, which expanded the response action for that area. US EPA issued an amendment to the ROD in January 2014, which would allow for reinjection of treated groundwater, rather than the serving of the treated water. In February 2018, US EPA issued an explanation of significant differences (ESD), which concludes that increased groundwater extraction would be more effective in attaining the NHOU-2IR remedial action objectives and protecting various LADWP production wells. That ESD allowed for the implementation of the NHOU-2IR in two components: one on the eastern side and another on the western side.

In October 2018, LADWP entered into a settlement with Lockheed (the "Lockheed Settlement Agreement"), which will enable Lockheed to implement the eastern portion of the NHOU 2IR. Pursuant to that agreement, Lockheed will cause two North Hollywood Extraction wells (NHE-7 and NHE-8), together with two new production wells to be installed by Lockheed, to be operated to remove contamination from the eastern portion of the NHOU. Pursuant to that agreement, Lockheed will cause 4,670 AFY of treated groundwater (meeting applicable drinking water standards) to be placed into the City's distribution system, through a separate agreement with Burbank. Burbank will operate the treatment plant pursuant to obtaining a permit from DDW.

In December 2019, LADWP and Honeywell entered into a Settlement Agreement (the "Honeywell Settlement Agreement"), which will enable the implementation of the western portion of the NHOU 2IR. That settlement establishes a partnership to enhance and expedite remediation of contamination and support restoration of beneficial uses of groundwater within the NHOU through a program referred to as the cooperative containment concept (CCC). Under US EPA oversight, Honeywell will design the CCC to capture and treat various contaminants, including VOC's, Cr (VI), and 1,4-dioxane. The first phase of the CCC, with a capacity to pump and treat 1,000 AFY, was brought online in 2025. The final phase of the CCC is expected to be operational by 2027, which together with the first phase will be designed to pump and treat 8,500 AFY. LADWP is expected to receive the NHOU2IR final permit by 2027. Honeywell will construct and test the treatment and collection systems. LADWP will operate and maintain the CCC, with Honeywell paying the costs of such operation and maintenance.

Pollock Wells Treatment Plant

Groundwater in the SFB naturally flows across the basin in a southeasterly direction toward the LA River Narrows. Groundwater becomes shallow in this area, tending to rise into an unlined reach of the LA River where it can emerge as flow within the river channel. Subsurface groundwater also flows southward from this same locality leaving the SFB. The operation of the Pollock Wellfield allows LADWP to extract groundwater to intercept potential outflow losses from the SFB.

The Pollock Wells treatment facility was constructed with LADWP funds and placed into service in 1999. The plant treats groundwater pumped from two extraction wells using four liquid-phase GAC vessels at a total design flow of 5.3 cfs. The Pollock Wells Treatment Plant was designed to treat for TCE and PCE and restore a critical wellfield used to contain and reduce the loss of groundwater flowing out of SFB through the LA River Narrows.

Los Angeles-Burbank Interim Interconnection Pipeline

In 2015, the City of Los Angeles and the City of Burbank, through each of their respective Department of Water and Power agencies, entered into an agreement to construct and operate the Los Angeles-Burbank Interim Interconnection (Interim Interconnection). The Interim Interconnection is a water service connection pipeline between the two cities' water supply systems. The pipeline can transfer up to 3,200 gpm of potable water to LADWP's distribution system. In compliance with federal, state, and local laws and regulations concerning water quality, the potable water consists of an approximate 80/20 ratio blend of SFB groundwater treated at the Burbank Operable Unit (BOU) and imported supply from the MWD. Both agencies have agreed that water deliveries will be on a rolling basis with a minimum of 500 AF transferred each Water Year (October 1-September 30) until 2027.

LADWP has been unable to fully produce its annual entitlement to groundwater from the SFB due to groundwater contamination, which has impaired and restricted the use of many of LADWP's groundwater production wells. Burbank does not have the potable water demand year-round to utilize the maximum 9,000 gpm capacity of BOU groundwater production mandated by the US EPA. LADWP and Burbank share the common goal of remediating the SFB to maintain a healthy groundwater supply. The Interim Interconnection will therefore mutually benefit both cities by optimizing the use of the BOU and maximizing the mass removal of contaminants from the SFB. In August 2019, Burbank Water and Power (BWP) initiated conveyance of the blended water into LADWP's system via the new interconnecting pipeline and as of FY 2022/23, 2,000 AF has been transferred.

Separately, BWP will treat the NHOU Eastern Plume at the Burbank Operable Unit Treatment Facility (BOUTF) through an agreement with Lockheed. BWP will provide 4,670 AFY of treated groundwater to LADWP via a permanent intertie on a fixed two-year basis per a separate agreement between LADWP and BWP. Construction on the BOUTF is expected to be completed by 2031.

Expanded San Fernando Basin Remediation Strategies

Pursuant to recommendations provided by the GSIS – and considering the current remediation at the three primary SFB well fields (Tujunga, Rinaldi-Toluca, and North Hollywood), LADWP conducted a Remedial Investigation study in the southeast region of the SFB surrounding the Headworks, Pollock, Erwin, Whitnall, and Verdugo well fields. The objective was to characterize the extent of contamination and address hydrogeological data gaps not covered by the GSIS. The results of this study have filled data gaps of the basin's hydrogeologic properties and the extent of contamination found in SFB groundwater. At this time, LADWP will continue to monitor the effectiveness of the ongoing remedial efforts in the northern well fields. Additional remedial actions in the southern SFB well fields have not yet been determined.

New Groundwater Development

Saugus Formation Exploration and Test Wells

In 2015, LADWP constructed two exploratory test wells at LADWP's Van Norman Complex to investigate hydrogeology, water quality, and potential yield for groundwater production from this region of the Saugus Formation. Short-term aquifer tests performed in 2015 and later in 2017 yielded pumping in excess of 1,000 gpm and water quality tests indicated water produced from both test wells is of acceptable water quality, complying with all safe drinking water standards. Construction to further develop the wells began in 2022 and is scheduled to be completed by 2026. Additional aquifer testing will then begin to estimate potential yield of the wells, support recommendations for long-term use, and help determine the feasibility of expanding the wellfield.

5.4 Sylmar Basin

The Sylmar Basin has provided approximately 3 percent of the City's local groundwater during the recent five-year period, providing as much as 2,862 AF during FY 2021/22, see Exhibit 5C. The Sylmar Basin is in the northern part of ULARA and spans 5,600 acres. This basin is bounded on the north and east by the San Gabriel Mountains; on the west by a topographic divide in the valley fill between the Mission Hills and the San Gabriel Mountains; and on the south by the Little Tujunga syncline, which separates it from the SFB.

Groundwater Rights

Water rights in the Sylmar Basin were originally established by the ULARA Judgment, which recognized prior overlying rights of two private landowners and appropriative rights of the cities of San Fernando and Los Angeles. The ULARA Judgment also recognized the City's right to store water within the basin and recapture Import Return Water, calculated as 35.7 percent of imported water delivered.

On August 26, 1983, the ULARA Watermaster reported to the Los Angeles Superior Court that the Sylmar Basin was in a condition of overdraft. In response, in 1984, the Los Angeles Superior Court approved a stipulated agreement, limiting total pumping to 6,210 AFY, divided equally between the two cities. In 1996, the ULARA Watermaster recommended, and ULARA Administrative Committee approved, increasing the safe yield to 6,510 AFY for a 10-year period. In 2006, the ULARA Watermaster re-evaluated the safe yield and recommended a subsequent increase to 6,810 AFY, which the Los Angeles Superior Court approved, subject to various conditions. The conditions included requiring the two cities to install groundwater monitoring wells to assist in determining basin outflows and storage capacity. In 2012, the ULARA Watermaster completed an updated re-assessment of safe yield that resulted in a temporary and conditional increase in safe yield to 7,140 AFY, allowing each City the right to produce 3,570 AFY. The Court approved a new stipulated agreement in 2013, consistent with the ULARA Watermaster's assessment.

Stored water credits accumulated in the basin are determined by the Watermaster pursuant to the ULARA Judgment and subsequent stipulations. As of October 1, 2020, the City had accrued 9,014 AF of stored water credits in the Sylmar Basin.

Mission Wells Facilities Improvement Project

The Mission Wellfield is the only groundwater production facility LADWP operates in the Sylmar Basin. The wellfield consists of two wells constructed before 1961, and five wells constructed between 1961 and 1977. The Mission Wellfield facility has been undergoing continued improvements since the early 2000's and was removed from service in June of 2016. In 2009, LADWP installed a new water storage tank, as part of Phase I

of the Mission Wellfield Improvement Project. Phase II of the project was completed in 2021 and included the construction of three new replacement production wells and other facility improvements, which increased LADWP's Sylmar Basin production capacity to 8.3 cfs. However, the Mission Wellfield remains out of service due to the ongoing replacement of a nearby trunk line.

Water Quality

Groundwater quality issues in the Sylmar Basin related to TCE contamination has impaired production at LADWP's Mission Wellfield. LADWP has removed the impaired wells from service to ensure groundwater produced from the wellfield surpasses State and Federal safe drinking water standards. Installed replacement wells have shown the presence of Cr(VI), detected at trace levels, and TCE above the MCL in one of the three wells. LADWP is evaluating appropriate actions to address the release and threatened release of hazardous substances in this area. LADWP has also installed three off-site monitoring wells to evaluate water quality near the wellfield.

5.5 Other ULARA Basins

Eagle Rock Basin

The Eagle Rock Basin is the smallest of the four basins and located in the southeast corner of ULARA spanning only 800 acres. Eagle Rock Basin is bounded by the San Rafael Hills on the north and west, by the Repetto Hills on the east and south, and a small alluvial area to the southeast consisting of a topographic divide.

The safe yield of Eagle Rock Basin is derived from imported water delivered by LADWP, which is approximately 500 AFY. LADWP has the right to produce the entire safe yield from the basin but has not established groundwater production facilities there. Currently, one private party pumps groundwater and compensates the City for such pumping in accordance with the ULARA Judgment.

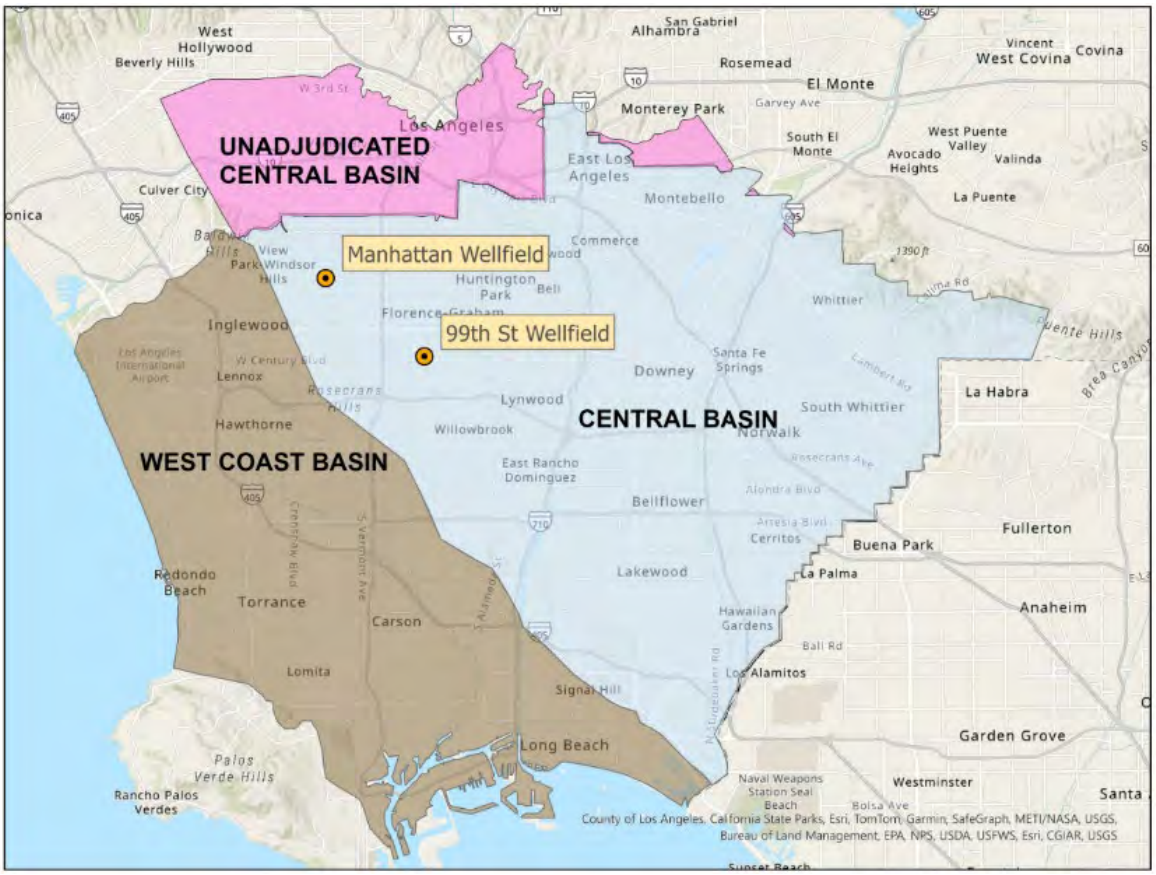
Verdugo Basin

The City may have a right to recapture its delivered (imported) water in the Verdugo Basin upon application to the Watermaster and on subsequent order after a hearing by the Court pursuant to Judgment. There are no storage rights for any party in the Verdugo Basin based on the Judgment.

5.6 Central and West Coast Basin Adjudication

The first Central Basin Judgment was finalized and signed in 1965, and it appointed DWR as the Watermaster. The first West Coast Basin Judgment was finalized and signed in 1961 and initially appointed DWR as the Watermaster. Since the inception of both Judgments, they have been amended numerous times to provide more clarity and detail to storage rights, carryover rights, exchange pool/water rights transfers, and to clearly define the role of the Watermaster. The most recent amendment to the Central Basin Judgment was finalized on December 23, 2013. The most recent amendment of the West Coast Basin Judgment was on December 5, 2014. For the first time, the Court allowed water rights holders to have direct input on how both Judgments should be administered and enforced. Both Judgments confirmed the retirement of DWR as the Watermaster in 2013 and created three separate bodies to assist the Court in the administration and enforcement of the provisions of the Judgments.

Exhibit 5E
Central and West Coast Basins



5.7 Central Basin

LADWP produces groundwater in the Central Basin from the Manhattan and 99th Street Wellfields. In the previous five-year period, both wellfields have undergone facility improvements, which limited groundwater production. The Central Basin has provided approximately 6 percent of the City's local groundwater supply over the last five years, with production up to 4,799 AFY during FY 2021/22, see Exhibit 5C. Known as sub-basin number 4-11.04 in DWR Bulletin 118, the Central Basin Watermaster service area overlies about 227 square miles of the Central Basin in the southeastern part of the Los Angeles Coastal Plain in Los Angeles County, as depicted in Exhibit 5E. The Central Basin Watermaster service area is bounded by the Newport-Inglewood Uplift on the southwest, the Los Angeles-Orange County line on the southeast, and an irregular line that approximately follows Stocker Street, Martin Luther King Boulevard, Alameda Street, Olympic Boulevard, the boundary between the City and unincorporated East Los Angeles, and the foot of the Merced and Puente Hills on the north. Twenty-three incorporated cities and several unincorporated areas are within the Central Basin Watermaster service area. Groundwater within the basin provides a large portion of the water supply needed by overlying residents and industries. The Central Basin Watermaster Service Report for FY 2024/25 indicates 117 parties with rights to groundwater in the Central Basin.

Groundwater Rights

Prior to the creation of a formal governing organization in 1959, groundwater overdraft and declining water levels in the Central Basin threatened the area's groundwater supply and caused seawater intrusion in the southern part of the Central Basin. However, timely legal action and adjudication of the water rights halted the overdraft and prevented further damage to the Central Basin. Today, groundwater use in the Central Basin is restricted to Allowed Pumping Allocations set by the Superior Court Judgment and is monitored by a court-appointed Watermaster. The Central Basin Judgment was amended for the third time in December 2013, and major changes include new provisions to allow parties to augment and store groundwater, and to appoint a new Watermaster Panel. The Watermaster consists of three separate arms with different functions:

- The first arm is the Administrative Body, to administer the Watermaster accounting and reporting functions. This role is performed by the Water Replenishment District of Southern
- California (WRD).
- The second arm is the Central Basin Water Rights Panel (CBWRP), which enforces issues related to pumping rights defined in the adjudication. The CBWRP is made up of seven elected water rights holders.
- The third arm is the Storage Panel, which is comprised of the CBWRP and the WRD Board of Directors.

Annually, the Watermaster prepares a Watermaster Service Report indicating groundwater extractions, replenishment operations, imported water use, recycled water use, finances of Watermaster service, administration of the water exchange pool, and significant water-related events in the Central Basin. The City's 15,000 AFY initial water right entitlement was established by judgment of the Los Angeles Superior Court in *Central and West Basin Water Replenishment District v. Adams* (Case No. 786,656 – Third Amended Judgment). The City purchased an additional 46 AF and 1,500 AF of pumping rights through two separate transactions in 2014, and then 690 AF in a third transaction in 2015, bringing the total annual pumping right in the Central Basin to 17,236 AF.

In addition to its annual entitlement, the Central Basin Judgment allows for carryover and storage of unused water rights, up to a maximum of 60 percent of a purveyor's pumping right, generally closer to 20 percent in subsequent years. The City has utilized these storage provisions allowed under the judgment, accruing a total of 22,900 AF of stored water as of December 2025. The Central Basin Judgment has an extraction limitation of no more than 140 percent of a purveyor's annual entitlement. This allows the City to utilize its carryover storage right for operational flexibility and conjunctive use and underscores the benefit of acquiring additional water rights.

Water Quality

Groundwater produced from the 99th Street Wellfield and the Manhattan Wellfield does not currently contain industrial contaminants above the MCLs. In addition to manganese, iron is another naturally occurring constituent found in the groundwater. While iron concentrations remain well under the secondary MCLs, they can cause water discoloration. These two constituents do not pose a risk to human health at existing concentrations; however, they do affect the aesthetic qualities of the groundwater such as taste, color, and odor. As a result, the wellfields have been taken out of operation.

Wellfield Improvement Projects

In the previous five-year period, both wellfields have undergone necessary upgrades or new construction to rehabilitate the wellfields to reach groundwater supply availability and water quality goals. To restore

pumping capacity in the Central Basin, LADWP completed the Manhattan Wellfields Improvement Project (MWIP) and is currently implementing the Manhattan Wellfields Operational Improvement Project (MWOIP) and the 99th St. wellfield Improvements, discussed in the following sections.

99th St. Wellfield Improvement Project

Improvements to the 99th St. Wellfield were initiated to address water quality issues and include the construction of a chloramination station and filtration plant. The 99th Street Chloramination Station is in its final stages of construction and will disinfect water produced from the wellfield. To treat the iron and manganese present in the groundwater, the construction of a filtration plant began in 2020 and is expected to be completed by 2028. Both facilities have a design treatment capacity of 10.9 cfs.

Manhattan Wellfield Improvement Project

Multiple wells in the Manhattan Wellfield have reached the end of their useful life and experienced water quality issues and mechanical deterioration, which limited their pumping capacity. LADWP completed the MWIP and is currently implementing the MWOIP to restore pumping capacity. The MWIP was completed in 2022 and included construction of four production wells, one groundwater monitoring well, and related facility infrastructure. Together with the two older wells, these six wells will have a total capacity of 23.9 cfs. The MWOIP is currently in the planning phase and will consider improvements to the distribution system and other facility updates including the construction of a new forebay, upgrades to pump infrastructure, and installation of iron and manganese treatment. The MWOIP is estimated to be online by 2035.

5.8 West Coast Basin

Due to localized groundwater contamination issues and deterioration of water quality, LADWP discontinued operating its West Coast Basin Lomita Wellfield and has been unable to pump its entitlement since 1980. Referred to as sub-basin number 4-11.03 by DWR Bulletin 118, the West Coast Basin underlies 160 square miles in the southwestern part of the Los Angeles Coastal Plain in Los Angeles County. The West Coast Basin is bounded on the west by Santa Monica Bay, on the north by Ballona Escarpment, on the east by the Newport-Inglewood Uplift, and on the south by San Pedro Bay and the Palos Verdes Hills. Twenty incorporated cities and several unincorporated areas overlie the West Coast Basin.

Groundwater Rights

In 1945, when seawater intrusion caused by declining groundwater levels threatened the quality of the groundwater supply, legal action was taken to halt the overdraft and prevent further damage to the West Coast Basin. In 1955, the Los Angeles Superior Court appointed DWR as the Watermaster to administer an Interim Agreement. In 1961, the Court retained DWR as the Watermaster of the West Coast Basin Judgment entered in *California Water Service Company v. City of Compton* (Case No. 506,806 – Amended Judgment). Similar to the Central Basin, an annual Watermaster Service Report is prepared. The West Coast Basin Judgment affirmed the City's right to produce 1,503 AFY of groundwater from this basin. In 2014, the West Coast Basin Judgment was amended in a manner similar to the Central Basin Judgment. The Watermaster for the West Coast Basin consists of the Administrative Body (handled by WRD, as in the Central Basin), the West Coast Basin Water Rights Panel, and the Storage Panel. Parties will also be able to store specified quantities of water in the West Coast Basin, and certain parties (including the City) are able to pump up to 5,000 AFY of unused West Coast Basin rights out of the Central Basin, per the Central Basin Judgment.

Water Quality

Groundwater quality problems in the West Coast Basin were previously related to high levels of TDS, hydrocarbons, and chlorides. LADWP halted operations in the basin in September of 1980, with closure of the Lomita Wellfield.

5.9 Antelope Groundwater Basin

In addition to local groundwater basins, the City also has the right to pump 3,975 AF of native groundwater from the Antelope Valley Groundwater Basin (AVGB) and to store water it imports into the basin for future export. Native safe yield entitlements may only be used locally within the basin. However, water imported and stored in the AVGB can be exported for use in the City. Identified in DWR Bulletin 118 as sub-basin number 6-44, the AVGB underlies 1,580 square miles of an extensive alluvial valley in the western Mojave Desert. The elevation of the valley floor ranges from 2,300 to 3,500 feet above sea level. The basin is bounded on the northwest by the Garlock Fault Zone at the base of the Tehachapi Mountains and on the southwest by the San Andreas Fault Zone at the base of the San Gabriel Mountains. The basin is bounded on the east by ridges, buttes, and low hills that form a surface and groundwater drainage divide and on the north by Fremont Valley Groundwater Basin at a groundwater divide approximated by a southeastward-trending line from the mouth of Oak Creek through Middle Butte to exposed bedrock near Gem Hill, and by the Rand Mountains farther east.

Groundwater Rights

Declining groundwater levels and concerns about the availability of groundwater became more pronounced as public water suppliers, including the City, increased pumping for municipal supply. Litigation over Antelope Valley groundwater rights began in October 1999, with certain private landowners filing complaints and public water suppliers responding with cross complaints. After more than a decade of litigation, four trial phases, and various attempts to comprehensively adjudicate the water rights, litigation concluded on December 23, 2015. The Antelope Valley Groundwater Adjudication settlement was entered in the Antelope Valley Groundwater Cases (Los Angeles Superior Court Case No. JCCP4408, and Santa Clara Superior Court Case No, 1-05-CV-049053). The Court determined the native safe yield as 82,300 AFY and total safe yield inclusive of import return flows as 110,000 AFY.

The United States government asserted a paramount federal reserved right to 11,000 AFY for Edwards Air Force Base. The Court found the basin to be in overdraft since at least 1951 and has estimated current pumping to be between 130,000 and 150,000 AFY. The City's entitlement to pump 3,975 AFY may only be used on Los Angeles World Airports owned land in the Antelope Valley. Settlement provisions also allow parties to carryover and store unused annual entitlements in AVGB, and ability to transfer entitlements (purchase/sell) between parties in the Antelope Valley. The City's right to store imported water in AVGB allows for later recovery and export to the City, subject to any irretrievable losses that may be determined by the Watermaster.

The right to store imported water is of broader interest to LADWP. LADWP is exploring opportunities that would allow for it to import water from various sources, temporarily store these supplies within the AVGB, and recover the water for export to Los Angeles at times when it is necessary to manage seasonal peak demand or augment supplies during dry periods, emergencies, or natural disaster. The LAA and State-owned California Aqueduct are facilities that may be used to convey imported supplies into the AVGB for storage. Additional facilities, such as percolation basins or injection wells, are necessary to physically place water into storage. Pumping facilities are also needed to recover stored water from AVGB for conveyance to the City.

Agencies who own storage and extraction facilities may become potential partners to facilitate the City's use of underground storage in AVGB.

Water Quality

Overall, water quality within the AVGB is suitable for domestic, agricultural, and industrial uses. However, elevated levels of fluoride, boron, nitrate, and arsenic have been detected in portions of the AVGB. Additional testing to characterize specific potential well sites will be required prior to development.

5.10 Sustainable Groundwater Management Act (SGMA) and Unadjudicated Basins

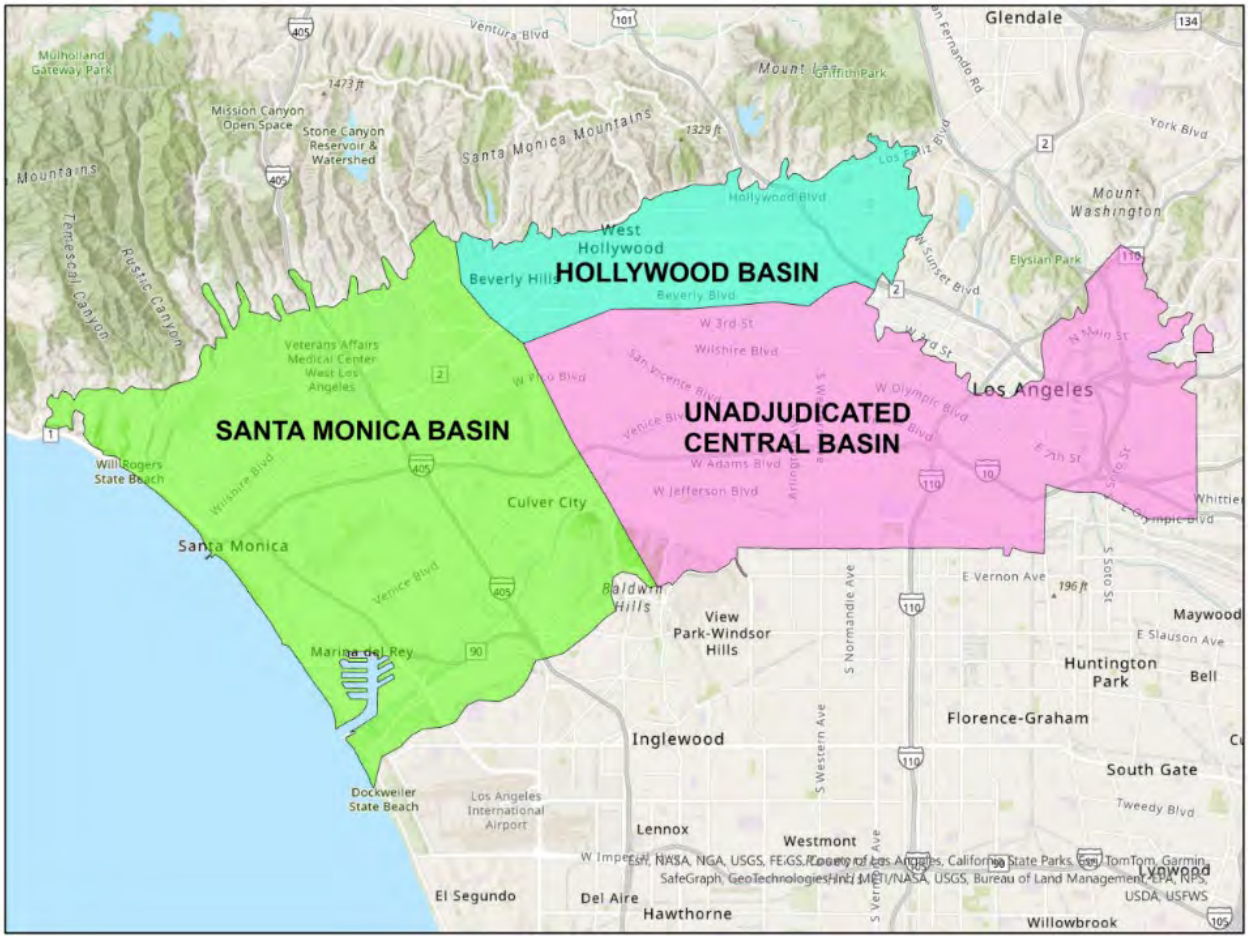
The State Legislature enacted landmark groundwater management legislation known as SGMA, which took effect on January 1, 2015. With SGMA, the State focused upon equipping and empowering local agencies with tools needed to manage high-and medium-priority groundwater basins in a sustainable manner. Actions necessary to achieve sustainability vary by basin, but SGMA generally required local government and water agencies to form Groundwater Sustainability Agencies (GSAs) by January 30, 2017, and requires them to develop and implement Groundwater Sustainability Plans (GSPs) and monitor and report status of groundwater conditions of high- and medium-priority basins. GSPs for critically over drafted high- and medium-priority basins were due to DWR by January 31, 2020. GSPs for the remaining high- and medium-priority basins were due to DWR by January 31, 2022. The State seeks to mitigate and prevent the occurrence of adverse effects caused by unreasonable use of groundwater, such as groundwater storage depletion, land subsidence, seawater intrusion, water quality degradation, critical overdraft basin conditions, and surface water depletions.

Throughout the development of SGMA there was broad public consensus that adjudicated basins are well managed, subject to Court jurisdiction, and should not be the primary focus for SGMA. The new law only requires managers of adjudicated basins to file a copy of their adjudications with DWR and provide annual reports that document basin conditions. However, the City overlies both adjudicated and unadjudicated basins. The Central and West Los Angeles areas of the City overlie the Hollywood Basin, Santa Monica Basin (SMB), and the northerly area of Central Basin located outside of the adjudicated basin boundary. The unadjudicated Hollywood, Santa Monica, and Central Basins are depicted in Exhibit 5F.

LADWP has been working with regional partners towards implementing SGMA for the applicable unadjudicated basins. The Hollywood Basin was classified as low priority and not mandated to develop a GSA/GSP. Similarly, areas associated with adjudicated basins, like the northern area of Central Basin, were eventually characterized as lower priority and exempt by DWR. In September 2017, DWR approved the formation of the SMBGSA as the exclusive GSA in the SMB. The GSA includes five agencies: the City of Los Angeles, the City of Beverly Hills, the City of Santa Monica, the City of Culver City, and the County of Los Angeles. In November 2019, the SMBGSA initiated the development of a GSP for the SMB. The final GSP was approved by DWR in October 2023.

Although the potential for utilizing these basins for groundwater supply may present challenges related to water quantity and quality, LADWP continues to explore opportunities to develop groundwater resources in each of these basins in a manner that is locally sustainable and in cooperation with its regional partners.

Exhibit 5F
Unadjudicated Local Groundwater Basins



5.11 Managing Emerging Contaminants of Concern

LADWP addresses emerging contaminants on many levels by:

- Encouraging the development of standardized testing to enable early detection and supporting the regulatory framework by providing early occurrence data;
- Advocating good science and a balanced approach to risk assessment;
- Seeking to gain a risk perspective with other existing contaminants to, where applicable, manage the emerging contaminants in the absence of regulations;
- Supporting early interpretation of emerging contaminants in collaboration with research and regulatory agencies; and
- Supporting the research to develop cost-effective treatment for the removal and management of these emerging contaminants.

LADWP is currently engaged with other agencies and associations through workgroups and task forces to address emerging contaminants. As new research, science, and information becomes available, LADWP will develop monitoring technology and support programs to address emerging contaminants.

An increasing number of LADWP's North Hollywood wells have 1,4-dioxane contamination above the 1 ppb NL set by DDW. Several of LADWP's North Hollywood wells were removed from service due to the

increasingly compromised water quality and critical need for plume management. Construction has been completed on four large-scale groundwater treatment plants to effectively remove contamination, including 1,4 dioxane.

More recently detected contaminants of concern are PFAS. They are a group of manmade chemicals that have been manufactured in the United States since the 1940s. Although PFAS have been detected in some individual wells, that well water is blended and diluted with large volumes of surface water before it is served to customers. LADWP has not detected any PFAS compounds regulated by the State, or the US EPA, in samples taken at entry points to the distribution system.

Another recent group of emerging contaminants are pharmaceuticals and personal care products that are emerging in rivers, lakes, and waterways which receive wastewater discharges. Concerns exist regarding the occurrence and effects of endocrine disrupters, hormone-shifting compounds, and pharmaceuticals. Technology now allows the detection of compounds down to the parts per trillion levels, thus some of these previously invisible compounds are now being detected in water supplies.

LADWP will be incorporating appropriate treatment processes into future groundwater treatment facilities. LADWP has and will continue to solicit input from stakeholders to carefully plan and develop processes for removal and treatment of emerging contaminants.

5.12 Groundwater Management

LADWP utilizes various strategies to respond to hydrologic variability to maintain supply reliability for the benefit of its customers. One of these strategies, known as conjunctive use, is storing supplies when available to help minimize the impacts of water shortages during future dry periods. Since the 1930's, LADWP has recognized the greater operational flexibility provided by a storage program. LADWP has operated its groundwater resources conjunctively by reducing groundwater pumping and diverting water from the LAA into the Tujunga and Pacoima Spreading Grounds. This strategy allows for greater replenishment to the local groundwater basins during wet and normal periods and prevents conditions of severe overdraft when groundwater pumping is increased during dry periods. The California Supreme Court recognized the City's right to use the SFB for temporary storage of its water by means of artificial recharge and subsequent recapture in *The City of Los Angeles v. City of San Fernando*,14 Cal.3d 199 (1975), which is reflected in the ULARA Judgment.

Various other water rights judgments also enable conjunctive use strategies through provisions allowing water rights holders to pump less than their annual entitlements and accumulate groundwater storage credits. Parties may then produce this stored groundwater in subsequent years, such as during dry periods. Certain provisions of the water rights judgments also allow temporary increases in pumping while requiring equivalent reductions in pumping in subsequent years. This provides flexibility for parties who may have no accumulated groundwater in storage. LADWP utilizes these judgment provisions and has accumulated stored groundwater within each of its operating basins to provide supplemental water during dry periods, natural disasters, and emergencies.

In the future, as more extreme climate variability impacts the City's water resources, LADWP will continue to explore and develop storage opportunities to help improve the management of the City's supplies. In addition to increasing conjunctive use locally, LADWP is evaluating groundwater storage programs during wet years in the Owens Valley and along the LAA, between South Haiwee Reservoir and LADWP's LAAFP. Additional storage through banking will help reduce the variability of imported water supply from Eastern Sierra and allow excess supply to be stored in wet years and recovered to meet demands during dry years.

5.13 Groundwater Production Forecast

Exhibit 5G presents LADWP's forecast for groundwater production from each basin through FY 2049/50. The projection accounts for projects that restore capacity of LADWP's existing wellfields and the implementation of expanded basin remediation in SFB. The groundwater production forecasts reflect LADWP's anticipated capacity to pump and treat available groundwater supplies up to annual entitlements. The figures provided include anticipated pumping of additional volumes in conjunction with enhanced groundwater replenishment using purified recycled water as presented in in Chapter 7, *Recycled Water*.

Exhibit 5G Groundwater Production in AFY for FY 2029/30 to FY 2049/50

Basin	2029/30	2034/35	2039/40	2044/45	2049/50
San Fernando[1]	109,000	127,000	127,000	127,000	127,000
Sylmar	3,128	3,570	3,570	3,570	3,570
Central	13,683	18,739	18,739	18,739	18,739
Total	125,811	149,309	149,309	149,309	149,309

1. SFB remediation facilities are expected to be in operation in FY 2026. Use of groundwater storage credits and groundwater augmentation allows for increased pumping above the annual safe yield.

Chapter 6 Watershed Management

6.0 Overview

Historically, the floodplains of the San Fernando Valley naturally recharged the SFB aquifers with large volumes of stormwater. However, as urban development expanded in the City, many floodplains were channelized, reducing their ability to support recharge. In response, LADWP and the Los Angeles County Flood Control District (LACFCD) partnered to manage and operate five regional spreading grounds near key LA River tributaries to replenish the local groundwater and improve flood control capacity.

Stormwater runoff from urban areas is a valuable yet underutilized local water resource. In the City, most runoff is directed into storm drains and ultimately discharged into the ocean. Meanwhile, local groundwater aquifers that could be replenished from this runoff are receiving less recharge due to increased urbanization.

The City's primary purpose of stormwater capture is to recharge local groundwater basins and improve downstream water quality. When stormwater is used for groundwater recharge, natural filtration through the soil helps improve the quality of the water eventually entering the aquifer. Many stormwater capture projects use pretreatment systems such as sedimentation basins, screening devices, hydrodynamic separators, and vegetated swales to remove debris and pollutants before stormwater is infiltrated. These pretreatment systems improve recharge effectiveness and protect groundwater quality. Stormwater capture provides additional community benefits such as increasing water conservation, enhancing recreational spaces and wildlife habitats, improving flood control, and boosting social and economic value.

During years of average or below-average precipitation, the spreading grounds facilities are highly effective at capturing runoff from their respective tributaries. However, in wet years, storm flows often exceed facility capacity. Climate change is expected to intensify these fluctuations between dry and wet periods, which increases both the urgency and complexity of watershed and stormwater management.

Some areas of the City are not in tributaries that could feed into existing spreading grounds facilities. In such areas, decentralized or distributed stormwater capture infrastructure may be necessary to retain and reuse runoff at a more focused scale. These distributed systems complement the larger centralized facilities by targeting locations where large-scale infrastructure, such as spreading grounds, is less feasible.

To address these needs, LADWP initiated stormwater capture project development in 2008 to expand centralized stormwater capture capacity and implement distributed projects across the City. In 2015, LADWP completed the Stormwater Capture Master Plan (SCMP), a comprehensive 20-year strategic roadmap to augment City's capacity to retain and reuse urban runoff. The plan outlined a range of projects, policies, and initiatives designed to increase stormwater capture capacity by 2035. Since, LADWP has implemented numerous SCMP projects to support the City's goal of increasing local water supply reliability.

Despite the forward progress, there are many challenges associated with stormwater capture projects, including changing climate conditions, aging infrastructure, limiting infiltration due to nearby landfills, continued encroachment into historic floodplains, conflicting substructure, and funding availability. Each of these factors can limit the City's ability to implement projects to capture, store, and reuse stormwater effectively.

LADWP continues to prioritize stormwater capture as a core component of its water management strategy through continued investment in both centralized and distributed stormwater capture systems. LADWP

stormwater initiatives are designed to strengthen local water reliability and protect environmental health for the future.

6.1 Managing the City's Watersheds

Effective management of stormwater is critical to sustaining a healthy groundwater basin. In the City, decades of urbanization have significantly increased impervious surfaces, reducing the natural infiltration of runoffs into local aquifers. The City's stormwater infrastructure was originally built with the primary focus on flood control. As a result, stormwater that once percolated into the ground is now rapidly conveyed across paved surfaces and concrete-lined channels, which discharge into the LA River and ultimately the Pacific Ocean.

Maximizing stormwater capture for groundwater recharge is a fundamental goal of the City's watershed management efforts. Groundwater recharge could increases an aquifer's water levels through percolation of surface water. Within LADWP's service area, the SFB offers the greatest opportunity for stormwater capture. The City holds a prior and paramount pueblo right to all of the surface water of the LA River and native groundwater of the SFB, which includes stormwater. The SFB is ideal for recharge due to its favorable hydrogeologic conditions, including predominantly sandy soils that allow for effective infiltration. In the SFB, this process occurs primarily through infiltration of natural rainfall and captured stormwater. LADWP also regularly utilizes LAA supplies to support conjunctive use in the SFB by spreading LAA supplies during wet years for later use during dry years.

In contrast, other groundwater basins within LADWP's service area have been determined to have limited or no practical opportunities for stormwater recharge due to unfavorable soil conditions and the presence of confined aquifers. These basins include the Central, West Coast, Hollywood, Santa Monica, Main San Gabriel, Sylmar, Verdugo, and Eagle Rock Basins.

Recharging SFB with stormwater provides benefits such as increasing stored groundwater, helping maintain the basin's safe yield, and supporting long-term reliability of the City's local water supply. By focusing on recharge efforts in the SFB, LADWP aims to improve the sustainability of its groundwater resources.

6.2 Stormwater Capture Opportunities

The City develops stormwater capture capacity through centralized and distributed capture systems. Both are essential to supporting groundwater recharge, improving water quality, and building a more reliable local water supply.

Centralized Stormwater Capture

Centralized stormwater capture refers to large-scale infrastructure designed to intercept and infiltrate significant volumes of runoff during and following storm events. Centralized facilities, such as dams, basins, and diversion structures, are typically located in areas that can capture or divert large stormwater flows for subsequent groundwater recharge at spreading grounds.

LADWP coordinates closely with LACFCD to operate its centralized facilities effectively. LACFCD owns and manages the Branford, Hansen, Lopez, and Pacoima Spreading Grounds, while the Tujunga Spreading Grounds are owned by LADWP and operated by LACFCD. In addition to these spreading grounds, LACFCD also owns and operates the Pacoima, Lopez, and Big Tujunga dams. These dams can retain runoffs during storms, allowing this water to be spread into downstream spreading basins later through controlled release.

This coordinated management approach enhances the efficiency of stormwater capture and maximizes groundwater recharge.

Flood control infrastructure, such as diversion structures and channels, is essential for directing native runoff into these centralized facilities. The locations and connections of these spreading grounds are detailed in Exhibit 6A and Exhibit 6B.

Exhibit 6A
SFB Spreading Grounds Operations Data

Facility	Location	Annual Spreading[3]	
		Average[1]	Historic High[2]
Branford	Sun Valley, CA	439	1,448
Hansen	Pacoima, CA	10,745	35,345
Lopez	Sylmar, CA	855	5,513
Pacoima	Arleta, CA	5,290	24,164
Tujunga	Arleta, CA	7,934	42,817
Total		25,263	109,287

Source: Los Angeles County Public Works, Stormwater Engineering Division

1. Historic Water Year Average from first use through June 2025
2. Historic high at each facility was determined independently, from first use through June 2025
3. Data for Water Year 2024/25 through June 2025 is preliminary

Distributed Stormwater Capture

Distributed stormwater capture focuses on collecting and managing localized runoff from storm events across smaller, decentralized sites. This approach is crucial in areas where centralized infrastructure cannot expand due to space constraints. Unlike traditional storm drain systems that were designed primarily for flood protection, distributed stormwater capture systems retain, pretreat, and infiltrate or reuse stormwater near its source. Distributed stormwater capture are implemented for both infiltration and direct use.

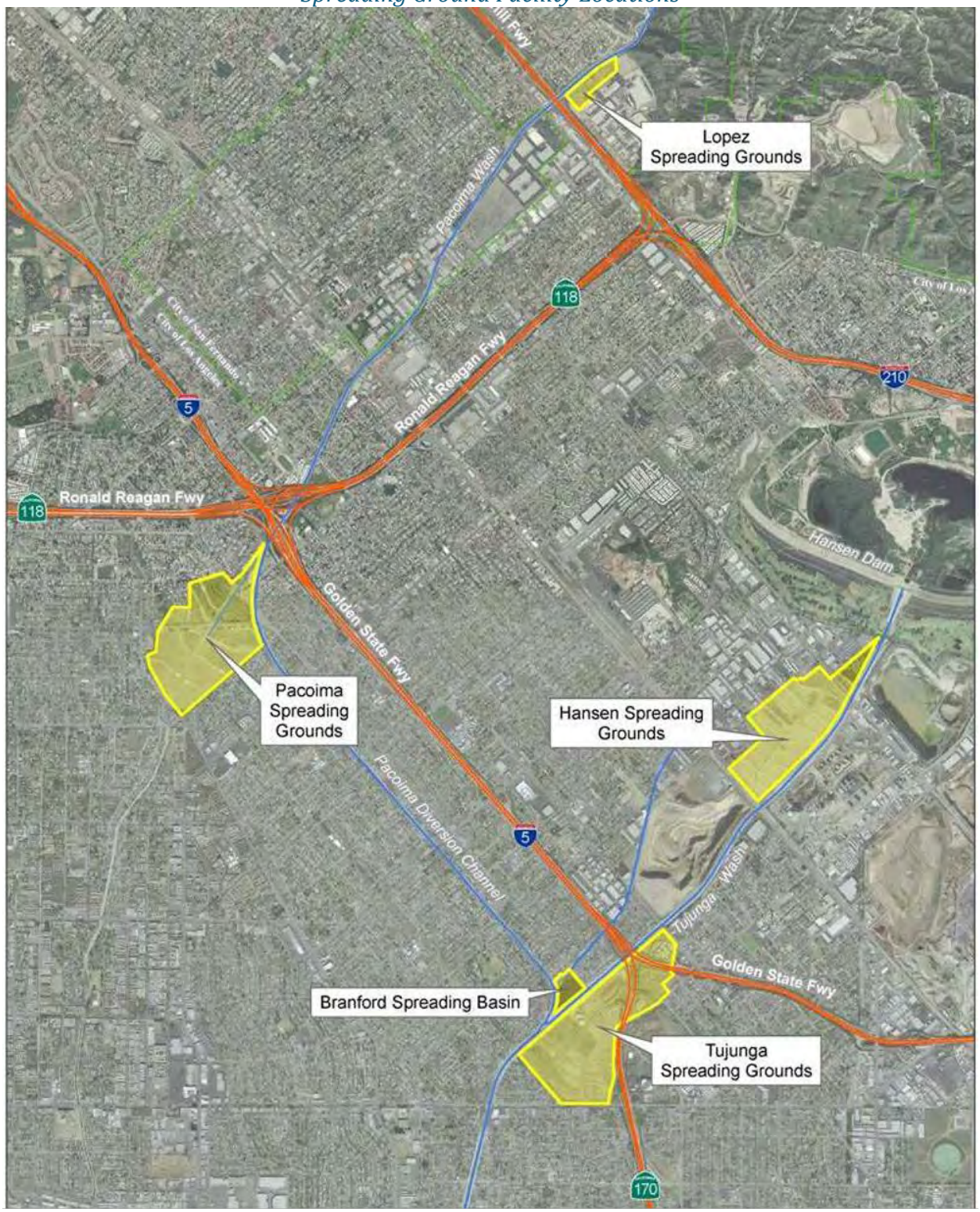
Infiltration

Infiltration-based distributed projects allow stormwater to percolate into the ground and consist of subregional, green street, and onsite applications. Subregional infiltration projects divert flows from storm drains or channels into subsurface systems that allow pretreatment and infiltration without disrupting above-ground land use. Green street programs retrofit urban streetscapes with features such as bioswales and dry wells to facilitate infiltration in highly impervious areas. Onsite infiltration systems capture runoff from rooftops or paved surfaces and redirect it to pervious areas on the same property.

Direct Use

Direct use distributed projects store captured stormwater for non-potable applications, such as irrigation. Subregional direct use systems collect stormwater from a drain or channel and store it in a tank for offsite use, often with specialized treatment. Onsite direct use systems, such as rain barrels and cisterns, store water for immediate irrigation use on the property where it is collected, thereby offsetting demand for potable water.

Exhibit 6B
Spreading Ground Facility Locations



Stormwater Capture Outlook

As opportunities for new centralized projects become increasingly limited, the City has shifted focus toward distributed stormwater management. Distributed systems often integrate best management practices that rely on natural processes, vegetation, and soils to manage runoff close to its source. These systems can be installed in a variety of urban settings, including parks, schools, residential neighborhoods, commercial developments, and within public rights-of-way.

Even small-scale interventions, such as replacing turf with pervious soils and native vegetation, can increase natural infiltration for groundwater recharge. Distributed capture offers flexibility and scalability, making it a vital component of the City's overall stormwater capture strategy.

While centralized systems remain essential for capturing large volumes of runoff in the SFB, distributed systems allow for widespread implementation throughout the City's dense urban landscape. Together, these complementary approaches form the foundation of a resilient and sustainable stormwater management program.

6.3 Stormwater Capture Efforts

The City continues to implement stormwater capture projects and programs to support its long-term goals of increasing local water supplies and improving groundwater reliability. Since the adoption of the SCMP in 2015, LADWP has expanded its implementation strategy to include a broader range of projects, such as upgrades to existing spreading grounds and the development of the multi-phase Stormwater Capture Parks Program. In alignment with the SCMP, LADWP continues to explore regional partnerships and projects that will enable its stormwater capture program to achieve 150,000 AF of capture capacity.

Spreading Grounds Improvement Projects

LADWP and LACFCD continue to collaborate on several projects that enhance the stormwater capture and recharge capacity of existing spreading grounds, particularly in the eastern portion of the SFB. Various improvements across multiple spreading grounds include, but not limited to:

- Deepening and consolidating spreading basins to increase capacity
- Removal of sediment and low-permeability layers to improve infiltration
- Construction of slurry walls to prevent seepage
- Intake improvements to maximize efficiency of stormwater intake
- Upgrades to intake canals and diversion systems
- Installation of telemetry to improve operational efficiency
- Landscape and recreational enhancements such as bike paths, walking paths, vegetation, and educational signage

These improvements enhance stormwater capture and recharge capacity across the region while advancing multi-beneficial infrastructure that supports both water supply and community needs. As an example, the Tujunga Spreading Grounds Enhancement Project was completed in Fall 2021. This project consolidated and deepened the existing spreading basins, added two high-flow intakes with rubber dams, installed telemetry equipment, and established landscaping enhancements around the facility. Passive recreational and educational features, including a walking path and outdoor classroom, were also constructed. The upgrades doubled the facility's annual average stormwater capture capacity to approximately 16,000 AFY.

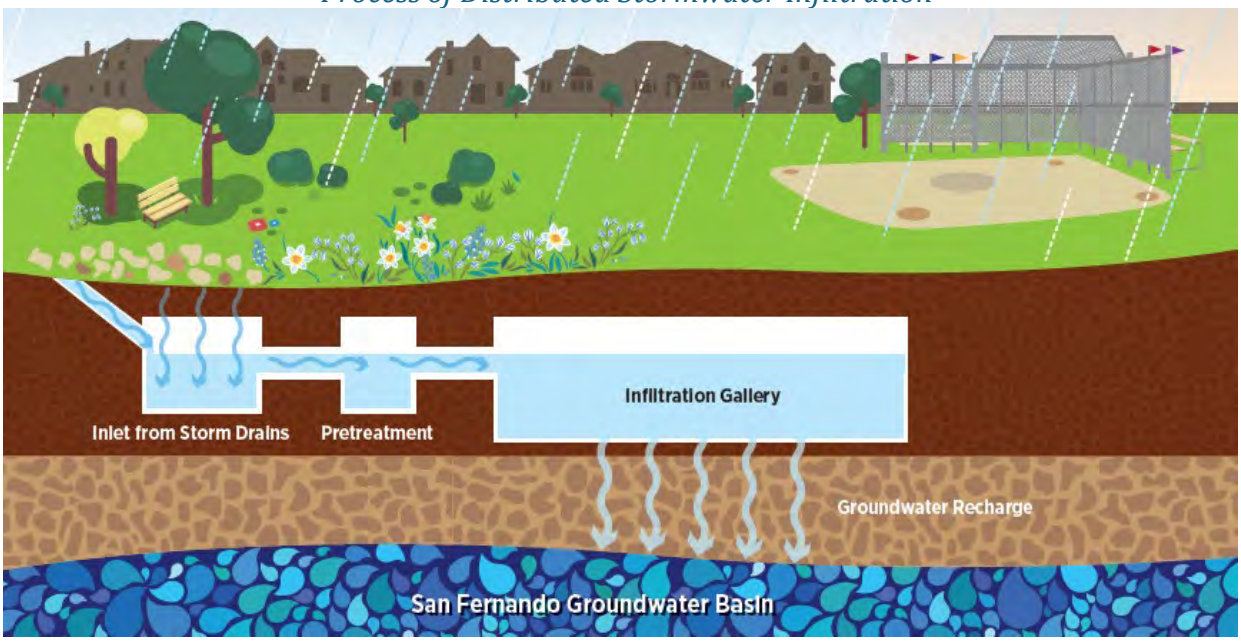
6.4 Stormwater Capture Parks Program

LADWP's Stormwater Capture Parks Program focuses on using City-owned parkland to support groundwater recharge. Nine parks in the San Fernando Valley have been identified as suitable sites for stormwater capture. These projects are designed to divert runoff from the Tujunga Wash Central Branch storm drain to underground infiltration systems located within the parks.

The total tributary area for these stormwater parks program is 5,626 acres, with a combined projected annual average stormwater capture capacity of 2,974 AFY. In addition to recharging the SFB, the program will improve water quality in the LA River, reduce localized flooding, and enhance public open space. Each park project incorporates stormwater diversion, pretreatment, and infiltration features. Each project's main feature, an infiltration gallery, is an underground concrete chamber designed to capture, store, and slowly release stormwater to recharge groundwater. Each project also includes a diversion structure (diverts stormwater from a storm drain), storm pipes (conveys stormwater), hydrodynamic separator (pretreats stormwater t oil, trash, and debris), desilting basin (removes sediment from stormwater), flow measurement device (monitors overall stormwater capture), and educational signage. Some projects may also include a pump station (allows increased stormwater diversion) and catch basins (catches stormwater runoff from the street). Exhibit 6C displays the general configuration of a stormwater capture project.

LADWP is currently considering other park sites to expand the use of public open spaces for stormwater capture while providing multiple benefits, including improved water quality, flood mitigation, and enhanced recreational amenities. These projects are being identified and developed in collaboration with stakeholder and community input.

Exhibit 6C
Process of Distributed Stormwater Infiltration



Chapter 7 Recycled Water

7.0 Overview

The City's water recycling program enhances LADWP's water supply reliability by increasing the supply of recycled water to offset and supplement potable demands. LADWP is advancing recycled water use across a range of applications, including both non-potable and potable reuse. Recycled water applications have increased with growing public acceptance of recycled water as a safe alternative to traditional potable supplies.

Recycled water delivery in the City began in 1979 when LADWP first delivered non-potable recycled water from the Los Angeles - Glendale Water Reclamation Plant (LAGWRP) to the City of Los Angeles Department of Recreation and Parks for irrigation of various areas in Griffith Park. This service was later expanded to include Griffith Park's golf courses and, in 1984, to freeway landscape adjacent to the park. In 1992, LADWP began delivering recycled water to non-governmental customers through the completion of the Los Angeles Greenbelt Project, supplying non-potable recycled water from the LAGWRP to Universal Studios, Forest Lawn Memorial Park, Mount Sinai Memorial Park, and the Lakeside Golf Club of Hollywood to offset potable demands.

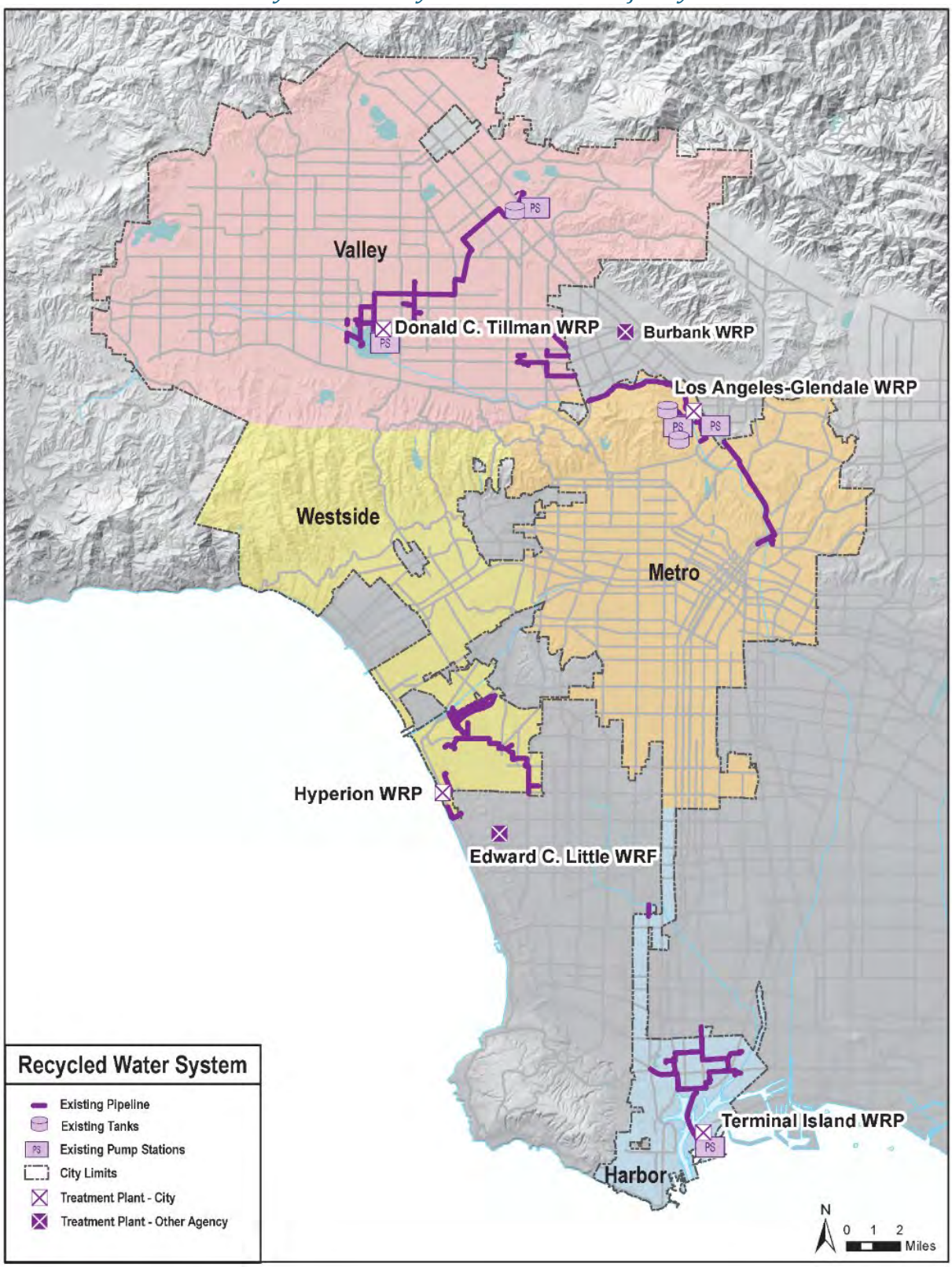
In 2009, Phase 1 of the Playa Vista Development began receiving non-potable recycled water, marking the first planned development in the City to utilize recycled water for all landscape irrigation. Through continued recycled water infrastructure developments, LADWP currently serves 179 sites in the City with recycled water for irrigation and industrial uses.

LADWP's water recycling program relies on the City's wastewater treatment and reclamation facilities located within and outside of the City's boundaries. Wastewater in the City is collected and conveyed to four water reclamation plants, as shown in Exhibit 7A: the Donald C. Tillman Water Reclamation Plant (DCTWRP), LAGWRP, Terminal Island Water Reclamation Plant (TIWRP), and Hyperion Water Reclamation Plant (HWRP). The City of Los Angeles Department of Public Works, Bureau of Sanitation (LASAN) owns and operates these wastewater treatment facilities, with the exception of LAGWRP which is jointly owned by the City and Glendale. The City's wastewater system serves the City and 29 non-City agencies through contract services. LADWP utilizes treated effluent meeting standards from the City's four water reclamation plants to meet recycled water demands.

LADWP's water recycling program also utilizes water reclamation facilities located outside of the City to supplement its supply. The HWRP provides a portion of its secondary treated effluent to West Basin Municipal Water District's (WBMWD's) Edward C. Little Water Recycling Facility (ECLWRF), where it undergoes further treatment to meet tertiary recycled water standards. A portion of product water from the ECLWRF is returned to LADWP to support the City's recycled water needs. Burbank Water Reclamation Plant (BWRP), owned and operated by the City of Burbank Department of Public Works, supplies recycled water to parts of the City in the North Hollywood area.

Future recycled water projects will build on the success of past initiatives while adapting to evolving regulations to expand the use of recycled water to potable reuse. This chapter highlights key projects driving recycled water advancement throughout the City. More information regarding the Pure Water Los Angeles Program is discussed in Chapter 11, *Pure Water Los Angeles*.

Exhibit 7A
LADWP Recycled Water System and Sources of Recycled Water



7.1 Regulatory Requirements

Recycled water use is governed by federal, state, and local laws and regulations. California has established regulations for three applications of recycled water: Non-Potable Reuse (NPR), Indirect Potable Reuse (IPR), and Direct Potable Reuse (DPR). As required by CWC Sections 13550 – 13557, non-potable recycled water currently served by LADWP meets or exceeds all the following conditions:

- The source of recycled water is of adequate quality for reuse.
- The recycled water may be furnished for these uses at a reasonable cost to the user.
- The use of recycled water from the proposed source will not be detrimental to public health.
- The use of recycled water will not adversely affect downstream water rights or degrade water quality.

Title 22 of California's Code of Regulations outlines treatment requirements and approved uses for non-potable and potable reuse based on several factors including the permitted end use and post-treatment water quality. The City's responsibilities for recycled water include complying with all LARWQCB permits for the wastewater treatment plants and production of recycled water, approving recycled water use sites, conducting post-construction inspections, and periodically inspecting use areas and site supervisor records.

LADWP customers are permitted to use recycled water when service is available per City Ordinance No. 170435 (subsequently amended by Ordinance No. 182047 in 2012). Customers expressing interest in recycled water deliveries must enter into an agreement with LADWP, subject to approval of the Los Angeles Board of Water and Power Commissioners. Users are responsible for the operation and maintenance of their recycled water systems up to the connection point with LADWP. Users are also required to use recycled water in accordance with Titles 17 and 22 regulations and the "Recycled Water Urban Irrigation User's Manual". If the users fail to follow these regulations, LADWP may cease delivery of recycled water.

Recycled Water Outreach

In addition to the compliance of recycled water regulations, effective outreach to key stakeholders and the general public is critical for the success of the City's recycled water program. LADWP employs a wide range of outreach strategies, including neighborhood council briefings, presentations to secondary and post-secondary institutions, engagement with non-governmental organizations, and inter-city agency communication. In addition, LADWP participates in project-specific outreach efforts to ensure transparency, foster inclusivity, and build public confidence in the safety and reliability of recycled water. LADWP staff actively engage in recycled water industry organization and conferences to share updates on program progress, exchange insights with other utilities, and incorporate lessons learned into ongoing program development.

Non-Potable Reuse Regulations

NPR refers to the use of treated wastewater for purposes other than drinking, commonly including irrigation and various industrial processes. NPR regulations in the City are governed by the SWRCB, LARWQCB and the Los Angeles County Department of Public Health (LACDPH).

State Water Resources Control Board and Los Angeles Recycled Water Quality Control Board

Criteria and guidelines for the production and use of recycled water were established by the SWRCB and can be found in California Code of Regulations, Title 22, Division 4, Chapter 3. Title 22, also known as the Uniform

Statewide Recycling Criteria, establishes the required wastewater treatment levels and recycled water quality levels dependent upon the end use of the recycled water.

Additionally, Title 22 also establishes recycled water reliability criteria to protect public health. Water recycling permits for each of the City's applicable wastewater treatment plants engaged in water recycling are issued by the LARWQCB. These requirements specify end-users of recycled water, enforce treatment, and use area requirements. Higher quality water has a wider variety of applicable uses than lower quality water. At a minimum, non-disinfected secondary treatment is required for non-potable recycled water use. However, in the City, all non-potable recycled water undergoes tertiary treatment with additional disinfection. The reliability of the treatment process and the quality of the product water must meet Title 22 requirements specified for each allowable treatment level. Exhibit 7B provides a summary of the approved NPR water uses.

Sites that use recycled water must comply with regulatory requirements. Title 22 stipulates use area requirements to protect public health. Use area regulations include requirements for recycled water application methods and requirements for addressing runoff near domestic water supply wells, drinking fountains, residential areas and dual-plumbed recycled water systems. These systems must meet additional reporting and testing requirements. The SWRCB continues to develop regulations and guidance for recycled water for NPR. Title 17 requires water suppliers to implement both cross-connection control programs and backflow prevention systems. Draft regulations for Cross Connection Control, first released in 2005, were finalized by the SWRCB in 2024.

Los Angeles County Department of Public Health

In Los Angeles County, Titles 17 and 22 water use regulations are enforced by the LACDPH, Environmental Health Division. LACDPH has published "A Guide to Safe Recycled Water Use, Pipeline Construction and Installation" requiring compliance with Title 22, SWRCB and LARWQCB requirements. Once SWRCB approves the plans and specifications, and the City establishes a recycled water service agreement with the customer, LACDPH reviews and approves all plans and specifications before the start of construction.

After construction, LACDPH inspects the systems and conducts cross-connection, pressure, and back-flow prevention device tests. Recycled water use must comply with the Los Angeles County Recycled Water Advisory Committee's "Recycled Water Urban Irrigation User's Manual". Each site must also have a site supervisor responsible for recycled water use.

Exhibit 7B
Allowable NPR Water Uses

Irrigation Uses	Food crops where recycled water contacts the edible portion of the crop, including all root crops	Ornamental nursery stock and sod farms where no recycled water use occurs 14 days prior to harvesting, retail sale, or access by the public
	Parks and playgrounds	Pasture for milk animals for human consumption
	School yards	Non-edible vegetation with access control to prevent use as park, playground or school yard
	Residential landscaping	Orchards with no contact between edible portion and recycled water
	Unrestricted and restricted access golf courses	Vineyards with no contact between edible portion and recycled water
	Any other irrigation uses not prohibited by other provisions of the California Code of Regulations	Non-food bearing trees, including Christmas trees not irrigated less than 14 days before harvest
	Food crops, surface irrigated, above ground edible portion, and not contacted by recycled water	Fodder and fiber crops and pasture for animals not producing milk for human consumption
	Cemeteries	Seed crops not eaten by humans
	Freeway landscaping	Food crops undergoing commercial pathogen destroying processing before consumption by humans
Supply for Impoundment Uses	Non-restricted recreational impoundments, with supplemental monitoring for pathogenic organisms in lieu of conventional treatment	
	Restricted recreational impoundments and publicly accessible fish hatcheries	
	Landscape impoundments without decorative fountains	
Supply for Cooling or Air Conditioning	Industrial or commercial cooling or air conditioning involving cooling tower, evaporative condenser, or spraying that creates a mist	
	Industrial or commercial cooling or air conditioning not involving cooling tower, evaporative condenser, or spraying that creates a mist	
Other Uses	Dual plumbing systems (flushing toilets and urinals)	Industrial process water that will not come into contact with workers
	Priming drain traps	Industrial boiler feed
	Industrial process water that may contact workers	Nonstructural fire fighting
	Structural fire fighting	Backfill consolidation around non-potable piping
	Decorative fountains	Soil compaction
	Commercial laundries	Mixing concrete
	Consolidation of backfill material around potable water pipelines	Dust control on road and streets
	Artificial snow making for commercial outdoor uses	Cleaning roads, sidewalks and outdoor work areas
	Commercial car washes, not heating the water, excluding the general public from washing process	Flushing sanitary sewer

Indirect Potable Reuse Regulations

IPR involves the introduction of highly treated recycled water into an environmental buffer, such as an aquifer or reservoir, where it is retained for a specified period of time for later reuse. After extraction, water undergoes additional treatment to meet all drinking water standards before being delivered to the potable water system.

DDW, which regulates public drinking systems, also regulates IPR projects under Title 22 regulations. Project sponsors work with DDW to obtain a recommendation from the responsible Regional Water Quality Control Board (RWQCB) to issue a permit for the respective project.

The IPR regulations include criteria for groundwater recharge via surface spreading, groundwater replenishment via subsurface injection, and surface water augmentation (SWA). SWA is defined as the planned placement of recycled water into a surface water reservoir upstream of conventional filtration process to be used as a source of domestic drinking water supply. IPR for groundwater recharge is defined in the CWC as the planned use of recycled water for replenishment of a groundwater basin or an aquifer that has been designated as a source of water supply for a public water system.

Groundwater Replenishment – Surface Application

Regulations for groundwater replenishment via surface application are detailed in Title 22, sections 60320 through 60320.130. Title 22 outlines general requirements, public hearing, lab analysis, response times, and monitoring, among other requirements. Permits for groundwater replenishment are issued by the RWQCB in coordination with DDW.

At a minimum, recycled wastewater applied for spreading is required to be disinfected tertiary recycled water. Title 22 regulations should be referenced for specific requirements. The City is currently implementing the Los Angeles Groundwater Replenishment (LA GWR) Project, which will replenish the City's groundwater supplies via surface application. The LA GWR Project will utilize full advanced treated (FAT) recycled water beyond the minimum required disinfected tertiary recycled water.

Groundwater Replenishment – Subsurface Application

Regulations for groundwater replenishment via subsurface application are located in Title 22 sections 60320.200 through 60320.230. Title 22 outlines general requirements, advanced treatment criteria, public hearing, lab analysis, response times, and monitoring, among other requirements. Permits for groundwater replenishment are issued by the RWQCB in coordination with DDW.

In addition to the different point of application, one of the main distinctions between surface and subsurface application is the treatment level of recycled water used. Subsurface application requires the use of FAT water. FAT includes reverse osmosis (RO), ultraviolet light (UV) disinfection and an advanced oxidation process (AOP).

The LA GWR Project will utilize FAT that meets the regulations for subsurface application however the initial operations will utilize surface spreading at the Hansen Spreading Grounds (HSG). For operational flexibility, LADWP is evaluating the feasibility of subsurface application.

Direct Potable Reuse Regulations

DPR is the introduction of recycled water either directly into a public drinking water system or into a raw water supply upstream of a drinking water treatment plant.

California's Title 22 DPR regulations, which went into effect in October 2024, establish detailed guidelines for safely integrating advanced treated recycled water directly into municipal drinking water supplies. California is one of the first states to establish DPR regulations, a landmark step in supporting local and resilient water supply development for the region.

DPR consists of two principal methods: raw water augmentation (RWA), where recycled water is blended upstream of a conventional drinking water treatment facility, and treated water augmentation (TWA), in which recycled water is introduced directly into a potable water distribution system.

To meet mandated water quality standards, DPR treatment facilities must demonstrate significantly greater pathogen removal than what is required for IPR treatment. Treatment process producing DPR quality water are required to include advanced, multi-barrier treatment methods, comprised of secondary wastewater treatment, pretreatment with ozone and biologically activated carbon (Ozone-BAC), followed by FAT. Alternative treatment approaches may be approved by state regulators if demonstrated to provide equivalent or better protection of public health.

Rigorous and continuous monitoring of source and product water quality indicators is essential in ensuring compliance under these regulations. Key parameters such as turbidity, UV dose, and total organic carbon concentrations must be constantly tracked, alongside regular pathogen and chemical analyses. Automated control systems must be installed to halt water distribution immediately in the event of contamination, treatment failures, or deviation from established quality thresholds. The regulations also mandate robust operational controls, including highly trained and certified plant operators, redundancy in treatment processes to mitigate risks of failure, and comprehensive emergency response planning. Additionally, proactive source control programs are required to minimize the introduction of contaminants at the wastewater origin, ensuring suitable influent into DPR treatment systems.

LADWP's Headworks DPR Pilot Project (DPR Pilot), located at the Tom LaBonge Headworks Water Complex, is a critical step in advancing DPR in Los Angeles. Originally launched to align with the development of California's DPR regulations, the DPR Pilot is designed to evaluate the performance and reliability of the prescribed treatment train that includes Ozone-BAC followed by FAT. The DPR Pilot is also evaluating alternative treatment trains that could meet or exceed the DPR treatment requirements, which may offer benefits such as reduced footprint and energy usage, and increased flexibility in future program planning.

Building on the results of the DPR Pilot, LADWP is planning a 1-million gallons per day (mgd) DPR Demonstration Facility that will treat tertiary effluent produced from LAGWRP to meet DRP standards. The facility will begin with a period of validation testing to demonstrate performance, reliability, and regulatory compliance, with the eventual goal of becoming the City's first permitted DPR facility. It will also serve as an operator training hub and a public education center to foster transparency and community support for DPR.

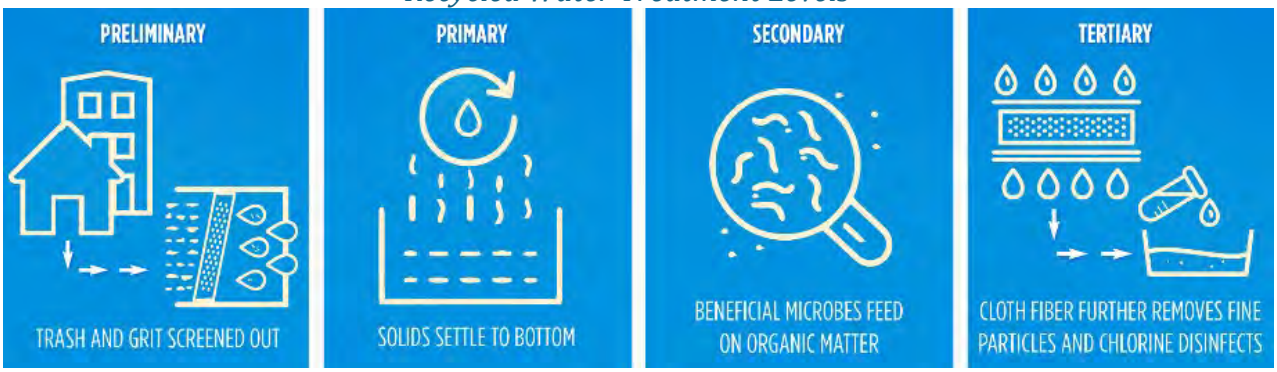
7.2 Recycled Water Sources and Quality

Recycled water supply relies on treated wastewater obtained from the City's wastewater treatment plants as well as those operated by neighboring agencies, as shown in Exhibit 7A. The City's wastewater treatment consists of a series of processes designed, at a minimum, to remove solids to a level sufficient to meet regulatory water quality standards for the intended purposes. A depiction of the varying levels of treatment is shown in Exhibit 7C. Wastewater treatment includes preliminary, primary, secondary, and potentially tertiary and advanced treatment processes, each removing progressively finer solid particles and impurities. Preliminary treatment removes grit and large debris using grit removal basins and screens. Primary treatment relies on sedimentation to remove smaller solids. Secondary treatment uses biological processes

and additional sedimentation to break down organic matter into harmless byproducts and further remove solids. Finally, tertiary treatment filters and chemically disinfects the water to eliminate further impurities.

All recycled water used within the City undergoes tertiary treatment and disinfection at a minimum to meet Title 22 standards for NPR. Exhibit 7D summarizes the treatment levels, capacity, and FY 2024/25 wastewater flows at the four City plants and the two plants outside the City that provide recycled water to the City.

Exhibit 7C
Recycled Water Treatment Levels



Recycled Water Facilities within Los Angeles

Donald C. Tillman Water Reclamation Plant

In service since 1985, DCTWRP has a design flow of 80 mgd, and, on average, treats approximately 45 mgd of wastewater to produce 32 mgd of recycled water. DCTWRP produces tertiary recycled water with nitrification/denitrification (NdN) to meet Title 22 standards for NPR. DCTWRP maximizes wastewater reuse for irrigation and industrial uses, in-plant uses, and environmental uses. Environmental uses include the Japanese Garden, Wildlife Lake, and Lake Balboa, which were developed as part of environmental mitigation under the California Environmental Quality Act (CEQA) for the construction of DCTWRP. All recycled water produced from the facility is used within the LADWP service area.

The LA GWR Project will transform current treatment at DCTWRP to convey advanced purified recycled water meeting IPR standards for groundwater replenishment. The project is a partnership between LADWP and LASAN to construct an advanced water purification facility (AWPF) that is projected to produce 22,000 AFY of recycled water by FY 2028/29 and up to 40,000 AFY by FY 2030/31 subject to regulatory approvals.

Los Angeles-Glendale Water Reclamation Plant

LAGWRP is co-owned by the City and the City of Glendale and operated and maintained by LASAN. LAGWRP began treating wastewater in 1976 as the City's first water reclamation plant. LAGWRP has capacity to treat 20 mgd and currently treats approximately 16 mgd of wastewater to produce about 13 mgd of tertiary recycled water. The City and Glendale are both entitled to 50 percent of the plant's capacity. LAGWRP achieves tertiary treatment to meet Title 22 standards for NPR. All of LADWP's portion of the recycled water is used within its service area.

LADWP is evaluating DPR feasibility within its water system, with LAGWRP playing a central role. The Headworks DPR Pilot sources tertiary recycled water from LAGWRP and will evaluate further advanced treatment processes to validate LAGWRP's recycled water would comply with the DPR requirements.

Exhibit 7D
Sources of Recycled Water Summary

Sources of Recycled Water	Wastewater Collection/ Treatment Agency	Treatment Type(s)	Discharge Method	Wastewater Treatment Capacity (AF)	Treated Wastewater FY 24/25 (AF)	Recycled Water Served to LA FY 24/25 (AF)	Other Uses FY 24/25 (AF)	Discharged Treated Wastewater FY 24/25 (AF)
Located within City of Los Angeles								
DCTWRP[1]	LASAN	Tertiary with NdN	Recycling and Pacific Ocean via LA River	89,600	34,000	2,801	In-plant: 5,716 Environ-mental Use: 26,751	560
LAGWRP[1]	LASAN	Tertiary with NdN	Recycling and Pacific Ocean via LA River	22,400	15,000	2,662	In-plant: 1,008 Outside LA: 1,570	10,420
TIWRP[1]	LASAN	Advanced: MF/RO/UV-AOP	Recycling and Pacific Ocean via Outfall in Los Angeles Harbor	33,600	16,800	6,583	In-plant: 672	9,545
HWRP[1]	LASAN	Secondary	Conveyance to ECLWRF for Recycling and Pacific Ocean Outfall	504,000	288,000	0	In-plant: 40,800[3] Outside LA: 40,500	232,200
Located Outside City of Los Angeles								
ECLWRF[1,2]	WBMWD	Tertiary; Nitrification ; MF/RO; or MF with double-pass RO	Recycling	44,800	N/A	761	Outside LA: 29,456	N/A
BWRP[1]	City of Burbank Department of Public Works	Tertiary with NdN	Recycling	11,200	6,232	17	Outside LA: 6,215	N/A

1. Sources: DCTWRP, LAGWRP, TIWRP, and HWRP - Department of Public Works - Bureau of Sanitation Recycled Water Table FY 2024/25; ECLWRF and Carson Facility - West Basin staff; BWRP - Burbank Water and Power Staff; Recycled Water Served to LA - LADWP customer meters
2. Tertiary treated recycled water from ECLWRF is treated at WBMWD's Carson Facility. Amounts should not be double counted when totaled.
3. Approximately 22.6 mgd of cooling water is uncontaminated and released into ocean as secondary effluent.

Terminal Island Water Reclamation Plant

Originally built in 1935, TIWRP has been providing secondary treatment since the 1970s with a flow capacity of 30 mgd. In 1996, tertiary treatment system upgrades were installed at TIWRP, providing recycled water to the City's harbor service area. Building upon the increased treatment at TIWRP, an AWPF was constructed in 2002 and expanded in 2016 to meet updated State discharge requirements. The AWPF consists of MF, RO, and UV-AOP and has the capacity to produce up to 12 mgd of advanced treated recycled water. LADWP is planning and investing in new recycled water conveyance projects and connections, including a second connection to the Dominguez Gap Seawater Intrusion Barrier, to fully utilize the available TIWRP supply by FY 2028/29.

The TIWRP AWPF was developed jointly by LADWP, LASAN, the City of Los Angeles Department of Public Works, and Bureau of Engineering (BOE). Operation and maintenance of the AWPF is provided by LASAN with reimbursement from LADWP. Deliveries of advanced treated recycled water began in 2006 to the Dominguez Gap Seawater Intrusion Barrier. Today, TIWRP supplies recycled water to three main users: the Water Replenishment District for the Dominguez Gap Barrier, which reduces seawater intrusion into groundwater aquifers, and two local refineries for industrial processes. The remaining TIWRP effluent, approximately 2.1 mgd, is discharged to the Los Angeles Harbor.

Hyperion Water Reclamation Plant

Operating since 1894, HWRP is the oldest and largest of the City's wastewater treatment plants. Since its upgrade in 1999, HWRP is capable of full secondary treatment. The flow capacity of HWRP is 450 mgd, with an average wastewater flow of 260 mgd. Most of the treated water is discharged through a five-mile outfall into the Santa Monica Bay. The remaining flow, approximately 35 mgd, is either used at HWRP or sold to WBMWD for further reuse.

Recycled Water Facilities Outside Los Angeles That Serve the City

Edward C. Little Water Recycling Facility – West Basin Municipal Water District

WBMWD operates the ECLWRF, which has a capacity of 50 mgd. ECLWRF produces five different recycled water qualities: tertiary recycled water for irrigation, nitrified water for cooling towers, pure RO water and ultra-pure RO water for refinery boiler feed water, and softened MF/RO water with disinfection (advanced treated water) for groundwater injection into the West Coast Basin Groundwater Barrier to reduce seawater intrusion.

On average, WBMWD purchases approximately 35 mgd of secondary treated effluent from HWRP and treats this source water to Title 22 standards and above as necessary for non-potable reuse at their ECLWRF. WBMWD and the City signed an agreement allowing WBMWD to purchase secondary treated effluent water from HWRP through 2026. Discussions regarding potential extensions or alternative arrangements are ongoing to ensure continued reliability of recycled water supplies. In FY 2024/25, WBMWD purchased approximately 29,456 AF of secondary-treated effluent from HWRP.

Treated water is used to meet non-potable recycled water demands in WBMWD's service area, with a portion purchased by LADWP for irrigation and industrial uses in its service area in West Los Angeles. In FY 2024/25, LADWP purchased approximately 761 AF of recycled water from WBMWD for distribution in the LADWP service area. The remaining recycled water not purchased by LADWP is sold by WBMWD to users within their service area.

Burbank Water Reclamation Plant – City of Burbank

Built in 1966, BWRP was established to serve Burbank's growing wastewater and sewer needs, which were previously handled by the City. Initially built to treat 6 mgd, the plant was upgraded to treat 9 mgd in 1971, with further improvements in 2000 and 2002 to meet water quality standards for tertiary treatment and ammonia removal. LADWP receives recycled water from BWRP for NPR to satisfy the irrigation demands in its North Hollywood service area. In FY 2024/25, BWRP provided LADWP with 18 mgd of tertiary recycled water.

7.3 Existing and Projected Recycled Water Deliveries

Expansion of recycled water allows the City to offset and supplement potable water demands with recycled water supplies while achieving water reuse goals. As shown in Exhibit 7E, LADWP's total recycled water use for FY 2024/25 was 33,294 AFY. The majority of deliveries support environmental reuse (20,053 AFY), followed by the seawater intrusion barrier (6,234 AFY), irrigation (5,329 AFY), and industrial uses (1,678 AFY). Further detail on service area boundaries and project descriptions is provided in Exhibit 7A and in the following subsections describing Harbor, Metro, San Fernando Valley, and Westside service areas. For the latest information on upcoming recycled water projects, please refer to www.ladwp.com/recycled-water.

Exhibit 7E
Recycled Water Use FY 2024/25 by Service Area

Use Type	Harbor Area (AF)	Metro Area (AF)	San Fernando Valley Area (AF)	Westside Area (AF)	Total by Use Type (AF)
Irrigation	77	2,755	1,809	688	5,329
Industrial	518	-	1,160	-	1,678
Environmental	-	-	20,053	-	20,053
Seawater Intrusion Barrier	6,234	-	-	-	6,234
Total By Area	6,829	2,755	23,022	688	33,294

Harbor Area

LADWP's Harbor Recycled Water System is primarily served by TIWRP, with supplemental deliveries from WBMWD sourced from ECLWRF. Current uses include both industrial demands and the Dominguez Gap Seawater Intrusion Barrier. Since 2016, LARWQCB has authorized TIWRP to supply the Seawater Intrusion Barrier with 100 percent recycled water, replacing the prior 50/50 blend with imported supplies. LADWP has since expanded recycled water service to key industrial customers in the Harbor area, including Air Products & Chemicals and the Valero Wilmington Refinery, for use in refinery operations and cooling towers. In FY 2024/25, recycled water demands for the Harbor Area totaled 6,829 AFY, as shown in Exhibit 7E.

To expand recycled water use, LADWP is planning and investing in new recycled water infrastructure. A second connection to the Dominguez Gap Seawater Intrusion Barrier is scheduled to be completed in 2028, providing up to 9,500 AFY. By FY 2028/29, the Harbor area is expected to fully utilize the available 12 mgd of TIWRP recycled water for beneficial reuse, supporting full utilization of advanced treated recycled water production.

LADWP and LASAN are also evaluating additional recycled water sources, including the Carson Water Recycling Facility (WRF) and AK Warren Water Resources Facility (AKWWRF) to increase supply reliability. The Carson WRF currently treats tertiary water from ECLWRF into advanced recycled water for industrial uses outside the City. It has the potential to be expanded and connected to LADWP's Harbor Recycled Water System to increase supply volume and reliability. The AKWWRF is owned by LA County Sanitation and a key facility for MWD's Pure Water Southern California Program. AKWWRF is located near LADWP's Harbor Recycled Water System and could potentially be connected to increase supply volume and reliability to LADWP's existing and future recycled water customers.

Metro Area

LADWP's Metro Recycled Water System is supplied by LAGWRP, with the majority of recycled water serving irrigation uses and a smaller portion serving industrial uses including Griffith Park, North Atwater Park, Forest Lawn, and the Metro Division Bus Yard. Unutilized effluent from LAGWRP is discharged to the LA River, averaging approximately 9 mgd. In FY 2024/25, recycled water demands for the Metro area totaled 2,755 AFY, as shown in Exhibit 7E.

San Fernando Valley Area

LADWP's San Fernando Valley Recycled Water System receives water from DCTWRP and BWRP. BWRP provides LADWP with recycled water for irrigation, while DCTWRP provides recycled water for irrigation, industrial, and environmental uses, with excess effluent discharged to the LA River.

For irrigation uses, DCTWRP supplies 19 irrigation sites and BWRP supplies three. Irrigation uses include golf courses, parks, churches, schools, sports fields, a ranch, and LADWP electrical distribution stations. In FY 2024/25, recycled water demands for irrigation use in the San Fernando Valley totaled 1,809 AFY.

Industrial use at LADWP's Valley Generating Station has relied on recycled water supplies since 2008. In FY 2024/25, recycled water demands for industrial use In the San Fernando Valley totaled 1,160 AFY.

Recreational and environmental uses have been supported with recycled water since the mid-1980s, starting with the Japanese Garden in 1985, followed by Lake Balboa in 1990, and Wildlife Lake in 1991. Over the most recent five-year period (FY 2020/21 to FY 2024/25), the Japanese Garden, located at the Sepulveda Dam Recreation Area, received an average of approximately 3,707 AFY of recycled water. Lake Balboa, the centerpiece of Anthony C. Beilenson Park in the Sepulveda Dam Recreation Area, received an average of approximately 15,299 AFY. Wildlife Lake, located in the Sepulveda Basin Wildlife Reserve, received an average of approximately 3,841 AFY.

In FY 2024/25, recycled water deliveries in the San Fernando Valley for environmental uses totaled approximately 20,053 AFY. Environmental plus irrigation and industrial uses resulted in a total recycled water demand of 23,022 AFY in the San Fernando Valley in FY 2024/25, as shown in Exhibit 7E.

To expand recycled water use, LADWP and LASAN have initiated construction of the LA GWR Project, with completion anticipated by 2028. The LA GWR Project is one of the largest potable reuse projects in the state and will introduce indirect potable use of recycled water in the San Fernando Valley Recycled Water System. The LA GWR Project is projected to produce 22,000 AFY by FY 2028/29 and up to 40,000 AFY by FY 2030/31 of advanced treated recycled water ,subject to regulatory approvals, to convey to the HSG. At HSG, the water will percolate and replenish the SFB and later be extracted through LADWP's existing groundwater production facilities. Key components of the project include an AWPF using MF, RO, and UV-AOP; a new equalization facility at DCTWRP to stabilize source water flows to AWPF; and HSG upgrades to support monitoring and control of spreading purified water. Native stormwater capture and recharge operations will

continue at HSG in conjunction with the LA GWR Project to replenish the SFB. A detailed discussion of the SFB and existing recharge operations is provided in Chapter 5, *Local Groundwater*, and Chapter 6, *Watershed Management*.

Westside Area

LADWP's Westside Recycled Water System is supplied by WBMWD via the ECLWRF, which provides recycled water for both irrigation and industrial uses. Irrigation users include parks, street medians, a golf course, LADWP's Scattergood Generating Station, Loyola Marymount University, Los Angeles International Airport (LAX), the Parking Spot, HWRP, and various sites in Playa Vista. At HWRP and Playa Vista, recycled water can also supply dual-plumbed commercial facilities for industrial uses. In FY 2024/25, recycled water demands in the Westside totaled 688 AF, as shown in Exhibit 7E.

Comparison of 2020 Projections Versus Actual Use

The 2020 UWMP projected municipal and industrial recycled water use in FY 2024/25 to be approximately 17,300 AF; however, actual use was lower than projected, as shown in Exhibit 7F. The lower than projected use of municipal and industrial use is due to delays in securing agreements with other municipal users. Environmental use of recycled water varies slightly with lake levels with the historical 5-year average at 24,464 AFY. In FY 2024/25, recycled water deliveries for environmental uses totaled 20,053 AF, contributing to a total recycled water use of 33,294 AFY.

Exhibit 7F
2020 UWMP Recycled Water Projections for FY 2024/25 Versus Actual Use

Programs	2020 UWMP Projected Use FY 2024/25 (AFY)	FY2024/25 Actual Use (AFY)
Municipal and Industrial Uses[1]	17,300	6,759
Environmental Use[1]	26,600	20,053
Seawater Intrusion Barrier (Dominguez Gap)[2]	7,500	6,065
Indirect Potable Reuse (Groundwater Replenishment)	7,000	0
Total	50,900	32,877

1. 5-year average water use is 24,464 AFY and is ultimately discharged to the Los Angeles River.
2. LADWP FY 2019/20 Recycled Water Annual Report, does not include deliveries of 38,300 AFY to ECLWRF.

7.4 Recycled Water Projected Supplies

The City is continuously expanding its recycled water program to enhance supply reliability. LADWP is pursuing recycled water initiatives such as constructing the LA GWR Project to replenish the SFB and adding connection to the Dominguez Gap Seawater Intrusion Barrier to utilize 100 percent of recycled water from TIWRP. Recycled water use projections are available in five-year increments beginning in FY 2029/30 through 2049/50 in Exhibit 7G. With the completion of LA GWR Project, LADWP's recycled water use is projected to reach 86,300 AFY through the end of the projection period with environmental reuse expected to remain relatively constant at approximately 26,600 AFY.

Exhibit 7G
Recycled Water Use Projections

Use Type	Projected Use (AFY)				
	FY 29/30	FY 34/35	FY 39/40	FY 44/45	FY 49/50
Municipal and Industrial Uses	19,200	19,300	19,400	19,600	19,700
Indirect Potable Reuse (LA GWR)	22,000	40,000	40,000	40,000	40,000
Subtotal	41,200	59,300	59,400	59,600	59,700
Environmental Use	26,600	26,600	26,600	26,600	26,600
Total	67,800	85,900	86,000	86,200	86,300

Chapter 8 Metropolitan Water District

8.0 Overview

As a founding member agency of the MWD, the City, through LADWP, purchases supplemental water from MWD on an as-needed basis to meet demands. MWD is the largest water wholesaler for domestic and municipal uses in California, providing over 19 million people with an average of 1.5 billion gallons of water per day to a service area of approximately 5,200 square miles. MWD was formed by the MWD Act and exists pursuant to this statute, which was enacted by the California Legislature in 1927. In 1928, MWD was incorporated as a public agency following a vote by residents in 13 cities of Southern California, including the City of Los Angeles.

MWD owns and operates the CRA, is a contractor for water service from the SWP, manages and owns surface storage facilities, stores groundwater via contracts, engages in groundwater storage, and facilitates water transfers to provide additional supplies for its member agencies. Today, MWD has 26 member agencies consisting of 11 municipal water districts, one county water authority, and 14 cities, including the City.

This chapter describes MWD's governance, major supply sources, associated reliability challenges, and storage and management programs that support the City's long-term water supply reliability. Additional information on MWD's water supplies and its UWMP can be found at www.mwdh2o.com/how-we-plan/.

History

Initially formed to import water into the Southern California region from the Colorado River, MWD's first project was to build the CRA. The City provided the capital investment to initiate and complete land surveys of all proposed routes for infrastructure for the CRA. Construction was financed through $220 million in bond sales that were approved in 1931. Colorado River water reached Southern California for the first time in 1941.

In 1960, MWD contracted with DWR for almost half of the SWP's water supplies to meet increasing water demands in the Southern California region. These supplies are delivered from the San Francisco Bay and Sacramento-San Joaquin River Delta (Bay-Delta) region into Southern California via the California Aqueduct. Construction of the California Aqueduct was financed as part of the $1.75 billion bond measure passed by the Burns-Porter Act in 1960. Deliveries of SWP water were first received in 1972.

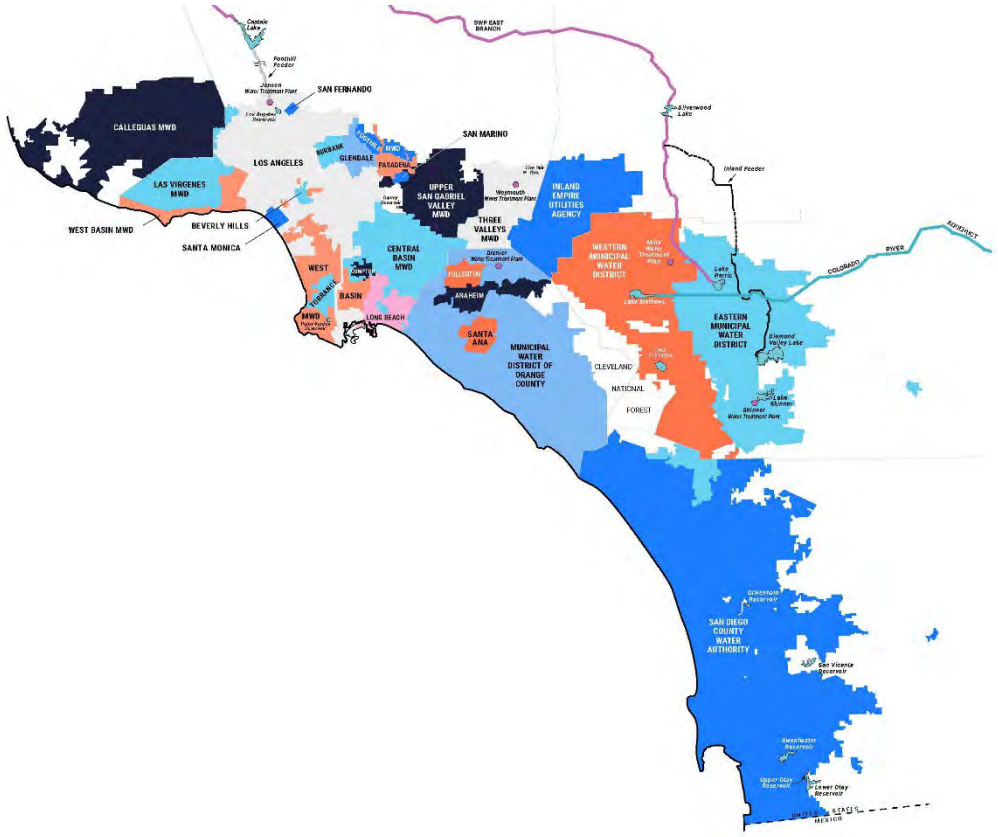
Governance

MWD is governed by a Board of Directors composed of 38 member agency representatives with a minimum of one representative from each of MWD's 26 member agencies. The allocation of directors and voting rights are determined by each agency's assessed valuation. The City is represented by five directors, and as of the latest valuation in August 2025, holds 20.43 percent of the total voting power on the MWD Board.

Service Area

MWD's service area covers portions of Los Angeles, Ventura, Orange, Riverside, San Bernardino, and San Diego counties as depicted in Exhibit 8A. MWD member agencies are comprised of wholesale, retail, or a combination of wholesale and retail water suppliers that serve a total of 152 cities and 89 unincorporated communities.

Exhibit 8A
MWD Service Area



8.1 Supply Sources

MWD's water supply comes from the Colorado River, SWP, water transfers, and storage and exchange programs, which together provide water to meet demands across MWD's service area. While the City is capable of receiving MWD supplies sourced from both the Colorado River and SWP, the City primarily receives water sourced from the SWP.

Colorado River

MWD imports water from the Colorado River through its CRA. MWD maintains the 242-miles of canals, tunnels, and siphons as well as five pumping plants and two reservoirs along the CRA. The interests of MWD, the City, and the State are represented by the Colorado River Board (CRB), a Governor appointed Board that engages in discussions and negotiations with Colorado River Basin States. The CRB is comprised of 10 members representing LADWP, MWD, San Diego County Water Authority, Palo Verde Irrigation District, Coachella Valley Water District, Imperial Irrigation District, DWR, CDFW, and two public members.

The Law of the River

Colorado River water rights are governed by a complex collection of federal laws, state laws, a treaty with Mexico, Supreme Court decrees, contracts with the Secretary of the U.S. Department of the Interior, interstate compacts, and administrative actions at the federal and state levels. Collectively, these documents and associated interpretations are commonly referred to as the "Law of the River".

The Colorado River Compact of 1922 apportioned 7.5 million acre-feet (MAF) each to the Colorado Lower Basin and Upper Basin annually. California is within the Lower Basin along with Arizona and Nevada. The Boulder Canyon Project Act of 1928 stipulates that California is required to limit Colorado River water use to 4.4 MAF annually plus one-half of the excess water that remains unapportioned.

Colorado River Supply Reliability Challenges

From 2000 to 2004, the Colorado River Basin experienced severe dry conditions. In response to ongoing drought conditions, decreasing storage, and growing demands for Colorado River water, the 2007 Interim Guidelines were developed to provide operational strategies to coordinate releases from Lake Powell and Lake Mead based on reservoir elevation tiers. Dry conditions in the Colorado River Basin have persisted for the past two decades, with below average precipitation and runoff in two out of every three years. Lake Powell and Lake Mead's long-term outlook indicates continued decline in reservoir levels, which could reduce the amount of Colorado River water available to California. The 2019 Colorado River Basin Drought Contingency Plans were implemented to reduce risks from ongoing drought and require states to contribute defined volumes of water when reservoir elevations drop below defined tiers. Through the plans, the Lower Basin states commit to reducing the amount of water withdrawals from Lake Mead during times of shortage.

The 2007 Interim Guidelines are set to expire in 2026, and negotiations among Colorado River Basin states regarding post-2026 operational guidelines are ongoing at the time of LADWP's 2025 UWMP preparation. The effects of the outcome of these negotiations on water supply are highly uncertain at this time. Thus, MWD has utilized the latest available information and assumes a continuation of the current operating agreements through their planning horizon to project their Colorado River supplies for their 2025 UWMP.

Water Quality Issues

Water quality issues for Colorado River supplies include high salinity levels, perchlorate, nutrients, uranium, and chromium VI. High salinity levels present the most significant issue and the only foreseeable water quality constraint for the Colorado River supply. MWD expects its source control programs for the CRA to adequately address other water quality issues, including constituents of emerging concern such as N-Nitrosodimethylamine, pharmaceuticals, personal care products, microplastics, per- and PFAS, and 1,4-Dioxane. MWD has also bolstered its water security measures across all its operations since 2001, including an increase in water quality tests.

State Water Project

MWD began receiving water from the SWP in 1972 and is the largest of the 29 SWP contractors. Variable hydrology, environmental concerns, and regulatory restrictions in the Bay-Delta have periodically reduced the quantity of water that the SWP exports from the Bay-Delta and ultimately deliveries to MWD. A majority of the supplies the City receives from MWD is sourced from the SWP.

Major State Water Project Facilities

The SWP is owned by DWR and delivers water to two-thirds of the population of California and 750,000 acres of farmland. The SWP system consists of over 700 miles of aqueduct, 36 storage facilities including reservoirs and lakes, and 26 power and pumping plants. SWP facilities originate in Northern California at Lake Oroville on the Feather River. Water released from Lake Oroville flows into the Feather River, proceeds downstream to its confluence with the Sacramento River, and then travels into the Bay-Delta. Water is then pumped from the Bay-Delta region to contractors in areas north and south of the San Francisco Bay and south of the Bay-Delta. In addition to delivering water to its contractors, the SWP is operated to improve water quality in the

Bay-Delta region, control flood waters, and provide recreation, power generation, and environmental enhancement.

MWD receives SWP water at three locations: Castaic Lake in Los Angeles County, Devil Canyon Afterbay in San Bernardino County, and Box Springs Turnout at Lake Perris in Riverside County. In addition, MWD has flexible storage rights at Lake Perris at the terminus of the East Branch of the SWP and at Castaic Lake at the terminus of the West Branch.

Contract Allocations

Contract allocations, also known as entitlements, for SWP contractors are provided by DWR in a table commonly referred to as "Table A". Allocations are based on the original projected SWP maximum yield of 4.173 MAF. Table A is a tool used by DWR to allocate fixed and variable SWP costs and yearly water entitlements to the contractors. Table A contract amounts do not reflect actual deliveries a contractor should expect to receive. MWD has a Table A contract amount of 1.912 MAF per year, or 46 percent of the SWP's original projected maximum yield of 4.173 MAF.

DWR annually approves the amount of contract allocations SWP contractors will receive. The contract allocation amount received by contractors varies based on contractor demands and projected available water supplies. Contractors' requests for portions of their entitlements cannot always be met. Variables impacting projected water supplies include snowpack in the Sierra Nevada, available capacity in reservoirs, operational constraints, and demands of other water users. Operational constraints include pumping restrictions related to fish species listed as threatened or endangered under the federal or state Endangered Species Acts.

DWR publishes the State Water Project Delivery Reliability Report bi-annually to provide contractors with current and projected water supply availability for the SWP. In December 2025, DWR released the draft 2025 State Water Project Delivery Capability Report. The draft 2025 Delivery Capability Report provides State Water Project delivery capabilities in various scenarios factoring in climate change, sea level rise, current regulations, and water use assumptions upstream of the Delta. Additionally, in May 2025, DWR issued an addendum to the previous 2023 Report focusing on the potential impacts to SWP operation and capacity because of ongoing subsidence. MWD utilized the Draft 2025 SWP Delivery Capability Report to estimate available SWP supplies for their 2025 UWMP.

SWP Supply Reliability Challenges

Bay-Delta Issues

The Bay-Delta is a major waterway at the confluence of the Sacramento and San Joaquin rivers. Water from the Bay-Delta serves multiple purposes, which can be exacerbated during dry years when available water to meet the needs of both people and the environment is in short supply. Approximately two-thirds of Californians receive at least a portion of their water from the Bay-Delta. Almost all water delivered via the SWP to Southern California must pass through the Bay-Delta. Runoff from more than 40 percent of the state is also conveyed through the Bay-Delta forming the eastern edge of the San Francisco Bay's estuary. A large portion of the Bay-Delta region lies below sea level and is protected by more than 1,100 miles of levees to prevent flooding. Deterioration of the Bay-Delta ecosystem coupled with infrastructure concerns, hydrologic variability, climate change, litigation, regulatory restrictions, and previously discussed water quality issues have resulted in supply reliability challenges for SWP contractors who depend upon the Bay-Delta for water supplies.

MWD Infrastructure Limitations

California experienced extremely dry conditions from 2020 to 2022, leading to historically low deliveries from the SWP. Although MWD retained record storage reserves at the time, limitations on MWD's infrastructure capabilities resulted in an inability to deliver stored supplies to several member agencies. The areas within these member agency service areas that could not receive stored supplies became known as the SWP Dependent Areas. In response, MWD adopted their EWCP in April 2022 and declared a Water Shortage Emergency Condition for the member agencies within the SWP Dependent Areas. A portion of the City is within the SWP Dependent Area and was thus impacted by MWD's EWCP. This program imposed outdoor irrigation limits to one day per week or monthly water supply allocation limits to affected member agencies. MWD's EWCP concluded in March 2023 after wet conditions throughout early 2023 provided adequate water supplies to MWD to meet SWP Dependent Area demands.

The 2020-2022 drought highlighted the limitations of MWD's conveyance infrastructure to reliably supply SWP Dependent Areas with supplies retained in MWD's storage reserves during years of low SWP allocation. In response to these conditions, the MWD Board adopted a resolution affirming MWD's commitment to regional reliability for all its member agencies in August 2022. This resolution included a call to action to identify projects and programs to improve MWD's ability and infrastructure capacity to provide equivalent water supply reliability to all its member agencies. MWD has identified a series of projects to address and improve supply reliability for SWP Dependent Areas, several of which are currently undergoing further evaluation through MWD's Climate Adaptation Master Plan for Water (CAMP4W) process. Additional information on CAMP4W is discussed in Section 8.2.

Water Quality Issues

Water quality issues for SWP supplies include disinfection byproduct precursors such as TOC, bromide, low alkalinity arsenic, and nutrient levels. Other constituents of emerging concern include N-Nitrosodimethylamine, pharmaceuticals personal care products, microplastics, PFAS, and 1,4-Dioxane. TOC and bromide in SWP water present the greatest water quality issues as they can form disinfection byproducts during water treatment and have periodically limited MWD's use of SWP water. Agricultural drainage to the Bay-Delta and seawater commingling with Bay-Delta supplies increases these contaminants. Ozone disinfection combined with pH control and chloramines is a very effective treatment to control for bromate. MWD has upgraded treatment processes to ozone disinfection at its treatment plants to reduce formation of disinfection byproducts and lift potential restrictions on SWP water usage. MWD requires low salinity levels of SWP water to meet blending requirements for CRA water, and therefore, any increase in salinity levels in SWP supplies is a concern to MWD. Additionally, LADWP purchases untreated SWP water for treatment at its LAAFP which uses chloramine and UV disinfection to control bromate formation.

MWD has supported expanding DWR's Municipal Water Quality Investigations Program beyond its Bay-Delta core water quality monitoring and studies to include enhanced water quality monitoring and forecasting for the Delta and SWP. MWD is utilizing its water supply portfolio options to conduct water quality exchanges to reduce TOC and bromide. MWD has stored SWP water during periods of high-water quality in groundwater storage basins for later use when SWP is at a lower water quality. These storage programs were initially designed to provide water during dry SWP conditions, but a few of these programs are now operated for dual purposes.

Since 2020, there have been increased detections of quagga mussels (Dreissena bugensis) and new detections of golden mussels (Limnoperna fortunei) within the SWP system. Invasive mussels have the potential to rapidly spread and impede operations across critical water conveyance infrastructure. MWD developed a Quagga Mussel Control Program in 2007 to address the presence of mussel larvae in the Colorado River and

will use similar actions to protect infrastructure and limit the impacts of quagga and golden mussels in the SWP system.

Storage Facilities

Storage facilities play a key role in maintaining MWD's reliability during droughts, imported water curtailments, and emergency outages. These storage facilities consist of surface reservoirs and contracted groundwater basin storage. Conjunctive use of surface reservoirs and groundwater basins was first initiated by MWD in the 1950s. Long-term storage goals for storage facilities were established in MWD's Water Surplus and Drought Management (WSDM) Plan, which provides storage for hydrology fluctuations, water quality management, and SWP and CRA operational issues.

MWD has established emergency regional storage requirements of 750,000 AF based on a major earthquake scenario that could potentially cut off all imported supplies for six months from all aqueducts serving the region: the CRA, both SWP branches, and LADWP's LAA. Under this scenario, MWD would maintain deliveries by suspending interruptible deliveries, implementing mandatory water use reductions of 25 percent of normal-year demands, utilizing available water from surface reservoir and groundwater supplies stored as part of MWD's interruptible supply program, and implementing full local groundwater production. MWD's emergency storage requirement is based on projected demands and may change over time.

Surface Reservoirs

MWD owns and operates seven surface storage reservoirs in the Southern California region. Four of the reservoirs, Live Oak, Garvey, Palos Verdes, and Orange County, are used for regulatory purposes and do not provide drought or emergency storage. The remaining three reservoirs, Lake Mathews, Lake Skinner, and Diamond Valley Lake can store water for emergency and drought needs. Two additional reservoirs, Copper Basin and Gene Wash, are located along the CRA for system regulation purposes. MWD also has 1.5 MAF of storage rights in Lake Mead on the Colorado River pursuant to its intentionally created surplus agreement with the USBR. MWD also has storage rights in DWR's SWP terminal reservoirs, Lake Perris and Castaic Lake. MWD's effective storage capacity is approximately 1.67 MAF.

750 thousand acre-feet (TAF) of MWD's storage capacity is designated as emergency storage. Approximately 369 TAF is projected to be stored in MWD's facilities and the balance of 381 TAF in DWR's facilities. More information on MWD's surface storage is available in their UWMP.

Contracted Groundwater Basin Storage

To improve reliability, MWD engages in contracted groundwater basin storage. MWD has worked with local water agencies to increase groundwater storage and has implemented conjunctive water use through various programs. Groundwater storage occurs using the following methods:

- Direct delivery – Water is delivered directly by MWD to local groundwater storage facilities using injection wells and spreading basins.
- In-lieu delivery – Water is delivered directly to a member agency's distribution system, and the member agency uses the delivered water and forgoes pumping, allowing water to remain in storage.

MWD engages in two main types of storage programs: cyclical and conjunctive use. These programs are designed to deliver water to agencies prior to the actual need for the demands, allowing MWD to store supplies for use in dry years. Since 2007, MWD has used these programs to address SWP shortages. MWD provides financial incentives and funding to assist agencies with developing storage programs. As of January 2025, MWD's conjunctive use storage balance was approximately 84 TAF.

Groundwater Storage and Water Transfers

MWD also engages in groundwater storage and water transfers outside of the Southern California region to increase the reliability of SWP dry-year supplies. Groundwater storage and water transfers were initiated by MWD in response to concerns that MWD's supply reliability objectives could not be met by the SWP. Groundwater storage and transfer programs were developed to allow MWD to reach its SWP reliability goal. All groundwater storage and water transfer programs are located within the vicinity of the SWP or Central Valley Project (CVP) facilities to ensure the delivery of water to MWD. Groundwater storage programs involve agreements allowing MWD to store its SWP contract Table A water in excess of MWD demands and to purchase water for storage. MWD calls for delivery of the stored water during dry years. Water transfers involve MWD purchasing water from willing sellers when additional supplies are needed.

8.2 MWD Supply Reliability

As an urban water supplier, MWD is also subject to the requirements of the UWMP Act and has developed its own 2025 UWMP in coordination with its member agencies. As shown in Exhibit 8B, MWD's forecasted supplies and demands through 2050 demonstrate a surplus of supply available to meet member agency demands in average, single dry year, and multiple dry year hydrological conditions. MWD forecasts are evaluated by CY and consider average conditions to reflect an average of 1922-2021 hydrology, dry year conditions to reflect 1977 hydrology, and multiple dry year conditions to reflect 1988-1992 hydrology. The anticipated surpluses under all hydrologic scenarios represent MWD's ability to meet the City's supplemental water demands in LADWP's water supply reliability analysis in this UWMP. LADWP's projected demand on MWD is further discussed in Chapter 9, *Water Supply Reliability*.

MWD Reliability Challenges

MWD sources of imported water face numerous reliability challenges related to uncertain hydrologic conditions, water quality issues, and operational constraints that fall beyond the scope of the requirements of the UWMP Act. MWD has several ongoing planning efforts, in addition its UWMP, and is exploring additional processes and efforts to maintain supply reliability for its member agencies. A recent addition to these plans is the CAMP4W, which is a long-term planning process and decision-making tool to help ensure MWD's future water supply reliability. The City is an active participant in MWD's long-term reliability planning. More information on CAMP4W and MWD's planning processes can be found at www.mwdh2o.com/how-we-plan. More information on LADWP's integrated long-term planning efforts are included in Chapter 10, *Integrated Long-Term Planning*.

Exhibit 8B
DRAFT MWD System Forecast Supplies and Demand Summary

Forecast year	Supply (Thousands of AF per Year)				
	2030	2035	2040	2045	2050
Average Year Hydrology (1922-2021)					
Capability of Current Programs	3,762	3,720	3,664	3,624	3,718
Total Demands on MWD[1]	1,503	1,516	1,544	1,563	1,581
Surplus	2,259	2,204	2,120	2,061	2,137
Single Dry Year Hydrology (1977)					
Capability of Current Programs	2,701	2,675	2,631	2,605	2,699
Total Demands on MWD[1]	1,634	1,653	1,679	1,697	1,714
Surplus	1,067	1,022	952	908	985
Multiple Dry Year (Drought Lasting Five Consecutive Years) Hydrology (1988-1992)					
Capability of Current Programs	2,082.4	2,118.1	2,043.9	2,003.4	1,989.9
Total Demands on MWD[1]	1,602	1,668	1,689	1,712	1,731
Surplus	480.4	450.1	354.9	291.4	258.9

Source: 2025 Urban Water Management Plan, Metropolitan Water District of Southern California, February 2026 Draft

1. Total demands are adjusted to include IID-SDCWA transfer, exchange, and canal lining water. These supplies are calculated as local supply, but need to be shown for the purposes of CRA capacity limit calculations without double counting.

Chapter 9 Water Supply Reliability

9.0 Overview

LADWP is addressing the challenge of providing a reliable water supply for a growing population in a Mediterranean climate by maintaining access to imported supplies, diversifying LADWP's water supply portfolio through the development of local supplies, and continuing to improve water use efficiency. As demonstrated in Exhibit 9A, LADWP has historically relied on imported water from the LAA and MWD to make up a significant portion of its total water supply portfolio. Imported surface water supplies are highly susceptible to hydrologic variability and environmental regulatory restrictions. In response to these challenges, LADWP continues to invest in maintaining access to existing supplies, diversifying its water supply portfolio and is making substantial investments in local groundwater, recycled water, stormwater capture, water conservation, and water use efficiency. Exhibit 9A also illustrates the substantial impact of water conservation and water use efficiency as demands have decreased over the last 25 years despite a growing population and prior UWMP forecasts of increasing demands.

Exhibit 9A
Historic LADWP Reliability and Past UWMP Demand Forecasts

Demand and Supply Projections (in acre-feet)	Historic Actuals Fiscal Year Ending June 30			
	2000	2010	2020	2025
Prior UWMP Demand Forecasts	673,000	725,000	731,000	755,000
Water Demand	**661,700**	**544,200**	**487,600**	**475,000**
Supplies				
Los Angeles Aqueduct	293,200	199,700	292,100	232,200
Groundwater	126,600	77,000	34,400	6,100
Recycled Water – Non-potable Use	1,200	6,700	9,600	13,200
Metropolitan Water District	240,000	260,800	152,600	224,400
Total Supplies	***661,700***	***544,200***	***488,700***	***475,900***

1. 1995 UWMP forecast shown for 2000 and 2010 and 2005 UWMP forecast shown for 2020 and 2025
2. Includes demand to and (from) storage

9.1 Reliability Assessment Under Different Hydrologic Conditions

Water Demand

LADWP developed a demand forecast model to project demands over a 25-year planning horizon. The demand forecast model incorporates projected changes in various demand drivers including population, housing, employment, land use, and long-term climate projections. Forecasted results show that demand is projected to increase gradually over the planning horizon prior to accounting for additional planned conservation savings. Demand forecast methodology, assumptions, and results are detailed in Chapter 2, *Water Demand*.

Water Conservation

LADWP aims to further reduce potable water use to meet targets identified from the WCPS, which showed that LADWP has a maximum cost-effective savings potential of approximately 140,000 AFY compared to the FY 2013/14 baseline. LADWP plans to achieve these goals through the development and implementation of additional active and passive conservation programs, potentially resulting in an additional 59,900 AFY of savings through FY 2049/50. Conservation is a foundational component of LADWP's water resource planning efforts and will continue to be central to the City's water use efficiency goals over the long term. For additional information on water conservation, please refer to Chapter 3, *Water Conservation*.

Los Angeles Aqueducts Supplies

Water deliveries to the City from the LAA are dependent on snowfall in the Eastern Sierra Nevada. The average annual long-term LAA delivery is based on the 30-year median hydrology from FY 1990/91 to FY 2019/20, which estimates average deliveries to the City totaling approximately 193,400 AFY. Analysis of the 2023 Climate Study results suggests minimal changes to long term availability of LAA supplies under average year conditions with intensifying hydrologic extremes resulting in reduced supply availability under dry year conditions. Thus, long term availability of LAA supplies under average year conditions remain constant, and a reduction of approximately 0.19 percent annually under dry year conditions is projected for the reliability assessment. For additional information on the LAA supplies, please refer to Chapter 4, *Los Angeles Aqueduct*.

Groundwater Supplies

LADWP utilizes conjunctive use strategies to optimize available surface water and groundwater to meet demands. During wet periods, LADWP reduces production to increase the storage of water in the groundwater basins; and during dry periods, LADWP increases production to draw from available storage to help meet demands. Although LADWP can implement conjunctive use strategies to mitigate the impacts of hydrologic variability, a conservative approach was adopted in the reliability analysis by assuming the same level of projected groundwater production for average year, single dry year, and multi-dry year scenarios.

LADWP's groundwater production forecast of up to 109,300 AFY is based on multiple assumptions: (1) groundwater basin elevations can support this level of pumping on a safe yield basis; (2) LADWP's planned groundwater treatment facilities will be operational by FY 2025/26; and (3) Sylmar and Central Basin production capacity will increase based on the completion of various wellfield improvement projects. For additional information on the groundwater supplies, please refer to Chapter 5, *Groundwater*.

Recycled Water Supplies

Recycled water is derived from wastewater effluent flows, which do not vary significantly due to hydrology. This makes recycled water a reliable water supply under varying hydrologic scenarios and projected recycled water supplies remain unchanged across reliability analysis hydrologic scenarios. LADWP is planning for continued investments into its recycled water program by expanding irrigation and industrial uses, groundwater replenishment, and exploring other IPR and DPR opportunities. Under average weather conditions, recycled water supply for NPR is projected to increase from 19,200 AFY in 2030 to 19,700 AFY by 2050. IPR through the LA GWR Project is projected to produce 22,000 AFY by FY 2028/29 and up to 40,000 AFY by FY 2030/31 subject to regulatory approvals. For additional information on recycled water, please refer to Chapter 7, *Recycled Water*.

Stormwater Capture

Capturing stormwater for groundwater recharge is essential to maintaining groundwater supplies, addressing the overall long-term decrease in stored groundwater, protecting the safe yield of the groundwater basin, and ensuring the long-term water supply reliability of the SFB. Ongoing stormwater capture projects will continue to increase stormwater capture capacity and enable the City to utilize its stored water credits in a sustainable manner and prevent conditions of overdraft in the SFB under variable hydrology. LADWP will work with the ULARA Watermaster to continue observing actual water levels. For additional information on stormwater capture, please refer to Chapter 6, *Watershed Management*.

MWD Supplies

LADWP has historically purchased supplemental MWD supplies to meet demands and maintain reliability. LADWP has relied on MWD supplies to a greater extent as LAA supplies have been reduced due to increased environmental mitigation and enhancement requirements and as groundwater supplies have become limited due to the presence of contamination. Through continued investments in local supplies, LADWP plans to reduce its purchases of imported supplies from MWD.

MWD's 2025 UWMP indicates that MWD will continue to provide 100 percent supply capability through 2050 for its member agencies during average (CY 1922 to 2021 hydrology), single dry (CY 1977 hydrology), and multiple dry years (CY 1988 to 1992 hydrology). In each of these scenarios, there is a projected surplus of supply capability. The projected surpluses are based on the capability of current supplies and range from 258,900 AF to 2,259,000 AF per year. For additional information on MWD supplies, please refer to Chapter 8, *Metropolitan Water District Supplies*.

9.2 Service Area Reliability Assessment

To determine the overall service area reliability in compliance with CWC Section 10635(a), LADWP defined three hydrologic conditions based on historic Eastern Sierra Nevada conditions: average year (30-year median hydrology from FY 1990/91 to 2019/20); single-dry year (repeat of the 2021/22 hydrology); and multi-dry year (repeat of FY 2011/12 to FY 2015/16 hydrology). These defined conditions are used to forecast the corresponding level of LAA water supply availability. The availability of additional supplies and corresponding demand under each hydrologic condition is also determined. Exhibits 9B, 9C, and 9D tabulate the service reliability assessment for average year, single dry year, and multiple dry year conditions, respectively. Exhibit 9D shows the driest year of the multiple dry year sequence to demonstrate projected reliability under the most extreme year in the five-year sequence. No water supply shortages are anticipated as demands are met by the available supplies under all hydrologic scenarios.

Exhibit 9B
Service Area Reliability Assessment for Average Year

Demand and Supply Projections (in acre-feet)	FY 24/25 Actuals	Average Year (30-year median hydrology) Fiscal Year Ending June 30				
		2030	2035	2040	2045	2050
Water Demand	**475,900***	**472,300**	**457,200**	**462,900**	**467,000**	**467,700**
Supplies						
Los Angeles Aqueduct	232,200	193,400	193,400	193,400	193,400	193,400
Groundwater	6,100	103,800	109,300	109,300	109,300	109,300
Recycled Water – LA GWR	-	22,000	40,000	40,000	40,000	40,000
Recycled Water – Non-potable Use	13,200	19,200	19,300	19,400	19,600	19,700
Metropolitan Water District	224,400	133,900	95,200	100,800	104,700	105,300
Total Supplies	***475,900***	***472,300***	***457,200***	***462,900***	***467,000***	***467,700***

*Includes demand to and (from) storage
Note: Values rounded to nearest 100 AF

Exhibit 9C
Service Area Reliability Assessment for Single Dry Year

Demand and Supply Projections (in acre-feet)	FY 24/25 Actuals	Single Dry Year (FY 2021/22 hydrology) Fiscal Year Ending June 30				
		2030	2035	2040	2045	2050
Water Demand	**475,900***	**472,300**	**457,200**	**462,900**	**467,000**	**467,700**
Supplies						
Los Angeles Aqueduct	232,200	59,400	58,900	58,300	57,800	57,200
Groundwater	6,100	103,800	109,300	109,300	109,300	109,300
Recycled Water – LA GWR	-	22,000	40,000	40,000	40,000	40,000
Recycled Water – Non-potable Use	13,200	19,200	19,300	19,400	19,600	19,700
Metropolitan Water District	224,400	267,900	229,700	235,900	240,300	241,500
Total Supplies	***475,900***	*472,300*	*457,200*	***462,900***	***467,000***	***467,700***

*Includes demand to and (from) storage
Note: Values rounded to nearest 100 AF

Exhibit 9D
Service Area Reliability Assessment for Multiple Dry Years

Demand and Supply Projections (in acre-feet)	FY 24/25 Actuals	Multiple Dry Year (FY 2011/12 to FY 2015/16 hydrology) Fiscal Year Ending June 30				
		2030	2035	2040	2045	2050
Water Demand	**475,900***	**472,300**	**457,200**	**462,900**	**467,000**	**467,700**
Supplies						
Los Angeles Aqueduct	232,200	62,200	61,600	61,000	60,500	59,900
Groundwater	6,100	103,800	109,300	109,300	109,300	109,300
Recycled Water – LA GWR	-	22,000	40,000	40,000	40,000	40,000
Recycled Water – Non-potable Use	13,200	19,200	19,300	19,400	19,600	19,700
Metropolitan Water District	224,400	265,100	227,000	233,200	237,600	238,800
Total Supplies	***475,900***	***472,300***	***457,200***	***462,900***	***467,000***	***467,700***

*Includes demand to and (from) storage
Note: Values rounded to nearest 100 AF

9.3 Drought Risk Assessment

In addition to the reliability assessment, LADWP conducted a drought risk assessment in compliance with CWC Section 10635(b), which includes a summary of anticipated water demands and supplies over a five-year dry period assumed to start in FY 2025/26. A summary of the drought risk assessment is presented in Exhibit 9E over the assessed five-year period from FY 2025/26 to 2029/30 simulating LAA hydrology from LADWP's driest five consecutive year sequence from FY 2011/12 to FY 2015/16. This drought risk assessment considers the same set of assumptions across projected supply and demand utilized for the reliability analysis described in Section 9.1. No water supply shortages are anticipated as demands are met by the available supplies under the drought risk assessment.

Exhibit 9E
Service Area Drought Risk Assessment

Demand and Supply Projections (in acre-feet)	FY 24/25 Actuals	Drought Risk Assessment (FY 2011/12 to FY 2015/16 hydrology) Fiscal Year Ending June 30				
		2026	2027	2028	2029	2030
Water Demand	**475,900***	**474,100**	**473,400**	**473,000**	**472,500**	**472,300**
Supplies						
Los Angeles Aqueduct	232,200	90,500	71,900	66,800	61,700	184,800
Groundwater	6,100	92,300	94,900	94,900	94,900	103,800
Recycled Water – LA GWR	-	-	-	-	22,000	22,000
Recycled Water – Non-potable Use	13,200	13,700	16,100	16,300	17,900	19,200
Metropolitan Water District	224,400	277,600	290,500	295,000	276,000	142,500
Total Supplies	***475,900***	***474,100***	***473,400***	***473,000***	***472,500***	***472,300***

*Includes demand to and (from) storage
Note: Values rounded to nearest 100 AF

9.4 Water Shortage Contingency Plan

As required by CWC Section 10632, LADWP has developed a WSCP, which is included as Appendix I. The WSCP establishes six standard water supply shortage levels and corresponding shortage response actions as reflected in Exhibit 9F.

The decision-making process LADWP utilizes each year to determine shortage conditions begins with an assessment of its water demand and availability of water supplies. LADWP's assessment also includes a review of local and regional infrastructure to determine possible limitations to supply availability. If available supplies are sufficient to meet projected demands, then a condition of no shortage will be determined. If a shortage condition is identified, the magnitude of the shortage will determine LADWP's response to the shortage, corresponding to the established standard water shortage levels.

LADWP will first attempt to bridge shortage gaps with operational changes to its system to leverage supplies with greater availability for system delivery to offset identified supplies experiencing shortages. As shortage magnitudes increase and available supplemental supplies from MWD become limited, LADWP will further respond with implementation of mandatory water use restrictions through the City's Conservation Ordinance and explore opportunities to supplement its supplies through supply augmentation.

Exhibit 9F
Summary of LADWP Water Shortage Level Response Actions

Water Shortage Level	Percent Shortage	Emergency Water Conservation Plan Phase	Additional WSCP Actions
No Shortage	0%	Phase 1 & Phase 2	
Shortage Level 1	Up to 10%		Operation Changes
Shortage Level 2	Over 10% and up to 20%	Phase 3	
Shortage Level 3	Over 20% and up to 30%	Phase 3	Supply Augmentation
Shortage Level 4	Over 30% and up to 40%	Phase 4	
Shortage Level 5	Over 40% and up to 50%	Phase 5	
Shortage Level 6	Greater than 50%	Phase 6	

Note: WSCP Actions identified under specific shortage levels are cumulative and will encompass all actions identified in preceding shortage levels.

The WSCP also lists re-evaluation and improvement procedures LADWP will use to ensure shortage risk tolerance is adequate and appropriate water shortage mitigation strategies are implemented as needed. The WSCP will be re-evaluated at least every five years in coordination with the UWMP update or at the discretion of LADWP.

In addition to shortage planning, the WSCP describes how LADWP is planning for a catastrophic supply interruption, including a large seismic event at the regional and local scale, which is also summarized below. LADWP and MWD have developed response plans for catastrophic supply interruptions that include regional power outages, earthquakes, or other disasters. Additionally, LADWP maintains several emergency connections to and from neighboring water agencies to provide mutual aid during times of catastrophic supply interruptions.

In the event of severe dry periods, MWD may implement its WSCP as the regional wholesaler. MWD's WSCP incorporates substantial input from its member agencies and establishes priorities for the use of MWD's water supplies to maintain service reliability under shortage conditions.

Catastrophic Supply Interruption Plan

Seismic Assessment of Major Imported Supplies

Numerous faults throughout California pose a major seismic risk to potentially disrupting deliveries of Southern California's imported supplies. Portions of the conveyance systems on LADWP's LAA, DWR's SWP California Aqueduct, and MWD's CRA all traverse the San Andreas Fault. A major seismic event on this fault could damage the conveyance systems and temporarily cut off deliveries of imported supplies to the Southern California region until repairs are completed.

MWD may limit supplies to member agencies in the event of disruptions to its facilities after a large seismic event. LADWP and MWD have evaluated potential damage scenarios to the LAA, SWP, and CRA from a major (Magnitude 7.8) seismic event on the San Andreas Fault, as follows:

- Los Angeles, California, and CRA outage: The shakeout produces up to an 18-month outage of the LAA, a 12 to 24-month outage of the East Branch of the California Aqueduct, a 6 to 12-month outage of the West Branch of the California Aqueduct, and a 6-month outage of the CRA until 80 percent of CRA capacity could be recovered. Repairs to bring the CRA back to 100 percent capacity would last three to five years.
- Potential maximum reductions in member agency retail water demand: MWD estimates that 30 percent of all retail demand is directed toward outdoor uses. MWD combined this estimate with a Public Policy Institute of California (PPIC) report (Building Drought Resilience in California's Cities

and Suburbs, June 2017) to resolve that its member agencies would be able to reduce retail demands by 25 to 35 percent following a major seismic event. LADWP will evaluate projected shortages in accordance with its WSCP to determine necessary conservation measures and actions accordingly.

- Reductions to member agency local supplies: MWD estimated a 6 and 12-month aggregated loss of 10 to 20 percent of local production following a seismic event. This includes full outage of the LAA, and that local LADWP supplies would include groundwater and recycled supplies only.

MWD has established its Emergency Storage Objectives at 750,000 AF based on the anticipated performance of three water system components during the shakeout scenario. MWD's evaluation indicates that its member agencies should be prepared to reduce their demands by 25 to 35 percent. A mandatory demand reduction proposed by MWD would mimic the impacts of water use reduction (MWD Water Supply Allocation) due to a dry period.

Emergency Response Plan

LADWP has Emergency Response Plans (ERPs) in place to restore water service for essential use in the City in the event an emergency, such as a power outage or earthquake, results in an interruption of the water supply. LADWP personnel responsible for water transportation, distribution, and treatment have established ERPs to guide the assessment, prioritization, and repair of water infrastructure that has incurred damage during such an incident.

LADWP coordinates emergency response efforts through the Department Emergency Operations Center (DEOC) and/or the Water Emergency Command Center (WECC). These operations centers are intended to facilitate operational coordination, information sharing, and resource management among the various LADWP entities that may be involved in responding. In a citywide emergency or major event, the City's Emergency Management Department (EMD) may also activate the City's Emergency Operations Center (EOC) to serve as a centralized point for managing information and resources in support of overall response and recovery efforts. When this occurs, LADWP, through the DEOC and/or WECC, will coordinate with the EOC, as needed, to address water issues. Ultimately, these organizational structures work in tandem to support the City's emergency response overall mission of saving lives, protecting property, and returning the City to normal operations in the event of a disaster.

Earthquakes

In the event of a major earthquake, LADWP has a Disaster Response Plan dedicated for the LAA in addition to its overall ERP. The Disaster Response Plan details procedures for operating the LAA following an earthquake in order to prevent further damage of the LAA. If the LAA is severed by seismic activity on the San Andreas Fault and is temporarily unable to provide water to the City, LADWP will be able to use its water storage in Bouquet Reservoir to provide water supply to the City while repairs are made. In addition to this resource, if the California Aqueduct is intact south of the Neenach Pump Station (First Los Angeles Aqueduct State Water Project Connection), arrangements may be made to transfer LAA water through this connection into the California Aqueduct for delivery to MWD. Arrangements can then be made to deliver water to the City through one of MWD's connections.

Power Outages

Most of LADWP's pump stations are equipped with diesel-powered backup pumps in the event a major power outage disrupts the primary energy system. The diesel-powered backups are capable of running for extended periods of time with reliable refueling. In the event of a major power outage, backup pumps can be automatically switched on, started remotely, or activated manually. In addition, LADWP maintains emergency storage supply under normal operations to maintain water distribution system operability until power is restored.

9.5 Energy Intensity

The CWC requires UWMP to include the estimates of energy used throughout the water supply process, such as energy used for extraction, conveyance, treatment, distribution, and storage. The relationship between water and energy is referred to as the water energy nexus and quantifies the energy intensity. Water energy intensity quantifies the energy used per unit of water delivered from its source to the point of delivery. The most common unit is kilowatt hours per acre feet (kWh/AF). Reporting energy intensity offers several benefits to water suppliers and their customers, including identifying cost-saving opportunities, supporting water conservation and climate change mitigation efforts, and enabling benchmarking and comparison of energy performance across agencies.

Los Angeles Aqueduct Energy Intensity

The LAA is a multi-beneficial water infrastructure as a gravity-fed conveyance system that conveys water from the Eastern Sierra Nevada and produces hydropower for the City, making it the most efficient source of water in terms of energy intensity. On average, from FY 2020/21 to FY 2024/25, the average LAA hydropower energy generation was approximately 3,956 kWh/AF. The energy generated along the LAA is not included in LADWP's total energy intensity to offset the other water management processes because it is not directly used in the City's water management process. However, the LAA water does provide direct offset of the other more energy intensive sources of water, reducing the overall energy intensity of LADWP's water supplies.

LAA water is primarily treated at the LAAFP. For LAAFP, the treatment energy intensity has averaged approximately 46 kWh/AF, from FY 2020/21 to FY 2024/25. The treatment energy intensity includes the following processes: ozonation, biological filtration, dual UV disinfection, and other treatment utilized at LAAFP. After the LAA water is treated to potable water standards, it enters the LADWP's potable water distribution system to be delivered to the customers.

Groundwater Energy Intensity

Local groundwater supplies consist of multiple processes. Raw groundwater is pumped and extracted from its source to the surface. The energy for this supply varies due to the amount of groundwater pumped, groundwater well configuration, depth of groundwater, and pump efficiency. Once extracted, raw groundwater is treated to meet drinking water standards. Treatment energy also varies due to groundwater quality and treatment processes specific to each basin. The average groundwater energy intensity from FY 2020/21 to FY 2024/25 was approximately 505 kWh/AF. Once treated, groundwater is then distributed through LADWP's potable water distribution system.

Recycled Water Energy Intensity

LADWP receives non-potable recycled water from several water agencies that treat wastewater to meet Title-22 level. Once recycled water is delivered to LADWP, LADWP distributes it to its customers for non-potable applications. LADWP's water management process for recycled water is exclusively for transporting water from recycled water production facilities to its customers through recycled water pump stations and the recycled water distribution network. Most of the energy use associated with processing recycled water occurs outside of LADWP's operational control.

MWD Energy Intensity

The water energy process within LADWP's operational control for purchased water from MWD is the treatment of untreated imported water and distribution of all purchased water to LADWP's customers through its distribution system. Untreated imported water is treated at the LAAFP. The average treatment energy intensity for the LAAFP is approximately 46 kWh/AF, from FY 2020/21 to FY 2024/25. The treatment energy intensity includes ozonation, biological filtration, UV disinfection, and other treatment utilized at the LAAFP.

Distribution System Energy Intensity

The distribution infrastructure is comprised of multiple facilities such as pump stations, tanks, reservoirs, regulator stations, and over 7,000 miles of distribution mains and trunk lines. Distribution energy intensity is influenced by various factors including amount of water being pumped to a higher elevation, head loss in the pipe network, source water elevation, and pump efficiency. The FY 2020/21 to FY 2024/25 average energy intensity for LADWP's water distribution system is approximately 138 kWh/AF, which is relatively low among urban water agencies due to the ability for tanks and water storage in higher elevations to distribute water by gravity.

9.6 Water Supply Assessments

The California Legislature enacted Water Code Section 10910, in 2002, which requires cities and counties, as part of CEQA review, to request the applicable public water system to assess whether the projected water demand associated with a qualifying proposed project was included as part of the most recently adopted UWMP. The intent was to link the land use and water supply planning processes to ensure that developers and water supply agencies communicate early in the planning process to verify water supply availability.

LADWP is the water purveyor for the City of Los Angeles and small portions of Calabasas, Culver City, Santa Monica, West Hollywood, and unincorporated areas of Los Angeles County. LADWP receives requests from the CEQA lead agency to assess the project's potential water demand impacts to be included in the environmental document. LADWP then prepares a water supply assessment to determine whether there are sufficient water supplies to support the projected demand associated with the proposed project during normal, single dry, and multiple dry water years for a 20-year projection, in addition to existing and planned future uses of LADWP's water system.

The projected water demand is estimated based on the proposed project's scope. The projected water demand includes indoor and outdoor water uses. The project's developers are encouraged to incorporate additional and voluntary water conservation measures to further reduce the water demand. Voluntary measures may comprise of plumbing fixtures with higher water use efficiency to conserve more water than the plumbing code's standards and implementation of efficient landscaping.

Each water supply assessment prepared by LADWP is evaluated within the context of the most recently adopted UWMP. The water demand projections for LADWP's service area in the UWMP incorporates future anticipated demographic shift and forecasted population trend during normal, single dry, and multiple dry water years, as well as existing and planned future uses of the LADWP's water system for a 25-year projection. The water supply assessment evaluates whether the water supplies identified in the UWMP are sufficient to meet the project's water demand during normal, single dry, and multiple dry water years for a 20-year period. The completed water supply assessment shall be approved by the Board of Water and Power Commissioners, which oversees LADWP, before it can be integrated into the environmental document to affirm LADWP's water supply availability to the proposed project.

Chapter 10 Integrated Long-Term Planning

10.0 Overview

LADWP has a strong record of working to ensure that its customers have reliable, safe, high-quality water. These efforts date back to the early 20th century with the construction of the LAA. City investments in regional supplies, water rights, large scale stormwater capture, aqueducts, reservoirs, conservation, water use efficiency, and, more recently, in recycled water, groundwater replenishment, groundwater basin remediation, and neighborhood and residential scale stormwater capture have all allowed residents to enjoy a reliable water supply. Sound planning and timely investments in water supply infrastructure and water use efficiency have played a critical role in meeting the City's water needs under changing climate and dynamic socio-economic conditions.

Over the last 30 years, LADWP's water supply mix has rapidly evolved to adapt to significant reductions in LAA deliveries due to environmental reallocations, reductions in groundwater production due to contamination, and intensifying hydrologic extremes. Despite significant achievements in conservation, water use efficiency, and enhanced water management efforts, these challenges have resulted in the increased reliance on purchased imported water to meet demands. As discussed in the associated sections of this UWMP, challenges to LADWP's water supply reliability are being actively addressed. Although this UWMP demonstrates that LADWP is able to maintain water supply reliability under the required reliability scenarios, LADWP recognizes that the range of plausible futures extends beyond the UWMP planning requirements and is therefore conducting additional scenario planning and analysis to identify goals that will further bolster the City's water supply resilience.

LADWP continues to collaborate and coordinate with agencies at the local, regional, and State levels, such as LACFCD, Los Angeles County Sanitation Districts, City of Los Angeles Department of Public Works, MWD, WRD, and WBMWD as part of ongoing and completed local and regional integrated resources planning efforts.

10.1 Integrated Resources Planning

Integrated resources planning is a process commonly used by many water, stormwater (flood control), groundwater, and wastewater agencies to meet mutual objectives in the most effective way possible while achieving multiple benefits with the greatest public support. The integrated resources planning process generally incorporates:

- Multiple objectives such as reliability, affordability, water quality, environmental stewardship,
- Public stakeholder engagement and input in an open, participatory process; and
- Partnerships with other agencies, institutions, and non-governmental organizations.

LADWP has been involved in integrated resources planning since the development of its first UWMP in 1985, which incorporated water conservation, groundwater, recycled water, stormwater capture, and imported water purchased from MWD.

In 1999, the City embarked on its first Integrated Resources Plan (IRP) for wastewater, stormwater, and water supply. LADWP was a key partner in this effort, working together with LASAN. In 2014, the City's IRP was updated and rebranded as "One Water LA" to be even more collaborative, involving almost every City department. LADWP has also been an essential partner in the development of the Greater Los Angeles County Integrated Regional Water Management Plan (IRWMP). This plan, first developed in 2006, was updated in 2013 and approved in 2014. In addition, LADWP is an active member of the Integrated Regional Water Management (IRWM) Leadership Committee and serves as the chair of the Upper LA River Watersheds sub-region. More recently, Los Angeles County issued the LA County Water Plan (CWP) which charts a path to improve regional water resilience. Adopted by the LA County Board of Supervisors in December 2023, the CWP was developed by LA County Public Works in partnership with representatives of agencies and organizations throughout the region, including Tribal nations and community stakeholders. LADWP Board adopted the CWP in August 2024 to further facilitate collaboration efforts with LA County and other local and regional agencies. LADWP remains committed to working closely with LA County and regional partners through participation in the CWP Working Groups, including its Regional Water Reliability Task Force. Building upon prior collaboration and successes, LADWP will continue to leverage its productive partnership with LA County to advance additional cost-effective, regional-scale projects.

LADWP was also an active participant in the development of MWD's regional IRP, first adopted in 1996 and subsequently updated with the most recent version in 2020. This regional IRP focuses on achieving water supply reliability and environmental stewardship by increasing water conservation and recycled water, integrating management of local groundwater, and improving the reliability of imported water for MWD's six-county service area.

More recently, MWD adopted a scenario planning process that replaced its prior IRP with CAMP4W. CAMP4W is an ongoing planning and decision-making tool that accounts for the complexities and uncertainties of climate change. MWD's CAMP4W Implementation Strategy was adopted in April 2025 and MWD now evaluates proposed projects based on criteria such as reliability, affordability, and environmental co-benefits. These assessments will help MWD decide which projects to implement, at what scale, and when. LADWP continues to collaborate with MWD to ensure that proposed CAMP4W projects adequately address future water supply challenges.

In 2019, a statewide effort was initiated to develop a Water Resilience Portfolio that establishes a framework to meet the State's long-term water needs for communities, economy and environment through the 21st century. The California Water Resilience Portfolio outlines a broad and diversified approach to addressing the State's water challenges and is intended to be implemented on a regional basis, reflecting local conditions, challenges, and opportunities.

The California Water Resilience Portfolio organizes its goals and actions into four categories:

- Maintain and diversify water supplies: Reduce reliance on any single water source and expand diversified water supply portfolios to increase flexibility under changing conditions.
- Protect and enhance natural ecosystems: Restore and protect river systems and ecosystems through effective standards, targeted investments, and adaptive, integrated environmental management.
- Build connections: Improve infrastructure to store, convey, and share water more effectively, and integrate water management through coordinated use of data, science and technology.
- Be prepared: Support proactive planning, protective actions, and adaptive management to address emerging risks and stresses due to climate change.

10.2 L.A.'s Water Supply Goals

Recognizing the impacts of climate change, the City developed plans towards a sustainable, low-carbon, green-energy future. L.A.'s 2019 Green New Deal updated the 2015 Sustainable City pLAn to prioritize water conservation and use efficiency, develop local water supply sources, and increase accessibility to drinking water through five targets highlighted in the Green New Deal's Local Water section. These short- and long-term targets were developed collaboratively by the City with input from LADWP, and they include several milestones and initiatives to form a more reliable, sustainable, and resilient water supply future while recognizing and balancing investments, needs, and past achievements. LADWP is committed to the development of programs that advance these initiatives and will work towards achieving these long-term goals. The City is currently developing the Mayor's Climate Implementation Plan which will refine and build upon these goals.

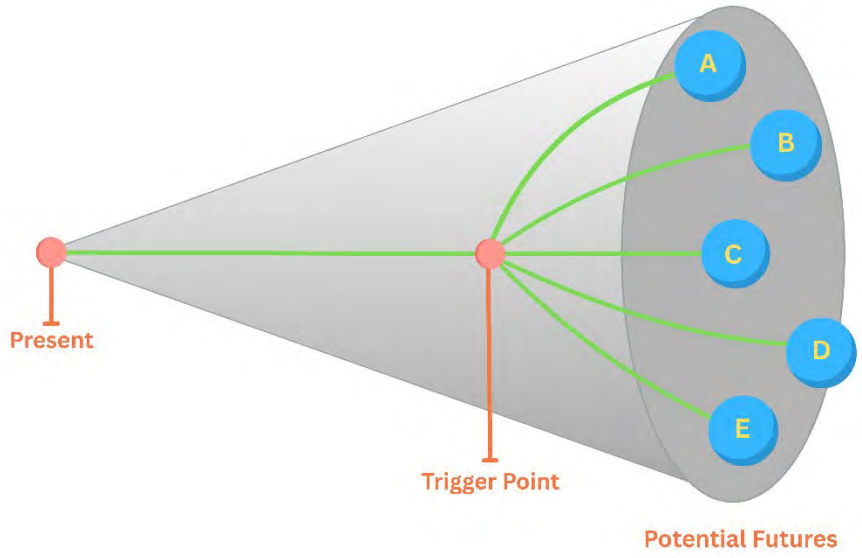
10.3 Adaptive Management

While predicting the future is inherently challenging, extreme events, such as the COVID pandemic and historical hydrological extremes in California, have underscored the importance of incorporating an adaptive planning and management process. This approach allows for consideration of plausible futures, ensuring that LADWP remains resilient and forward-thinking. Despite the unexpected extreme events, LADWP will continue to work diligently towards achieving the goals and targets noted above with an adaptive mindset.

LADWP is actively developing its Water Resiliency Plan to streamline existing water supply and infrastructure planning efforts. The Water Resiliency Plan will focus on infrastructure and supply scenarios beyond the requirements of the UWMP, including increased frequency and intensity of wet and dry hydrologic extremes, seismic events, wildfires, heat, and storms. The anticipated outcomes of the Water Resiliency Plan are to define the implementation plan for infrastructure resilience programs, to identify mitigation measures for anticipated climate impacts, to establish processes for LADWP to integrate critical resilience areas into project development and operational planning, and to prioritize water resilience projects, programs, and policies to mitigate or reduce risks due to potential loss of water service. When planning for the future, it is important to consider uncertain factors that can have a major influence on shaping the City's water supply reliability. While the UWMP analyses evaluate a set of known criteria, scenario planning allows for additional consideration of key uncertainties that can shape future strategies within the realm of the plausible scenarios. A variety of uncertainties, such as continued decline in demand or intensifying hydrologic extremes, should be considered when balancing a diverse water supply portfolio to best serve LADWP customers and ensure the City's long-term supply reliability, resiliency, and sustainability. By adopting a scenario planning approach, LADWP can envision various potential futures, identify ranges of potential outcomes and impacts, and manage both positive and negative possibilities effectively.

Several unpredictable factors contribute to uncertainty in future water supply reliability, including hydrology, population changes, and extreme weather events. Adapting to these uncertainties is critical for maintaining supply reliability, resiliency, sustainability, and meeting LADWP's water supply goals. Exhibit 10A illustrates and example of several potential futures that could occur within a cone of uncertainty, depicted as futures A through E. Each of these futures will require different adaptation strategies and it is critical that trigger points are identified to provide guidance and enable selection of the appropriate response.

Exhibit 10A
Illustration of Scenario Planning, Potential Futures, and Cone of Uncertainty



10.4 Potential Future Supplies and Storage

In scenario planning, it is essential to watch for trigger points and associated response actions. Trigger points are specific indicators or events that signal a significant change in the environment or conditions, prompting the need for a strategic response. By identifying these trigger points in advance, LADWP can proactively implement response actions to mitigate risks and capitalize on opportunities. This approach ensures that the organization remains agile and prepared to adapt to various potential futures, thereby maintaining water supply reliability and resilience of the water supply for its customers.

LADWP has been at the forefront of water reuse since the 1970s and is currently pursuing one of the largest reuse initiatives in partnership with LASAN through the Pure Water Los Angeles program, see Chapter 11, *Pure Water Los Angeles*. Also in partnership with LASAN, the LA GWR Project will provide Los Angeles with a new sustainable and drought-resistant water supply, see Chapter 7, *Recycled Water*. New projects are also underway to increase stormwater capture capacity to replenish the groundwater basin and provide multi-beneficial solutions, see Chapter 6, *Watershed Management.*

LADWP continually investigates potential water supplies that could further diversify and expand the City's water supply portfolio for improved reliability. LADWP has pursued and/or investigated various alternative water supply options, including water transfers, groundwater banking, and seawater desalination. Evaluating the viability of these and other water supply options is a key element to ensuring the City's future water supply reliability, sustainability, affordability, and cost-effectiveness. Such options, with proper planning, can help contribute toward meeting future water demands under various plausible conditions. Future water resource challenges, including population and economic growth, seismic risk, and climate change, as well as continuing legal, regulatory, and environmental constraints, may create increased demands on existing supplies, thereby warranting thoughtful consideration of alternate feasible water supply options.

Additional water resource opportunities, are discussed next, highlighting LADWP's efforts regarding each potential alternative source. Factors that affect feasibility and influence potential implementation are described, as well as advances that facilitate development of each water resource option.

Water Transfers

Water transfers involve the sale or lease of water or water rights between consenting parties.

Los Angeles City Charter Section 673(a) prohibits the City from selling, leasing, or otherwise disposing of the City's water rights in the LA River. Section 673(b) prohibits the City from selling, leasing, or otherwise disposing of any other City water rights without the assent of two-thirds of the registered voters of the City voting on the proposition. Section 677 provides limited exceptions to Section 673(b), which allow under certain circumstances for the ordinary sale and distribution of water or reclaimed water to City inhabitants for their own use, the supply or distribution by the City of surplus water or reclaimed water outside the City, and the exchange of water with a public agency.

On the State level, CWC Section 470 (The Cost-Isenberg Water Transfer Act of 1986) obligates DWR to facilitate voluntary exchanges and transfers of water when there is available capacity along the SWP. Since 2001, DWR has an office dedicated specifically to water transfers and has specific policies for transfers. The rules protecting existing water rights are of particular importance. Water rights cannot be lost when they are transferred to another user if the transfer has an underlying right to the transferred water. DWR also has three fundamental rules specifically regarding water transfers:

- There can be no injury to any legal user of water.
- There can be no unreasonable effect on fish and wildlife.
- There can be no unreasonable economic effects to the economy in the county of origin.

Voluntary exchanges and transfers of water may or may not require approvals from state agencies depending on the water supply source and facilities utilized for conveyance. Water transfers involving SWP or CVP facilities, or SWP contractors require DWR's approval. The SWRCB has jurisdiction over specific water transfers involving surface waters.

MWD, as the region's State Water Project Contractor, holds an exclusive contractual right to deliver SWP entitlement water to its service territory, including the City. Therefore, the City has the option to purchase only non-SWP supplies from the open water transfer market when economical and feasible.

Groundwater Banking

Groundwater banking, a form of conjunctive use, is the storage of water in groundwater basins for future use. Water is stored or banked within groundwater basins, typically during wet periods, for potential extraction during dry periods. Groundwater banking includes establishing accounts to track the volumes of water recharged and extracted per terms of contract agreements between the water agency and the groundwater bank operator. Groundwater banking may also occur outside of a water agency's service area. If the water agency's own conveyance facilities are not directly adjacent to the water bank, then stored water can be extracted and transferred through wheeling and exchange via other conveyance and storage facilities. Such movements of water involve institutional transfer agreements among water users and agencies. LADWP actively utilizes the SFB for conjunctive use. Additional information regarding conjunctive use strategies can be found in Chapter 5, *Local Groundwater*.

Seawater Desalination

Seawater desalination, the process of removing salts and other impurities from seawater, is an established water treatment technology to produce water supply across the world.

LADWP's current water supply portfolio does not include seawater desalination as a water supply; however, LADWP continues to explore its potential. In 2002, LADWP studied seawater desalination as a potential water supply source with the goals of improving reliability and increasing diversity in its water supply portfolio. These efforts led to feasibility studies for development of a seawater desalination pilot project. Although no fatal flaws were uncovered during this investigation, LADWP shifted focus in 2008 towards more cost-effective local water resources, including water conservation, water use efficiency, and water recycling, as part of its primary strategy to diversify water supply for the City.

Since the early 2000s, seawater desalination technologies have significantly advanced and evolved with the completion of many desalination plants around the world, including along the coast of California. Recognizing the potential to incorporate seawater desalination as part of its local water supply portfolio, LADWP continues to monitor and explore current and emerging seawater desalination technologies to understand their capabilities and feasibility. In 2026, LADWP is expected to conduct another seawater desalination feasibility study to explore the latest seawater desalination technologies. This effort will assist LADWP in reevaluating the feasibility of incorporating seawater desalination into its future water supply portfolio.

Chapter 11 Pure Water Los Angeles

11.0 Overview

The Pure Water Los Angeles Program, formerly known as LADWP's Operation NEXT and LASAN's Hyperion 2035, is the City's largest local water supply and reuse initiative. Developed through a strategic partnership between LADWP and LASAN, the Pure Water Los Angeles Program aims to purify recycled water and provide a sustainable, drought-resilient local water supply for the City.

Central to the Pure Water Los Angeles Program is the proposed upgrade of the HWRP secondary treatment to membrane bioreactor (MBR), construction of a AWPF and new conveyance infrastructure. Once completed, the Pure Water Los Angeles Program may produce a potential maximum capacity of up to 230 mgd (257,600 AFY) of purified recycled water, integrating into the City's water system through groundwater replenishment, RWA, or other pathways such as treated water augmentation.

The Pure Water Los Angeles Program supports LADWP's water supply diversification strategy, enhancing water supply reliability, resiliency, and environmental sustainability, and the City's goal to maximize reuse of HWRP's wastewater and improve the health of the Santa Monica Bay.

The Pure Water Los Angeles Program is currently in the planning phase, supported by two foundational documents: the Program Implementation Plan for Hyperion and Pure Water Los Angeles Master Plan. These plans define the technical and institutional framework for delivering up to the potential maximum capacity.

11.1 Background

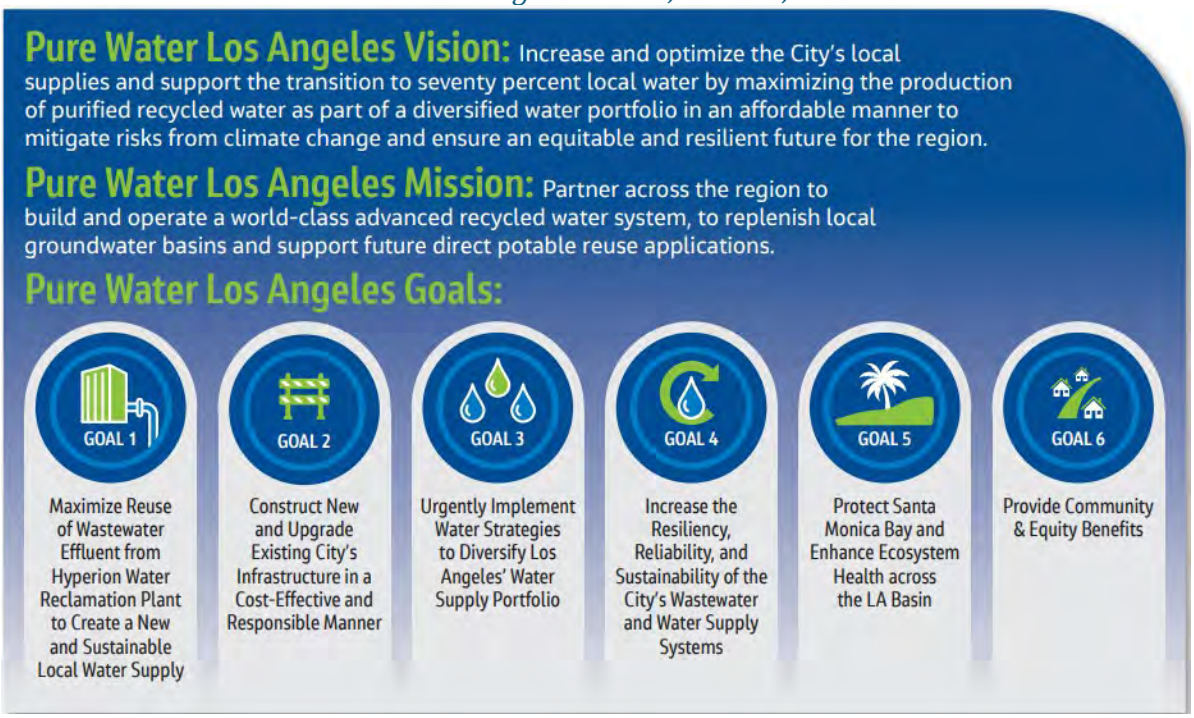
The Pure Water Los Angeles Program is an integrated effort to maximize the beneficial reuse of treated wastewater from HWRP. Operation NEXT was originally launched in February 2019. In November 2021, LADWP initiated the Operation NEXT Master Plan to evaluate the feasibility of advanced treatment and conveyance options. In July 2024, LADWP's Operation NEXT and LASAN's Hyperion 2035 were formally merged and renamed Pure Water Los Angeles, establishing a single, coordinated framework for implementation. Exhibit 11A illustrates how these two initiatives were integrated to form the Pure Water Los Angeles Program.

Exhibit 11A
Pure Water Los Angeles Program



The Pure Water Los Angeles Program officially launched in November 2024 when LASAN and LADWP jointly introduced the new name, mission, and vision as detailed in Exhibit 11B. This strategic alignment is supported by the City's Climate Cabinet – Water Resilience Working Group, which includes representatives from the Mayor's Office, LASAN and LADWP management, Board of Public Works Commissioners, and LADWP Commissioners.

Exhibit 11B
Pure Water Los Angeles Vision, Mission, and Goals



The Pure Water Los Angeles Program addresses the need to increase local water supplies, reduce vulnerability to imported water disruptions, and prepare for long-term challenges such as climate change, seismic risks, and regulatory uncertainty. These challenges are compounded by other risks to the City's existing imported water sources, including reduced supply allocations on the Colorado River, reliability of the SWP, and environmental commitments in the Eastern Sierras that limit exports on the LAA.

LADWP and LASAN completed two foundational planning documents in 2024: the Program Implementation Plan for Hyperion and the Pure Water Los Angeles Master Plan.

Program Implementation Plan for Hyperion

LASAN's Program Implementation Plan for Hyperion served as the foundational planning document for upgrading HWRP to support the production of purified recycled water. It outlined the technical, operational, and phasing strategies necessary to convert HWRP's existing secondary treatment processes to MBR technology. The Program Implementation Plan for Hyperion also provided a comprehensive construction sequencing plan that identified major risks, established a phased implementation schedule, and ensured that HWRP continues to meet all permit-compliant wastewater treatment requirements and maintain uninterrupted wastewater treatment during construction.

Key components of the Program Implementation Plan for Hyperion included detailed engineering analyses of treatment processes, facility layout, support infrastructure, and cost estimates. These analyses confirmed that

phased implementation of MBR technology is feasible and can provide secondary treated water without compromising regulatory compliance. The City is currently evaluating other on-site and off-site treatment options for the advanced treatment, providing flexibility in how the City may ultimately configure and operate the full treatment system.

Pure Water Los Angeles Master Plan

The Pure Water Los Angeles Master Plan, finalized in December 2024, serves as LADWP's strategic framework for implementing advanced water treatment and conveyance infrastructure to support both IPR and DPR from HWRP. The Pure Water Los Angeles Master Plan was developed in parallel with the Program Implementation Plan for Hyperion and focused on the integration of purified recycled water into LADWP's water supply portfolio. It also outlined the technical, operational, and institutional pathways and requirements to achieve Pure Water Los Angeles Program goals.

The Pure Water Los Angeles Master Plan evaluated treatment and conveyance alternatives for groundwater replenishment, surface water augmentation, and DPR applications. It included conceptual information about water quality, system integration, and identified potential partnerships with WRD, WBMWD, and MWD's Pure Water Southern California. The Pure Water Los Angeles Master Plan assessed the feasibility of delivering the potential maximum capacity by considering demands, supply portfolio, and existing infrastructure. It also identified the infrastructure needs, cost estimates, and potential job creation and economic benefits.

Unification of the Program Implementation Plan for Hyperion and Master Plan

The unification of the foundational documents represented a coordinated and comprehensive approach to implementing the Pure Water Los Angeles Program. Together, these two planning documents established the foundational framework for the City's long-term strategy to maximize beneficial reuse for the City.

These planning efforts built upon a series of prior studies and initiatives including but not limited to:

- LADWP Recycled Water Master Plan (2012)
- LASAN's Hyperion Reuse Feasibility Study (2016)
- WRD/LADWP Basin Replenishment and Extraction Master Plan (2016)
- One Water LA Plan (2018)
- LADWP Groundwater Development and Augmentation Plan (2020)
- Operation NEXT Conceptual Study Report (2021)

Together, these efforts reflect a long-standing commitment to integrated water management and lay the pathway for a more sustainable and resilient water supply.

Program Components

The Pure Water Los Angeles Program consists of a robust suite of infrastructure investments that collectively will enable the production, conveyance, treatment, and integration of purified recycled water into the City's distribution system. These components will be designed to support both indirect and DPR applications while maintaining operational flexibility, regulatory compliance, and long-term resiliency. The Pure Water Los Angeles Program components may include, but are not limited to:

- Treatment facilities: MBR, AWPF and groundwater treatment facilities
- Conveyance infrastructure: trunklines, pump station, tanks/forebays, and power infrastructure
- Groundwater recharge and extraction infrastructure: production wells, injection wells, and monitoring wells

11.2 Next Steps

To advance the Pure Water Los Angeles Program, several critical decisions will shape the configuration and ensure successful delivery. These next steps are essential to eventually transition from planning to execution, while maintaining alignment with the City's long-term water supply goals. Public input is critical to the planning of the Pure Water Los Angeles Program and will be gathered during public engagement sessions and the CEQA process. Next steps currently being evaluated include:

- **Alignment Selection and Facility Location** - Selection of the preferred conveyance alignment and facility locations are foundational for the Pure Water Los Angeles Program. This decision informs the infrastructure and integration points, and considers hydraulics, proximity to integration points, constructability, environmental impacts, and regional collaboration.
- **Program Approach and Size** - The final planned capacity is to be determined by demand, source water availability, hydraulics, infrastructure, affordability and regulatory considerations.
- **Treatment Configuration** - Two treatment configurations are under consideration: a hybrid IPR/DPR configuration, and a full DPR configuration, both using advanced treatment processes to meet regulatory standards.
- **AWPF Location** - Potential locations of the AWPF are currently being evaluated by LADWP and LASAN. Site selection may be based on land availability, proximity to source water and integration points, constructability, and environmental considerations.
- **Potable Reuse Integration and Groundwater Recharge** - The City is also evaluating the most suitable locations for integration of purified recycled water. Potential sites for DPR include the LAAFP and other strategic points within LADWP's distribution system. This evaluation includes assessing the feasibility of other approaches, such as treated water augmentation, to ensure flexibility and resilience in future operations.
- **Phased Implementation Strategy** - Implementation of the Pure Water Los Angeles Program may follow a phased approach to ensure efficient and timely execution and delivery of purified recycled water. This sequencing ensures that infrastructure development aligns with operational readiness and regulatory milestones.
- **Environmental Review and Compliance** - LADWP and LASAN are preparing a Programmatic Environmental Impact Report (PEIR) under CEQA to assess potential impacts of construction and operation of the Pure Water Los Angeles Program infrastructure. The CEQA process identifies feasible mitigations or alternatives through public input, including scoping meetings, comment periods, and agency consultations. Once finalized, the PEIR may guide the Pure Water Los Angeles Program design, permitting, and implementation.
- **Funding and Financial Strategy** - The City is pursuing a diversified funding strategy, leveraging federal, state, regional, and local resources such as grants, low-interest loans, securitization, and incentives (e.g. Bipartisan Infrastructure Law, State Revolving Fund, US EPA's Water Infrastructure Finance and Innovation Act, U.S. Bureau of Reclamation's Title XVI program and MWD's Local Resources Program and municipal bonds). Strategic financial planning, including life-cycle cost analysis and phased funding, may support the Pure Water Los Angeles Program's long-term affordability and sustainability.
- **Community Engagement and Regional Coordination** - Transparent and inclusive outreach is central to the Pure Water Los Angeles Program, including ongoing public meetings, workshops, and digital communications. Special focus is placed on environmental justice communities through partnerships and multilingual outreach. Ongoing public engagement coordination with agencies such as MWD further ensures regional alignment.

- **DPR Pilot Testing and Treatment Train Evaluation** - To support regulatory readiness and treatment configuration at HWRP, the City may implement a DPR pilot facility to test both the prescribed and alternative post-RO treatment trains. The pilot may be located at HWRP or at another site and will be coordinated with other ongoing DPR pilots. Results may guide AWPF layout, treatment selection, and compliance timelines. The prescribed train may require four years of planning and testing; alternatives may require up to seven years. This early pilot is critical for timely Pure Water Los Angeles Program delivery.

11.3 Supply Projection

The Pure Water Los Angeles Program may deliver up to the potential maximum capacity as outlined in two foundational documents. However, the final planned capacity and associated timeline will be phased and adjusted over time, contingent upon the successful completion of key activities identified in the previous section.

Phase 1 of the Pure Water Los Angeles Program could come online as early as 2040, with the potential to deliver up to 39,200 AFY (35 mgd) to WBMWD and up to 16,800 AFY (15 mgd) of IPR to the SFB. Phase 2 could begin production of water as early as 2046, which may provide up to an additional 56,000 AFY (50 mgd) of IPR to SFB and DPR to the LAAFP. A future Phase 3 could expand the Pure Water Los Angeles Program further, up to the potential maximum capacity to fully maximize usage as DPR as early as 2056. The potential maximum capacities described are presented with the 2025 UWMP reliability analysis in Exhibit 11C.

These new supply and timeline estimates are planning-level assumptions and do not constitute implementation commitments by the City. These estimates are subject to adjustment as the City evaluates the Pure Water Los Angeles Program scale, affordability, operational flexibility, partnerships, and supply reliability. Furthermore, the projection will depend on regulations, infrastructure, schedule, demands, and partnerships. Integration options, such as a dedicated conveyance trunkline or connection to Jensen Treatment Facility, are still under evaluation and contingent on future agreements and feasibility. The latest information regarding the Pure Water Los Angeles Program can be found at www.purewaterlosangeles.com.

Exhibit 11C
2025 UWMP Reliability Tables with Potential Pure Water Los Angeles

Demand and Supply Projections (in acre-feet)	FY 24/25 Actuals	Average Year (30-year median hydrology) Fiscal Year Ending June 30				
		2030	2035	2040	2045	2050
Water Demand	**475,900***	**472,300**	**457,200**	**462,900**	**467,000**	**467,700**
Supplies						
Los Angeles Aqueduct	232,200	193,400	193,400	193,400	193,400	193,400
Groundwater (Entitlements)	6,100	103,800	109,300	109,300	109,300	109,300
Recycled Water – GWR	-	22,000	40,000	40,000	40,000	40,000
Recycled Water – Non-potable Use	13,200	19,200	19,300	19,400	19,600	19,700
Metropolitan Water District	224,400	133,900	95,200	100,800	104,700	105,300
Total Supplies	***475,900***	***472,300***	***457,200***	***462,900***	***467,000***	***467,700***
Potential Pure Water Los Angeles	-	-	-	56,000	56,000	112,000

Demand and Supply Projections (in acre-feet)	FY 24/25 Actuals	Single Dry Year (FY 2021/22 hydrology) Fiscal Year Ending June 30				
		2030	2035	2040	2045	2050
Water Demand	**475,900***	**472,300**	**457,200**	**462,900**	**467,000**	**467,700**
Supplies						
Los Angeles Aqueduct	232,200	59,400	58,900	58,300	57,800	57,200
Groundwater (Entitlements)	6,100	103,800	109,300	109,300	109,300	109,300
Recycled Water – GWR	-	22,000	40,000	40,000	40,000	40,000
Recycled Water – Non-potable Use	13,200	19,200	19,300	19,400	19,600	19,700
Metropolitan Water District	224,400	267,900	229,700	235,900	240,300	241,500
Total Supplies	***475,900***	***472,300***	***457,200***	***462,900***	***467,000***	***467,700***
Potential Pure Water Los Angeles	-	-	-	56,000	56,000	112,000

Demand and Supply Projections (in acre-feet)	FY 24/25 Actuals	Multiple Dry Year (FY 2011/12 to FY 2015/16 hydrology) Fiscal Year Ending June 30				
		2030	2035	2040	2045	2050
Water Demand	**475,900***	**472,300**	**457,200**	**462,900**	**467,000**	**467,700**
Supplies						
Los Angeles Aqueduct	232,200	62,200	61,600	61,000	60,500	59,900
Groundwater (Entitlements)	6,100	103,800	109,300	109,300	109,300	109,300
Recycled Water – GWR	-	22,000	40,000	40,000	40,000	40,000
Recycled Water – Non-potable Use	13,200	19,200	19,300	19,400	19,600	19,700
Metropolitan Water District	224,400	265,100	227,000	233,200	237,600	238,800
Total Supplies	***475,900***	*472,300*	*457,200*	***462,900***	***467,000***	***467,700***
Potential Pure Water Los Angeles	-	-	-	56,000	56,000	112,000

*Includes demand to and (from) storage
Note: Values rounded to nearest 100 AF

References

(To be included in final UWMP)

Appendix A
2025 Water Shortage Contingency Plan



2025 Water Shortage Contingency Plan

Learn more:
LADWP.com/UWMP

February 2026 Draft

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Appendix WSCP-A: Emergency Water Conservation Plan

Appendix WSCP-B: Water Rate Ordinance

Appendix WSCP-C: City of Los Angeles Local Hazard Mitigation Plan

1.0 Introduction

The Los Angeles Department of Water and Power (LADWP) relies on various water supply sources to meet customer water demands. These sources of supply include: (1) local sources, such as groundwater and recycled water; (2) water imported via the Los Angeles Aqueduct (LAA); and (3) purchased imported water from the Metropolitan Water District of Southern California (MWD). More frequent and prolonged dry periods, regulatory constraints, and seismic risks that may result in water delivery system outages can impact water supply reliability for LADWP's customers. As such, the City of Los Angeles (City) must be prepared to take reasonable actions to meet water demands under conditions of limited water supplies. This Water Shortage Contingency Plan (WSCP) outlines how LADWP identifies and responds to shortage conditions and details a set of actions that the City can take in the event of a declared water supply shortage.

Shortages are generally caused under two conditions: (1) a severe dry period affecting surface and groundwater supplies availability; and (2) a catastrophic event (e.g., earthquake) that causes critical water supply system facility outages, such as water treatment plants, major conveyance infrastructure, and groundwater wells. Los Angeles City Municipal Code Chapter XII, Article I, Emergency Water Conservation Plan (Conservation Ordinance, see Appendix WSCP-A) has served as the primary tool in LADWP's water shortage response planning since it was implemented on June 1, 2009. On June 12, 2015, Los Angeles adopted an amendment to the Conservation Ordinance, providing more options for restricting outdoor water use and added an additional Phase 6 to address more extreme water shortages. On May 3, 2016, additional amendments to the Conservation Ordinance were adopted to increase existing surcharges for ordinance violations, create unreasonable use of water penalties, and incorporate the use of technology to improve ordinance enforcement.

In 2018, two long-term water conservation bills, Senate Bill (SB) 606 and Assembly Bill (AB) 1668, were signed into law. The two bills amend portions of the California Water Code (CWC), including Section 10632, which is related to water shortage contingency planning. The amended CWC requires agencies to incorporate a WSCP under its Urban Water Management Plan (UWMP). It also specifies the adoption of six standard water shortage levels. This WSCP demonstrates LADWP's compliance with the requirements outlined in CWC Sections 10632 and 10632.1. In addition, this WSCP incorporates potential actions of MWD that are used to address regional water shortages and how these actions can inform LADWP on assessing overall assessment of water demands and water supplies.

1.1 Standard Water Shortage Levels

The City's six standard water shortage levels are summarized in Table 1-1. LADWP conducts annual assessments of supply conditions to determine the appropriate water shortage level, as outlined in Section 3 – Annual Water Demand and Supply Assessment.

Once a water shortage has been identified, LADWP can recommend one of five water shortage response levels to the Mayor and City Council (Council) for official declaration. The Council can also terminate a water shortage level at the Mayor's recommendation. The process for notifying and declaring water shortage levels is explained in more detail in Section 10 – Communication Protocol.

Water shortage levels also apply to interruption of water supplies, including but not limited to, earthquakes, planned and unplanned facility outages, major water quality events, and other emergency events. For an

expanded discussion of catastrophic water supply interruptions, refer to Section 8 – Catastrophic Supply Interruption Planning.

Table 1-1 City's Standard Water Shortage Levels

Water Shortage Level	Percent Shortage
Level 1	Up to 10%
Level 2	Over 10% and up to 20%
Level 3	Over 20% and up to 30%
Level 4	Over 30% and up to 40%
Level 5	Over 40% and up to 50%
Level 6	Greater than 50%

2.0 2025 UWMP Water Supply Reliability Assessment

In accordance with CWC Section 10632(a), the water supply reliability analysis from the 2025 UWMP is provided herein. Additional information regarding the reliability assessment can be found in LADWP 2025 UWMP at www.ladwp.com/uwmp.

2.1 Reliability Assessment Under Different Hydrologic Conditions

Water Demand

LADWP developed a demand forecast model to project demands over a 25-year planning horizon. The demand forecast model incorporates projected changes in various demand drivers including population, housing, employment, land use, and long-term climate projections. Demographics forecasts (population, housing, and employment) were obtained from MWD and were based on the Southern California Association of Government's 2024 Regional Transportation Plan/Sustainable Communities Strategy. Potential climate change impacts to the LADWP service area were evaluated in collaboration with the University of California, Los Angeles (UCLA) through global climate modeling and incorporated into the demand forecast model. The demand forecast model results show that demand is projected to increase gradually over the planning horizon prior to accounting for additional planned conservation savings.

Water Conservation

LADWP aims to further reduce potable water use to meet targets identified from the Water Conservation Potential Study, which showed that LADWP has a maximum cost-effective savings potential of approximately 140,000 AFY compared to the FY 2013/14 baseline. LADWP plans to achieve these goals through the development and implementation of additional active and passive conservation programs, potentially resulting in an additional 59,900 AFY of savings through FY 2049/50. Conservation is a foundational component of LADWP's water resource planning efforts and will continue to be central to the City's water use efficiency goals over the long term.

Los Angeles Aqueducts Supplies

Water deliveries to the City from the LAA are dependent on snowfall in the Eastern Sierra Nevada. The average annual long-term LAA delivery is based on the 30-year median hydrology from FY 1990/91 to FY 2019/20, which estimates average deliveries to the City totaling approximately 193,400 AFY. Analysis of additional climate study results in collaboration with UCLA suggest minimal changes to long term availability of LAA supplies under average year conditions, but intensifying hydrologic extremes could result in reduced supply availability under dry year conditions. As a result, long term availability of LAA supplies under average year conditions remain constant, and a reduction of approximately 0.19 percent annually under dry year conditions is projected for the reliability assessment.

Groundwater Supplies

LADWP's groundwater production forecast of up to 109,300 AFY is based on multiple assumptions: (1) groundwater basin elevations can support this level of pumping on a safe yield basis; (2) LADWP's planned

groundwater treatment facilities will be operational by FY 2025/26; and (3) Sylmar and Central Basin production capacity will increase based on the completion of various wellfield improvement projects. LADWP utilizes conjunctive use strategies to optimize available surface water and groundwater to meet demands. During wet periods, LADWP reduces production to increase the storage of water in the groundwater basins; and during dry periods, LADWP increases production to draw from available storage to help meet demands. Although LADWP can implement conjunctive use strategies to mitigate the impacts of hydrologic variability, a conservative approach was adopted in the reliability analysis by assuming the same level of projected groundwater production for average year, single dry year, and multi-dry year scenarios.

Recycled Water Supplies

Recycled water is derived from wastewater effluent flows, which do not vary significantly due to hydrology. This makes recycled water a reliable water supply under varying hydrologic scenarios and projected recycled water supplies remain unchanged across reliability analysis hydrologic scenarios. LADWP is planning for continued investments into its recycled water program by expanding irrigation and industrial uses, groundwater replenishment, and exploring other indirect potable reuse (IPR) and direct potable reuse opportunities. Under average weather conditions, recycled water supply for non-potable reuse (NPR) is projected to increase from 19,200 AFY in 2030 to 19,700 AFY by 2050. IPR through the Los Angeles Groundwater Replenishment Project is projected to produce 22,000 AFY by FY 2028/29 and up to 40,000 AFY by FY 2030/31.

Stormwater Capture

Capturing stormwater for groundwater recharge is essential to maintaining groundwater supplies, addressing the overall long-term decrease in stored groundwater, protecting the safe yield of the groundwater basin, and ensuring the long-term water supply reliability of the San Fernando Basin (SFB). Ongoing stormwater capture projects will continue to increase stormwater capture capacity and enable the City to utilize its stored water credits in a sustainable manner and prevent conditions of overdraft in the SFB under variable hydrology. LADWP will work with the Upper Los Angeles River Area Watermaster to continue observing actual water levels and re-evaluate basin safe yield to allow additional increases in groundwater production over time as SFB groundwater elevations rebound.

MWD Supplies

LADWP has historically purchased supplemental MWD supplies to meet demands and maintain reliability. LADWP has relied on MWD supplies to a greater extent as LAA supplies have been reduced due to increased environmental mitigation and enhancement requirements and as groundwater supplies have become limited due to the presence of contamination. Through continued investments in local supplies, LADWP plans to reduce its purchases of imported supplies from MWD.

MWD's 2025 Urban Water Management Plan indicates that MWD will continue to provide 100 percent supply capability through 2050 for its member agencies during average (calendar year (CY) 1922 to 2021 hydrology), single dry (CY 1977 hydrology), and multiple dry years (CY 1988 to 1992 hydrology). In each of these scenarios, there is a projected surplus of supply capability. The projected surpluses are based on the capability of current supplies and range from 258,900 AF to 2,259,000 AF per year.

2.2 Service Area Reliability Assessment

To determine the overall service area reliability in compliance with CWC Section 10635(a), LADWP defined three hydrologic conditions based on historic Eastern Sierra Nevada conditions: average year (30-year median hydrology from FY 1990/91 to 2019/20); single-dry year (repeat of the 2021/22 hydrology); and multi-dry year (repeat of FY 2011/12 to FY 2015/16 hydrology). These defined conditions are used to forecast the corresponding level of LAA water supply availability. The availability of additional supplies and corresponding demand under each hydrologic condition is also determined. Tables 2-1, 2-2. And 2-3 tabulate the service reliability assessment for average year, single dry year, and multiple dry year conditions, respectively. Exhibit 11G shows the driest year of the multiple dry year sequence to demonstrate projected reliability under the most extreme year in the five-year sequence. No water supply shortages are anticipated as demands are met by the available supplies under all hydrologic scenarios.

Table 2-1 Average Year Reliability Assessment

Demand and Supply Projections (in acre-feet)	FY 24/25 Actuals	Average Year (30-year median hydrology) Fiscal Year Ending June 30				
		2030	2035	2040	2045	2050
Water Demand	**475,900***	**472,300**	**457,200**	**462,900**	**467,000**	**467,700**
Supplies						
Los Angeles Aqueduct	232,200	193,400	193,400	193,400	193,400	193,400
Groundwater	6,100	103,800	109,300	109,300	109,300	109,300
Recycled Water – Groundwater Replenishment Project (LA GWR)	-	22,000	40,000	40,000	40,000	40,000
Recycled Water – Non-potable Use	13,200	19,200	19,300	19,400	19,600	19,700
Metropolitan Water District	224,400	133,900	95,200	100,800	104,700	105,300
Total Supplies	***475,900***	***472,300***	***457,200***	***462,900***	***467,000***	***467,700***

*Includes demand to and (from) storage
Note: Values rounded to nearest 100 AF

Table 2-2 Single Dry Year Reliability Assessment

Demand and Supply Projections (in acre-feet)	FY 24/25 Actuals	Single Dry Year (FY 2021/22 hydrology) Fiscal Year Ending June 30				
		2030	2035	2040	2045	2050
Water Demand	**475,900***	**472,300**	**457,200**	**462,900**	**467,000**	**467,700**
Supplies						
Los Angeles Aqueduct	232,200	59,400	58,900	58,300	57,800	57,200
Groundwater	6,100	103,800	109,300	109,300	109,300	109,300
Recycled Water – LA GWR	-	22,000	40,000	40,000	40,000	40,000
Recycled Water – Non-potable Use	13,200	19,200	19,300	19,400	19,600	19,700
Metropolitan Water District	224,400	267,900	229,700	235,900	240,300	241,500
Total Supplies	***475,900***	*472,300*	*457,200*	***462,900***	***467,000***	***467,700***

*Includes demand to and (from) storage
Note: Values rounded to nearest 100 AF

Table 2-3 Single Dry Year Reliability Assessment

Demand and Supply Projections (in acre-feet)	FY 24/25 Actuals	Multiple Dry Year (FY 2011/12 to FY 2015/16 hydrology) Fiscal Year Ending June 30				
		2030	2035	2040	2045	2050
Water Demand	**475,900***	**472,300**	**457,200**	**462,900**	**467,000**	**467,700**
Supplies						
Los Angeles Aqueduct	232,200	62,200	61,600	61,000	60,500	59,900
Groundwater	6,100	103,800	109,300	109,300	109,300	109,300
Recycled Water – LA GWR	-	22,000	40,000	40,000	40,000	40,000
Recycled Water – Non-potable Use	13,200	19,200	19,300	19,400	19,600	19,700
Metropolitan Water District	224,400	265,100	227,000	233,200	237,600	238,800
Total Supplies	***475,900***	***472,300***	***457,200***	***462,900***	***467,000***	***467,700***

*Includes demand to and (from) storage
Note: Values rounded to nearest 100 AF

2.2 Drought Risk Assessment

In addition to the reliability assessment, LADWP conducted a drought risk assessment in compliance with CWC Section 10635(b), which includes a summary of anticipated water demands and supplies over a five-year dry period assumed to start in FY 2025/26. A summary of the drought risk assessment is presented in Tabel 2-4 over the assessed five-year period from FY 2025/26 to 2029/30 simulating LAA hydrology from LADWP's driest five consecutive year sequence from FY 2011/12 to FY 2015/16. This drought risk assessment considers the same set of assumptions across projected supply and demand utilized for the reliability analysis described in Section 2.1. No water supply shortages are anticipated as demands are met by the available supplies under the drought risk assessment.

Table 2-4 Drought Risk Assessment

Demand and Supply Projections (in acre-feet)	FY 24/25 Actuals	Drought Risk Assessment (FY 2011/12 to FY 2015/16 hydrology) Fiscal Year Ending June 30				
		2026	2027	2028	2029	2030
Water Demand	**475,900***	**474,100**	**473,400**	**473,000**	**472,500**	**472,300**
Supplies						
Los Angeles Aqueduct	232,200	90,500	71,900	66,800	61,700	184,800
Groundwater	6,100	92,300	94,900	94,900	94,900	103,800
Recycled Water – LA GWR	-	-	-	-	22,000	22,000
Recycled Water – Non-potable Use	13,200	13,700	16,100	16,300	17,900	19,200
Metropolitan Water District	224,400	277,600	290,500	295,000	276,000	142,500
Total Supplies	***475,900***	***474,100***	***473,400***	***473,000***	***472,500***	***472,300***

*Includes demand to and (from) storage
Note: Values rounded to nearest 100 AF

3.0 Annual Water Demand and Supply Assessment

CWC Section 10632(a)(2) requires that urban water suppliers conduct an annual water supply and demand assessment (AWSDA). This section describes the procedures used to: (1) conduct the AWSDA; and (2) prepare and submit an AWSDA Report to the State. In addition, this section outlines key inputs to conduct the AWSDA, the decision-making process for determining water supply reliability, and the ability/flexibility for the City to use shortage response actions not included in the WSCP, as applicable.

Under the Conservation Ordinance, LADWP monitors and evaluates the projected supply and demand for water by its customers monthly and provides written recommendations to the Mayor and Council the conservation required by its customers. LADWP also determines if a supply shortage exists and declares any foreseen water shortage level based on the results of the AWSDA. It includes this information in the AWSDA Report submitted to the State.

The AWSDA identifies anticipated shortages, triggered shortage response actions, associated compliance and enforcement actions, and communication actions. Additional information on shortage response actions is included in Section 4 – Shortage Response Actions. Reasonable alternative actions can be used to address identified water shortages, provided that descriptions of alternative actions are submitted with the AWSDA.

This WSCP identifies key inputs and methodology needed to evaluate the LADWP's annual assessment of water demand and supplies to help determine water shortage levels.

3.1 Key Input: Anticipated Water Demand

The AWSDA will use LADWP's latest demand forecast, which considers weather conditions, population growth, other influencing factors, and estimates of passive and active water conservation savings.

3.2 Key Input: Assessment of Water Supplies

Under a non-emergency condition, LADWP performs an annual assessment of all its available water supply sources through a meeting known as the Water Supply Symposium, which is conducted at the beginning of every runoff year (April-March). LADWP will utilize projections from the Water Supply Symposium to inform supply availability as part of its AWSDA. The methodology for quantifying the available supply from each water source is as follows:

- Local Sources:
  - Groundwater – Evaluate available groundwater production based on operational constraints, water quality, and hydrology
  - Recycled Water – Evaluate available recycled water supply for non-potable demands and assess non-potable recycled water demand
- Imported Sources:
  - LAA– Determine available supply to the City based on April 1st hydrological conditions in the Eastern Sierras and forecasted availability of LAA supply deliveries
  - Purchased Imported Water from MWD – Coordinate with MWD to determine available supplies

MWD Water Supply Assessment

LADWP relies primarily on MWD to evaluate regional supply and demand and to evaluate regional water shortage levels. MWD conveys annual supply conditions to its member agencies through their AWSDA planning process and by declaring one of the four conditions within the Water Supply Condition Framework:

- Baseline Water Use Efficiency: Ongoing conservation, outreach, and recycling programs to achieve permanent reductions in water use and build storage reserves
- Condition 1 – Water Supply Watch: Local agency voluntary dry-year conservation measures and use of regional storage reserves
- Condition 2 – Water Supply Alert: Regional call for extraordinary conservation measures through drought ordinances and other measures to mitigate use of storage reserves
- Condition 3 – Water Supply Allocation: Implement MWD's Water Supply Allocation Plan (WSAP)

MWD may declare Condition 3, an allocation to its member agencies corresponding to a Stage 6 extreme shortage in MWD's Water Surplus and Drought Management (WSDM) Plan. The WSAP's Regional Shortage Level specifies the severity of the supply-demand gap.

In addition to reducing member agency supplies during dry hydrologic conditions, MWD may also limit supplies to member agencies after a large seismic event. MWD evaluated potential damage to the State Water Project California Aqueduct (California Aqueduct) and the Colorado River Aqueduct (CRA) from a major (M7.8) seismic event on the San Andreas Fault (Shakeout). MWD concluded its emergency storage requirement as 750,000 AF based on the anticipated performance of three water system components during the Shakeout: (1) California Aqueduct and CRA outage, (2) potential maximum reductions in member agency retail water demand, (3) and reductions to member agency local supplies.

The Shakeout scenario produces a 12 to 24-month outage of the East Branch of the California Aqueduct, a six to 12-month outage of the West Branch of the California Aqueduct, and a two to six-month outage of the CRA until 80% of CRA capacity could be recovered. Repairs to bring the CRA back to 100% capacity would take three to five years to complete. Although LADWP estimates an 18-month outage of the LAA, imported water could be delivered to the City as soon as deliveries through the West Branch of the California Aqueduct are restored within 12 months.

MWD espouses that 30% of all retail demand is directed toward outdoor uses. MWD combined this estimate with a Public Policy Institute of California (PPIC) report (Building Drought Resilience in California's Cities and Suburbs, June 2017) to conclude that its member agencies would be able to reduce retail demands by 25% following a seismic event. The City should assume that in a Shakeout scenario, it would be required to reduce its demands by 25%, through additional emergency conservation actions.

Finally, MWD estimated a six and 12-month aggregated loss of 10% to 20% of local production following a seismic event. This includes full outage of the LAA, and that local LADWP supplies would include groundwater and recycled supplies only.

3.3 Key Input: Existing Water Supply Infrastructure

LADWP's existing water supply infrastructure is well-documented and continuously assessed for resiliency and reliability. Existing water supply infrastructure includes LADWP-owned and MWD-owned infrastructure. Major LADWP-owned infrastructure includes: the Los Angeles Aqueduct Filtration Plant (LAAFP), groundwater wells and treatment facilities, storage tanks and reservoirs, distribution system pipelines and

pump stations, and ammoniation and chlorination stations. MWD-owned infrastructure includes regional water treatment facilities, large conveyance pipelines, and connection turnouts that deliver water to LADWP.

LADWP's water distribution system operations are highly flexible and contain many system redundancies. However, existing capabilities may be limited under different constraints, which can include: planned shut-downs for maintenance, construction impacts, water quality impacts, hydraulic limitations, and unplanned outages due to earthquakes or other emergency conditions. LADWP can also leverage its flexible system and implement operational changes when applicable to mitigate identified shortages. LADWP evaluates system capabilities and constraints annually and adjusts water supply availability to account for these constraints. LADWP also coordinates with MWD to evaluate regional infrastructure constraints to identify potential limitations on water supply availability for LADWP.

3.4 Decision-Making Process

LADWP's decision-making process begins with an assessment of its water demand and availability of water supplies (e.g. groundwater, LAA, recycled water, and supplemental supplies from MWD). LADWP's assessment also includes a review of local and regional infrastructure to determine possible limitations to supply availability. If available supplies are sufficient to meet projected demands, then a condition of no shortage will be determined. If a shortage condition is identified, the magnitude of the shortage will determine LADWP's response to the shortage, corresponding to the established standard water shortage levels. LADWP will first attempt to bridge shortage gaps with operational changes to its system to leverage supplies with greater availability for system delivery to offset identified supplies experiencing shortages. As shortage magnitudes increase and supplemental supplies available from MWD become limited, LADWP will further respond with implementation of mandatory water use restrictions through the City's Conservation Ordinance and explore opportunities to supplement its supplies through supply augmentation.

In the event that demands cannot be met without depleting available supplies, LADWP will declare a water shortage emergency in accordance with CWC Chapter 3 of Division 1. Under such emergency conditions, LADWP will coordinate with all additional cities and counties that are served or partially served by LADWP, including Los Angeles County, Beverly Hills, Burbank, Calabasas, Culver City, Inglewood, Lomita, Lynwood, Santa Monica, and West Hollywood.

3.5 Reasonable Alternative Actions

LADWP will follow the prescribed procedures and implement the determined shortage response actions in its WSCP where feasible and appropriate. However, LADWP may also implement reasonable alternative actions to the actions described in in Section 4 – Shortage Response Actions, provided that the alternative actions are submitted to the State in the AWSDA. The CWC does not prohibit LADWP from taking actions not specified in its WSCP, if needed, without having to formally amend its UWMP or WSCP as stated in CWC Section 10632.2.

4.0 Shortage Response Actions

Per CWC Section 10632 (a)(4), LADWP has developed a list of possible supply shortage mitigation tools. The four types of locally appropriate "shortage response actions," as defined by the statute are as follows:

- Supply augmentation
- Demand reduction actions
- Operational changes
- Mandatory water use prohibitions (in addition to State-mandated prohibitions)

Shortage response actions included in this WSCP are a mix of prohibitions on end uses, consumption reduction methods, supply augmentation, and operational change measures.

The California Department of Water Resources (DWR) defines prohibitions on end uses as measures to address areas that are the responsibility of end users, such as broken sprinklers and leaking faucets. Consumption reduction methods are actions invoked by a water agency to reduce consumption, such as expanding public information campaigns.

Supply augmentation is defined as any action designed to increase the existing supply availability, such as increasing the production of stored groundwater or acquiring additional water transfer.

Operational changes are defined as actions taken by a water agency to change the way in which existing supplies are used within its service area (e.g., elimination of hydrant flushing).

4.1 Permanent Water Waste Prohibitions

Permanent Water Waste prohibitions are in effect at all times in LADWP's water service area. These prohibited uses, defined as Phase 1 in Section 121.08 (A) of the Conservation Ordinance, are intended to promote water conservation as a permanent way of life in Los Angeles, even during years of normal or above normal precipitation.

The following are the restrictions under Phase 1:

- No LADWP customer shall use a water hose to wash any paved surfaces, except to alleviate immediate safety or sanitation hazards.
- No LADWP customer shall use water to clean, fill or maintain levels in decorative fountains, ponds, lakes or similar structures used for aesthetic purposes, unless such water is part of a recirculating system.
- No restaurant, hotel, cafe, cafeteria, or other public place where food is sold, served or offered for-sale, shall serve drinking water to any person unless expressly requested.
- No LADWP customer shall permit water to leak from any pipe or fixture on the customer's premises.
- No LADWP customer shall wash a vehicle with a hose if the hose does not have a self-closing water shut-off or device attached to it, or otherwise allow a hose to run continuously while washing a vehicle.
- No LADWP customer shall irrigate during periods of rain and within 48 hours after a measurable rain event.
- No LADWP customer shall water or irrigate lawn, landscape, or other vegetated areas between the hours of 9:00 a.m. and 4:00 p.m. During these hours, public and private golf course greens and tees

and professional sports fields may be irrigated in order to maintain play areas and accommodate event schedules. Supervised testing or repairing of irrigation systems is allowed anytime with proper signage.

- All irrigating of landscape with potable water using spray head sprinklers and bubblers shall be limited to no more than ten (10) minutes per watering day per station. All irrigating of landscape with potable water using standard rotors and multi-stream rotary heads shall be limited to no more than fifteen (15) minutes per cycle and up to two (2) cycles per watering day per station. Exempt from these landscape irrigation restrictions are irrigation systems using very low-flow drip-type irrigation when no emitter produces more than four (4) gallons of water per hour and micro-sprinklers using less than fourteen (14) gallons per hour.
- No LADWP customer shall use water in a manner that causes or allows excess or continuous water flow or runoff onto an adjoining sidewalk, driveway, street, gutter or ditch.
- No installation of single pass cooling systems shall be permitted in buildings requesting new water service.
- No installation of non-recirculating systems shall be permitted in new conveyor car wash and new commercial laundry systems.
- Operators of hotels and motels shall provide guests with the option of choosing not to have towels and linens laundered daily. The hotel or motel shall prominently display notice of this option in each bathroom using clear and easily understood language.
- No large landscape areas shall have irrigation systems without rain sensors that shut off the irrigation systems. Large landscape areas with approved weather-based irrigation controllers registered with LADWP are in compliance with this requirement.

The City has also remained under a minimum Conservation Ordinance Phase 2 restrictions of three day-a-week outdoor watering since 2009 which includes the following restrictions:

- Restrictions on landscape irrigation watering days (Monday, Wednesday, or Friday for odd-numbered street addresses and Tuesday, Thursday, or Sunday for even-numbered street addresses) with watering times limited to
  - Eight minutes per station for non-conserving nozzles for a total of 24 minutes per week
  - 15 minutes per station for conserving nozzles per cycle and up to two cycles per watering day for a total of 90 minutes per week
- Provisions do not apply to drip irrigation supplying water to a food source or to hand-held hose watering of vegetation

4.2 Shortage Response Actions

In addition to permanent water waste prohibitions, which are always in effect, there are different types of response actions that can be implemented by LADWP in the event of a supply shortage. These response measures represent a “toolbox” with a range of actions that can be used in combination, depending on the severity and duration of the shortage.

LADWP employs numerous response actions to mitigate and alleviate water shortages during dry conditions or catastrophic events. Some of these response actions are detailed in the Conservation Ordinance, while others go beyond these requirements. As specific shortage response levels are implemented, LADWP will closely monitor projected available supply and demand per the AWSDA. Depending on these projections, the shortage response actions would either be implemented or expanded to appropriately respond to shortages.

Table 4-1 shows the linkage between the Conservation Phases, Shortage Levels, and additional actions detailed in this WSCP.

Table 4-1 Linkage Between Emergency Water Conservation Plan Phases and Shortage Levels

Water Shortage Level	Emergency Water Conservation Plan Phase	Additional WSCP Actions
No Shortage	Phase 1 & Phase 2	
Shortage Level 1		Operation Changes
Shortage Level 2	Phase 3	
Shortage Level 3	Phase 3	Supply Augmentation
Shortage Level 4	Phase 4	
Shortage Level 5	Phase 5	
Shortage Level 6	Phase 6	

Note: Actions identified under specific shortage levels are cumulative and will encompass all actions identified in preceding shortage levels.

The combination of shortage response actions associated with each water shortage level considered the estimate of the extent to which the supply gap was reduced. Shortage response actions from previous levels are assumed to remain in effect as the water shortage level increases. The mix of shortage response actions in any given level is designed to produce an additional 10% of shortage gap reductions above the previous level's reduction.

The following subsections list the combinations of shortage response actions associated with each of the six WSCP Water Shortage Levels.

Water Shortage Level 1

Water Shortage Level 1 constitutes a shortage gap reduction of up to 10%. Shortage response actions under this level system operational changes to maximize the ability to serve customers in areas experiencing shortage with additional supplies that may be available from other supply sources. Operational changes are defined as deviations from standard operating conditions that may incur substantial operating costs to modify system operations in order to expand the ability to provide customers with alternative available supply sources. The extent to which this action reduces the supply gap is summarized in Table 4-2 below.

Table 4-2 Water Shortage Level 1 Response Actions

Shortage Response Actions	Estimate of Extent To Which Supply Gap Reduced	Response Action Type
Evaluate operational changes to supply areas experiencing shortage with alternative readily available supplies	Up to 10%	Operational Changes

Water Shortage Level 2

Water Shortage Level 2 is implemented when there is an identified shortage up to 20% where operational changes alone are insufficient to eliminate shortage gaps. Under Shortage Level 2, Conservation Ordinance Phase 3 will be implemented to achieve the necessary demand reduction in addition to the actions identified under Water Shortage Level 1. Additionally, to reduce consumption during this phase, LADWP may increase

its public outreach efforts and enforcement measures to build awareness of voluntary water conservation practices and all permanent water waste prohibitions. The shortage response actions under Water Shortage Level 2 are shown below in Table 4-3.

Table 4-3 Water Shortage Level 2 Response Actions

Shortage Response Actions	Estimate of Extent To Which Supply Gap Reduced	Response Action Type
Conservation Ordinance Phase 3 - Further restrictions on landscape irrigation watering days (Monday or Friday for odd-numbered street addresses and Sunday or Thursday for even-numbered street addresses) - Recommend use of pool covers to decrease water loss from evaporation. - Recommend washing of vehicles at commercial car wash facilities. - Irrigation of sports fields may deviate from the non-watering days to maintain play areas and accommodate event schedules. - Irrigation of large landscape areas may deviate from the non-watering days under certain conditions. - Provisions do not apply to drip irrigation supplying water to a food source or to hand-held hose watering of vegetation.	Up to 20%	Mandatory Prohibition
Increase outreach efforts for high-volume customers and provide one on one assessments	Up to 20%	Demand Reduction
Expand enforcement of unreasonable use of water	Up to 20%	Mandatory Prohibition
Increase water conservation rebates and incentives	Up to 20%	Demand Reduction
Increase conservation messaging (radio, TV, social media, educational events)	Up to 20%	Demand Reduction

Water Shortage Level 3

Water Shortage Level 3 is implemented when a shortage of up to 30% is identified. Under this shortage level, LADWP will explore supply augmentation to supplement available supplies in addition to the actions from preceding Water Shortage Levels. LADWP may elect to withdraw from available emergency storage along the LAA system and increase pumping from local groundwater basins. Emergency storage along the LAA may come in the form of emergency reservoir storage and/or emergency groundwater pumping in the Owens Valley with the approval of the LA/Inyo Standing Committee. Emergency storage from local groundwater basin may come in the form of storied water credits. Withdrawals from emergency supplies may provide only short-term relief and the extent of withdrawals will be determined based on assessments of long-term shortage risk. The shortage response actions under Water Shortage Level 3 are shown below in Table 4-4.

Table 4-4 Water Shortage Level 3 Response Actions

Shortage Response Actions	Estimate of Extent To Which Supply Gap Reduced	Response Action Type
Withdraw from available emergency storage along the LAA System and local groundwater basins	Up to 30%	Supply Augmentation

Water Shortage Level 4

Water Shortage Level 4 is implemented when a shortage of up to 40% has been identified. Mandatory water conservation restrictions under Ordinance Phase 4 will take effect, in addition to all actions identified under Water Shortage Level 1, Level 2, and Level 3. LADWP may also elect to increase withdrawals from available emergency storage along the LAA system and from local groundwater basins. The list of shortage response action options available for Water Shortage Level 4 is summarized in Table 4-5 below.

Table 4-5 Water Shortage Level 4 Response Actions

Shortage Response Actions	Estimate of Extent To Which Supply Gap Reduced	Response Action Type
Conservation Ordinance Phase 4 - Further restrictions on landscape irrigation watering days (Monday for odd-numbered street addresses and Tuesday for even-numbered street addresses) - Mandate use of pool covers on all residential swimming pools when not in use. - No washing of vehicles allowed except at commercial car wash facilities. - No filling of decorative fountains, ponds, lakes, or similar structures used for aesthetic purposes, with potable water. - Irrigation of sports fields may deviate from the non-watering days to maintain play areas and accommodate event schedules. - Irrigation of large landscape areas may deviate from the non-watering days under certain conditions. - Provisions do not apply to drip irrigation supplying water to a food source or to hand-held hose watering of vegetation.	Up to 40%	Mandatory Prohibition
Further withdraw from available emergency storage along the LAA System and local groundwater basins	Up to 40%	Supply Augmentation

Water Shortage Level 5

Water Shortage Level 5 is implemented when a water shortage of up to 50% has been identified. Under this shortage level, mandatory water conservation restrictions under Ordinance Phase 5 will take effect, in addition to all actions identified under Water Shortage Levels 1 through 4. LADWP may elect to further increase withdrawals from available emergency storage along the LAA system and from local groundwater basins. The list of shortage response action options available for Water Shortage Level 5 is summarized in Table 4-6 below.

Table 4-6 Water Shortage Level 5 Response Actions

Shortage Response Actions	Estimate of Extent To Which Supply Gap Reduced	Response Action Type
Conservation Ordinance Phase 5 - No landscape irrigation allowed. - No filling of residential swimming pools and spas with potable water. - No washing of vehicles allowed except at commercial car wash facilities. - No filling of decorative fountains, ponds, lakes, or similar structures used for aesthetic purposes, with potable water. - Golf courses and professional sports fields may apply water to sensitive areas, such as greens and tees, during non-daylight hours and only to the extent necessary to maintain minimum levels of biological viability.	Up to 50%	Mandatory Prohibition
Further withdraw from available emergency storage along the LAA System and local groundwater basins	Up to 50%	Supply Augmentation

Water Shortage Level 6

Water Shortage Level 6 is implemented when a water shortage of greater than 50% has been identified. Under this shortage level, the Board is authorized to implement additional prohibited uses of water based on the water supply situation in addition to the responses identified under Water Shortage Levels 1 through 5. It should be noted that a Level 6 condition could take the form of a prolonged event, such as extended dry conditions, or could be the result of a sudden catastrophic event, such as a seismic event. These two conditions may require different responses. For example, in a sudden and catastrophic event the loss of water supply may be localized, facilities such as schools and hotels may be needed for emergency housing, and water may be needed for firefighting. A mandatory reduction in water use among all customers may be required immediately to meet emergency and public safety needs of the affected area. Temporary reductions in water supply to unaffected areas may be necessary. More on catastrophic event planning is discussed in Section 8. A list of available shortage response actions under Water Shortage Level 6 are summarized below in Table 4-7.

Table 4-7 Water Shortage Level 6 Response Actions

Shortage Response Actions	Estimate of Extent To Which Supply Gap Reduced	Response Action Type
Conservation Ordinance Phase 6 - The Board is hereby authorized to implement additional prohibited uses of water based on the water supply situation. Any additional prohibition shall be published at least once in a daily newspaper of general circulation and shall become effective immediately upon such publication and shall remain in effect until cancelled.	> 50%	Mandatory Prohibition
Maximize withdraw from available emergency storage along the LAA and local groundwater basin	> 50%	Supply Augmentation

5.0 Compliance and Enforcement

California law prohibits waste and unreasonable use of water, even when no shortage response actions are in effect. The Conservation Ordinance also prohibits all water waste and defines violations of both the permanent water conservation measures and mandatory conservation measures. Failure to comply with any of the provisions of Phases 1 through 6 is subject to administrative civil penalties and remedies, which are set forth in Section 121.10, Chapter XII of the Los Angeles Municipal Code as Penalty Schedule A (see Table 5-1). After a fifth or subsequent violation and a hearing held by LADWP, a flow-restricting device of one gallon per minute (gpm) may be installed.

The restrictions outlined in Phases 1 through 6 shall not curtail water supply required for:

- Public health and safety
- Essential government services such as police, fire, and other similar emergency services

The restrictions outlined in Phases 1 through 6 do not apply to:

- Recycled water and gray water use
- Hillside areas recovering from fire that have been replanted for erosion control

LADWP may also penalize those who continue to willfully waste water (i.e., “unreasonable use of water”). Single family residential customers in the highest tier rate during Phases 2 through 6 may be subject to a Water Use Analysis and Customer Conservation Plan developed by LADWP. Failure to provide access to the property, cooperate in the development of the Customer Conservation Plan, or comply with the Customer Conservation Plan is subject to administrative civil penalties, as set forth in Section 121.10, Chapter XII of the Los Angeles Municipal Code as Penalty Schedule B (see Table 5-2). Customers who continue to unreasonably use water beyond 24 months will be referred to the LADWP Board of Commissioners (Board) for consideration of flow restrictors or other actions.

Terminating a customer’s water service is not taken lightly and would occur only when other enforcement measures have not been effective. The Board will consider extenuating circumstances as part of a decision regarding appropriate remedies.

If, due to unique circumstances, a specific requirement of the Water Conservation Phases would result in undue hardship to a customer using water or to property upon which water is used, that is disproportionate to the impacts to water users generally or to similar property or classes of water uses, then the customer may apply for a variance to the requirements. Unique circumstances include, but are not limited to, physical disabilities which prevent compliance with the Conservation Ordinance.

Table 5-1 Penalty Schedule A – Prohibited Use Violations

Water meter smaller than two (2") inches						
	Phase 1	**Phase 2**	**Phase 3**	**Phase 4**	**Phase 5**	**Phase 6**
1st Written Warning	$0	$0	$0	$0	$0	Board Authority
2nd Written Violation	$50	$100	$200	$300	$400	Board Authority
3rd Written Violation	$100	$200	$400	$600	$800	Board Authority
4th Written Violation	$150	$300	$600	$900	$1200	Board Authority
Water meter two (2") inches and larger						
	Phase 1	**Phase 2**	**Phase 3**	**Phase 4**	**Phase 5**	**Phase 6**
1st Written Warning	$0	$0	$0	$0	$0	Board Authority
2nd Written Violation	$100	$200	$400	$600	$800	Board Authority
3rd Written Violation	$200	$400	$800	$1200	$1600	Board Authority
4th Written Violation	$300	$600	$1200	$1800	$2400	Board Authority

Table 5-2 Penalty Schedule B – Unreasonable Use Violations

Number of Consecutive Months with Violation	Phase 1	Phase 2	Phase 3	Phase 4	Phase 5	Phase 6
Violation during months 1 through 5	N/A	$1,000	$2,000	$5,000	$10,000	Board Authority
Violation during months 6 through 11	N/A	$2,000	$4,000	$10,000	$20,000	Board Authority
Violation during months 12 through 17	N/A	$3,000	$6,000	$15,000	$30,000	Board Authority
Violation during months 18 through 23	N/A	$4,000	$8,000	$20,000	$40,000	Board Authority

Any customer who disputes any penalty levied pursuant to Section 121.10, Chapter XII of the Los Angeles Municipal Code, shall have a right to a dispute determination conducted pursuant to LADWP's Rules Governing Water and Electric Service. Any customer dissatisfied with the LADWP's dispute determination may appeal that determination within 15 days of issuance to the Board or to a designated hearing officer at the election of the Board. The provisions of Sections 19.24, 19.25, 19.26 and Sections 19.29 through 19.39 of the Los Angeles Administrative Code shall apply to such appeals. All defenses, both equitable and legal, may be asserted by a customer in the appeal process. The decisions of the Board shall become final at the expiration of 45 calendar days, unless the Council acts within that time by a majority vote to bring the action before it or to waive review of the action. If the Council timely asserts jurisdiction, the Council may, by a majority vote, amend, veto or approve the action of the Board within 21 calendar days of voting to bring the matter before it, or the action of the Board shall become final. If the Council asserts jurisdiction over the matter and acts within 21 calendar days of voting to bring the matter before it, the Council's action shall be the final decision.

6.0 Monitoring, Reporting, and Refinement Procedures

LADWP monitors and reports water supply and demand monthly. Water supply volumes from all supply sources and customer billing records are generated monthly. If the monthly goals of balancing supply and demand under shortage conditions are not being met, LADWP can implement additional shortage response actions.

Reevaluation and improvement procedures are used to ensure shortage risk tolerance is adequate and appropriate water shortage mitigation strategies are implemented as needed. The WSCP will be re-evaluated at least every five years in coordination with the UWMP update or at LADWP's discretion. An evaluation on the effectiveness of the water shortage response actions on demand levels will be conducted following the future implementation of the WSCP. The evaluation will assess the effectiveness of shortage response actions in the WSCP and revise as appropriately as necessary. LADWP will also assess the effectiveness of the communication plan so that it may be modified as appropriate in the future.

7.0 Revenue and Expenditure Impacts

The Base Rate Revenue Target Adjustment (BRRTA) from General Provision H of LADWP's Water Rate Ordinance No. 184130 provides a symmetrical decoupling mechanism. The BRRTA allows LADWP to recover any shortfall in revenue from the targeted amounts of base rates, or credits back any collection of revenue above the targeted amounts of base rates. This helps to account for variations in water sales from projections. The BRRTA Factor is calculated once a year, separately for three categories: Schedule A, Schedule B, and Others, and takes effect on January 1. The BRRTA enhances the Department's financial stability by isolating the impact of reduced demand from water conservation from base rate revenue billing and provides a more resilient financial model in response to demand volatility. For more details on the water rate structure, please see Appendix WSCP-B – Water Rate Ordinance No. 184130.

7.1 Water Rate Structure

LADWP's rate structure uses a tiered volumetric structure. For single-family residential customers, the structure uses four consumption-based tiers with progressively higher commodity charges at each tier to pay for the increased costs related to peak discretionary use. Assets such as storage facilities, treatment plants, pump stations, and pipelines must be built to not only handle average daily demand but must also handle peak hour demands in addition to fire suppression flow. Those customers who use more water create the need for the larger, more expensive, facilities, as well as the need to source from other, more expensive sources and thus pay for higher priced water. Since the implementation of the tiered structure, it has been proven to encourage conservation and reduce wasteful consumption.

LADWP's rate structure also includes a special provision for customers outside the City to account for the more expensive sources of water. Charges for water service to customers with property where less than ninety percent (90%) of the area is inside the City includes a surcharge equal to the differential cost of treated Tier II water delivered to the City purchased from MWD and the average cost of water delivered to the City

through the LAA for the previous five years. However, this adjusted rate cannot be less than those charged for service inside the City.

7.2 Use of Financial Reserves

LADWP does not anticipate tapping into any reserves to maintain operations during dry periods or emergency. The current rate structure accounts for the State's regulation and incorporates pass-through adjustments associated with future increases in water purchases from MWD. However, if revenue shortfalls were to occur, LADWP could consider the options of deferring some operation and maintenance and capital program projects, using emergency storage water, or drawing from one or more of the available reserve funds. Any reallocation of capital project funding to meet short-term emergency needs would be restricted by bond covenants that require bond proceeds to be used exclusively for capital projects.

There are currently two applicable reserve funds that could serve in the event of a revenue loss resulting from reduced water demands:

- Minimum Operating Cash Reserve. Intended to be used in the event of a catastrophe that prevents the utility from operating in its normal course of business, this fund is to be used in emergency situations due to loss of revenue and must be replenished. The Chief Financial Officer has the authority to approve using this reserve.
- Water Expense Stabilization Fund. The Water Expense Stabilization Fund target is determined by the Chief Financial Officer and is intended to be used to stabilize rates in the event of unforeseen events impacting water service delivery. Use of the Water Expense Stabilization Fund is based upon the recommendation of the Chief Financial Officer and approval of the Board.

Utilizing the BRRTA and these reserves or emergency water storage can help mitigate the financial impact if deliveries fall significantly during periods of significant water demand reductions. However, the use of reserves would ultimately require rate increases because the reserves would need to be replenished. The timing and the amount of the reserves used would be evaluated based on the significance of the rate increases, the ability to reduce variable operation and maintenance costs and defer capital projects, the availability of emergency storage water, the timing of additional debt issuances, and the possibility of a downgrade in the debt rating.

7.3 Potential Revenue Reductions & Expenses Associated with Activated Shortage Response Actions

Potential revenue reductions and expenses associated with activated shortage response actions vary depending on shortage response actions. Unless and until the impact is offset by the BRRTA, customer reductions in water use consumption will result in declining revenues during a shortage. Increased enforcement and auditing of existing water waste prohibitions could increase operational expenditures. In addition, an increase in outreach efforts may require more staff time and resources.

8.0 Catastrophic Supply Interruption Planning

A catastrophic supply interruption occurs when a disaster suddenly disrupts all or a large portion of the water available to meet the region's needs. The UWMP Act requires agencies to identify actions they will take if there is a catastrophic supply interruption, specifically including interruptions from a power outage, earthquake, or other non-dry period related emergency. The City and MWD have developed plans for catastrophic supply interruptions that include a regional power outage, earthquake, or other disaster. Furthermore, the City has developed a Local Hazard Mitigation Plan in 2024, which addresses seismic risks to the City. A copy of this plan is provided in Appendix WSCP-C in compliance with CWC Section 10632.5.

Catastrophic supply interruption events are considered when determining the LADWP's overall water supply shortage as defined by the water shortage levels identified above in Table 1-1 – Water Shortage Levels. LADWP does not designate a specific catastrophic supply interruption water shortage level with its own shortage response actions. Rather, the resulting shortage of a catastrophic supply interruption would contribute to the LADWP's total projected shortage in any given year. Shortage response actions associated with the determined water shortage level will help guide the LADWP's response to catastrophic supply interruptions.

8.1 LADWP Catastrophic Supply Interruption Planning

LADWP has Emergency Response Plans (ERPs) in place to restore water service for essential use in the City in the event an emergency, such as a power outage or earthquake, results in an interruption of the water supply. LADWP personnel responsible for water transportation, distribution, and treatment have established ERPs to guide the assessment, prioritization, and repair of water infrastructure that has incurred damage during such an incident.

LADWP coordinates response efforts during major incidents through the Department Emergency Operations Center (DEOC) and/or the Water Emergency Command Center (WECC). These operations centers are intended to facilitate operational coordination, information sharing, and resource management among the various LADWP entities that may be involved in responding. In a citywide emergency or major event, the City's Emergency Management Department (EMD) may also activate the City's Emergency Operations Center (EOC) to serve as a centralized point for managing information and resources in support of overall response and recovery efforts. When this occurs, LADWP, through the DEOC and/or WECC, will coordinate with the EOC, as needed, to address water supply issues. Ultimately, these organizational structures work in tandem to support the City's Emergency Operations Organization's (EOOs) overall mission of saving lives, protecting property, and returning the City to normal operations in the event of a disaster.

Earthquakes

In the event of a major earthquake, LADWP has response plans detailing procedures for operating the LAA following an earthquake in order to prevent further damage of the LAA. If the LAA is severed by seismic activity on the San Andreas fault and is temporarily unable to provide water to the City, LADWP will be able to use its emergency water storage in Bouquet Reservoir to provide water supply to the City while repairs are made. In addition to this resource, arrangements may be made to transfer water through the California Aqueduct for delivery to MWD and returned to the City through one of MWD's connections to LADWP.

Power Outages

Most of LADWP's pump stations are equipped with diesel-powered backup pumps in the event a major power outage disrupts the primary energy system. The diesel-powered backups are capable of running for extended periods of time with reliable refueling available from LADWP's Fleet Services. In the event of a major power outage, backup pumps can be automatically switched on, started remotely, or activated manually.

8.2 MWD Catastrophic Supply Interruption Planning

MWD has developed emergency storage requirements and plans based on a 100% reduction in imported supplies from all aqueducts serving its service area, for a period of six months. MWD has made significant investments in emergency storage to provide water to its member agencies during emergencies. If a catastrophe were to occur, non-firm (non-contractual) service deliveries would be suspended and firm (contractual) supplies to member agencies would be cut back by 25% from retail demand under normal-hydrological conditions. Water would be drawn from a combination of MWD's surface reservoirs and contracted groundwater basins, as well as its emergency water storage and other available storage projects. Emergency supplies are designed to be delivered via gravity, except in limited circumstances. MWD's water treatment plants have backup generators to continue treating water in the event of a power outage. MWD also has the ability to deploy mobile generators to key locations, as needed.

MWD's WSDM Plan and WSAP will guide the allocation of supplies and resources during a catastrophic supply interruption. MWD and its member agencies worked together to develop the WSDM Plan. The WSDM Plan establishes broad water resource management strategies to ensure MWD's ability to meet full service demands at all times. It also contains principles for supply allocation if the need should ever arise. The WSDM Plan splits MWD's resource actions into two major categories: Surplus Actions and Shortage Actions. The Shortage Actions are split into three subcategories: Shortage, Severe Shortage, and Extreme Shortage.

A catastrophic supply interruption would fall under an Extreme Shortage. Under an Extreme Shortage, MWD would allocate supplies to its member agencies in accordance with the WSAP. If shortage allocations are required, MWD will rely on the calculations established in the WSAP. The plan allocates shortages equitably among its member agencies based on need, with adjustments for growth, local investments, changes in supply conditions, demand hardening (increasing water use efficiency such that additional conservation is more difficult to obtain), and water conservation plans.

9.0 Legal Authorities

Under California law, including CWC Chapters 3.3 and 3.5 of Division 1, Parts 2.55 and 2.6 of Division 6, Division 13, and Article X, Section 2 of the California Constitution, LADWP is authorized to implement the water shortage actions outlined in this WSCP. In all water shortage cases, shortage response actions to be implemented will be at the discretion of LADWP and will be based on an assessment of the supply shortage, customer response, and need for demand reductions.

It is noted that upon proclamation by the Governor of a state of emergency under the California Emergency Services Act (Chapter 7 (commencing with Section 8550) of Division 1 of Title 2 of the Government Code) based on extended dry conditions, the State will defer to implementation of locally adopted water shortage contingency plans to the extent practicable. LADWP will coordinate with regional and local water suppliers for which it provided water supply services for possible proclamation of a local emergency, as necessary.

10.0 Communication Protocol

LADWP's communication protocol includes the various channels the LADWP will utilize to convey critical messages regarding water shortage allocations and voluntary and mandatory actions. Public outreach programs can help increase awareness of water shortages, while customer services and workshops can encourage customers to actively participate in demand reduction strategies. A strong communication plan will educate LADWP customers, including local leaders and the business community, on the water supply situation; what actions are proposed; what the intended achievements are; and how these actions are to be implemented. While specific types of messaging are deployed at various shortage response levels, how these messages are conveyed to the public are described per this communication protocol. The communication protocol will be in place prior to a water supply shortage and be initiated in Level 2 (Moderate Shortage). Activation of the communication protocol will continue through all subsequent water shortage levels. At times, specific communities may require specialized outreach. LADWP will ensure outreach efforts are reaching key audiences as needed.

It is important to communicate to our customers the following when urgent conservation is needed:

- What specific actions are needed to save water?
- How much water needs to be saved and for how long?
- Why water needs to be saved?
- What LADWP is doing to correct the supply problem or address the situation?

10.1 Coordination

In order to communicate effectively, avoid confusion, and maintain credibility, LADWP will work in close coordination with the Mayor and Council. During dry periods or other times of limited supply, the frequency and extent of coordination will increase to ensure outreach tactics are consistent with the changing needs of the LADWP and its customers. LADWP will seek opportunities to leverage external resources to complement its own outreach.

10.2 Communication Objectives

Communication objectives during the various water shortage levels of the WSCP include the following:

- Motivate water users to quickly increase conservation in ways that are consistent with any voluntary or mandatory actions called for at the current level of the WSCP.
- Raise awareness and understanding of the dry period, regulatory, or other conditions affecting water supplies and the need for increased conservation.
- Minimize confusion and maintain credibility of water agencies and conservation messages with an appropriate tone that avoids a "cry wolf" perception and non-compliance backlash.
- Make water users feel appreciated for existing accomplishments in improving their water-use efficiency, and for supporting regional and local investments in water supply reliability.
- Educate regional civic and business leaders, elected officials, and the public that LADWP has greatly improved its water supply reliability.
- Prepare LADWP for any potential escalation (or de-escalation) of the WSCP based on trending supply conditions.
- Ensure all stakeholders believe they are being treated fairly in relationship to other stakeholders.
- Maintain communication effectiveness by soliciting or monitoring feedback from key stakeholders and the general public to update or adapt messages or communication tools.
- Exit WSCP implementation having demonstrated the effectiveness and value of conservation actions and water supply reliability investments in minimizing impacts to the City's economy and quality of life.

10.3 Communication Protocol for Current or Predicted Shortage and Triggered or Anticipated to be Triggered Shortage Response Actions

A current or predicted shortage, as determined by the AWSDA, will be communicated to the public prior to submittal of the AWSDA in June of any given year. LADWP monitors and evaluates the projected supply and demand for water by its customers monthly and then recommends the extent of conservation required to the Mayor. The Mayor may, with the concurrence of the Council, order the appropriate phase of water conservation to be implemented. The order would be made by public proclamation and be published one time only in a daily newspaper of general circulation and would become effective immediately upon such publication. The prohibited water uses for each phase shall take effect with the first full billing period commencing on or after the effective date of the public proclamation by the Mayor.

10.4 Protocol and Strategies for Relevant Communications

To reduce water use consumption during any water shortage level, LADWP will increase its education and outreach efforts to build awareness of needed actions from the public. In addition, LADWP's outreach campaign will be regularly revised to reflect current conditions. Key communication strategies and associated water shortage level implementation are listed below. Communication strategies used in previous levels are assumed to be built upon as the Shortage Level increases.

- Conduct issue briefings with elected officials and other key civic and business leaders (Water Shortage Level 1)
- Announce status changes to key stakeholders and the general public (all Water Shortage Levels).

- Provide regular updates to stakeholders and the media on conditions (all Water Shortage Levels).
- Promote available water assistance resources for vulnerable populations; specialized outreach for impacted industries (Water Shortage Levels 2 through 4).
- Conduct specialized outreach to reduce discretionary outdoor use while minimizing landscape damage (Water Shortage Levels 2 through 4).
- Suspend promotion of long-term water use efficiency programs/tools to focus on imminent needs (Water Shortages Levels 5 and 6).

LADWP has various means of implementing its communication strategies. LADWP may update its website, newsletters, and social media platforms to reflect conditions and convey key messaging. LADWP may also hold news conferences or other events to announce or explain chances in conditions. Finally, LADWP may modify school assembly program content to include key conservation messages.

Catastrophic Communications

In the event of a catastrophic supply interruption that requires water use to be quickly prioritized for or limited to essential public health and safety needs, LADWP will immediately deploy appropriate strategies from this WSCP. In addition, outreach messaging will reflect emergency conditions and the need to focus on health and public safety. LADWP may also consider potential joint news release/new events with public health officials or incident commanders to announce conditions and explain needed action. Finally, LADWP will ensure ongoing coordination with emergency response services with daily advisories or alerts as needed.

Appendix WSCP-A: Emergency Water Conservation Plan

See UWMP Appendix B

Appendix WSCP-B: Water Rate Ordinance

See UWMP Appendix C

Appendix WSCP-C: City of Los Angeles Local Hazard Mitigation Plan

Available at:

https://emergency.lacity.gov/local-hazard-mitigation-plan

Appendix B
Emergency Water Conservation Ordinance

ORDINANCE NO. 184250

An ordinance amending Article I of Chapter XII of the Los Angeles Municipal Code to clarify prohibited uses and modify certain water conservation requirements of the Water Conservation Plan of the City of Los Angeles.

THE PEOPLE OF THE CITY OF LOS ANGELES DO ORDAIN AS FOLLOWS:

Section 1. Article I of Chapter XII of the Los Angeles Municipal Code is amended in its entirety to read as follows:

ARTICLE I

EMERGENCY WATER CONSERVATION PLAN

SEC. 121.00. SCOPE AND TITLE.

This Article shall be known as The Emergency Water Conservation Plan of the City of Los Angeles.

SEC. 121.01. DECLARATION OF POLICY.

It is hereby declared that because of the conditions prevailing in the City of Los Angeles and in the areas of this State and elsewhere from which the City obtains its water supplies, the general welfare requires that the water resources available to the City be put to the maximum beneficial use to the extent to which they are capable, and that the waste or unreasonable use or unreasonable method of use of water be prevented, and the conservation of such waters is to be exercised with a view to the reasonable and beneficial use thereof in the interests of the people of the City and for the public welfare.

SEC. 121.02. DECLARATION OF PURPOSE.

The purpose of this Article is to provide a mandatory water conservation plan to minimize the effect of a shortage of water to the Customers of the City and, by means of this Article, to adopt provisions that will significantly reduce the consumption of water over an extended period of time, thereby extending the available water required for the Customers of the City while reducing the hardship of the City and the general public to the greatest extent possible, voluntary conservation efforts having proved to be insufficient.

SEC. 121.03. DEFINITIONS.

The following words and phrases, whenever used in this Article, shall be construed as defined in this section unless from the context a different meaning is intended or unless a different meaning is specifically defined within individual sections of this Article:

a. "**Article**" means the ordinance providing for "**The Emergency Water Conservation Plan of the City of Los Angeles.**"

b. "**Baseline Water Usage**" means the amount of water necessary for existing landscape based on a water budget developed by the Department.

c. "**Billing Unit**" means the unit amount of water used to apply water rates for purposes of calculating commodity charges for Customer water usage and equals one hundred (100) cubic feet or seven hundred forty-eight (748) gallons of water.

d. "**City**" means the City of Los Angeles.

e. "**City Council**" means the Council of the City of Los Angeles.

f. "**Conservation Phase**" means that level of mandatory water conservation presently required from Customers pursuant to this Article.

g. "**Customer**" means any person, persons, association, corporation or governmental agency supplied or entitled to be supplied with water service by the Department.

h. "**Department**" means the Los Angeles Department of Water and Power.

i. "**Drip Irrigation**" means an efficient and targeted form of irrigation in which water is delivered in drops directly to the plants roots where no emitter produces more than four (4) gallons of water per hour.

j. "**Even-numbered**" means street addresses ending with the following numerals: 0 (Zero), 2 (Two), 4 (Four), 6 (Six), 8 (Eight). Street addresses ending in ½ or any fraction shall conform to the permitted uses for the last whole number in the address.

k. "**Gray Water**" means a Customer's second or subsequent use of water supplied by the Department on the Customer's premises, such as the use of laundry or bathing water for other purposes.

l. "**Irrigate**" means any exterior application of water, other than for firefighting purposes, dust control, or as process water, including, but not limited to, the watering of any vegetation whether it be natural or planted.

m. "**Large Landscape Area**" means an area of vegetation at least three acres in size supporting a business necessity or public benefit uses such as parks, golf courses, schools and cemeteries.

n. "**Mayor**" means the Mayor of the City of Los Angeles

o. "**Notice to the Department**" means written communication documenting compliance with all requirements and directed to the Department.

p. "**Odd-numbered**" means street addresses ending with the following numerals: 1 (One), 3 (Three), 5 (Five), 7 (Seven), 9 (Nine). Street addresses ending in ½ or any fraction shall conform to the permitted uses for the last whole number in the address.

q. "**Officer**" means every person designated in Section 200 of the Los Angeles City Charter as an officer of the City of Los Angeles.

r. "**Potable Water**" means water supplied by the Department which is suitable for drinking and excludes recycled water from any source.

s. "**Private Golf Course**" means a facility with a business license where play is restricted to members and their guests, and does not include personal use facilities such as backyard golf greens or courses.

t. "**Process Water**" means water used to manufacture, alter, convert, clean, heat or cool a product, or the equipment used for such purpose; water used for plant and equipment washing and for transporting of raw materials and products; and water used for community gardens, or to grow trees, plants, or turf for sale or installation.

u. "**Recycled Water**" means water which, as a result of treatment of wastewater, is suitable for a direct beneficial use or a controlled use as approved by the California Department of Public Health.

v. "**Section**" means a section of this Article unless some other ordinance or statute is specifically mentioned.

w. "**Single-Family Residential Customer**" means a customer who is currently subject to Rate Schedule A of the LADWP water rate ordinance.

x. "**Single Pass Cooling Systems**" means equipment where water is circulated only once to cool equipment before being disposed.

y. "**Sports Field**" means a public or private facility supporting a business necessity or public benefit use that provides turf areas as a playing surface for individual and team sports, and does not include a facility on a residential property.

z. "**Station**" means those sprinklers or other water-emitting devices controlled by a single valve.

SEC. 121.04. AUTHORIZATION.

The various officers, boards, departments, bureaus and agencies of the City are hereby authorized and directed to immediately implement the applicable provisions of this Article upon the effective date hereof.

SEC. 121.05. APPLICATION.

The provisions of this Article shall apply to all Customers and property served by the Department wherever situated, and shall also apply to all property and facilities owned, maintained, operated or under the jurisdiction of the various officers, boards, departments, bureaus or agencies of the City.

SEC. 121.06. WATER CONSERVATION PHASES.

A. No Customer of the Department shall make, cause, use or permit the use of water from the Department for any residential, commercial, industrial, agricultural, governmental, or any other purpose in a manner contrary to any provision of this Article. The waste or unreasonable use of water is prohibited.

B. For the purposes of this Article, a use of water by a tenant or by an employee, agent, contractor or other acting on behalf of a Customer whether with real or ostensible authority shall be imputed to the Customer. Nothing contained in this Article shall limit the remedies available to a Customer under law or equity for the actions of a tenant, agent, contractor or other acting on behalf of a Customer.

SEC. 121.07. CONSERVATION PHASE IMPLEMENTATION.

A. Notwithstanding any other provisions of this Article, the provisions of Section 121.08A shall take effect immediately upon the effective date of this Article, shall be permanent, and shall not be subject to termination pursuant to the provisions of this Article providing for the termination of a conservation phase.

B. The Department shall monitor and evaluate the projected supply and demand for water by its Customers monthly, and shall recommend to the Mayor and Council by concurrent written notice the extent of the conservation required by the Customers of the Department in order for the Department to prudently plan for and supply water to its Customers. The Mayor shall, in turn, independently evaluate such

recommendation and notify the Council of the Mayor's determination as to the particular phase of water conservation, Phase II through Phase VI, that should be implemented. Thereafter, the Mayor may, with the concurrence of the Council, order that the appropriate phase of water conservation be implemented in accordance with the applicable provisions of this Article. Said order shall be made by public proclamation and shall be published one time only in a daily newspaper of general circulation and shall become effective immediately upon such publication. The prohibited water uses for each phase shall take effect with the first full billing period commencing on or after the effective date of the public proclamation by the Mayor.

In the event the Mayor independently recommends to the Council a phase of conservation different from that recommended by the Department, the Mayor shall include detailed supporting data and the reasons for the independent recommendation in the notification to the Council of the Mayor's determination as to the appropriate phase of conservation to be implemented.

C. **Phase Termination.**

1. At such time as the Department reports an April 1 forecast of annual Owens Valley and Mono Basin Runoff equal to or exceeding 110 percent of normal and the Metropolitan Water District of Southern California officially states that the sum of its Colorado River and State Water Project supplies exceeds 100 percent of projected demand, the Mayor shall forthwith recommend to the Council the termination of any Customer curtailment phase then in effect. Said recommendation to terminate shall take effect upon concurrence of the Council.

2. The provisions of Subsection C1, above, shall not preclude the Department on the basis of information available to it from recommending to the Mayor the termination of a water conservation phase then in effect. The Mayor shall forward said recommendation to the Council, and it shall take effect upon concurrence by the Council.

SEC. 121.08. WATER CONSERVATION PHASES.

A. **PHASE I – Prohibited Uses Applicable to All Customers.**

1. No Customer of the Department shall use a water hose to wash any paved surfaces, including, but not limited to, sidewalks, walkways, driveways and parking areas, except to alleviate immediate safety or sanitation hazards. This section shall not apply to Department-approved water-conserving spray cleaning devices. Use of water-pressure devices for graffiti removal is exempt. A simple spray nozzle does not qualify as a water-conserving spray cleaning device.

2. No Customer of the Department shall use water to clean, fill or maintain levels in decorative fountains, ponds, lakes or similar structures used for aesthetic purposes unless such water is part of a recirculating system.

3. No restaurant, hotel, café, cafeteria, or other public place where food is sold, served or offered for-sale, shall serve drinking water to any person unless expressly requested.

4. No Customer of the Department shall permit water to leak from any pipe or fixture on the Customer's premises. Failure or refusal to affect a timely repair of any leak of which the Customer knows or has reason to know shall subject said Customer to all penalties provided herein for a prohibited use of water.

5. No Customer of the Department shall wash a vehicle with a hose if the hose does not have a self-closing water shut-off or device attached to it, or otherwise allow a hose to run continuously while washing a vehicle.

6. No Customer of the Department shall irrigate during periods of rain and within 48 hours after a measurable rain event.

7. No Customer of the Department shall water or irrigate lawn, landscape or other vegetated areas between the hours of 9:00 a.m. and 4:00 p.m. During these hours, public and private golf course greens and tees and professional Sports Fields may be irrigated in order to maintain play areas and accommodate event schedules. Supervised testing or repairing of irrigation systems is allowed anytime with proper signage.

8. All irrigating of landscape with potable water using spray head sprinklers and bubblers shall be limited to no more than ten (10) minutes per watering day per station. All irrigating of landscape with potable water using standard rotors and multi-stream rotary heads shall be limited to no more than fifteen (15) minutes per cycle and up to two (2) cycles per watering day per station. Exempt from these landscape irrigation restrictions are irrigation systems using very low-flow drip-type irrigation when no emitter produces more than four (4) gallons of water per hour and micro-sprinklers using less than fourteen (14) gallons per hour.

9. No Customer of the Department shall use water in a manner that causes or allows excess or continuous water flow or runoff onto an adjoining sidewalk, driveway, street, gutter or ditch.

10. No installation of single pass cooling systems shall be permitted in buildings requesting new water service.

11. No installation of non-recirculating systems shall be permitted in new conveyor car wash and new commercial laundry systems.

12. Operators of hotels and motels shall provide guests with the option of choosing not to have towels and linens laundered daily. The hotel or motel shall prominently display notice of this option in each bathroom using clear and easily understood language. The Department shall make suitable displays available.

13. No Large Landscape Areas shall have irrigation systems without rain sensors that shut off the irrigation systems. Large Landscape Areas with approved weather-based irrigation controllers registered with the Department are in compliance with this requirement.

B. **PHASE II**

1. **Prohibited Uses Applicable to All Customers.** Should Phase II be implemented, uses applicable to Phase I of this section shall continue to be applicable, except as specifically provided below.

2. **Non-Watering Days.** No landscape irrigation shall be permitted on any day other than Monday, Wednesday or Friday for odd-numbered street addresses, and Tuesday, Thursday or Sunday for even-numbered street addresses. Street addresses ending in ½ or any fraction shall conform to the permitted uses for the last whole number in the address. Watering times shall be limited to:

(a) Non-conserving nozzles (spray head sprinklers and bubblers) – no more than eight (8) minutes per watering day per station for a total of 24 minutes per week.

(b) Conserving nozzles (standard rotors and multi-stream rotary heads) – no more than fifteen (15) minutes per cycle and up to two (2) cycles per watering day per station for a total of 90 minutes per week.

(With the above watering times, water consumption used for both types of nozzles is essentially equal.)

3. Upon written Notice to the Department, irrigation of Sports Fields may deviate from the non-watering days to maintain play areas and accommodate event schedules; however, to be eligible for this means of compliance, a Customer must reduce their overall monthly water use by the Department's Board of Water and Power Commissioners (Board)-adopted degree of shortage plus an additional five percent from the Customer Baseline Water Usage within 30 days.

4. Upon written Notice to the Department, Large Landscape Areas may deviate from the non-watering days by meeting the following requirements: 1) must have approved weather-based irrigation controllers registered with the Department (eligible weather-based irrigation controllers are those approved by the Metropolitan Water District of Southern California or the Irrigation Association Smart Water Application Technologies [SWAT] initiative); 2) must reduce overall monthly water use by the Department's Board-adopted degree of shortage plus an additional five percent from the Customer Baseline Water Usage within 30 days; and 3) must use recycled water if it is available from the Department.

5. These provisions do not apply to drip irrigation supplying water to a food source or to hand-held hose watering of vegetation, if the hose is equipped with a self-closing water shut-off device, which is allowed everyday during Phase II except between the hours of 9:00 am and 4:00 pm.

C. **PHASE III**

1. **Prohibited Uses Applicable to All Customers.** Should Phase III be implemented, uses applicable to Phases I and II of this section shall continue to be applicable, except as specifically provided below.

2. **Non-Watering Days.** No landscape irrigation shall be permitted on any day other than Monday or Friday for odd-numbered street addresses, and Sunday or Thursday for even-numbered street addresses. Street addresses ending in ½ or any fraction shall conform to the permitted uses for the last whole number in the address. Watering times shall be limited to:

(a) Non-conserving nozzles (spray head sprinklers and bubblers) – no more than eight (8) minutes per watering day per station for a total of 16 minutes per week.

(b) Conserving nozzles (standard rotors and multi-stream rotary heads) – no more than fifteen (15) minutes per cycle and up to two (2) cycles per watering day per station for a total of 60 minutes per week.

(With the above watering times, water consumption used for both types of nozzles is essentially equal.)

3. Recommend use of pool covers to decrease water loss from evaporation.

4. Recommend washing of vehicles at commercial car wash facilities.

5. Upon written Notice to the Department, irrigation of Sports Fields may deviate from the non-watering days to maintain play areas and accommodate event schedules; however, to be eligible for this means of

compliance, a Customer must reduce their overall monthly water use by the Department's Board-adopted degree of shortage plus an additional five percent from the Customer Baseline Water Usage within 30 days.

6. Upon written Notice to the Department, Large Landscape Areas may deviate from the non-watering days by meeting the following requirements: 1) must have approved weather-based irrigation controllers registered with the Department (eligible weather-based irrigation controllers are those approved by the Metropolitan Water District of Southern California or the Irrigation Association Smart Water Application Technologies [SWAT] initiative); 2) must reduce overall monthly water use by the Department's Board-adopted degree of shortage plus an additional five percent from the Customer Baseline Water Usage within 30 days; and 3) must use recycled water if it is available from the Department.

7. These provisions do not apply to drip irrigation supplying water to a food source or to hand-held hose watering of vegetation, if the hose is equipped with a self-closing water shut-off device, which is allowed every day during Phase III except between the hours of 9:00 am and 4:00 pm.

D. **PHASE IV**

1. **Prohibited Uses Applicable to All Customers.** Should Phase IV be implemented, uses applicable to Phase I, II, and III of this Section shall continue to be applicable, except as specifically provided below.

2. **Non-Watering Days.** No landscape irrigation shall be permitted on any day other than Monday for odd-numbered street addresses and Tuesday for even-numbered street addresses. Street addresses ending in ½ or any fraction shall conform to the permitted uses for the last whole number in the address. Watering times shall be limited to:

(a) Non-conserving nozzles (spray head sprinklers and bubblers) – no more than eight (8) minutes per watering day per station for a total of 8 minutes per week.

(b) Conserving nozzles (standard rotors and multi-stream rotary heads) – no more than fifteen (15) minutes per cycle and up to two (2) cycles per watering day per station for a total of 30 minutes per week.

3. Mandate use of pool covers on all residential swimming pools when not in use.

4. No washing of vehicles allowed except at commercial car wash facilities.

5. No filling of decorative fountains, ponds, lakes, or similar structures used for aesthetic purposes, with potable water.

6. Upon written Notice to the Department, irrigation of Sports Fields may deviate from the specific non-watering days. To be eligible for this means of compliance, a Customer must reduce overall monthly water use by the Department's Board-adopted degree of shortage plus an additional ten percent from the Customer Baseline Water Usage within 30 days.

7. Upon written Notice to the Department, Large Landscape Areas may deviate from the specific non-watering days by meeting the following requirements: 1) must have approved weather-based irrigation controllers registered with the Department (eligible weather-based irrigation controllers are those approved by the Metropolitan Water District of Southern California or the Irrigation Association Smart Water Application Technologies [SWAT] initiative); 2) must reduce overall monthly water use by the Department's Board-adopted degree of shortage plus an additional ten percent from the Customer Baseline Water Usage within 30 days; and 3) must use recycled water if it is available from the Department.

8. These provisions do not apply to drip irrigation supplying water to a food source or to hand-held hose watering of vegetation, if the hose is equipped with a self-closing water shut-off device, which is allowed everyday during Phase IV except between the hours of 9:00 a.m. and 4:00 p.m.

E. **PHASE V**

1. **Prohibited Uses Applicable to All Customers**. Should Phase V be implemented, uses applicable to Phases I, II, III and IV of this section shall continue to be applicable, except as specifically provided below.

2. **Non-Watering Days.** No landscape irrigation allowed.

3. No filling of residential swimming pools and spas with potable water.

4. Upon written notice to the Department, golf courses and professional Sports Fields may apply water to sensitive areas, such as greens and tees, during non-daylight hours and only to the extent necessary to maintain minimum levels of biological viability.

F. **PHASE VI**

1. **Prohibited Uses Applicable to All Customers.** Phases I, II, III, IV and V of Section 121.08 shall continue to remain in effect.

2. **Additional Prohibited Uses**. The Board is hereby authorized to implement additional prohibited uses of water based on the water supply situation. Any additional prohibition shall be published at least once in a daily newspaper of general circulation and shall become effective immediately upon such publication and shall remain in effect until cancelled.

3. **Penalty Authority**. The Board is hereby authorized to establish appropriate penalties for this phase.

G. **EXCEPTION**. The prohibited uses of water provided for by Subsections A, B, C, D, E and F of this section are not applicable to the uses of water necessary for public health and safety, or for essential government services such as police, fire and other similar emergency services.

H. **VARIANCE.** If, due to unique circumstances, a specific requirement of this Section would result in undue hardship to a Customer using water or to property upon which water is used, that is disproportionate to the impacts to water users generally or to similar property or classes of water uses, then the Customer may apply for a variance from the requirements. Unique circumstances include, but are not limited to, physical disabilities which prevent compliance with the Water Conservation Plan. The Department shall adopt procedures for variance applications, review and decision.

SEC. 121.09. UNREASONABLE USE OF WATER.

It shall be unlawful for any Customer to waste, or engage in the unreasonable use of water. If any Single Family Residential Customer enters the Department's highest rate tier during Phase II-VI, that Customer may be subject to a Water Use Analysis performed by the Department. Department will use available resources, including, but not limited to, water consumption history, land use data, and aerial photographs, to analyze the reasonableness of a Customer's water use.

A. **Notification**. Department may issue a notification to a Customer requesting access to the property for purposes of completing a Water Use Analysis. Within thirty (30) days following written notification by the Department, to the Customer's billing address, the Customer shall provide the Department reasonable access to the property for purposes of completing a Water Use Analysis and for verifying compliance with any existing Customer Conservation Plan.

B. **Cooperation**. Customer, or his designated representative, shall be present and fully cooperate with the Department in the Water Use Analysis, including, but not limited to, providing water use information relating to landscaping, agriculture, fixtures, ponds, cooling towers and other water features and uses located on the property.

C. **Customer Conservation Plan**. Upon completion of the Water Use Analysis, Department may prepare a Customer Conservation Plan that includes an

evaluation of all water uses on the property, directions to reduce waste and unreasonable use of water, and a water budget based on the reasonable use of water on the property. Department will discuss with the Customer the findings of the Water Use Analysis and explain the Customer Conservation Plan.

D. The Department shall adopt criteria and process for implementing the Water Use Analysis. When possible the Department will use approved industry standards and methodologies to calculate indoor and outdoor water use.

E. Customer shall comply with all terms of the Department's Customer Conservation Plan, including any water budget provided by Department, and failure to comply shall be deemed an unreasonable use of water that is a threat to public health, safety and welfare and is deemed a nuisance pursuant to Government Code § 38771.

F. **Violation.** Customer failure to (1) provide reasonable access to property following notice, (2) cooperate with Department in the development of a Customer Conservation Plan, or (3) comply with Customer Conservation Plan shall be deemed a new violation of this section, and shall be noticed by the Department by written citation. Violation of this section shall subject Customer to penalties as described in Section 121.10(A)(3).

SEC. 121.10. FAILURE TO COMPLY.

A. **Penalties.** It shall be unlawful for any Customer of the Department to fail to comply with any of the provisions of this Article. Notwithstanding any other provision of the Los Angeles Municipal Code, the penalties set forth herein shall be exclusive and not cumulative with any other provisions of this Code. The penalties for failure to comply with any of the provisions of this Article shall be as follows:

1. Violations of any of the provisions of Subsection A, B, C, D, E, and F of Section 121.08 during the preceding twelve (12) calendar months, shall result in imposition of an administrative civil penalty pursuant to Penalty Schedule A and shall be included on the Customer's regular water bill issued by the Department.

Penalty Schedule A

Water meter smaller than two (2") inches						
	Phase 1	**Phase 2**	**Phase 3**	**Phase 4**	**Phase 5**	**Phase 6**
1st Written Warning	$0	$0	$0	$0	$0	Board Authority
2nd Written Violation	$50	$100	$200	$300	$400	Board Authority
3rd Written Violation	$100	$200	$400	$600	$800	Board Authority
4th Written Violation	$150	$300	$600	$900	$1200	Board Authority

Water meter two (2") inches and larger						
	Phase 1	**Phase 2**	**Phase 3**	**Phase 4**	**Phase 5**	**Phase 6**
1st Written Warning	$0	$0	$0	$0	$0	Board Authority
2nd Written Violation	$100	$200	$400	$600	$800	Board Authority
3rd Written Violation	$200	$400	$800	$1200	$1600	Board Authority
4th Written Violation	$300	$600	$1200	$1800	$2400	Board Authority

(a) After a fifth or subsequent violation, the Department may install a flow-restricting device of one-gallon-per-minute (1 GPM) capacity for services up to one and one-half inch (1-1/2") size and comparatively sized restrictors for larger services or terminate a Customer's service, in addition to the financial surcharges provided for herein. Such action shall be taken only after a hearing held by the Department where the Customer has an opportunity to respond to the Department's information or evidence that the Customer has repeatedly violated this Article or Department rules regarding the conservation of water and that such action is reasonably necessary to assure compliance with this Article and Department rules regarding the conservation of water.

Any such restricted or terminated service may be restored upon application of the Customer made not less than 48 hours after the implementation of the action restricting or terminating service and only upon a showing by the Customer that the Customer is ready, willing and able to comply with the provisions of this Article and Department rules regarding the conservation of water. Prior to any restoration of service, the Customer shall pay all Department charges for any restriction or termination of service and its restoration as provided for in the

Department's rules governing water service, including, but not limited to, payment of all past due bills and fines.

2. Violations of Section 121.09 shall result in imposition of administrative civil penalties pursuant to Penalty Schedule B and shall be included on the Customer's regular water bill issued by the Department:

Penalty Schedule B

Number of Consecutive Months with Violation	Phase 1	Phase 2	Phase 3	Phase 4	Phase 5	Phase 6
Violation during months 1-5	N/A	$1,000	$2,000	$5,000	$10,000	Board Authority
Violation during months 6-11	N/A	$2,000	$4,000	$10,000	$20,000	Board Authority
Violation during months 12-17	N/A	$3,000	$6,000	$15,000	$30,000	Board Authority
Violation during months 18-23	N/A	$4,000	$8,000	$20,000	$40,000	Board Authority

(a) Customers continuing to violate Section 121.09 beyond 24 months will be referred to the Board for consideration of flow restrictors or other actions.

C. **Notice**. The Department shall give notice of each violation to the Customer committing such violation as follows:

1. For any violation of the provisions of Section 121.08 and 121.09, the Department may give written notice of the fact of such violation to the Customer personally, by posting a notice at a conspicuous place on the Customer's premises or by United States mail, First-Class, postage prepaid, addressed to the Customer's billing address.

2. If the penalty assessed is, or includes, the installation of a flow restrictor or the termination of water service to the Customer, notice of the violation shall be given in the following manner:

(a) By giving written notice thereof to the Customer personally;

or

(b) If the Customer is absent from or unavailable at either their place of residence or place of business, by leaving a copy with some person of suitable age and discretion at either place, and sending a copy

through the United States mail, First Class postage prepaid, addressed to the Customer at their place of business, residence or such other address provided by the Customer for bills for water or electric service if such can be ascertained; or

(c) If such place of residence, business or other address cannot be ascertained, or a person of suitable age or discretion at any such place cannot be found, then by affixing a copy in a conspicuous place on the property where the failure to comply is occurring, and also by delivering a copy to a person of suitable age and discretion there residing or employed, if such person can be found, and also sending a copy through the United States mail, First Class, postage prepaid, addressed to the Customer at the place where the property is situated, as well as such other address provided by the Customer for bills for water or electric service if such can be ascertained.

Said notice shall contain, in addition to the facts of the violation, a statement of the possible penalties for each violation and statement informing the Customer of their right to a hearing on the violation.

D. **Hearing and Appeal.** Any Customer who disputes any penalty levied pursuant to this Section shall have a right to a dispute determination conducted pursuant to the Department's Rules Governing Water and Electric Service. Any Customer dissatisfied with the Department's dispute determination may appeal that determination within 15 days of issuance to the Board or to a designated hearing officer at the election of the Board. The provisions of Sections 19.24, 19.25, 19.26 and Sections 19.29 through 19.39 of the Los Angeles Administrative Code shall apply to such appeals. All defenses, both equitable and legal, may be asserted by a Customer in the appeal process. The decisions of the Board shall become final at the expiration of 45 calendar days, unless the Council acts within that time by a majority vote to bring the action before it or to waive review of the action. If the Council timely asserts jurisdiction, the Council may, by a majority vote, amend, veto or approve the action of the Board within 21 calendar days of voting to bring the matter before it, or the action of the Board shall become final. If the City Council asserts jurisdiction over the matter and acts within 21 calendar days of voting to bring the matter before it, the City Council's action shall be the final decision.

E. **Public Disclosure.** Any violation of any section of this Ordinance shall be subject to disclosure under the California Public Records Act.

F. **Reservation of Rights.** The rights of the Department hereunder shall be cumulative to any other right of the Department to discontinue service. All monies collected by the Department pursuant to any of the surcharge provisions of this Article shall be collected for water conservation purposes consistent with this Ordinance.

SEC. 121.11. GENERAL PROVISIONS.

A. **Enforcement.** The Department of Water and Power, through a designee of the General Manager, shall enforce the provisions of this Article. At any time, Department may use technology that will assist staff in observing water use of customers and enforcing the ordinance. Technology may be used for, but not limited to, evidence of an ordinance violation and as justification for issuing any penalties.

B. **Department to Give Effect to Legislative Intent.** The Department shall provide water to its Customers in accordance with the provisions of this Article and in a manner reasonably calculated to effectuate the intent hereof.

C. **Public Health and Safety Not to be Affected.** Nothing contained in this Article shall be construed to require the Department to curtail the supply of water to any Customer when, in the discretion of the Department, such water is required by that Customer to maintain an adequate level of public health and safety, provided further that a Customer's use of water to wash the Customer's property immediately following the aerial application of a pesticide, such as Malathion, shall not constitute a violation of this Article.

D. **Recycled Water and Gray Water.** The provisions of this Article shall not apply to the use of Recycled Water or Gray Water, provided that such use does not result in excess water flow or runoff onto the adjoining sidewalk, driveway, street, gutter or ditch. This provision shall not be construed to authorize the use of Gray Water if such use is otherwise prohibited by law.

E. **Large Landscape Areas.** Large Landscape Areas that have multiple irrigation system stations can deviate from prescribed non-watering days if their systems include weather-based irrigation controllers, and each irrigation station is limited to the number of days prescribed in Section 121.08.

F. **Hillside Burn Areas.** The provisions of this Article shall not apply to hillside areas recovering from fire that have been replanted for erosion control. To qualify for this exemption, a Customer must obtain verification from the agency requiring erosion control measures. The duration of the exemption is limited to either one growing cycle, one year, or establishment of the vegetation, whichever is the lesser time period.

SEC. 121.12. SEVERABILITY.

If any section, subsection, clause or phrase in this Article or the application thereof to any person or circumstances is for any reason held invalid, the validity of the remainder of the Article or the application of such provision to other persons or circumstances shall not be affected thereby. The City Council hereby declares that it would have passed this Article and each section, subsection, sentence, clause, or phrase thereof, irrespective of the fact that one or more sections, subsections,

sentences, clauses, or phrases or the application thereof to any person or circumstance be held invalid.

Sec. 2. **URGENCY CLAUSE.** The Council of the City of Los Angeles hereby finds and declares that there exists within this City a current water shortage and the likelihood of a continuing water shortage into the immediate future and that as a result there is an urgent necessity to take legislative action through the exercise of the police power to protect the public peace, health and safety of this City from a public disaster or calamity. Therefore, this ordinance shall take effect immediately upon publication.

Sec. 3. The City Clerk shall certify to the passage of this ordinance and have it published in accordance with Council policy, either in a daily newspaper circulated in the City of Los Angeles or by posting for ten days in three public places in the City of Los Angeles: one copy on the bulletin board located at the Main Street entrance to the Los Angeles City Hall; one copy on the bulletin board located at the Main Street entrance to the Los Angeles City Hall East; and one copy on the bulletin board located at the Temple Street entrance to the Los Angeles County Hall of Records.

I hereby certify that this ordinance was passed by the Council of the City of Los Angeles, **by a vote of not less than three-fourths** of all its members, at its meeting of APR 19 2016.

HOLLY L. WOLCOTT, City Clerk

By _____
Deputy

Approved 4/25/16

_____
Mayor

Approved as to Form and Legality

MICHAEL N. FEUER, City Attorney

By _____
DAVID EDWARDS
Deputy City Attorney

Date 4/1/16

File No. 15-0540

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Appendix C
Water Rate Ordinance

ORDINANCE NO. 184130

An ordinance approving the rates fixed by the Department of Water and Power of the City of Los Angeles and to be charged for water and water service supplied by the Department to its customers, and approving the time and manner of payment for such water and water services.

THE PEOPLE OF THE CITY OF LOS ANGELES DO ORDAIN AS FOLLOWS:

Section 1. That the rates to be charged and collected and the terms, provisions and conditions to be effective respecting such rates for water and water service supplied by the Department of Water and Power (Department) of the City of Los Angeles (City) to its customers, heretofore fixed by Resolution No. 016-130, adopted by the Board of Water and Power Commissioners on December 15, 2015, are hereby approved. Such rates and conditions so fixed are as set forth in the following sections.

Sec. 2. That such service supplied to customers shall be in accordance with rate schedules prescribed as follows:

A. SCHEDULE A - SINGLE-DWELLING UNIT RESIDENTIAL CUSTOMERS

1. APPLICABILITY

Applicable to Single-Dwelling Unit Residential Customers.

2. TERRITORY

City of Los Angeles.

3. COMMODITY CHARGES

	Rate Per Hundred Cubic Feet
a. First Tier Usage Block Usage in first tier usage block shall be billed as follows:	
Effective Effective Date	$1.422 and General Provision F, G, H, K, L, R, and S adjustments
Effective July 1, 2016	$1.792 and General Provision F, G, H, K, L, R, and S adjustments

Effective July 1, 2017	$1.999 and General Provision F, G, H, K, L, R, and S adjustments
Effective July 1, 2018	$2.016 and General Provision F, G, H, K, L, R, and S adjustments
Effective July 1, 2019	$2.095 and General Provision F, G, H, K, L, R, and S adjustments

Monthly First Tier Usage Block In Hundred Cubic Feet
0 – 8

b. Second Tier Usage Block
Usage in second tier usage block shall be billed as follows:

Effective Effective Date	$1.422 and General Provision F, G, H, K, L, R, and S adjustments
Effective July 1, 2016	$1.792 and General Provision F, G, H, K, L, R, and S adjustments
Effective July 1, 2017	$1.999 and General Provision F, G, H, K, L, R, and S adjustments
Effective July 1, 2018	$2.016 and General Provision F, G H, K, L, R, and S adjustments

Effective July 1, 2019	$2.095 and General Provision F, G, H, K, L, R, and S adjustments

Low Season (October 1 through May 31)

Monthly Second Tier Usage Blocks In Hundred Cubic Feet			
Lot Size Group	Temperature Zone		
	Low	Medium	High
1 – 7,499 sq. ft.	9 – 11	9 – 11	9 – 11
7,500 – 10,999 sq. ft.	9 – 12	9 – 12	9 – 12
11,000 – 17,499 sq. ft.	9 – 16	9 – 16	9 – 16
17,500 – 43,559 sq. ft.	9 – 18	9 – 18	9 – 18
43,560 sq. ft. and above	9 – 18	9 – 18	9 – 18

High Season (June 1 through September 30)

Monthly Second Tier Usage Blocks In Hundred Cubic Feet			
Lot Size Group	Temperature Zone		
	Low	Medium	High
1 – 7,499 sq. ft.	9 – 14	9 – 15	9 – 17
7,500 – 10,999 sq. ft.	9 – 17	9 – 18	9 – 20
11,000 – 17,499 sq. ft.	9 – 25	9 – 27	9 – 33
17,500 – 43,559 sq. ft.	9 – 29	9 – 32	9 – 39
43,560 sq. ft. and above	9 – 29	9 – 32	9 – 39

c. Third Tier Usage Block
Usage in third tier usage block shall be billed as follows:

Effective Effective Date	$2.168 and General Provision F, G, H, K, L, R, and S adjustments
Effective July 1, 2016	$2.538 and General Provision F, G, H, K, L, R, and S adjustments

Effective July 1, 2017	$2.746 and General Provision F, G, H, K, L, R, and S adjustments
Effective July 1, 2018	$2.762 and General Provision F, G, H, K, L, R, and S adjustments
Effective July 1, 2019	$2.841 and General Provision F, G, H, K, L, R, and S adjustments

Low Season (October 1 through May 31)

Monthly Third Tier Usage Blocks In Hundred Cubic Feet			
Lot Size Group	Temperature Zone		
	Low	Medium	High
1 – 7,499 sq. ft.	12 – 17	12 – 17	12 – 17
7,500 – 10,999 sq. ft.	13 – 20	13 – 20	13 – 20
11,000 – 17,499 sq. ft.	17 – 32	17 – 32	17 – 32
17,500 – 43,559 sq. ft.	19 – 38	19 – 38	19 – 38
43,560 sq. ft. and above	19 – 38	19 – 38	19 – 38

High Season (June 1 through September 30)

Monthly Third Tier Usage Blocks In Hundred Cubic Feet			
Lot Size Group	Temperature Zone		
	Low	Medium	High
1 – 7,499 sq. ft.	15 – 26	16 – 29	18 – 35
7,500 – 10,999 sq. ft.	18 – 35	19 – 38	21 – 44
11,000 – 17,499 sq. ft.	26 – 59	28 – 65	34 – 83
17,500 – 43,559 sq. ft.	30 – 71	33 – 80	40 – 101
43,560 sq. ft. and above	30 – 71	33 – 80	40 – 101

d. Fourth Tier Usage

Usage above third tier usage block shall be billed as follows:

Effective Effective Date	$2.168 and General Provision F, G, H, K, L, R, and S adjustments

Effective July 1, 2016	$2.538 and General Provision F, G, H, K, L, R, and S adjustments
Effective July 1, 2017	$2.746 and General Provision F, G, H, K, L, R, and S adjustments
Effective July 1, 2018	$2.762 and General Provision F, G, H, K, L, R, and S adjustments
Effective July 1, 2019	$2.841 and General Provision F, G, H, K, L, R, and S adjustments

4. BILLING

The bill shall be the sum of the charges for first tier usage, including adjustments to first tier usage pursuant to General Provisions F, G, H, K, L, R, and S, charges for any second tier usage, including adjustments to second tier usage pursuant to General Provisions F, G, H, K, L, R, and S, charges for any third tier usage, including adjustments to third tier usage pursuant to General Provisions F, G, H, K, L, R, and S, and charges for any fourth tier usage, including adjustments to fourth tier usage pursuant to General Provisions F, G, H, K, L, R, and S, less one of the applicable subsidies as described in General Provisions O and P, but the bill shall not be less than zero.

5. SPECIAL CONDITIONS

a. Service Inside the City of Los Angeles
Charges for water service to premises of which ninety percent (90%) or more of the area is inside the City shall be the amount computed at the rates set forth above.

b. Service Outside the City of Los Angeles
Charges for water service to premises of which less than ninety percent (90%) of the area is inside the City shall also include a surcharge equal to the differential cost of treated Tier II water delivered to the City purchased from the Metropolitan Water District and the average cost of water delivered to the City through the

Los Angeles Aqueducts for the previous five years. However, at no time shall the rates be less than those charged for service inside the City.

c. Applicability of Rules and Regulations
Application of this schedule shall be subject to rules and regulations adopted by the Board of Water and Power Commissioners.

B. SCHEDULE B - MULTI-DWELLING UNIT RESIDENTIAL CUSTOMERS

1. APPLICABILITY

Applicable to Multi-Dwelling Unit Residential Customers.

2. TERRITORY

City of Los Angeles.

3. COMMODITY CHARGES

Rate Per Hundred Cubic Feet

a. First Tier Usage Block
Usage in first tier usage block shall be billed as follows:

Effective Effective Date	$1.422 and General Provision F, G, H, K, L, R, and S adjustments

The first tier usage block shall be the higher of one hundred percent (100%) of the customer's adjusted first tier usage block as of the day prior to the Effective Date or one hundred percent (100%) of the customer's average consumption for the period of December 2014 through March 2015, except that the minimum shall not be less than twenty-four (24) hundred cubic feet per month.

Effective July 1, 2016	$1.792 and General Provision F, G, H, K, L, R, and S adjustments

The first tier usage block shall be the higher of ninety-three percent (93%) of the customer's adjusted first tier usage block as of the day prior to the Effective Date or ninety-three percent (93%) of the customer's average consumption for the period of December 2014 through March 2015, except that the minimum shall not be less than twenty-four (24) hundred cubic feet per month.

Effective July 1, 2017	$1.999 and General Provision F, G, H, K, L, R, and S adjustments

The first tier usage block shall be the higher of eighty-eight percent (88%) of the customer's adjusted first tier usage block as of the day prior to the Effective Date or eighty-eight percent (88%) of the customer's average consumption for the period of December 2014 through March 2015, except that the minimum shall not be less than twenty-four (24) hundred cubic feet per month.

Effective July 1, 2018	$2.016 and General Provision F, G, H, K, L, R, and S adjustments

The first tier usage block shall be the higher of eighty-eight (88%) of the customer's adjusted first tier usage block as of the day prior to the Effective Date or eighty-eight percent (88%) of the customer's average consumption for the period of December 2014 through March 2015, except that the minimum shall not be less than twenty-four (24) hundred cubic feet per month.

Effective July 1, 2019	$2.095 and General Provision F, G, H, K, L, R, and S adjustments

The first tier usage block shall be the higher of eighty-eight percent (88%) of the customer's adjusted first tier usage block as of the day prior to the Effective Date or eighty-eight percent (88%) of the customer's average consumption for the period of December 2014 through March 2015, except that the minimum shall not be less than twenty-four (24) hundred cubic feet per month.

b. Second Tier Usage
Usage above the first tier usage block shall be billed as follows:

Effective Effective Date	$3.921 and General Provision F, G, H, K, L, R, and S adjustments
Effective July 1, 2016	$3.552 and General Provision F, G, H, K, L, R, and S adjustments

Effective July 1, 2017	$3.409 and General Provision F, G, H, K, L, R, and S adjustments
Effective July 1, 2018	$3.425 and General Provision F, G, H, K, L, R, and S adjustments
Effective July 1, 2019	$3.504 and General Provision F, G, H, K, L, R, and S adjustments

4. BILLING

The bill shall be the sum of the charges for first tier usage, including adjustments to first tier usage pursuant to General Provisions F, G, H, K, L, R, and S, and charges for any second tier usage, including adjustments to second tier usage pursuant to General Provisions F, G, H, K, L, R, and S.

5. SPECIAL CONDITIONS

a. Service Inside the City of Los Angeles
Charges for water service to premises of which ninety percent (90%) or more of the area is inside the City shall be the amount computed at the rates set forth above.

b. Service Outside the City of Los Angeles
Charges for water service to premises of which less than ninety percent (90%) of the area is inside the City shall also include a surcharge equal to the differential cost of treated Tier II water delivered to the City purchased from the Metropolitan Water District and the average cost of water delivered to the City through the Los Angeles Aqueducts for the previous five years. However, at no time shall the rates be less than those charged for service inside the City.

c. Applicability of Rules and Regulations
Application of this schedule shall be subject to rules and regulations adopted by the Board of Water and Power Commissioners.

d. Special First Tier Usage Block Conditions
(1) If a customer has not established a first tier usage block as prescribed above, the customer shall pay the first tier

Commodity Charges in effect, including adjustments pursuant to the General Provisions, as prescribed in Section 2.B.3.a., until the end of the subsequent Winter period, December through March. At that time, the average consumption of such Winter period multiplied by the same percentages as prescribed in Section 2.B.3.a. shall be used as the customer's first tier usage block. If, however, the Department is still not able to establish a first tier usage block with such Winter period, first tier usage block computations will be made by the Department in its sole discretion that are based on the customer's Winter use characteristics, site conditions, and all applicable best management practices for conservation approved by the Board of Water and Power Commissioners.

In no event shall the minimum first tier usage block be less than twenty-four (24) hundred cubic feet per month.

(2) If a customer's average consumption for the prior twelve (12) months is twenty-five percent (25%) or more above the established first tier usage block and the nature of use of the premises has or customer operations at the premises have significantly changed since the establishment of the first tier usage block, first tier usage block computations will be made by the Department in its sole discretion that are based on the customer's Winter use characteristics, site conditions, and all applicable best management practices for conservation approved by the Board of Water and Power Commissioners.

However, the minimum first tier usage block shall not be less than twenty-four (24) hundred cubic feet per month.

(3) If the Department certifies, after reviewing audit report findings regarding a customer's water conservation measures and results, that such customer has demonstrated implementation of key water conservation measures as established by the Board of Water and Power Commissioners to such a degree that opportunities to further reduce first tier consumption levels have already been exhausted, then, notwithstanding the first tier usage block reductions prescribed in Section 2.B.3.a., such customer's first tier usage block shall remain fixed at the level established upon the date of said certification without further first tier usage block reductions required.

C. SCHEDULE C - COMMERCIAL, INDUSTRIAL, AND GOVERNMENTAL CUSTOMERS AND TEMPORARY CONSTRUCTION

1. APPLICABILITY

Applicable to Commercial, Industrial, Governmental, and Temporary Construction water service and any other water service for which no rate schedule is specified.

2. TERRITORY

City of Los Angeles.

3. COMMODITY CHARGES

	Rate Per Hundred Cubic Feet
a. First Tier Usage Block Usage in first tier usage block shall be billed as follows:	
Effective Effective Date	$1.422 and General Provision F, G, H, K, L, R, and S adjustments
Effective July 1, 2016	$1.792 and General Provision F, G, H, K, L, R, and S adjustments
Effective July 1, 2017	$1.999 and General Provision F, G, H, K, L, R, and S adjustments
Effective July 1, 2018	$2.016 and General Provision F, G, H, K, L, R, and S adjustments
Effective July 1, 2019	$2.095 and General Provision F, G, H, K, L, R, and S adjustments

The Low Season first tier usage block shall be the higher of one hundred percent (100%) of the customer's adjusted first tier usage block as of the day prior to the Effective Date or one hundred percent (100%) of the average consumption for the period of December 2014 through March 2015.

The High Season first tier usage block shall be the higher of one hundred five percent (105%) of the customer's adjusted first tier usage block as of the day prior to the Effective Date or one hundred five percent (105%) of the average consumption for the period of December 2014 through March 2015.

b. Second Tier Usage
Usage above the first tier usage block shall be billed as follows:

Effective Effective Date	$2.923 and General Provision F, G, H, K, L, R, and S adjustments
Effective July 1, 2016	$3.292 and General Provision F, G, H, K, L, R, and S adjustments
Effective July 1, 2017	$3.500 and General Provision F, G, H, K, L, R, and S adjustments
Effective July 1, 2018	$3.516 and General Provision F, G, H, K, L, R, and S adjustments
Effective July 1, 2019	$3.595 and General Provision F, G, H, K, L, R, and S adjustments

4. BILLING

The bill shall be the sum of the charges for first tier usage, including adjustments to first tier usage pursuant to General Provisions F, G, H, K, L, R, and S, and charges for any second tier usage, including adjustments to second tier usage pursuant to General Provisions F, G, H, K, L, R, and S.

5. SPECIAL CONDITIONS

a. Service Inside the City of Los Angeles
Charges for water service to premises of which ninety percent (90%) or more of the area is inside the City shall be the amount computed at the rates set forth above.

b. Service Outside the City of Los Angeles
Charges for water service to premises of which less than ninety percent (90%) of the area is inside the City shall also include a surcharge equal to the differential cost of treated Tier II water delivered to the City purchased from the Metropolitan Water District and the average cost of water delivered to the City through the Los Angeles Aqueducts for the previous five years. However, at no time shall the rates be less than those charged for service inside the City.

c. Applicability of Rules and Regulations
Application of this schedule shall be subject to rules and regulations adopted by the Board of Water and Power Commissioners.

d. Special First Tier Usage Block Conditions

(1) If a customer has not established a first tier usage block as prescribed above, the customer shall pay the first tier Commodity Charges in effect, including adjustments pursuant to the General Provisions, as prescribed in Section 2.C.3.a., until the end of the subsequent Winter period, December through March. At that time, the average consumption of such Winter period multiplied by the same percentages as prescribed in Section 2.C.3.a. shall be used as the customer's first tier usage block for the Low Season and High Season, respectively. If, however, the Department is still not able to establish a first tier usage block with such Winter period, first tier usage block computations for the Low Season and High Season will be made by the Department in its sole discretion that are based on the customer's Winter use characteristics, site conditions, and all applicable best

management practices for conservation approved by the Board of Water and Power Commissioners.

(2) If a customer's average Low Season consumption is twenty-five percent (25%) or more above the established Low Season first tier usage block and the nature of use of the premises has or customer operations at the premises have significantly changed since the establishment of the Low Season first tier usage block, first tier usage block computations for Low Season and High Season will be made by the Department in its sole discretion that are based on the customer's Winter use characteristics, site conditions, and all applicable best management practices for conservation approved by the Board of Water and Power Commissioners.

D. SCHEDULE D - RECYCLED WATER SERVICE

1. APPLICABILITY

Applicable to all retail recycled water service and to wholesale recycled water service when specifically authorized by the Board of Water and Power Commissioners.

2. TERRITORY

City of Los Angeles.

3. COMMODITY CHARGES

Commodity Charges for Recycled Water Service shall be set by contract approved by the Board of Water and Power Commissioners.
The Board of Water and Power Commissioners has entered into contracts for delivery of recycled water wherein the commodity charge for recycled water was set at a rate equal to eighty percent (80%) of the commodity charge of the general applicable in-city potable water rate. (Schedule G in Ordinance No. 167554.) For purposes of the commodity charge for recycled water in existing contracts for the sale of recycled water, the commodity charge in Section 2.A.3.a. shall be the general applicable in-city potable water rate.

4. ADJUSTMENTS AND SUBSIDIES

Adjustments provided in General Provisions F, G, H, K, L, R, and S and subsidies as set forth in the General Provisions O and P shall not apply to this schedule.

5. BILLING

The bill shall be the sum of the Commodity Charges and the Treatment Surcharge.

6. SPECIAL CONDITIONS

a. Service Inside the City of Los Angeles
Charges for water service to premises of which ninety percent (90%) or more of the area is inside the City shall be set by separate contract approved by the Board of Water and Power Commissioners.

b. Service Outside the City of Los Angeles
Charges for water service to premises of which less than ninety percent (90%) of the area is inside the City shall be set by separate contract approved by the Board of Water and Power Commissioners.

c. Treatment Surcharge
The cost of treatment of recycled water prior to delivery beyond that required to discharge the wastewater to the ocean or a stream may be determined by the Department and added to the Commodity Charges as a Treatment Surcharge. However, except for Advanced Treated Recycled Water, the sum of such Surcharge and the Commodity Charges shall not exceed the Commodity Charges in effect under Section 2.A.3.a., excluding adjustments pursuant to the General Provisions F, G, H, K, L, R, and S.

d. Obligation to Supply Recycled Water
The Department will provide recycled water service under this schedule only when and where such water is available and can be supplied at a reasonable cost. In determining reasonable cost, the Department may consider all relevant factors, including, but not limited to, the present and projected costs of supplying potable domestic water to affected greenbelt areas and the present and projected costs of supplying recycled water. Grants or subsidies may be used to reduce total development costs.

e. Continuity of Service and Water Quality
There is no implication of continuous service or uniform quality of recycled water; therefore, the customer must have a separate service connection for potable water.

f. Wholesale Recycled Water Service
Wholesale Service may be provided to other water agencies consistent with the City Charter, but only under this schedule, or a separate contract, when approved by the Board of Water and Power Commissioners.

g. Special Uses
The Board of Water and Power Commissioners may establish special charges by contract under particular conditions for temporary, demonstrative, recreational or research uses.

h. Applicability of Rules and Regulations
Application of this schedule shall be subject to rules and regulations adopted by the Board of Water and Power Commissioners.

E. SCHEDULE E - PRIVATE FIRE SERVICE

1. APPLICABILITY

Applicable to water service solely for private fire suppression purposes.

2. TERRITORY

City of Los Angeles.

3. MONTHLY CHARGES

a. Service Availability Charge

Charge per Service

Size of Service	Effective Effective Date	Effective July 1, 2016	Effective July 1, 2017	Effective July 1, 2018	Effective July 1, 2019
1-inch and smaller	$ 3.15	$ 3.20	$ 3.26	$ 3.33	$ 3.39
1-1/2 inch	$ 11.18	$ 11.35	$ 11.57	$ 11.80	$ 12.04
2-inch	$ 15.88	$ 16.13	$ 16.44	$ 16.77	$ 17.10
3-inch	$ 39.11	$ 39.73	$ 40.49	$ 41.30	$ 42.12
4-inch	$ 62.33	$ 63.33	$ 64.53	$ 65.82	$ 67.14
6-inch	$ 110.22	$ 111.98	$ 114.11	$ 116.39	$ 118.72
8-inch	$ 215.79	$ 219.24	$ 223.41	$ 227.87	$ 232.43
10-inch	$ 259.88	$ 264.04	$ 269.06	$ 274.44	$ 279.93
12-inch	$ 334.13	$ 339.48	$ 345.93	$ 352.85	$ 359.90
14-inch	$ 519.77	$ 528.08	$ 538.12	$ 548.88	$ 559.85
16-inch	$ 621.86	$ 631.81	$ 643.82	$ 656.69	$ 669.83
20-inch	$ 834.17	$ 847.51	$ 863.62	$ 880.89	$ 898.51

b. Commodity Charges

Effective Effective Date	Rate Per Hundred Cubic Feet
	$1.422 and General Provision F, G, H, K, L, R, and S adjustments

Effective July 1, 2016	$1.792 and General Provision F, G, H,K, L, R, and S adjustments
Effective July 1, 2017	$1.999 and General Provision F, G, H, K, L, R, and S adjustments
Effective July 1, 2018	$2.016 and General Provision F, G, H, K, L, R, and S adjustments
Effective July 1, 2019	$2.095 and General Provision F, G, H, K, L, R, and S adjustments

4. BILLING

The bill shall be the sum of the Service Availability Charge and the Commodity Charges, including adjustments pursuant to General Provisions F, G, H, K, L, R, and S.

5. SPECIAL CONDITIONS

a. Partial Metering
Service under this schedule shall not be fully metered, but shall be equipped with a meter in a bypass and weighted valve mechanism for diverting small flows through the bypass meter.

b. Termination and Restoration of Service
Service under this schedule shall be terminated by the Department if water supplied under this schedule is used for any purpose other than fire extinguishing and for filling or refilling the customers' fire-related facilities which have been drained during tests and repairs. Service shall thereafter be restored only after a meter has been installed, after which service shall be supplied at applicable metered rates.

c. Service Availability Charges for Fire Services
For the purpose of computing service availability charges, the size of service shall be determined by the Department.

d. Applicability of Rules and Regulations
Application of this schedule shall be subject to rules and regulations adopted by the Board of Water and Power Commissioners.

F. SCHEDULE F - PUBLICLY-SPONSORED IRRIGATION; RECREATIONAL; AGRICULTURAL, HORTICULTURAL, AND FLORICULTURAL USES; COMMUNITY GARDENS AND YOUTH SPORTS

1. APPLICABILITY

Applicable to water service provided exclusively for the following uses:

a. Group A Uses

(1) Agricultural, horticultural, and floricultural uses on property that is dedicated for public use, operated on a nonprofit basis and open to the general public.

(2) Landscaping on grounds contiguous to buildings that are dedicated exclusively for public use and are operated on a nonprofit basis.

(3) Irrigation on grounds used exclusively by nonprofit educational institutions that are open to the general public.

To qualify, all Group A uses must be on areas that are not less than three (3) acres in size, exclusive of streets, sidewalks, alleys, and lands occupied by buildings.

b. Group B Uses

(1) Irrigating parcels of land used exclusively for commercial production of agricultural, horticultural or floricultural products in conformance with recognized practices of husbandry.

(2) Irrigating playing fields used for youth sports, including any sport recognized by the Amateur Athletic Union that requires a playing field, that are operated by nonprofit organizations solely for the purpose of providing youth sports for children in grades K through 12 who are residents of the City of Los Angeles, and participation in the sport is open to the general public.

To qualify, all Group B uses must be on areas that are not less than five (5) acres in size.

c. Group C Uses

Irrigating parcels of land used exclusively for community gardens growing agricultural products for human consumption, operated by community garden organizations that solely serve residents of the City of Los Angeles, on publicly-owned land or land donated for public use, in accordance with rules and regulations adopted by the Board of Water and Power Commissioners.

d. Group D Uses
Uses in parks, playgrounds, golf courses and lakes that are dedicated exclusively for public recreational uses, open to the general public, and operated on a nonprofit basis.

e. Group E Uses
Irrigation in medians in public streets that have complied with best management practices for medians as approved by the Board of Water and Power Commissioners.

2. TERRITORY

City of Los Angeles.

3. COMMODITY CHARGES

a. First Tier Usage Block
Usage in first tier usage block shall be billed as follows:

	Rate Per Hundred Cubic Feet
Effective Effective Date	$2.108 (Includes $1.422 Base Rate)
Effective July 1, 2016	$2.831 (Includes $1.792 Base Rate)
Effective July 1, 2017	$3.498 (Includes $1.999 Base Rate)
Effective July 1, 2018	$4.363 (Includes $2.016 Base Rate)
Effective July 1, 2019	$2.095 and General Provision F, G, H, K, L, R, and S adjustments

Monthly first tier usage blocks shall be established by the Department for domestic water use and landscape and large area irrigation prescribed in this Schedule F after an audit has been completed, considering site conditions and based upon best management practices approved by the Board of Water and Power Commissioners, and shall be subject to periodic review and revision by the Department.

b. Second Tier Usage
Usage above the first tier usage block shall be billed as follows:

	Rate Per Hundred Cubic Feet
Effective Effective Date	$6.780 (Includes $2.923 Base Rate)
Effective July 1, 2016	$8.257 (Includes $3.292 Base Rate)
Effective July 1, 2017	$8.183 (Includes $3.500 Base Rate)
Effective July 1, 2018	$8.433 (Includes $3.516 Base Rate)
Effective July 1, 2019	$3.595 and General Provision F, G, H, K, L, R, and S adjustments

4. BILLING

a. The bill shall be the sum of the charges for first tier usage, including adjustments to first tier usage pursuant to General Provisions F, G, H, K, L, R, and S where specified, and charges for any second tier usage, including adjustments to second tier usage pursuant to General Provisions F, G, H, K, L, R, and S where specified.

b. Through June 30, 2019, the revenue billed to Schedule F customers that is attributable to the difference between the Schedule F rate and its Base Rate component as recorded semiannually shall be proportionately allocated to the adjustments in General Provision F, G, H, K, L, R, and S according to those adjustments' respective shares when calculated without such revenue.

5. SPECIAL CONDITIONS

a. Application
A written application shall be required for each location at which water is delivered under this schedule.

b. Separate Service for Buildings
Service under this schedule shall be provided for irrigation and landscaping purposes; however, service to buildings shall be provided separately at rates specified in Schedule C, except Group D uses as prescribed in Section 2.F.1.d. above.

c. Recycled Water
Customers receiving service under Schedule F shall be required to utilize recycled water, when available. Customers utilizing recycled water due to this requirement shall continue to be billed under this Schedule unless they choose to be billed under Schedule D. If the recycled water is available to a customer but not utilized, such a customer shall be billed under Schedule C.

d. Applicability of Rules and Regulations

(1) Application of this schedule shall be subject to rules and regulations adopted by the Board of Water and Power Commissioners.

(2) A community garden organization applying for Group C use must satisfy the Department that it is capable of paying the charges for its water service, that it is an organization primarily formed to operate a community garden solely serving residents of the City, and that it has appropriate permission to use public land or land donated for public use.

(3) Customers applying for Group B (1) use must satisfy the Department that they are a bona fide business as defined by the Internal Revenue Code, and that the area served is used exclusively for commercial production of agricultural, floricultural or horticultural products. This schedule is not applicable to "hobby" businesses.

(4) Customers applying for Group D uses that include domestic water service must comply with best management practices for water using appliances and fixtures approved by the Board of Water and Power Commissioners.

e. Service Inside the City of Los Angeles
Charges for water service to premises of which ninety percent (90%) or more of the area is inside the City shall be the amount computed at the rates set forth above.

f. Service Outside the City of Los Angeles
Charges for water service to premises of which less than ninety percent (90%) of the area is inside the City shall also include a

surcharge equal to the differential cost of treated Tier II water delivered to the City purchased from the Metropolitan Water District and the average cost of water delivered to the City through the Los Angeles Aqueducts for the previous five years. However, at no time shall the rates be less than those charged for service inside the City.

Sec. 3. That the general provisions relating to water and water service supplied under schedules prescribed herein are as follows:

GENERAL PROVISIONS

A. RATE APPLICABILITY AND RULES

The application, interpretation and administration of the provisions herein shall be subject to such rules as may from time to time be promulgated by the Board of Water and Power Commissioners pursuant to its power and duty to administer the affairs of the Department of Water and Power, and the application, interpretation and administration of said provisions and rules by said Board shall be final. Such rules as prescribed for application within the City of Los Angeles shall be considered applicable for service outside the City, except as may otherwise be provided by specific rules herein or hereafter prescribed by the Board.

B. SURPLUS WATER - PARAMOUNT RIGHT OF THE CITY OF LOS ANGELES

Only surplus water, owned or controlled by the City of Los Angeles and not required for use of customers served by the City within its limits, may be supplied or distributed outside the City. The supplying or distribution of such surplus water shall, in all cases, be subject to the paramount right of the City to discontinue it, in whole or in part, and to hold or distribute such surplus water for the use of the City and its inhabitants.

C. METERING

For the purpose of computing charges, each meter serving the customer's premises shall be considered separately, and readings of two or more meters will not be combined as equivalent to a measurement through one meter except when such combination is for the convenience of the Department.

D. INTENTIONALLY LEFT BLANK

E. TIME AND MANNER OF PAYMENT OF BILLS

All bills for water service hereunder are due and payable upon presentation; bills shall become delinquent nineteen (19) days after date of presentation. If bills become delinquent, the Department may impose a Late Payment Charge and terminate the water service in accordance with applicable law or Department rules. Payment shall be made in person or by mail at offices of the Department, or at the option of the Department, to its authorized collectors.

F. WATER SUPPLY COST ADJUSTMENT

1. A Water Supply Cost Adjustment (WSCA) shall be included in the first and second tier rates as set forth in Schedules A, B, C, and F, in the third and fourth tier rates as set forth in Schedule A, and in the Schedule E rate; and shall be included in bills under each service schedule and any contract where it is so specified. The WSCA recovers Los Angeles Aqueduct (LAA), purchased water (PW), groundwater (GW), recycled water (RW), water conservation (WC), and any additional water supply source expenses through application of the Water Supply Cost Adjustment Factor (WSCAF) and may vary according to the tiers of customers' rates.

2. The WSCAF shall be calculated two times each year and shall take effect January 1 and July 1, respectively. The WSCAF shall also be calculated and take effect upon the Effective Date. The following estimated expenses, as approved by the Board of Water and Power Commissioners in advance for inclusion in the WSCAF, shall be included in the respective calculation of the WSCAF:

   (a) The estimated LAA expense for 12 months commencing with the effective date of the WSCAF. This expense shall include estimated depreciation expense, interest expense or equivalent, operating and maintenance expense, and property taxes, and shall be reduced by net revenue generated from the LAA facilities.

   (b) The estimated purchased water expense for 12 months commencing with the effective date of the WSCAF. This expense shall include the total cost to the Department of all water delivered to the Department's system, including, but not limited to, the cost of other services provided by water suppliers.

   (c) The estimated groundwater expense for 12 months commencing with the effective date of the WSCAF. This expense shall include estimated depreciation expense, interest expense or equivalent, and cost for operation and maintenance for in-City groundwater and related booster pumping.

   (d) The estimated recycled water expense for 12 months commencing with the effective date of the WSCAF. This expense shall include costs of purchasing recycled water and costs of producing recycled water, including capital expenditures, operating and maintenance expense, costs of stormwater capture and aquifer recharge, and debt service for facilities and systems, including pipelines and pumping and treatment stations, which are part of the Department's water recycling projects and programs.

(e) The estimated water conservation expense for 12 months commencing with the effective date of the WSCAF. This expense shall include costs for assets not securitized and that are incurred for customer technical assistance, customer financial incentives and the acquisition and installation of devices and systems, including low-flush toilets and low-flow shower heads, and operating and maintenance expense, which are part of those programs or projects designed to reduce the use of water.

(f) The estimated expense for 12 months commencing with the effective date of the WSCAF of any additional source of water supply not described herein.

3. The Unit Price for each water supply source in the WSCAF calculation shall be calculated as follows:

(a) Price for LAA = $\frac{\text{LAA expense from Sec. 3.F.2.(a)}}{\text{LAA production units}}$

(b) Price for PW = $\frac{\text{PW expense from Sec. 3.F.2.(b)}}{\text{PW production units}}$

(c) Price for GW = $\frac{\text{GW expense from Sec. 3.F.2.(c)}}{\text{GW production units}}$

(d) Price for RW = $\frac{\text{RW expense from Sec. 3.F.2.(d)}}{\text{RW production units}}$

(e) Price for additional source(s) = $\frac{\text{expense from Sec. 3.F.2.(f) for a source}}{\text{production units of that source}}$

(f) Price for WC = $\frac{\text{WC expense from Sec. 3.F.2(e)}}{\text{Retail Sales}}$

(g) Unit Cost for Over/(Under) Balancing = $\frac{\text{Water Supply Cost Adjustment Account from Sec. 3.F.6}}{\text{Retail Sales}}$

Where: production units of each supply source are estimated production in HCF, net of loss, for 12 months commencing with the effective date of WSCAF, and Retail Sales are the estimated retail water sales in HCF for 12 months commencing with the effective date of the WSCAF, less

Schedule D and F sales but only excluding Schedule F sales through June 30, 2019.

4. The WSCAF that will be applied to a particular tier of a customer's usage is calculated based on sources of supply, beginning with the first tier and continuing in numerical order. A tier's expected annual demand is supplied starting with the least expensive available source and continuing in order with the next more expensive available source until that tier's expected annual demand is met.

S1 = lowest cost supply source
S2 = next higher cost supply source
S3 = next higher cost supply source
S4 = next higher cost supply source
Sn = next supply source(s) with the highest cost
(i.e., S5, S6, or S7 for fifth, sixth, or seventh supply source, respectively, and so on until no sources remain)

5. The WSCAF formula for each tier, expressed to the nearest $0.001 per HCF, is:

A – First Tier (T1) Demand **B – Second Tier (T2) Demand**
C – Third Tier (T3) Demand **D – Fourth Tier (T4) Demand**
SP – unit price of the water supply source (i.e., SP1 for unit price for lowest cost supply source and SPn is the unit price of the next supply source(s) with the highest cost)

$$\mathbf{T1} = \frac{\text{S1 to meet } \mathbf{A} \times \text{SP1}}{\mathbf{A}} + \frac{\text{S2 for unmet } \mathbf{A} \text{ by S1} \times \text{SP2}}{\mathbf{A}} +$$

$$\frac{\text{S3 for unmet A by S1,2} \times \text{SP3}}{\mathbf{A}} + \frac{\text{S4 for unmet } \mathbf{A} \text{ by S1,2,3} \times \text{SP4}}{\mathbf{A}} +$$

$$\frac{\text{Sn for unmet } \mathbf{A} \text{ by S1-4,etc.} \times \text{SPn}}{\mathbf{A}} + \text{Sec. 3.F.3.(f)} + \text{Sec. 3.F.3.(g)}$$

$$\mathbf{T2} = \frac{\text{S1 to meet } \mathbf{B} \times \text{SP1}}{\mathbf{B}} + \frac{\text{S2 for unmet } \mathbf{B} \text{ by S1} \times \text{SP2}}{\mathbf{B}} +$$

$$\frac{\text{S3 for unmet } \mathbf{B} \text{ by S1,2} \times \text{SP3}}{\mathbf{B}} + \frac{\text{S4 for unmet } \mathbf{B} \text{ by S1,2,3} \times \text{SP4}}{\mathbf{B}} +$$

$$\frac{\text{Sn for unmet } \mathbf{B} \text{ by S1-4,etc.} \times \text{SPn}}{\mathbf{B}} + \text{Sec. 3.F.3.(f)} + \text{Sec. 3.F.3.(g)}$$

$$T3 = \frac{\text{S1 to meet } \mathbf{C} \times SP1}{\mathbf{C}} + \frac{\text{S2 for unmet } \mathbf{C} \text{ by S1} \times SP2}{\mathbf{C}} +$$

$$\frac{\text{S3 for unmet } \mathbf{C} \text{ by S1,2} \times SP3}{\mathbf{C}} + \frac{\text{S4 for unmet } \mathbf{C} \text{ by S1,2,3} \times SP4}{\mathbf{C}} +$$

$$\frac{\text{Sn for unmet } \mathbf{C} \text{ by S1-4,etc.} \times SPn}{\mathbf{C}} + \text{Sec. 3.F.3.(f)} + \text{Sec. 3.F.3.(g)}$$

$$T4 = \frac{\text{S1 to meet } \mathbf{D} \times SP1}{\mathbf{D}} + \frac{\text{S2 for unmet } \mathbf{D} \text{ by S1} \times SP2}{\mathbf{D}} +$$

$$\frac{\text{S3 for unmet } \mathbf{D} \text{ by S1,2} \times SP3}{\mathbf{D}} + \frac{\text{S4 for unmet } \mathbf{D} \text{ by S1,2,3} \times SP4}{\mathbf{D}} +$$

$$\frac{\text{Sn for unmet } \mathbf{D} \text{ by S1-4,etc.} \times SPn}{\mathbf{D}} + \text{Sec. 3.F.3.(f)} + \text{Sec. 3.F.3.(g)}$$

6. A Water Supply Cost Adjustment Account shall be maintained by the Department on a semiannual basis. Entries to this account shall include:

   (a) An amount equal to the qualified LAA expenses identified in Section 3.F.2.(a) as recorded semiannually.

   (b) An amount equal to the qualified purchased water expenses identified in Section 3.F.2.(b) as recorded semiannually.

   (c) An amount equal to the qualified groundwater expenses identified in Section 3.F.2.(c) as recorded semiannually.

   (d) An amount equal to the qualified recycled water expenses identified in Section 3.F.2.(d) as recorded semiannually.

   (e) An amount equal to the qualified water conservation expenses identified in Section 3.F.2.(e) as recorded semiannually.

   (f) An amount equal to the qualified additional water supply source expenses identified in Section 3.F.2.(f) as recorded semiannually.

   (g) An amount equal to the uncollectible WSCA portion of customer water bills as recorded semiannually.

(h) Less: An amount equal to revenue billed at the first, second, third and fourth tier rates that is attributable to the WSCAF as recorded semiannually.

(i) Less: Through June 30, 2019, an amount equal to revenue billed to Schedule F customers that is allocated to the WSCA as recorded semiannually.

(j) Less: An amount equal to revenue billed to Schedule D customers as recorded semiannually.

(k) On the Effective Date, an amount equal to the sum of the balances of the Purchased Water Adjustment Account and Demand Side Management and Reclaimed Water Cost Adjustment Account of the City of Los Angeles Water Rate Ordinance No. 170435, as amended.

7. Special Condition

In the event securitization of assets is not feasible, the limitation in Section 3.F.2.(e) to assets not securitized is deleted, and the Department may fund all qualifying water conservation expenses through borrowing up to the percentage specified in the capitalization ratio approved by the Board of Water and Power Commissioners.

G. WATER QUALITY IMPROVEMENT ADJUSTMENT

1. A Water Quality Improvement Adjustment (WQIA) shall be included in the first and second tier rates as set forth in Schedules A, B, C, and F, in the third and fourth tier rates as set forth in Schedule A, and in the Schedule E rate; and shall be included in bills under each service schedule and any contract where it is so specified. The WQIA recovers water quality related expense in order to equalize water quality throughout the City, to meet State and Federal water quality standards, and to provide security for water supply, storage, and conveyance infrastructure and related facilities through application of the Water Quality Improvement Adjustment Factor.

2. The Water Quality Improvement Adjustment Factor (WQIAF) shall be calculated two times each year and shall take effect January 1 and July 1, respectively. The WQIAF shall also be calculated and take effect upon the Effective Date.

The WQIAF formula, expressed to the nearest $0.001 per HCF, is:

$$WQIAF = \frac{(a)+(b)}{(c)}$$

Where:

(a) is the estimated water quality related expense for 12 months commencing with the effective date of the WQIAF. This expense shall include costs for assets not securitized and that are incurred for capital expenditures, operating and maintenance expense, and debt service associated with construction, equipment, supplies, groundwater treatment for potable use, and facilities and systems, including filtration and water treatment, cement lining, disinfection, reservoir improvements, monitoring equipment, pipelines, and conduits, which are part of those programs and projects designed to equalize the quality of water throughout the City, to meet State and Federal mandated water quality standards, or to provide security for water supply, storage, and conveyance infrastructure and related facilities, which expense has been approved in advance by the Board of Water and Power Commissioners to be included in the WQIAF.

(b) is the balance in the WQIA Account.

(c) is the estimated retail water sales in HCF for 12 months commencing with the effective date of the WQIAF, less Schedule D and F sales but only excluding Schedule F sales through June 30, 2019.

3. A Water Quality Improvement Adjustment Account shall be maintained by the Department on a semiannual basis. Entries to this account shall include:

(a) An amount equal to the qualified water quality related expenses identified in Section 3.G.2.(a) as recorded semiannually.

(b) An amount equal to the uncollectible WQIA portion of customer water bills as recorded semiannually.

(c) Less: An amount equal to revenue billed at the first, second, third and fourth tier rates that is attributable to the WQIAF as recorded semiannually.

(d) Less: Through June 30, 2019, an amount equal to revenue billed to Schedule F customers that is allocated to the WQIAF as recorded semiannually.

(e) On the Effective Date, an amount equal to the sum of the balances of the Water Quality Improvement Adjustment Factor and the Water

Security Adjustment Account of the City of Los Angeles Water Rate Ordinance No. 170435, as amended.

4. Special Condition

In the event securitization of assets is not feasible, the limitation in Section 3.G.2.(a) to assets not securitized is deleted, and the Department may fund all qualifying water quality related expenses through borrowing up to the percentage specified in the capitalization ratio approved by the Board of Water and Power Commissioners.

H. BASE RATE REVENUE TARGET ADJUSTMENT

1. A Base Rate Revenue Target Adjustment (BRRTA) recovers any shortage in revenue from Base Rates or credits back any excess collection of revenue from Base Rates due to variation in water sales from projections through application of the Base Rate Revenue Target Adjustment Factor (BRRTAF). Base Rate Revenue Targets (BRRT) for revenue from Base Rates of Schedule A, Schedule B, and the combination of all other rate schedules (Others) are established for the following fiscal years commencing on July 1:

2.

($ in Millions)	**Schedule A**	**Schedule B**	**Others**
Fiscal Year 15/16	$134.4	$101.7	$106.1
Fiscal Year 16/17	$175.7	$137.7	$122.7
Fiscal Year 17/18	$195.9	$153.6	$136.5
Fiscal Year 18/19	$197.5	$154.8	$138.0
Fiscal Year 19/20	$204.8	$160.6	$142.5

Any of the BRRTs for Fiscal Year 2018/19 and Fiscal Year 2019/20 stated above could be increased or decreased by the Board of Water and Power Commissioners in accordance with Section 4 of this ordinance. For Fiscal Year 2020/21, and fiscal years thereafter, commencing on July 1, BRRTs for Schedule A, Schedule B, and Others shall be established by the Board of Water and Power Commissioners by resolution prior to the start of the respective fiscal year. The increase in percentage of any BRRT established by the Board of Water and Power Commissioners from the prior period's BRRT shall not exceed the percentage change, year over year, of the second quarter's seasonally adjusted Gross Domestic Product Implicit Price Deflator (GDPDEF), as published by the U.S. Department of Commerce Bureau of Economic Analysis, using 2009 as the reference base, for the calendar year preceding the fiscal year for which the BRRT is

being established, less two percent (2%), but the net amount shall in no event be less than zero. The approved BRRT shall be communicated to the City Council.

2. The BRRTAF shall be calculated once each year and take effect January 1. The BRRTAF shall also be calculated and take effect upon the Effective Date. The BRRTAF shall be calculated separately for Schedule A, Schedule B, and Others.

The BRRTAF formula for Schedule A, expressed to the nearest $0.001 per HCF, is:

$$BRRTAF_A = \frac{(a)}{(b)}$$

Where:

(a) is the balance in the BRRTA Account for Schedule A.

(b) is the estimated retail water sales in HCF for Schedule A for 12 months commencing with the effective date of the BRRTAF, provided, however, on the Effective Date and on January 1, 2017, is the estimated retail water sales in HCF for Schedule A for 24 months commencing with the effective date of the BRRTAF.

The BRRTAF formula for Schedule B, expressed to the nearest $0.001 per HCF, is:

$$BRRTAF_B = \frac{(a)}{(b)}$$

Where:

(a) is the balance in the BRRTA Account for Schedule B.

(b) is the estimated retail water sales in HCF for Schedule B for 12 months commencing with the effective date of the BRRTAF, provided, however, on the Effective Date and on January 1, 2017, is the estimated retail water sales in HCF for Schedule B for 24 months commencing with the effective date of the BRRTAF.

The BRRTAF formula for Others, expressed to the nearest $0.001 per HCF, is:

$$BRRTAF_{Others} = \frac{(a)}{(b)}$$

Where:

(a) is the balance in the BRRTA Account for Others.

(b) is the estimated retail water sales in HCF for Others for 12 months commencing with the effective date of the BRRTAF, less Schedules D and F sales but only excluding Schedule F sales through June 30, 2019; provided, however, on the Effective Date and on January 1, 2017, is the estimated retail water sales in HCF for Others for 24 months commencing with the effective date of the BRRTAF, less Schedules D and F sales.

3. A BRRTA Account shall be maintained for Schedule A by the Department on an annual basis. Entries to this account shall include:

(a) Except on the Effective Date, an amount equal to the Base Rate Revenue Target of the prior fiscal year for Schedule A less the actual Base Rates revenue received by the Department from Schedule A customers for that fiscal year.

(b) Except on the Effective Date, an amount equal to the uncollectible BRRTA portion of Schedule A customer water bills as recorded for that fiscal year.

(c) On the Effective Date, an amount equal to the balance of the Water Revenue Adjustment Account of the City of Los Angeles Water Rate Ordinance No. 170435, as amended, attributable to Schedule A.

4. A BRRTA Account shall be maintained for Schedule B by the Department on an annual basis. Entries to this account shall include:

(a) Except on the Effective Date, an amount equal to the Base Rate Revenue Target of the prior fiscal year for Schedule B less the actual Base Rates revenue received by the Department from Schedule B customers for that fiscal year.

(b) Except on the Effective Date, an amount equal to the uncollectible BRRTA portion of Schedule B customer water bills as recorded for that fiscal year.

(c) On the Effective Date, an amount equal to the balance of the Water Revenue Adjustment Account of the City of Los Angeles Water Rate Ordinance No. 170435, as amended, attributable to Schedule B.

5. A BRRTA Account shall be maintained for Others by the Department on an annual basis. Entries to this account shall include:

   (a) Except on the Effective Date, an amount equal to the Base Rate Revenue Target of the prior fiscal year for Others less the actual Base Rates revenue received by the Department from Others for that fiscal year.

   (b) Except on the Effective Date, an amount equal to the uncollectible BRRTA portion of water bills for Others as recorded for that fiscal year.

   (c) Less: Through June 30, 2019, except on the Effective Date, an amount equal to revenue billed to Schedule F customers that is allocated to the BRRTA as recorded semiannually.

   (d) On the Effective Date, an amount equal to the balance of the Water Revenue Adjustment Account of the City of Los Angeles Water Rate Ordinance No. 170435, as amended, attributable to Others.

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K. OWENS VALLEY REGULATORY ADJUSTMENT

1. An Owens Valley Regulatory Adjustment (OVRA) shall be included in the first and second tier rates as set forth in Schedules A, B, C, and F, in the third and fourth tier rates as set forth in Schedule A, and in the Schedule E rate; and shall be included in bills under each service schedule and any contract where it is so specified. OVRA recovers expense for the Owens Lake Dust Mitigation Program, the Lower Owens River Project, and the Owens Lake Master Project through application of the Owens Valley Regulatory Adjustment Factor.

2. The Owens Valley Regulatory Adjustment Factor (OVRAF) shall be calculated two times each year and shall take effect January 1 and July 1, respectively. The OVRAF shall also be calculated and take effect upon the Effective Date.

   The OVRAF formula, expressed to the nearest $0.001 per HCF, is:

$$\text{OVRAF} = \frac{(a)+(b)}{(c)}$$

Where:

(a) is the estimated Owens Valley regulatory expense for 12 months commencing with the effective date of the OVRAF. This expense shall include costs for assets not securitized and that are incurred for capital expenditures, operating and maintenance expense, and debt service associated with infrastructure and related facilities, which are a part of the Owens Lake Dust Mitigation Program, the Lower Owens River Project, and the Owens Lake Master Project, which expense has been approved in advance by the Board of Water and Power Commissioners to be included in the OVRAF.

(b) is the balance in the OVRA Account.

(c) is the estimated retail water sales in HCF for twelve months commencing with the effective date of the OVRAF, less Schedule D and Schedule F but only excluding Schedule F sales through June 30, 2019.

3. An Owens Valley Regulatory Adjustment Account shall be maintained by the Department on a semiannual basis. Entries to this account shall include:

(a) An amount equal to the qualified Owens Valley regulatory expenses identified in Section 3.K.2.(a) as recorded semiannually.

(b) An amount equal to the uncollectible OVRA portion of customer water bills as recorded semiannually.

(c) Less: An amount equal to revenue billed at the first, second, third, and fourth tier rates that is attributable to the OVRAF as recorded semiannually.

(d) Less: Through June 30, 2019, an amount equal to revenue billed to Schedule F customers that is allocated to the OVRAF as recorded semiannually.

(e) On the Effective Date, an amount equal to the balance of the OVRA Account of the City of Los Angeles Water Rate Ordinance No. 170435, as amended.

4. Special Condition

In the event securitization of assets is not feasible, the limitation in Section 3.K.2.(a) to assets not securitized is deleted, and the Department may fund all qualifying Owens Valley regulatory expenses through borrowing

up to the percentage specified in the capitalization ratio approved by Board of Water and Power Commissioners.

L. LOW-INCOME SUBSIDY ADJUSTMENT

1. A Low-Income Subsidy Adjustment (LISA) shall be included in the first and second tier rates as set forth in Schedules A, B, C, and F, in the third and fourth tier rates as set forth in Schedule A, and in the Schedule E rate except for those customers qualified for lifeline and low-income subsidy credits. The LISA recovers the cost of credits provided to lifeline and low-income customers as provided in General Provisions O and P through application of the Low-Income Subsidy Adjustment Factor.

2. The Low-Income Subsidy Adjustment Factor (LISAF) shall be calculated two times each year and shall take effect January 1 and July 1, respectively. The LISAF shall also be calculated and take effect upon the Effective Date.

   The LISAF formula, expressed to the nearest $0.001 per HCF, is:

$$\text{LISAF} = \frac{(a)+(b)+(c)}{(d)}$$

   Where:

   (a) is the estimated cost of lifeline and low-income credit as provided in General Provisions O and P for 12 months commencing with the effective date of the LISAF.

   (b) is the estimated administrative cost related to water low-income and lifeline programs for 12 months commencing with the effective date of the LISAF.

   (c) is the balance in the LISA Account.

   (d) is the estimated retail water sales in HCF for 12 months commencing with the effective date of the LISAF, less Schedule D, Schedule F, and low-income and lifeline customer sales but only excluding Schedule F sales through June 30, 2019.

3. A Low-Income Subsidy Adjustment Account shall be maintained by the Department on a semiannual basis. Entries to this account shall include:

   (a) An amount equal to the cost of credits for lifeline and low-income customers provided in General Provisions O and P as recorded semiannually.

(b) An amount equal to the administrative cost for the lifeline and low-income programs as recorded semiannually.

(c) Less: An amount equal to revenue billed at the first, second, third and fourth tier rates that is attributable to the LISAF as recorded semiannually.

(d) Less: Through June 30, 2019, an amount equal to revenue billed to Schedule F customers that is allocated to the LISA as recorded semiannually.

(e) On the Effective Date, an amount equal to the balance of the LISA Account of the City of Los Angeles Water Rate Ordinance No. 170435, as amended.

4. Special Condition

The LISAF shall be calculated as set forth above, but no increase of the adjustment from the prior period's adjustment shall exceed $0.030 per billing unit.

M. LARGE IRRIGATED TURF

Those customers with 3 acres or more of turf on a single premises that are served from services providing water exclusively for landscape, except those customers receiving water under Schedule A or Schedule F, shall be entitled to receive ninety-five percent (95%) of their water usage at their first tier rate provided they have first completed an audit of their water use in their premises in accordance with a Department approved manual on large turf water audits and have implemented the "Best Management Practices for Turf Irrigation" as approved by the Board of Water and Power Commissioners to the satisfaction of the Department.

N. SEASONAL VARIATION ADJUSTMENTS

Schedule B and C customers that have 26 or more billing units of consumption above their first tier usage block and who also have a consumption above two hundred percent (200%) of their average consumption for the months of December through March for each of two consecutive billing periods during the High Season shall upon a showing by a customer that the customer has achieved the maximum practical reduction in water consumption by installation and use of generally acceptable water conserving devices and methods and in the customer's use of water be entitled to have their first tier usage block increased to a level that causes five percent (5%) of the customer's consumption to be considered above their first tier usage block for that year's High Season.

O. LIFELINE CUSTOMER SUBSIDY

Applicable to Schedule A residential water customers who are eligible for exemption from the City Utility User's Tax under provisions of Section 21.1.12(a) of the Los Angeles Municipal Code. Eligible customers shall receive a fixed $10.00 per month subsidy credit, except that such credit shall not exceed the customer's bill for water service. Eligible customers who elect to receive the subsidy under General Provision O shall not receive any subsidy under General Provision P.

P. LOW-INCOME SUBSIDY

Applicable to Schedule A residential water customers and residential customers submetered in accordance with General Provision T whose total household income does not exceed the limits established by the Board of Water and Power Commissioners. The customer must not be listed as a dependent on another person's income tax return and must use this service in the customer's primary residence only.

A qualified customer shall receive a monthly base subsidy credit of $5.00 per month, which shall be increased by $1.00 per month for each occupant of the dwelling unit in excess of 3 occupants. The credit shall not exceed a maximum of $10.00 per month, and shall not exceed the customer's bill for water service.

A person who is a residential customer of record of the Power System or receives Schedule R-3 submetered residential electric service, but who is not a Schedule A residential customer of the Water System, is eligible for the Low-Income Subsidy if such customer's income does not exceed the income limits established by the Board of Water and Power Commissioners for eligibility for such subsidy. The amount of the Low-Income Subsidy credit shall be as set forth above, and shall be applied against the customer's electric bill after first applying any credit adjustments or subsidy pursuant to the electric rate ordinance; provided, however, the Low-Income Credit shall not exceed the amount of the customer's bill for electric service.

To make the Power Revenue Fund whole, the Board shall cause transfers of funds from the Water Revenue Fund to the Power Revenue Fund equal in amounts to the Low-Income Subsidy credits that have been allowed to customers on their electric service bills according to the terms of this provision. The Board of Water and Power Commissioners shall make such transfers at such times as it deems financially prudent so as to make the Power Revenue Fund whole.

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R. WATER INFRASTRUCTURE ADJUSTMENT

1. The Water Infrastructure Adjustment (WIA) shall be included in the first and second tier rates as set forth in Schedules A, B, C, and F, in the third and fourth tier rates as set forth in Schedule A, and in the Schedule E rate; and shall be included in bills under each service schedule and any contract where it is so specified. The WIA recovers capital costs associated specifically with infrastructure investments to maintain and improve the reliability of the water distribution system through application of the Water Infrastructure Adjustment Factor.

2. The Water Infrastructure Adjustment Factor (WIAF) shall be calculated once each year and shall take effect July 1. The WIAF shall also be calculated and take effect upon the Effective Date.

   The WIAF formula, expressed to the nearest $0.001 per HCF, is:

$$WIAF = \frac{(a)+(b)}{(c)}$$

   Where:

   (a) is the estimated water infrastructure related expense for 12 months commencing with the effective date of the WIAF. This expense shall include costs incurred for capital expenditures and debt service associated with construction, which are associated specifically with infrastructure investments to maintain and improve the reliability of the water distribution system, which expense has been approved in advance by the Board of Water and Power Commissioners to be included in the WIAF.

   (b) is the balance in the WIA Account.

   (c) is the estimated retail water sales in HCF for 12 months commencing with the effective date of the WIAF, less Schedule D and F sales but only excluding Schedule F sales through June 30, 2019.

3. A Water Infrastructure Adjustment Account shall be maintained by the Department on an annual basis. Entries to this account shall include:

   (a) An amount equal to the qualified water infrastructure related expenses identified in Section 3.R.2.(a) above as recorded annually.

(b) An amount equal to the uncollectible WIA portion of customer water bills as recorded annually.

(c) Less: An amount equal to revenue billed at the first, second, third and fourth tier rates that is attributable to the WIAF as recorded annually.

(d) Less: Through June 30, 2019, an amount equal to revenue billed to Schedule F customers that is allocated to the WIAF as recorded annually.

S. WATER EXPENSE STABILIZATION ADJUSTMENT

1. The Water Expense Stabilization Adjustment (WESA) shall be included in the first and second tier rates as set forth in Schedules A, B, C, and F, in the third and fourth tier rates as set forth in Schedule A, and in the Schedule E rate; and shall be included in bills under each service schedule and any contract where it is so specified. The WESA recovers any shortage between the target determined by the Chief Financial Officer for the Water System Expense Stabilization Fund and the fund's balance in order to stabilize rates in the event of unforeseen events impacting water service delivery and also the expense for legal and court costs or any judgment or settlement through application of the Water Expense Stabilization Adjustment Factor (WESAF). Except for revenue collected and uncollectible amounts that are attributable to Section 3.S.2.(b) below, revenue collected that is attributable to the WESAF shall be deposited into the Water System Expense Stabilization Fund.

2. The Water Expense Stabilization Adjustment Factor shall be calculated once each year and take effect on January 1. The WESAF shall also be calculated and take effect upon the Effective Date.

The WESAF formula, expressed to the nearest $0.001 per HCF, is:

$$\text{WESAF} = \frac{(a)+(b)}{(c)}$$

Where:

(a) is the balance in the WESA Account.

(b) is the estimated expense for legal and court costs or any judgment or settlement including interest payments thereon for 12 months commencing with the effective date of the WESAF.

(c) is the estimated retail water sales in HCF for 12 months commencing with the effective date of the WESAF, less Schedule

D and F sales but only excluding Schedule F sales through June 30, 2019.

3. A WESA Account shall be maintained by the Department on an annual basis. Entries to this account shall include:

   (a) An amount equal to the Water System Expense Stabilization Fund target determined by the Chief Financial Officer of the Department less the balance of the Water System Expense Stabilization Fund. The net amount for this 3.(a) shall in no event be less than zero.

   (b) An amount equal to the qualified expenses for legal and court costs or any judgment or settlement including interest payments thereon identified in Section 3.S.2.(b) as recorded annually.

   (c) An amount equal to the uncollectible WESA portion of customer water bills as recorded annually.

   (d) Less: An amount equal to revenue billed for the first, second, third, and fourth tier rates that is attributable to the WESAF as recorded annually.

   (e) Less: Through June 30, 2019, an amount equal to revenue billed to Schedule F customers that is allocated to the WESAF as recorded annually.

T. RESALE OF WATER AND SUBMETERED CUSTOMERS

1. The resale of water by Department customers is prohibited. Any resale of water will be cause for termination of service.

2. Notwithstanding the foregoing prohibition, master-metered residential facilities and mobile home parks where individual single-dwelling units are submetered, and commercial facilities where individual commercial units are submetered, may pass through their costs for water service subject to the following billing conditions:

   (a) The rates charged the individual submetered units shall not be more than those prescribed under Schedule B for Multi-Dwelling Unit Residential Customers, including any applicable credits under General Provisions O and P, and in the case of commercial facilities shall not be more than those prescribed under Schedule C.

   (b) The owner shall post in a conspicuous place the prevailing water rate schedule published by the Department that is used to bill the facility.

(c) The owner shall provide a separate written water bill for each submetered unit. The bill shall include the amount of water metered for the period, open and closing meter readings, and the amount of the bill. End users may not be required to pay more than if the Department provided the water directly to the end user.

3. In the event the water is not submetered and a cost/use allocation methodology is employed by the Department's customer to divide the cost among users of the water, the method used must fairly and equitably allocate to each end user of water the amount actually used by each end user and determine costs based on the actual use, all subject to the following requirements:

(a) The end users pay no more than if the Department provided the water directly.

(b) No additional costs, fees, services charges or expenses of any nature are added to the end users' bills by the Department's customer or the customer's agents, directly or indirectly, related to the allocation methodology, including, but not limited to, charges for establishing new accounts, meter reading charges, equipment charges, account charges or any charge related to maintaining or operating the allocation system.

(c) The Department's customer shall provide the Department and all end users the cost allocation methodology and results of that methodology as applied to each end user. In no event can the Department's customer use a calculation or methodology that results in the end user being charged for an amount greater than the actual consumption at the Department's actual rates charged to the Department's customer.

(d) The Board of Water and Power Commissioners may adopt rules consistent with the foregoing provisions.

U. DEFINITIONS

For purposes of this ordinance, the following definitions shall apply:

Advanced Treated Recycled Water - Recycled water that has undergone processing, including, but not limited to, membrane filtration, reverse osmosis, and advanced oxidation, beyond that of disinfected **tertiary** recycled water as defined by Section 60301.230 of Title 22 of the California Code of Regulations and any amendments to or replacements of that section.

Base Rate - A portion of a rate other than the adjustments.

Base Rate Revenue Target Adjustment - Recovers any shortage in revenue from Base Rates or credits back any excess collection of revenue from Base Rates due to variation in water sales from projections.

Billing Unit - One hundred cubic feet of water, equal to 748 gallons.

Commercial - Activities devoted primarily to business, property management or professional purposes.

Commodity Charge - A charge based upon the amount of water used by the customer.

Customer - Any person, public or private association or corporation, partnership, unincorporated association, or governmental agency supplied or entitled to be supplied by the Department.

Date of Presentation - The date on which a bill or notice is mailed or delivered by the Department to the customer.

Effective Date - The later of April 1, 2016, or the earliest possible effective date of this ordinance.

First Tier Rates - Rates for water usage within the first tier usage blocks as specified in applicable Rate Schedules and for Rate Schedule E water usage, including General Provision adjustments where applicable.

Fourth Tier Rates - Rates for water usage above third tier usage blocks as specified in Schedule A, including General Provision adjustments where applicable.

Governmental - The United States or any of its agencies, the state or any of its agencies, the Regents of the University of California, a county, a city, a district, a public authority, or any other political subdivision.

High Season - June 1 through September 30.

Industrial - Activities devoted primarily to manufacturing or processing.

Lifeline Customer Subsidy - Credit provided for qualified residential customers who are eligible for exemption from the City Utility User's Tax under provisions of the Los Angeles Municipal Code or the Revenue and Taxation Code of the State of California.

Low-Income Subsidy - Credit provided for qualified customers whose total household income does not exceed limits established by the Board of Water and Power Commissioners.

Low Income Subsidy Adjustment - Recovers the cost of credits given to lifeline and low-income customers as provided in General Provisions O and P.

Low Season - October 1 through May 31.

Multi-Dwelling Units - Two or more family dwelling units served by one meter.

Owens Valley Regulatory Adjustment - Recovers expense for the Owens Lake Dust Mitigation Program, the Lower Owens River Project, and the Owens Lake Master Project.

Potable Water - Water that meets the quality standards prescribed in the U.S. Public Health Service Drinking Water Standards, published in Title 40, Chapter I, Subchapter D, Parts 141, 142, and 143, of the Code of Federal Regulations, or water which is approved for drinking purposes by the State or local authority having jurisdiction.

Premises - An integrated land area, including improvements on the land, undivided by public thoroughfares or water distribution mains and where all parts of the area are operated under the same management for the same purpose.

Rate - An amount fixed by the Board of Water and Power Commissioners by resolution and approved by the City Council by ordinance to be charged for water service supplied by the Department to its customers.

Recycled Water (Also known as reclaimed water) - Treated wastewater or stormwater that is suitable for a direct beneficial use or a controlled use that would not otherwise be possible without treatment.

Residential - Activities devoted primarily to residential or household purposes in single-dwelling units and multi-dwelling units.

Second Tier Rates - Rates for water usage within second tier usage blocks as specified in Rate Schedules, including General Provision adjustments where applicable.

Service Availability Charge - A fixed charge per month for fire service based upon service connection size.

Service Connection - The pipe or tubing, fittings, and valves necessary to conduct water from the distribution main through the meter or shutoff valve on an unmetered service connection.

Submeter - A meter internal to the customer's distribution line, used to monitor water consumption, but not for Department billing purposes.

Temperature Zones - Three geographical groupings of areas as set forth in the table below based on generally common average temperatures.

ZIP CODE	TEMPERATURE ZONE			ZIP CODE	TEMPERATURE ZONE		
90001 - 90044		Medium		90401 - 90405	Low		
90045	Low			90501 - 90506		Medium	
90046 - 90048		Medium		90510	Low		
90049	Low			90710 - 90717		Medium	
90056-90065		Medium		90731 - 90732	Low		
90066	Low			90744		Medium	
90067 - 90071		Medium		90810 - 90844		Medium	
90073 - 90077	Low			91040 - 91367			High
90089		Medium		91393			High
90094	Low			91401		Medium	
90210 - 90232		Medium		91402			High
90245	Low			91403		Medium	
90247 - 90250		Medium		91405 - 91411			High
90254	Low			91423		Medium	
90260 - 90261		Medium		91436			High
90266 - 90277	Low			91502		Medium	
90278		Medium		91504 - 91505		Medium	
90291 - 90293	Low			91600 - 91607		Medium	
90301 - 90305		Medium					

Third Tier Rates - Rates for water usage within third tier usage blocks as specified in Schedule A, including General Provision adjustments where applicable.

Water Expense Stabilization Adjustment - Recovers any shortage between the target for the Water System Expense Stabilization Fund and the fund's balance in order to stabilize rates in the event of unforeseen events impacting water service delivery and also expense for legal and court costs or any judgment or settlement.

Water Infrastructure Adjustment - Recovers capital costs associated specifically with infrastructure investments to maintain and improve the reliability of the water distribution system.

Water Supply Cost Adjustment - Recovers Los Angeles Aqueduct, purchased water, groundwater, recycled water, water conservation, and any additional water supply source expenses.

Water Quality Improvement Adjustment - Recovers water quality related expense in order to equalize water quality throughout the City, to meet State and Federal water quality standards, and to provide security for water supply, storage, and conveyance infrastructure and related facilities.

Water Service - Includes availability of water to a premises through Department facilities and any water supplied through the facilities.

Winter - The months of December, January, February, and March.

Sec. 4. That reports shall be provided and interim rate reviews be conducted as described in this section. Nothing in this section shall be construed to limit the authority of the Office of Public Accountability granted to that office by the City Charter or City Administrative Code.

Establishing Key Performance Metrics and Targets

The Board of Water and Power Commissioners shall by resolution establish, for purposes of this section, the key performance metrics to evaluate the Department's progress toward its operational, financial, strategic, and policy goals or parameters (Board Metrics). The Board of Water and Power Commissioners shall also by resolution establish, for the Board Metrics, the corresponding targets and estimated potential variances from the targets that represent the Department's acceptable progress toward its operational, financial, strategic, and policy goals or parameters.

The initial set of Board Metrics is identified below, and the corresponding targets and estimated potential variances from the targets for this initial set shall be adopted by the Board of Water and Power Commissioners prior to the effective date of this ordinance.

The Board of Water and Power Commissioners may by resolution modify the Board Metrics, which modifications shall include, but not be limited to, the following: the metrics selected, corresponding targets, and the estimated potential variation from the targets. The Office of Public Accountability shall be notified by the Department of any proposed modification of the Board Metrics at least thirty (30) days prior to the modification of the Board Metrics and shall provide a written report to the Board of Water and Power Commissioners assessing the proposed modification.

Related Rate Adjustment Factor	Board Metric	Definition
None	Human Resources Budget vs. actual ($M)	Board Approved Annual Budget vs. Actual expenditures
	Human Resources Total Full Time Equivalent (FTEs) against plan	Total number of full time equivalent positions occupied vs. annual Authorized Personnel Resolution
	Financial and Human Resources Replacement Project total spending against plan	Board Approved Annual Budget vs. Actual expenditures
	Financial and Human Resources Replacement Project progress against schedule	Project milestones met in accordance with project schedule
	Number of new distribution infrastructure crews as compared to plan	Number of new crews dedicated to distribution infrastructure as compared to plan
Water Supply Cost Adjustment Factor	Water supply costs budget vs. actual ($M)	Board Approved Annual Budget vs. Actual expenditures
	Annual quantity of purchased water in acre-feet (AF) against plan	AF of water purchased against plan
	Annual quantity of recycled water delivered against plan (AF)	AF of recycled water delivered against plan
	Stormwater system capacity milestones (AF) against plan	AF of stormwater system capacity as of a milestone date against plan
	Annual groundwater production in Central Basin (AF) and San Fernando Basin (AF) against plan	AF of Groundwater in Central Basin against plan and AF of Groundwater in San Fernando Basin against plan
	Budget vs. actual ($M) for Aqueduct refurbishment	Board Approved Annual Budget vs. Actual expenditures
	Level of water conservation against target (GPCD)	Gallons per capita per day (GPCD) of water conserved against target
Water Infrastructure Adjustment Factor	Budget vs. actual ($M) for fixed assets replacement	Board Approved Annual Budget vs. Actual expenditures
	Budget vs. actual ($M) for Pump Stations	Board Approved Annual Budget vs. Actual expenditures
	Budget vs. actual ($M) for Regulator Relief Station Retrofits	Board Approved Annual Budget vs. Actual expenditures
	Assets replaced against plan	Miles of mainline, miles of trunkline, and number of meters replaced against plan
Water Quality Improvement Adjustment Factor	Total Water Quality Budget vs. actual ($M)	Board Approved Annual Budget vs. Actual expenditures
Water Expense Stabilization Adjustment Factor	Water Expense Stabilization Adjustment (WESA) account balance against target	Amount ($M) in the WESA account vs. plan
Owens Valley Regulatory Adjustment Factor	Budget vs. actual for Owens Lake O&M ($M)	Board Approved Annual Budget vs. Actual expenditures
Owens Valley Regulatory Adjustment Factor	Annual quantity of water conserved from Owens Lake (AF) against plan	AF of water conserved against plan

Reporting Progress to Board, Office of Public Accountability, and City Council

On February 1 and August 1 of every year, commencing in 2017, the Chief Financial Officer of the Department shall provide a written report to the Board of Water and Power Commissioners, which shall include, but not be limited to, the following:

(1) Board Metrics being monitored and results for each metric;
(2) the target set for each Board Metric;
(3) the variance of actual performance from the target;
(4) Department-identified causes for the variance; and
(5) the proposed mitigation plan to address a variance, if necessary.

The Department shall also provide to the Office of Public Accountability the above-mentioned report at least thirty (30) days prior to providing it to the Board of Water and Power Commissioners. On February 1 and August 1 of every year, commencing in 2017, the Office of Public Accountability shall provide a written report to the Board of Water and Power Commissioners assessing the Department's performance against the Board Metrics targets and any proposed mitigation plans.

If the Office of Public Accountability, in that Office's opinion, identifies in its report any substantive variances and/or related issues, which it believes also require review and discussion by the City Council, the Office of Public Accountability shall forward its report to the Energy and Environment Committee of the City Council at the same time it is provided to the Board of Water and Power Commissioners.

The Energy and Environment Committee shall review all of the above-mentioned reports and then, at its discretion, may: request additional information; hold a committee hearing with the Department and the Office of Public Accountability; make written recommendations to the Board of Water and Power Commissioners; and/or move that the City Council assert jurisdiction pursuant to Charter Section 245 relative to a Board of Water and Power Commissioners action on the related adjustment factors.

In addition to the above-mentioned reports, the Department shall also provide, on April 1 and October 1 of every year, commencing in 2017, written reports to the Office of Public Accountability, which shall include the Board Metrics being monitored; the results for each metric; the target set for each metric; and the variance of actual performance from the target.

On July 1, 2017, the Board of Water and Power Commissioners shall by resolution take action to choose whether or not to order the Department to prepare possible revisions to the Board Metrics, their corresponding targets and estimated potential variances from the targets, or the review process itself for consideration by the Board of Water and Power Commissioners. The Energy and Environment Committee shall review the Board of Water and Power Commissioner's action pursuant to the previous sentence and then, at the committee's discretion, may: request additional information; hold a committee hearing with the Department and the Office of Public

Accountability; make written recommendations to the Board of Water and Power Commissioners; and/or move that the City Council assert jurisdiction pursuant to Charter Section 245 relative to said Board of Water and Power Commissioners action.

Additional Reporting/Interim Rate Review

To provide an opportunity for the Department to realign its forecasts with actual conditions and to communicate related issues to the Board of Water and Power Commissioners and to the City Council, the Department and the Office of Public Accountability shall each conduct their own interim rate review. The Department shall provide its review not later than February 1, 2019, and the OPA shall provide its review not later than April 1, 2019, to both the Board of Water and Power Commissioners and the Energy and Environment Committee. Each interim rate review shall include the following:

a. Five-year Financial and Performance Outlook

Calculate a new five-year financial plan for the Department using then existing assumptions that will include an updated forecast for revenues, expenditures, and overall fiscal performance. The review will also include an analysis of the Department's overall progress on the Board Metrics; propose any revision to the metrics being evaluated; and analyze the review process itself.

b. Base Rate Revenue Targets

Calculate revised base rate revenue targets for Fiscal Year 2018/19 and Fiscal Year 2019/20 using then existing assumptions that will include an updated forecast for revenues, expenditures, and overall fiscal performance.

c. City Council and Mayoral Requests for Reports and Recommendations

Determine the status of the Department's progress in responding to and addressing any requests for reports and recommendations resulting from the City Council and Mayor's consideration of this ordinance.

d. Material Misalignment with Forecast or Market

Provide explanation of, and, if deemed necessary by the reviewer, alternatives to, any elements of the then existing rate design that appear to be materially misaligned with the Department's updated forecast for revenues, expenditures, and overall fiscal performance, or with conditions in California's market for water sales to retail customers.

After receipt of the results of the interim rate review from the Department and the Office of Public Accountability, the Board of Water and Power Commissioners shall by resolution take action to choose whether or not to order the Department to prepare

possible revisions to this ordinance for consideration by the Board of Water and Power Commissioners no later than June 30, 2019. The Energy and Environment Committee shall review the results of each interim rate review and the action by the Board of Water and Power Commissioners pursuant to the previous sentence and then, at the committee's discretion, may: request additional information; hold a committee hearing with the Department and the Office of Public Accountability; make written recommendations to the Board of Water and Power Commissioners; and/or move that the City Council assert jurisdiction pursuant to Charter Section 245 relative to a Board of Water and Power Commissioners action on the related adjustment factors or a Board of Water and Power Commissioners action to choose to not order the Department to prepare possible revisions to this ordinance for consideration by the Board of Water and Power Commissioners.

Additionally, after receipt of the results of the interim rate review from the Department and the Office of Public Accountability, if any of the revised base rate revenue targets calculated for Fiscal Year 2018/19 and Fiscal Year 2019/20 as part of the interim rate review varies from the respective Base Rate Revenue Target stated in this ordinance, the Board of Water and Power Commissioners shall by resolution take further action to choose to increase or decrease the respective Base Rate Revenue Target stated in this ordinance to any degree not in excess of two percent (2%) of that stated target or to leave the respective Base Rate Revenue Target stated in this ordinance unchanged. The Energy and Environment Committee shall review the Board of Water and Power Commissioner's action regarding the respective target and then, at the committee's discretion, may: request additional information; hold a committee hearing with the Department and the Office of Public Accountability; make written recommendations to the Board of Water and Power Commissioners; and/or move that the City Council assert jurisdiction pursuant to Charter Section 245 relative to said Board of Water and Power Commissioners action.

Sec. 5. That the Department shall perform a cost of service study prior to proposing any change to the Base Rates stated in this ordinance to the Board of Water and Power Commissioners after June 30, 2019.

Sec. 6. That, upon the Effective Date, the rate schedules and all other terms and conditions of this ordinance shall become operative and the rate schedules and all other terms and conditions established by City of Los Angeles Ordinance No. 170435, as amended by Ordinance No. 171639, Ordinance No. 173017, Ordinance No. 175964, Ordinance No. 177968, Ordinance No. 179802, and Ordinance No. 182047, shall be suspended; provided that the rate schedules, conditions, and provisions which were approved by said ordinances pertaining to service in the City of Los Angeles and contiguous areas shall remain in effect until the rate schedules, conditions, and provisions as provided for herein shall become effective.

Provided further, however, in the event that the imposition of the rates provided for in this ordinance is enjoined, temporarily or permanently, by a court of competent jurisdiction, which order materially affects the implementation of this ordinance, then,

upon such determination by the Board of Water and Power Commissioners, the rate schedules, conditions, and provisions provided in Ordinance No. 170435, as amended by Ordinance No. 171639, Ordinance No. 173017, Ordinance No. 175964, Ordinance No. 177968, Ordinance No. 179802, and Ordinance No. 182047, shall be in full force and effect from the effective date of such injunction until said injunction is dissolved or a new rate ordinance is approved by this Council.

Sec. 7. That the approval of the foregoing water rates by this Council is exempt from the requirements of the California Environmental Quality Act under the provisions of the Public Resources Code, Section 21080(b)(8), and this Council makes this claim of exemption pursuant to said section and authorizes claim of exemption to be filed with the appropriate agencies.

Sec. 8. That if any section, subsection, sentence, clause, or phrase in this ordinance or the application thereof to any person or circumstance is for any reason held invalid, the validity of the remainder of the ordinance or the application of such provision to other persons or circumstances shall not be affected thereby. The City Council hereby declares that it would have passed this ordinance and each section, subsection, sentence, clause, or phrase thereof, irrespective of the fact that one or more sections, subsections, sentences, clauses, or phrases or the application thereof to any person or circumstance be held invalid.

Sec. 9. The City Clerk shall certify to the passage of this ordinance and have it published in accordance with Council policy, either in a daily newspaper circulated in the City of Los Angeles or by posting for ten days in three public places in the City of Los Angeles: one copy on the bulletin board located at the Main Street entrance to the Los Angeles City Hall; one copy on the bulletin board located at the Main Street entrance to the Los Angeles City Hall East; and one copy on the bulletin board located at the Temple Street entrance to the Los Angeles County Hall of Records.

I hereby certify that the foregoing ordinance was introduced at the meeting of the Council of the City of Los Angeles MAR 0 2 2016, and passed at it's meeting of MAR 1 5 2016.

HOLLY L. WOLCOTT, City Clerk

By _____ Deputy

Approved 3/15/16

_____ Mayor

Approved as to Form and Legality

MICHAEL N. FEUER, City Attorney

By _____
BRIAN E. STEWART
Deputy City Attorney

Date 2/12/16

File No. 15-1543

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Appendix D
Groundwater Basin Adjudications

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JAN 26 19[illegible]
JOHN A. CORCORAN County Clerk

SUPERIOR COURT OF THE STATE OF CALIFORNIA

FOR THE COUNTY OF LOS ANGELES

THE CITY OF LOS ANGELES, Plaintiff, vs. CITY OF SAN FERNANDO, et al., Defendants.	No. 650079 JUDGMENT

There follows by consecutive paging a Table of Contents (pages i. to vi.), Recitals (page 1), Definitions and List of Attachments (pages 1 to 6), Designation of Parties (page 6), Declaration re Geology and Hydrology (pages 6 to 12), Declaration of Rights (pages 12 to 21), Injunctions (pages 21 to 23), Continuing Jurisdiction (page 23), Watermaster (pages 23 to 29), Physical Solution (pages 29 to 34), and Miscellaneous Provisions (pages 34 to 35), and Attachments (pages 36 to 46). Each and all of said several parts constitute a single integrated Judgment herein.

1. RECITALS

This matter was originally tried before the Honorable Edmund M. Moor, without jury, commencing on March 1, 1966, and concluding with entry of Findings, Conclusions and Judgment on March 14, 1968, after more than 181 trial days. Los Angeles appealed from said judgment and the California Supreme Court, by unanimous opinion, (14 Cal. 3d 199) reversed and remanded the case; after trial of some remaining issues on remand, and consistent with the opinion of the Supreme Court, and pursuant to stipulations, the Court signed and filed Findings of Fact and Conclusions of Law. Good cause thereby appearing,

IT IS ORDERED, ADJUDGED AND DECREED:

2. DEFINITIONS AND ATTACHMENTS

2.1 Definitions of Terms. As used in this Judgment, the following terms shall have the meanings herein set forth:

[1] Basin or Ground Water Basin -- A subsurface geologic formation with defined boundary conditions, containing a ground water reservoir, which is capable of yielding a significant quantity of ground water.

[2] Burbank -- Defendant City of Burbank.

[3] Crescenta Valley -- Defendant Crescenta Valley County Water District.

[4] Colorado Aqueduct -- The aqueduct facilities and system owned and operated by MWD for the importation of water from the Colorado River to its service area.

[5] Deep Rock -- Defendant Evelyn M. Pendleton, dba Deep Rock Artesian Water Company.

[6] Delivered Water -- Water utilized in a water supply distribution system, including reclaimed water.

[7] Eagle Rock Basin -- The separate ground water basin underlying the area shown as such on Attachment "A".

[8] Extract or Extraction -- To produce ground water, or its production, by pumping or any other means.

[9] Fiscal Year -- July 1 through June 30 of the following calendar year.

[10] Foremost -- Defendant Foremost Foods Company, successor to defendant Sparkletts Drinking Water Corp.

[11] Forest Lawn -- Collectively, defendants Forest Lawn Cemetery Association, Forest Lawn Company, Forest Lawn Memorial-Park Association, and American Security and Fidelity Corporation.

[12] Gage F-57 -- The surface stream gaging station operated by Los Angeles County Flood Control District and situated in Los Angeles Narrows immediately upstream from the intersection of the Los Angeles River and Arroyo Seco, at which point the surface outflow from ULARA is measured.

[13] Glendale -- Defendant City of Glendale.

[14] Ground Water -- Water beneath the surface of the ground and within the zone of saturation.

[15] Hersch & Plumb -- Defendants David and Eleanor A. Hersch and Gerald B. and Lucille Plumb, successors to Wellesley and Duckworth defendants.

[16] Import Return Water -- Ground water derived from percolation attributable to delivered imported water.

[17] Imported Water -- Water used within ULARA, which

is derived from sources outside said watershed. Said term does not include inter-basin transfers wholly within ULARA.

[18] In Lieu Storage -- The act of accumulating ground water in a basin by intentional reduction of extractions of ground water which a party has a right to extract.

[19] Lockheed -- Defendant Lockheed Aircraft Corporation.

[20] Los Angeles -- Plaintiff City of Los Angeles, acting by and through its Department of Water and Power.

[21] Los Angeles Narrows -- The physiographic area northerly of Gage F-57 bounded on the east by the San Rafael and Repetto Hills and on the west by the Elysian Hills, through which all natural outflow of the San Fernando Basin and the Los Angeles River flow en route to the Pacific Ocean.

[22] MWD -- The Metropolitan Water District of Southern California, a public agency of the State of California.

[23] Native Safe Yield -- That portion of the safe yield of a basin derived from native waters.

[24] Native Waters -- Surface and ground waters derived from precipitation within ULARA.

[25] Overdraft -- A condition which exists when the total annual extractions of ground water from a basin exceed its safe yield, and when any temporary surplus has been removed.

[26] Owens-Mono Aqueduct -- The aqueduct facilities owned and operated by Los Angeles for importation to ULARA water from the Owens River and Mono Basin watersheds easterly of the Sierra-Nevada in Central California.

[27] Private Defendants -- Collectively, all of those

defendants who are parties, other than Glendale, Burbank, San Fernando and Crescenta Valley.

[28] Reclaimed Water -- Water which, as a result of processing of waste water, is made suitable for and used for a controlled beneficial use.

[29] Regulatory Storage Capacity -- The volume of storage capacity of San Fernando Basin which is required to regulate the safe yield of the basin, without significant loss, during any long-term base period of water supply.

[30] Rising Water -- The effluent from a ground water basin which appears as surface flow.

[31] Rising Water Outflow -- The quantity of rising water which occurs within a ground water basin and does not rejoin the ground water body or is not captured prior to flowing past a point of discharge from the basin.

[32] Safe Yield -- The maximum quantity of water which can be extracted annually from a ground water basin under a given set of cultural conditions and extraction patterns, based on the long-term supply, without causing a continuing reduction of water in storage.

[33] San Fernando -- Defendant City of San Fernando.

[34] San Fernando Basin -- The separate ground water basin underlying the area shown as such on Attachment "A".

[35] Sportsman's Lodge -- Defendant Sportsman's Lodge Banquet Association.

[36] Stored Water -- Ground water in a basin consisting of either (1) imported or reclaimed water which is intentionally spread, or (2) safe yield water which is allowed to

accumulate by In Lieu Storage. Said ground waters are distinguished and separately accounted for in a ground water basin, notwithstanding that the same may be physically commingled with other waters in the basin.

[37] Sylmar Basin -- The separate ground water basin underlying the area indicated as such on Attachment "A".

[38] Temporary Surplus -- The amount of ground water which would be required to be removed from a basin in order to avoid waste under safe yield operation.

[39] Toluca Lake -- Defendant Toluca Lake Property Owners Association.

[40] ULARA or Upper Los Angeles River Area -- The Upper Los Angeles River watershed, being the surface drainage area of the Los Angeles River tributary to Gage F-57.

[41] Underlying Pueblo Waters -- Native ground waters in the San Fernando Basin which underlie safe yield and stored waters.

[42] Valhalla -- Collectively, Valhalla Properties, Valhalla Memorial Park, Valhalla Mausoleum Park.

[43] Van de Kamp -- Defendant Van de Kamp's Holland Dutch Bakers, Inc.

[44] Verdugo Basin -- The separate ground water basin underlying the area shown as such on Attachment "A".

[45] Water Year -- October 1 through September 30 of the following calendar year.

Geographic Names, not herein specifically defined, are used to refer to the places and locations thereof as shown on Attachment "A".

2.2 List of Attachments. There are attached hereto the

following documents, which are by this reference incorporated in this Judgment and specifically referred to in the text hereof:

"A" -- Map entitled "Upper Los Angeles River Area", showing Separate Basins therein.

"B" -- List of "Dismissed Parties."

"C" -- List of "Defaulted Parties."

"D" -- List of "Disclaiming Parties."

"E" -- List of "Prior Stipulated Judgments."

"F" -- List of "Stipulated Non-Consumptive or Minimal-Consumptive Use Practices."

"G" -- Map entitled "Place of Use and Service Area of Private Defendants."

"H" -- Map entitled "Public Agency Water Service Areas."

3. PARTIES

3.1 Defaulting and Disclaiming Defendants. Each of the defendants listed on Attachment "C" and Attachment "D" is without any right, title or interest in, or to any claim to extract ground water from ULARA or any of the separate ground water basins therein.

3.2 No Rights Other Than as Herein Declared. No party to this action has any rights in or to the waters of ULARA except to the extent declared herein.

4. DECLARATION RE GEOLOGY AND HYDROLOGY

4.1 Geology.

4.1.1 ULARA. ULARA (or Upper Los Angeles River Area), is the watershed or surface drainage area tributary to the Los Angeles River at Gage F-57. Said watershed contains a

total of 329,000 acres, consisting of approximately 123,000 acres of valley fill area and 206,000 acres of hill and mountain area, located primarily in the County of Los Angeles, with a small portion in the County of Ventura. Its boundaries are shown on Attachment "A". The San Gabriel Mountains form the northerly portion of the watershed, and from them two major washes--the Pacoima and the Tujunga--discharge southerly Tujunga Wash traverses the valley fill in a southerly direction and joins the Los Angeles River, which follows an easterly course along the base of the Santa Monica Mountains before it turns south through the Los Angeles Narrows. The waters of Pacoima Wash as and when they flow out of Sylmar Basin are tributary to San Fernando Basin. Lesser tributary washes run from the Simi Hills and the Santa Susana Mountains in the westerly portion of the watershed. Other minor washes, including Verdugo Wash, drain the easterly portion of the watershed which consists of the Verdugo Mountains, the Elysian, San Rafael and Repetto Hills. Each of said washes is a non-perennial stream whose flood flows and rising waters are naturally tributary to the Los Angeles River. The Los Angeles River within ULARA and most of said tributary natural washes have been replaced, and in some instances relocated, by concrete-lined flood control channels. There are 85.3 miles of such channels within ULARA, 62% of which have lined concrete bottoms.

4.1.2 San Fernando Basin. San Fernando Basin is the major ground water basin in ULARA. It underlies 112,047 acres and is located in the area shown as such on Attachment "A".

Boundary conditions of the San Fernando Basin consist on the east and northeast of alluvial contacts with non-waterbearing series along the San Rafael Hills and Verdugo Mountains and the Santa Susana Mountains and Simi Hills on the northwest and west and the Santa Monica Mountains on the south. Water-bearing material in said basin extends to at least 1000 feet below the surface. Rising water outflow from the San Fernando Basin passes its downstream and southerly boundary in the vicinity of Gage F-57, which is located in Los Angeles Narrows about 300 feet upstream from the Figueroa Street (Dayton Street) Bridge. The San Fernando Basin is separated from the Sylmar Basin on the north by the eroded south limb of the Little Tujunga Syncline which causes a break in the ground water surface of about 40 to 50 feet.

4.1.3 Sylmar Basin. Sylmar Basin underlies 5,565 acres and is located in the area shown as such on Attachment "A". Water-bearing material in said basin extends to depths in excess of 12,000 feet below the surface. Boundary conditions of Sylmar Basin consist of the San Gabriel Mountains on the north, a topographic divide in the valley fill between the Mission Hills and San Gabriel Mountains on the west, the Mission Hills on the southwest, Upper Lopez Canyon Saugus Formation on the east, along the east bank of Pacoima Wash, and the eroded south limb of the Little Tujunga Syncline on the south.

4.1.4 Verdugo Basin. Verdugo Basin underlies 4,400 acres and is located in the area shown as such on Attachment "A". Boundary conditions of Verdugo Basin consist of the San Gabriel Mountains on the north, the Verdugo Mountains on the

south and southwest, the San Rafael Hills on the southeast and the topographic divide on the east between the drainage area that is tributary to the Tujunga Wash to the west and Verdugo Wash to the east, the ground water divide on the west between Monk Hill-Raymond Basin and the Verdugo Basin on the east and a submerged dam constructed at the mouth of Verdugo Canyon on the south.

4.1.5 Eagle Rock Basin. Eagle Rock Basin underlies 807 acres and is located in the area shown as such on Attachment "A". Boundary conditions of Eagle Rock Basin consist of the San Rafael Hills on the north and west and the Repetto Hills on the east and south with a small alluvial area to the southeast consisting of a topographic divide.

4.2 Hydrology.

4.2.1 Water Supply. The water supply of ULARA consists of native waters, derived from precipitation on the valley floor and runoff from the hill and mountain areas, and of imported water from outside the watershed. The major source of imported water has been from the Owens-Mono Aqueduct, but additional supplies have been and are now being imported through MWD from its Colorado Aqueduct and the State Aqueduct.

4.2.2 Ground Water Movement. The major water-bearing formation in ULARA is the valley fill material bounded by hills and mountains which surround it. Topographically, the valley-fill area has a generally uniform grade in a southerly and easterly direction with the slope gradually decreasing from the base of the hills and mountains to the surface drainage outlet at Gage F-57. The valley fill material is a

heterogeneous mixture of clays, silts, sand and gravel laid down as alluvium. The valley fill is of greatest permeability along and easterly of Pacoima and Tujunga Washes and generally throughout the eastern portion of the valley fill area, except in the vicinity of Glendale where it is of lesser permeability. Ground water occurs mainly within the valley fill, with only negligible amounts occurring in hill and mountain areas. There is no significant ground water movement from the hill and mountain formations into the valley fill. Available geologic data do not indicate that there are any sources of native ground water other than those derived from precipitation. Ground water movement in the valley fill generally follows the surface topography and drainage except where geologic or man-made impediments occur or where the natural flow has been modified by extensive pumping.

4.2.3 Separate Ground Water Basins. The physical and geologic characteristics of each of the ground water basins, Eagle Rock, Sylmar, Verdugo and San Fernando, cause impediments to inter-basin ground water flow whereby there is created separate underground reservoirs. Each of said basins contains a common source of water supply to parties extracting ground water from each of said basins. The amount of underflow from Sylmar Basin, Verdugo Basin and Eagle Rock Basin to San Fernando Basin is relatively small, and on the average has been approximately 540 acre feet per year from the Sylmar Basin; 80 acre feet per year from Verdugo Basin; and 50 acre feet per year from Eagle Rock Basin. Each has physiographic, geologic and hydrologic differences, one from the other, and

each meets the hydrologic definition of "basin." The extractions of water in the respective basins affect the other water users within that basin but do not significantly or materially affect the ground water levels in any of the other basins. The underground reservoirs of Eagle Rock, Verdugo and Sylmar Basins are independent of one another and of the San Fernando Basin.

4.2.4 Safe Yield and Native Safe Yield. The safe yield and native safe yield, stated in acre feet, of the three largest basins for the year 1964-65 was as follows:

Basin	Safe Yield	Native Safe Yield
San Fernando	90,680	43,660
Sylmar	6,210	3,850
Verdugo	7,150	3,590

The safe yield of Eagle Rock Basin is derived from imported water delivered by Los Angeles. There is no measurable native safe yield.

4.2.5 Separate Basins -- Separate Rights. The rights of the parties to extract ground water within ULARA are separate and distinct as within each of the several ground water basins within said watershed.

4.2.6 Hydrologic Condition of Basins. The several basins within ULARA are in varying hydrologic conditions, which result in different legal consequences.

4.2.6.1 San Fernando Basin. The first full year of overdraft in San Fernando Basin was 1954-55. It remained in overdraft continuously until 1968, when an injunction herein became effective. Thereafter, the

basin was placed on safe yield operation. There is no surplus ground water available for appropriation or overlying use from San Fernando Basin.

4.2.6.2 Sylmar Basin. Sylmar Basin is not in overdraft. There remains safe yield over and above the present reasonable beneficial overlying uses, from which safe yield the appropriative rights of Los Angeles and San Fernando may be and have been exercised.

4.2.6.3 Verdugo Basin. Verdugo Basin was in overdraft for more than five consecutive years prior to 1968. Said basin is not currently in overdraft, due to decreased extractions by Glendale and Crescenta Valley on account of poor water quality. However, the combined appropriative and prescriptive rights of Glendale and Crescenta Valley are equivalent to the safe yield of the Basin. No private overlying or appropriative rights exist in Verdugo Basin.

4.2.6.4 Eagle Rock Basin. The only measurable water supply to Eagle Rock Basin is import return water by reason of importations by Los Angeles. Extractions by Foremost and Deep Rock under the prior stipulated judgments have utilized the safe yield of Eagle Rock Basin, and have maintained hydrologic equilibrium therein.

5. DECLARATION OF RIGHTS

5.1 Right to Native Waters.

5.1.1 Los Angeles River and San Fernando Basin.

5.1.1.1 Los Angeles' Pueblo Right. Los Angeles, as the successor to all rights, claims and powers of the Spanish Pueblo de Los Angeles in regard to water rights, is the owner of a prior and paramount pueblo right to the surface waters of the Los Angeles River and the native ground waters of San Fernando Basin to meet its reasonable beneficial needs and for its inhabitants.

5.1.1.2 Extent of Pueblo Right. Pursuant to said pueblo right, Los Angeles is entitled to satisfy its needs and those of its inhabitants within its boundaries as from time to time modified. Water which is in fact used for pueblo right purposes is and shall be deemed needed for such purposes.

5.1.1.3 Pueblo Right -- Nature and Priority of Exercise. The pueblo right of Los Angeles is a prior and paramount right to all of the surface waters of the Los Angeles River, and native ground water in San Fernando Basin, to the extent of the reasonable needs and uses of Los Angeles and its inhabitants throughout the corporate area of Los Angeles, as its boundaries may exist from time to time. To the extent that the Basin contains native waters and imported waters, it is presumed that the first water extracted by Los Angeles in any water year is pursuant to its pueblo right, up to the amount of the native safe yield. The next extractions by Los Angeles in any year are deemed to be from import return water, followed by stored water, to the full extent of Los Angeles' right to such import return water and stored

water. In the event of need to meet water requirements of its inhabitants, Los Angeles has the additional right, pursuant to its pueblo right, withdraw temporarily from storage Underlying Pueblo Waters, subject to an obligation to replace such water as soon as practical.

5.1.1.4 Rights of Other Parties. No other party to this action has any right in or to the surface waters of the Los Angeles River or the native safe yield of the San Fernando Basin.

5.1.2 Sylmar Basin Rights.

5.1.2.1 No Pueblo Rights. The pueblo right of Los Angeles does not extend to or include ground waters in Sylmar Basin.

5.1.2.2 Overlying Rights. Defendants Moordigian and Hersch & Plumb own lands overlying Sylmar Basin and have a prior correlative right to extract native waters from said Basin for reasonable beneficial uses on their said overlying lands. Said right is appurtenant to said overlying lands and water extracted pursuant thereto may not be exported from said lands nor can said right be transferred or assigned separate and apart from said overlying lands.

5.1.2.3 Appropriative Rights of San Fernando and Los Angeles. San Fernando and Los Angeles own appropriative rights, of equal priority, to extract and put to reasonable beneficial use for the needs of said cities and their inhabitants, native waters of the Sylmar Basin in excess of the exercised reasonable

beneficial needs of overlying users. Said appropriative rights are:

San Fernando	3,580 acre feet
Los Angeles	1,560 acre feet.

5.1.2.4 No Prescription. The Sylmar Basin is not presently in a state of overdraft and no rights by prescription exist in said Basin against any overlying or appropriative water user.

5.1.2.5 Other Parties. No other party to this action owns or possesses any right to extract native ground waters from the Sylmar Basin.

5.1.3 Verdugo Basin Rights.

5.1.3.1 No Pueblo Rights. The pueblo right of Los Angeles does not extend to or include ground water in Verdugo Basin.

5.1.3.2 Prescriptive Rights of Glendale and Crescenta Valley. Glendale and Crescenta Valley own prescriptive rights as against each other and against all private overlying or appropriative parties in the Verdugo Basin to extract, with equal priority, the following quantities of water from the combined safe yield of native and imported waters in Verdugo Basin:

Glendale	3,856 acre feet
Crescenta Valley	3,294 acre feet.

5.1.3.3 Other Parties. No other party to this action owns or possesses any right to extract native ground waters from the Verdugo Basin.

5.1.4 Eagle Rock Basin Rights.

5.1.4.1 No Pueblo Rights. The pueblo right of Los Angeles does not extend to or include ground water in Eagle Rock Basin.

5.1.4.2 No Rights in Native Waters. The Eagle Rock Basin has no significant or measurable native safe yield and no parties have or assert any right or claim to native waters in said Basin.

5.2 Rights to Imported Waters.

5.2.1 San Fernando Basin Rights.

5.2.1.1 Rights to Recapture Import Return Water. Los Angeles, Glendale, Burbank and San Fernando have each caused imported waters to be brought into ULARA and to be delivered to lands overlying the San Fernando Basin, with the result that percolation and return flow of such delivered water has caused imported waters to become a part of the safe yield of San Fernando Basin. Each of said parties has a right to extract from San Fernando Basin that portion of the safe yield of the Basin attributable to such import return waters.

5.2.1.2 Rights to Store and Recapture Stored Water. Los Angeles has heretofore spread imported water directly in San Fernando Basin. Los Angeles, Glendale, Burbank and San Fernando each have rights to store water in San Fernando Basin by direct spreading or in lieu practices. To the extent of any future spreading or in lieu storage of import water or reclaimed water by Los Angeles, Glendale, Burbank or San Fernando, the party

causing said water to be so stored shall have a right to extract an equivalent amount of ground water from San Fernando Basin. The right to extract waters attributable to such storage practices is an undivided right to a quantity of water in San Fernando Basin equal to the amount of such Stored Water to the credit of any party, as reflected in Watermaster records.

5.2.1.3 Calculation of Import Return Water and Stored Water Credits. The extraction rights of Los Angeles, Glendale, Burbank and San Fernando in San Fernando Basin in any year, insofar as such rights are based upon import return water, shall only extend to the amount of any accumulated import return water credit of such party by reason of imported water delivered after September 30, 1977. The annual credit for such import return water shall be calculated by Watermaster based upon the amount of delivered water during the preceding water year, as follows:

Los Angeles:	20.8% of all delivered water (including reclaimed water) to valley fill lands of San Fernando Basin.
San Fernando:	26.3% of all imported and reclaimed water delivered to valley-fill lands of San Fernando Basin.
Burbank:	20.0% of all delivered water (including reclaimed water) to San Fernando Basin and its tributary hill and mountain areas.

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Glendale:	20.0% of all delivered water (including reclaimed water) to San Fernando Basin and its tributary hill and mountain areas (i.e., total delivered water, [including reclaimed water], less 105% of total sales by Glendale in Verdugo Basin and its tributary hills).

In calculating Stored Water credit, by reason of direct spreading of imported or reclaimed water, Watermaster shall assume that 100% of such spread water reached the ground water in the year spread.

5.2.1.4 Cummulative Import Return Water Credits. Any import return water which is not extracted in a given water year shall be carried over, separately accounted for, and maintained as a cummulative credit for purposes of future extractions.

5.2.1.5 Overextractions. In addition to extractions of stored water, Glendale, Burbank or San Fernando may, in any water year, extract from San Fernando Basin an amount not exceeding 10% of such party's last annual credit for import return water, subject, however, to an obligation to replace such overextraction by reduced extractions during the next succeeding water year. Any such overextraction which is not so replaced shall constitute physical solution water, which shall be deemed to have been extracted in said subsequent water year.

5.2.1.6 Private Defendant. No private defendant is entitled to extract water from the San Fernando Basin on account of the importation of water thereto by overlying public entities.

5.2.2 Sylmar Basin Rights.

5.2.2.1 Rights to Recapture Import Return Waters. Los Angeles and San Fernando have caused imported waters to be brought into ULARA and delivered to lands overlying the Sylmar Basin with the result that percolation and return flow of such delivered water has caused imported waters to become a part of the safe yield of Sylmar Basin. Los Angeles and San Fernando are entitled to recover from Sylmar Basin such imported return waters. In calculating the annual entitlement to recapture such import return water, Los Angeles and San Fernando shall be entitled to 35.7% of the preceding water year's imported water delivered by such party to lands overlying Sylmar Basin. Thus, by way of example, in 1976-77, Los Angeles was entitled to extract 2370 acre feet of ground water from Sylmar Basin, based on delivery to lands overlying said Basin of 6640 acre feet during 1975-76. The quantity of San Fernando's imported water to, and the return flow therefrom, in the Sylmar Basin in the past has been of such minimal quantities that it has not been calculated.

5.2.2.2 Rights to Store and Recapture Stored Water. Los Angeles and San Fernando each have the right to store water in Sylmar Basin equivalent to their rights in San Fernando Basin under paragraph 5.2.1.2 hereof.

5.2.2.3 Carry Over. Said right to recapture stored water, import return water and other safe yield waters to which a party is entitled, if not exercised in a given year, can be carried over for not to exceed five

years, if the underflow through Sylmar Notch does not exceed 400 acre feet per year.

5.2.2.4 Private Defendants. No private defendant is entitled to extract water from within the Sylmar Basin on account of the importation of water thereto by overlying public entities.

5.2.3 Verdugo Basin Rights.

5.2.3.1 Glendale and Crescenta Valley. Glendale and Crescenta Valley own appropriative and prescriptive rights in and to the total safe yield of Verdugo Basin, without regard as to the portions thereof derived from native water and from delivered imported waters, notwithstanding that both of said parties have caused waters to be imported and delivered on lands overlying Verdugo Basin. Said aggregate rights are as declared in Paragraph 5.1.3.2 of these Conclusions.

5.2.3.2 Los Angeles. Los Angeles may have a right to recapture its import return waters by reason of delivered import water in the Basin, based upon imports during and after water year 1977-78, upon application to Watermaster not later than the year following such import and on subsequent order after hearing by the Court.

5.2.3.3 Private Defendants. No private defendant, as such, is entitled to extract water from within the Verdugo Basin on account of the importation of water thereto by overlying public entities.

5.2.4 Eagle Rock Basin Rights.

5.2.4.1 Los Angeles. Los Angeles has caused

imported water to be delivered for use on lands overlying Eagle Rock Basin and return flow from said delivered imported water constitutes the entire safe yield of Eagle Rock Basin. Los Angeles has the right to extract or cause to be extracted the entire safe yield of Eagle Rock Basin.

5.2.4.2 Private Defendants. No private defendants have a right to extract water from within Eagle Rock Basin, except pursuant to the physical solution herein.

6. INJUNCTIONS

Each of the parties named or referred to in this Part 6, its officers, agents, employees and officials is, and they are, hereby ENJOINED and RESTRAINED from doing or causing to be done any of the acts herein specified:

6.1 Each and Every Defendant -- from diverting the surface waters of the Los Angeles River or extracting the native waters of SAN FERNANDO BASIN, or in any manner interfering with the prior and paramount pueblo right of Los Angeles in and to such waters, except pursuant to the physical solution herein decreed.

6.2 Each and Every Private Defendant -- from extracting ground water from the SAN FERNANDO, VERDUGO, or EAGLE ROCK BASINS, except pursuant to physical solution provisions hereof.

6.3 Defaulting and Disclaiming Parties (listed in Attachments "C" and "D") -- from diverting or extracting water within ULARA, except pursuant to the physical solution herein decreed.

6.4 Glendale -- from extracting ground water from SAN FERNANDO BASIN in any water year in quantities exceeding its

import return water credit and any stored water credit, except pursuant to the physical solution; and from extracting water from VERDUGO BASIN in excess of its appropriative and prescriptive right declared herein.

6.5 Burbank -- from extracting ground water from SAN FERNANDO BASIN in any water year in quantities exceeding its import return water credit and any stored water credit, except pursuant to the physical solution decreed herein.

6.6 San Fernando -- from extracting ground water from SAN FERNANDO BASIN in any water year in quantities exceeding its import return water credit and any stored water credit, except pursuant to the physical solution herein decreed.

6.7 Crescenta Valley -- from extracting ground water from VERDUGO BASIN in any year in excess of its appropriative and prescriptive right declared herein.

6.8 Los Angeles -- from extracting ground water from SAN FERNANDO BASIN in any year in excess of the native safe yield, plus any import return water credit and stored water credit of said city; provided, that where the needs of Los Angeles require the extraction of Underlying Pueblo Waters, Los Angeles may extract such water subject to an obligation to replace such excess as soon as practical; and from extracting ground water from VERDUGO BASIN in excess of any credit for import return water which Los Angeles may acquire by reason of delivery of imported water for use overlying said basin, as hereinafter confirmed on application to Watermaster and by subsequent order of the Court.

6.9 Non-consumptive and Minimal Consumptive Use Parties. The parties listed in Attachment "F" are enjoined from extracting

water from San Fernando Basin, except in accordance with practices specified in Attachment "F", or pursuant to the physical solution herein decreed.

7. CONTINUING JURISDICTION

7.1 Jurisdiction Reserved. Full jurisdiction, power and authority are retained by and reserved to the Court for purposes of enabling the Court upon application of any party or of the Watermaster by motion and upon at least 30 days' notice thereof, and after hearing thereon, to make such further or supplemental orders or directions as may be necessary or appropriate, for interpretation, enforcement or carrying out of this Judgment, and to modify, amend or amplify any of the provisions of this Judgment or to add to the provisions thereof consistent with the rights herein decreed; provided, however, that no such modification, amendment or amplification shall result in a change in the provisions of Section 5.2.1.3 or 9.2.1 hereof.

8. WATERMASTER

8.1 Designation and Appointment.

8.1.1 Watermaster Qualification and Appointment. A qualified hydrologist, acceptable to all active public agency parties hereto, will be appointed by subsequent order of the Court to assist the Court in its administration and enforcement of the provisions of this Judgment and any subsequent orders of the Court entered pursuant to the Court's continuing jurisdiction. Such Watermaster shall serve at the pleasure of the Court, but may be removed or replaced on motion of any party after hearing and showing of good cause.

8.2 Powers and Duties.

8.2.1 Scope. Subject to the continuing supervision and control of the Court, Watermaster shall exercise the express powers, and shall perform the duties, as provided in this Judgment or hereafter ordered or authorized by the Court in the exercise of the Court's continuing jurisdiction.

8.2.2 Requirement for Reports, Information and Records. Watermaster may require any party to furnish such reports, information and records as may be reasonably necessary to determine compliance or lack of compliance by any party with the provisions of this Judgment.

8.2.3 Requirement of Measuring Devices. Watermaster shall require all parties owning or operating any facilities for extraction of ground water from ULARA to install and maintain at all times in good working order, at such party's own expense, appropriate meters or other measuring devices satisfactory to the Watermaster.

8.2.4 Inspection by Watermaster. Watermaster shall make inspections of (a) ground water extraction facilities and measuring devices of any party, and (b) water use practices by any party under physical solution conditions, at such times and as often as may be reasonable under the circumstances to verify reported data and practices of such party. Watermaster shall also identify and report on any new or proposed new ground water extractions by any party or non-party.

8.2.5 Policies and Procedures. Watermaster shall, with the advice and consent of the Administrative Committee, adopt and amend from time to time Policies and Procedures as may be

reasonably necessary to guide Watermaster in performance of its duties, powers and responsibilities under the provisions of this judgment.

8.2.6 Data Collection. Watermaster shall collect and verify data relative to conditions of ULARA and its ground water basins from the parties and one or more other governmental agencies. Where necessary, and upon approval of the Administrative Committee, Watermaster may develop supplemental data.

8.2.7 Cooperation With Other Agencies. Watermaster may act jointly or cooperate with agencies of the United States and the State of California or any political subdivisions, municipalities or districts (including any party) to secure or exchange data to the end that the purpose of this Judgment, including its physical solution, may be fully and economically carried out.

8.2.8 Accounting for Non-consumptive Use. Watermaster shall calculate and report annually the non-consumptive and consumptive uses of extracted ground water by each party listed in Attachment "F."

8.2.9 Accounting for Accumulated Import Return Water and Stored Water. Watermaster shall record and verify additions, extractions and losses and maintain an annual and cummulative account of all (a) stored water and (b) import return water in San Fernando Basin. Calculation of losses attributable to Stored Water shall be approved by the Administrative Committee or by subsequent order of the Court. For purposes of such accounting, extractions in any water year by

Glendale, Burbank or San Fernando shall be assumed to be first from accumulated import return water, second from stored water, and finally pursuant to physical solution; provided, that any such city may, by written notice of intent to Watermaster, alter said priority of extractions as between import return water and stored water.

8.2.10 Recalculation of Safe Yield. Upon request of the Administrative Committee, or on motion of any party and subsequent Court order, Watermaster shall recalculate safe yield of any basin within ULARA. If there has been a material long-term change in storage over a base period (excluding any effects of stored water) in San Fernando Basin the safe yield shall be adjusted by making a corresponding change in native safe yield of the Basin.

8.2.11 Watermaster Report. Watermaster shall prepare annually and (after review and approval by Administrative Committee) cause to be served on all active parties, on or before May 1, a report of hydrologic conditions and Watermaster activities within ULARA during the preceding water year. Watermaster's annual report shall contain such information as may be requested by the Administrative Committee, required by Watermaster Policies and Procedures or specified by subsequent order of this Court.

8.2.12 Active Party List. Watermaster shall maintain at all times a current list of active parties and their addresses.

8.3 Administrative Committee.

8.3.1 Committee to be Formed. An Administrative Committee shall be formed to advise with, request or consent to, and

review actions of Watermaster. Said Administrative Committee shall be composed of one representative of each party having a right to extract ground water from ULARA, apart from the physical solution. Any such party not desiring to participate in such committee shall so advise Watermaster in writing.

8.3.2 Organization and Voting. The Administrative Committee shall organize and adopt appropriate rules and regulations to be included in Watermaster Policies and Procedures. Action of the Administrative Committee shall be by unanimous vote of its members, or of the members affected in the case of an action which affects one or more basins but less than all of ULARA. In the event of inability of the Committee to reach a unanimous position, the matter may, at the request of Watermaster or any party, be referred to the Court for resolution by subsequent order after notice and hearing.

8.3.3 Function and Powers. The Administrative Committee shall be consulted by Watermaster and shall request or approve all discretionary Watermaster determinations. In the event of disagreement between Watermaster and the Administrative Committee, the matter shall be submitted to the Court for review and resolution.

8.4 Watermaster Budget and Assessments.

8.4.1 Watermaster's Proposed Budget. Watermaster shall, on or before May 1, prepare and submit to the Administrative Committee a budget for the ensuing water year. The budget shall be determined for each basin separately and allocated between the separate ground water basins. The

total for each basin shall be allocated between the public agencies in proportion to their use of ground water from such basin during the preceding water year.

8.4.2 Objections and Review. Any party who objects to the proposed budget, or to such party's allocable share thereof, may apply to the Court within thirty (30) days of receipt of the proposed budget from Watermaster for review and modification. Any such objection shall be duly noticed to all interested parties and heard within thirty (30) days of notice.

8.4.3 Notice of Assessment. After thirty (30) days from delivery of Watermaster's proposed budget, or after the order of Court settling any objections thereto, Watermaster shall serve notice on all parties to be assessed of the amount of assessment and the required payment schedule.

8.4.4 Payment. All assessments for Watermaster expenses shall be payable on the dates designated in the notice of assessment.

8.5 Review of Watermaster Activities.

8.5.1 Review Procedures. All actions of Watermaster (other than budget and assessment matters, which are provided for in Paragraph 8.4.2) shall be subject to review by the Court on its own motion or on motion by any party, as follows:

8.5.1.1 Noticed Motion. Any party may, by a regularly noticed motion, apply to the Court for review of any Watermaster's action. Notice of such motion shall be served personally or mailed to Watermaster and to all active parties.

8.5.1.2 De Novo Nature of Proceedings. Upon the

filing of any such motion, the Court shall require the moving party to notify the active parties of a date for taking evidence and argument, and on the date so designated shall review de novo the question at issue. Watermaster's findings or decision, if any, may be received in evidence at said hearing, but shall not constitute presumptive or prima facie proof of any fact in issue.

8.5.1.3 Decision. The decision of the Court in such proceeding shall be an appealable supplemental order in this case. When the same is final, it shall be binding upon the Watermaster and all parties.

9. PHYSICAL SOLUTION

9.1 Circumstances Indicating Need for Physical Solution. During the period between 1913 and 1955, when there existed temporary surplus waters in the San Fernando Basin, overlying cities and private overlying landowners undertook to install and operate water extraction, storage and transmission facilities to utilize such temporary surplus waters. If the injunction against interference with the prior and paramount rights of Los Angeles to the waters of the San Fernando and Eagle Rock Basins were strictly enforced, the value and utility of those water systems and facilities would be lost or impaired. It is appropriate to allow continued limited extraction from the San Fernando and Eagle Rock Basins by parties other than Los Angeles, subject to assurance that Los Angeles will be compensated for any cost, expense or loss incurred as a result thereof.

9.2 Prior Stipulated Judgments. Several defendants

heretofore entered into separate stipulated judgments herein, during the period June, 1958 to November, 1965, each of which judgments was subject to the Court's continuing jurisdiction. Without modification of the substantive terms of said prior judgments, the same are categorized and merged into this judgment and superseded hereby in the exercise of the Court's continuing jurisdiction, as follows:

9.2.1 Eagle Rock Basin Parties. Stipulating defendants Foremost and Deep Rock have extracted water from Eagle Rock Basin, whose entire safe yield consist of import return waters of Los Angeles. Said parties may continue to extract water from Eagle Rock Basin to supply their bottled drinking water requirements upon filing all required reports on said extraction with Watermaster and Los Angeles and paying Los Angeles annually an amount equal to $21.78 per acre foot for the first 200 acre feet, and $39.20 per acre foot for any additional water extracted in any water year.

9.2.2 Non-consumptive or Minimal-consumptive Operations. Certain stipulating defendants extract water from San Fernando Basin for uses which are either non-consumptive or have a minimal consumptive impact. Each of said defendants who have a minimal consumptive impact has a connection to the City of Los Angeles water system and purchases annually an amount of water at least equivalent to the consumptive loss of extracted ground water. Said defendants are:

Non-Consumptive

Walt Disney Productions

Sears, Roebuck & Co.

Minimal-Consumptive

Conrock Co., for itself and as successor to California Materials Co.; Constance Ray White and Lee L. White; Mary L. Akmadzich and Peter J. Akmadzich

Livingston Rock & Gravel, for itself and as successor to Los Angeles Land & Water Co.

The nature of each said defendant's water use practices is described in Attachment "F". Subject to required reports to and inspections by Watermaster, each said defendant may continue extractions for said purposes so long as in any year such party continues such non-consumptive or minimal-consumptive use practices.

9.2.3 Abandoned Operations. The following stipulating defendants have ceased extracting water from San Fernando Basin and no further need exists for physical solution in their behalf:

Knickerbocker Plastic Company, Inc.

Carnation Company

Hidden Hills Mutual Water Company

Southern Pacific Railroad Co.

Pacific Fruit Express Co.

9.3 Private Defendants. There are private defendants who installed during the years of temporary surplus relatively substantial facilities to extract and utilize ground waters of San Fernando Basin. Said defendants may continue their extractions for consumptive use up to the indicated annual quantities upon payment of compensation to the appropriate city wherein their use of water is principally located, on the basis of the following physical solution:

9.3.1 Private Defendants and Appropriate Cities. Said private defendants and the cities to which their said extractions shall be charged and to which physical solution payment shall be made are:

			Annual Quantities (acre feet)
Los Angeles	-	Toluca Lake	100
		Sportsman's Lodge	25
		Van de Kamp	120
Glendale	-	Forest Lawn	400
		Southern Service Co.	75
Burbank	-	Valhalla	300
		Lockheed	25

Provided that said private defendants shall not develop, install or operate new wells or other facilities which will increase existing extraction capacities.

9.3.2 Reports and Accounting. All extractions pursuant to this physical solution shall be subject to such reasonable reports and inspections as may be required by Watermaster.

9.3.3 Payment. Water extracted pursuant hereto shall be compensated for by annual payment to Los Angeles, and as agreed upon pursuant to paragraph 9.3.3.2 to Glendale and Burbank, thirty days from day of notice by Watermaster, on the following basis:

9.3.3.1 Los Angeles. An amount equal to what such party would have paid had water been delivered from the distribution system of Los Angeles, less the average energy cost of extraction of ground water by Los Angeles from San Fernando.

9.3.3.2 Glendale or Burbank. An amount equal to

the sum of the amount payable to Los Angeles under paragraph 9.4 hereof and any additional charges or conditions agreed upon by either such city and any private defendant.

9.4 Glendale and Burbank. Glendale and Burbank have each installed, during said years of temporary surplus, substantial facilities to extract and utilize waters of the San Fernando Basin. In addition to the use of such facilities to recover import return water, the distribution facilities of such cities can be most efficiently utilized by relying upon the San Fernando Basin for peaking supplies in order to reduce the need for extensive new surface storage. Glendale and Burbank may extract annual quantities of ground water from the San Fernando Basin, in addition to their rights to import return water or stored water, as heretofore declared, in quantities up to:

Glendale	5,500 acre feet
Burbank	4,200 acre feet;

provided, that said cities shall compensate Los Angeles annually for any such excess extractions over and above their declared rights at a rate per acre foot equal to the average MWD price for municipal and industrial water delivered to Los Angeles during the fiscal year, less the average energy cost of extraction of ground water by Los Angeles from San Fernando Basin during the preceding fiscal year. Provided, further, that ground water extracted by Forest Lawn and Southern Service Co. shall be included in the amount taken by Glendale, and the amount extracted by Valhalla and Lockheed shall be included in the amount taken by Burbank. All water taken by Glendale or Burbank pursuant hereto shall be charged against Los Angeles' rights in the year of such extractions.

In the event of emergency, and upon stipulation or motion and subsequent order of the Court, said quantities may be enlarged in any year.

9.5 San Fernando. San Fernando delivers imported water on lands overlying the San Fernando Basin, by reason of which said city has a right to recover import return water. San Fernando does not have water extraction facilities in the San Fernando Basin, nor would it be economically or hydrologically useful for such facilities to be installed. Both San Fernando and Los Angeles have decreed appropriative rights and extraction facilities in the Sylmar Basin. San Fernando may extract ground water from the Sylmar Basin in a quantity sufficient to utilize its San Fernando Basin import return water credit, and Los Angeles shall reduce its Sylmar Basin extractions by an equivalent amount and receive an offsetting entitlement for additional San Fernando Basin extractions.

9.6 Effective Date. This physical solution shall be effective on October 1, 1978, based upon extractions during water year 1978-79.

10. MISCELLANEOUS PROVISIONS

10.1 Designation of Address for Notice and Service. Each party shall designate the name and address to be used for purposes of all subsequent notices and service herein by a separate designation to be filed with Watermaster within thirty (30) days after Notice of Entry of Judgment has been served. Said designation may be changed from time to time by filing a written notice of such change with the Watermaster. Any party desiring to be relieved of receiving notices of Watermaster activity may file a waiver of

notice on a form to be provided by Watermaster. Thereafter such party shall be removed from the Active Party list. For purposes of service on any party or active party by the Watermaster, by any other party, or by the Court, of any item required to be served upon or delivered to such party or active party under or pursuant to the Judgment, such service shall be made personally or by deposit in the United States mail, first class, postage prepaid, addressed to the designee and at the address in the latest designation filed by such party or active party.

10.2 Notice of Change in Hydrologic Condition -- Sylmar Basin. If Sylmar Basin shall hereafter be in a condition of overdraft due to increased or concurrent appropriations by Los Angeles and San Fernando, Watermaster shall so notify the Court and parties concerned, and notice of such overdraft and the adverse effect thereof on private overlying rights shall be given by said cities as prescribed by subsequent order of the Court, after notice and hearing.

10.3 Judgment Binding on Successors. This Judgment and all provisions thereof are applicable to and binding upon not only the parties to this action, but also upon their respective heirs, executors, administrators, successors, assigns, lessees and licensees and upon the agents, employees and attorneys in fact of all such persons.

10.4 Costs. Ordinary court costs shall be borne by each party, and reference costs shall be borne as heretofore allocated and paid.

DATED: Jan 26, 1979.

Judge of the Superior Court

ORIGINAL

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REC'D
OCT 11 2006
FILING WINDOW

FILED
LOS ANGELES SUPERIOR COURT
DEC 14 2006
JOHN A. CLARKE, CLERK
BY M. J. FOLLINGS DEPUTY

RICHARDS | WATSON | GERSHON
ATTORNEYS AT LAW – A PROFESSIONAL CORPORATION

SUPERIOR COURT OF THE STATE OF CALIFORNIA

COUNTY OF LOS ANGELES–CENTRAL DISTRICT

CITY OF LOS ANGELES,

Plaintiff,

vs.

CITY OF SAN FERNANDO, ET AL.,

Defendant.

Case No. 650079

~~[PROPOSED]~~ ORDER GRANTING MOTION TO APPROVE STIPULATION BETWEEN THE CITIES OF SAN FERNANDO AND LOS ANGELES REGARDING THE SAFE YIELD OF THE SYLMAR BASIN

Date: November 15, 2006
Time: 8:30 a.m.
Dept.: 52

Hon. Susan Bryant-Deason

[Exempt from Filing Fees Pursuant to Govt. Code §6103]

The motion of the City of San Fernando ("San Fernando") and the City of Los Angeles ("Los Angeles") to approve the stipulation dated October 10, 2006 entered between San Fernando and Los Angeles regarding the safe yield of the Sylmar Basin, came on regularly for hearing on ~~November 15,~~ December 13, 2006 in Department 52 of the above-entitled court, the Hon. Susan Bryant-Deason presiding. The appearances of counsel are noted on the record.

Having considered the papers submitted by the parties, and the arguments of counsel thereon, the Court hereby approves he stipulation dated October 10, 2006 entered between San Fernando and Los Angeles regarding the safe yield of the Sylmar Basin is approved.

DATED: ~~October~~ Dec 13, 2006

Judge Bryant-Deason
Judge of the Superior Court

RICHARDS | WATSON | GERSHON
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PROOF OF SERVICE

I, Kelley Herrington, declare:

I am a resident of the State of California and over the age of eighteen years, and not a party to the within action; my business address is Richards, Watson & Gershon, 355 South Grand, 40th Floor, Los Angeles, California. On October 11, 2006, I served the within documents:

[PROPOSED] ORDER GRANTING MOTION TO APPROVE STIPULATION BETWEEN THE CITIES OF SAN FERNANDO AND LOS ANGELES REGARDING THE SAFE YIELD OF THE SYLMAR BASIN

[ ] by causing facsimile transmission of the document(s) listed above from (213) 626-8484 to the person(s) and facsimile number(s) set forth below on this date before 5:00 P.M. This transmission was reported as complete and without error. A copy of the transmission report(s), which was properly issued by the transmitting facsimile machine, is attached. Service by facsimile has been made pursuant to a prior written agreement between the parties.

[X] by placing the document(s) listed above in a sealed envelope with postage thereon fully prepaid, in the United States mail at Los Angeles, California, addressed as set forth below. I am readily familiar with the firm's practice for collection and processing correspondence for mailing with the United States Postal Service. Under that practice, it would be deposited with the U.S. Postal Service on that same day with postage thereon fully prepaid in the ordinary course of business. I am aware that on motion of the party served, service is presumed invalid if postal cancellation date or postage meter date is more than one day after date of deposit for mailing contained in this affidavit.

[ ] by placing the document(s) listed above in a sealed envelope and affixing a pre-paid air bill, and causing the envelope to be delivered to a agent for delivery, or deposited in a box or other facility regularly maintained by , in an envelope or package designated by the express service carrier, with delivery fees paid or provided for, addressed to the person(s) at the address(es) set forth below.

[ ] by personally delivering the document(s) listed above to the person(s) at the address(es) set forth below.

[ ] by causing personal delivery by First Legal Support Services, 1511 West Beverly Boulevard, Los Angeles, California 90026 of the document(s) listed above to the person(s) at the address(es) set forth below.

See Attached Service List

I declare under penalty of perjury under the laws of the State of California that the above is true and correct.

Executed on October 11, 2006.

KELLEY HERRINGTON

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Superior Court of California
County of Los Angeles

DEC 23 2013

Sherri R. Carter, Executive Officer/Clerk
By Marisela Fregoso, Deputy

SUPERIOR COURT OF THE STATE OF CALIFORNIA

FOR THE COUNTY OF LOS ANGELES

CENTRAL AND WEST BASIN WATER REPLENISHMENT DISTRICT, etc.,

Plaintiff,

vs.

CHARLES E. ADAMS, et al.,

Defendant

CITY OF LAKEWOOD, a municipal corporation,

Cross-Complainant

vs.

CHARLES E. ADAMS, et al.,

Cross-Defendants.

Case No.: 786,656

THIRD AMENDED JUDGMENT

(Declaring and establishing water rights in Central Basin, enjoining extractions therefrom in excess of specified quantities and providing for the storage and extraction of stored water.)

Assigned for all purposes to
Hon. Abraham Khan
Dept. 51

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The original judgment in this action was entered on or about August 27, 1965. Pursuant to the reserved and continuing jurisdiction of the court under the Judgment herein, certain amendments to said Judgment and temporary orders have heretofore been made and entered. Continuing jurisdiction of the court for this action is currently assigned to Hon. Abraham Khan.

The Motion of Plaintiff WATER REPLENISHMENT DISTRICT OF SOUTHERN CALIFORNIA (which originally brought this action under its former name "Central and West Basin Water Replenishment District"), and of defendants, City of Lakewood, City of Long Beach, Golden State Water Company, California Water Service Company, City of Los Angeles, City of Cerritos, City of Downey, City of Signal Hill, Pico Water District, Bellflower-Somerset Mutual Water Company, LaHabra Heights County Water District, City of Norwalk, Orchard Dale Water District, Montebello Land & Water Company, South Montebello Irrigation District, Sativa Los Angeles County Water District, City of Vernon and Central Basin Municipal Water District ("Moving Parties") herein for further amendments to the Judgment, notice thereof and of the hearing thereon having been duly and regularly given to all parties, came on for hearing in Department 51 of the above-entitled court on December 18, 2013 at 9:00 a.m. before said Hon. Abraham Khan. This "Third Amended Judgment" incorporates amendments and orders heretofore made to the extent presently operable and amendments pursuant to said last mentioned motion. To the extent this Amended Judgment is a restatement of the Judgment as heretofore amended, it is for convenience in incorporating all matters in one document, is not a readjudication of such matters and is not intended to reopen any such matters. As used hereinafter the word "Judgment" shall include the original Judgment entered in this action as amended to date, including this Third Amended Judgment.

There exists in the County of Los Angeles, State of California, an underground water basin or reservoir known and hereinafter referred to as the "Central Basin" or "Basin" described in Appendix "1" to this Judgment.

Within this Judgment, the following terms, words, phrases and clauses are used by the Court with the following meanings:

"Adjudicated Storage Capacity" means 220,000 acre-feet of the Available Dewatered

Space which has been apportioned herein for Individual Storage Accounts and Community Storage.

"Administrative Body" is defined in Section II(A).

"Administrative Year" means the twelve (12) month period beginning July 1 and ending June 30.

"Allowed Pumping Allocation" is that quantity in acre feet which the Court adjudges to be the maximum quantity which a party should be allowed to extract annually from Central Basin as set forth in Part I hereof, which constitutes 80% of such party's Total Water Right.

"Allowed Pumping Allocation for a particular Administrative Year" and "Allowed Pumping Allocation in the following Administrative Year" and similar clauses, mean the Allowed Pumping Allocation as increased in a particular Administrative Year by any authorized carryovers pursuant to Section III(A) of this Judgment and as reduced by reason of any over-extractions in a previous Administrative Year.

"Artificial Replenishment" is the replenishment of Central Basin achieved through the spreading or injection of imported or recycled water for percolation thereof into Central Basin by a governmental agency, including WRD.

"Artificial Replenishment Water" means water captured or procured by WRD to replenish the Basin, either directly by percolating or injecting the water into the Basin, or through in lieu replenishment by substituting surface water (or payment therefor) in lieu of production and use of groundwater.

"Available Dewatered Space" means the total amount of space available to hold groundwater within the Central Basin without causing Material Physical Harm, which space is allocated between Adjudicated Storage Capacity and Basin Operating Reserve.

"Base Water Right" is the highest continuous extractions of water by a party from Central Basin for a beneficial use in any period of five consecutive years after the commencement of overdraft in Central Basin and prior to the commencement of this action, as to which there has been no cessation of use by that party during any subsequent period of five consecutive years. As employed in the above definition, the words "extractions of water by a party" and "cessation

of use by that party" include such extractions and cessations by any predecessor or predecessors in interest.

"Basin Operating Reserve" means a total of 110,000 acre feet of Available Dewatered Space available for Basin operations as provided in Section IV(L). The Basin Operating Reserve added to the Adjudicated Storage Capacity equals the amount of Available Dewatered Space.

"Calendar Year" is the twelve month period commencing January 1 of each year and ending December 31 of each year.

"Carryover" is defined in Section III(A).

"Carryover Conversion" means the process of transferring water properly held as Carryover into Stored Water, or the water so converted to Stored Water.

"Central Basin" is the underground basin or reservoir underlying the Central Basin Area, the exterior boundaries of which Central Basin are the same as the exterior boundaries of Central Basin Area.

"Central Basin Area" is the territory described in Appendix "1" to this Judgment and is a segment of the territory comprising Plaintiff District.

"Central Basin Water Rights Panel" means the constituent body of Watermaster consisting of seven (7) Parties elected from among parties holding Allowed Pumping Allocations as provided in Section II(B).

"CEQA" refers to the California Environmental Quality Act, Public Resources Code §§ 21000 *et seq.*

"Community Storage Pool" is defined in Section IV(E).

"Declared Water Emergency" means a period commencing with the adoption of a resolution of the Board of Directors of WRD declaring that conditions within the Central Basin relating to natural and imported supplies of water are such that, without implementation of the water emergency provisions of this Judgment, the water resources of the Central Basin risk degradation. Such Declaration may be made as provided in Section III(A)(3).

"Disadvantaged Community" means any area that is served by a Water Purveyor and that consists of one or more contiguous census tracts which, based upon the most-recent United

States Census data, demonstrates a median household income which is less than eighty percent (80%) of the median household income for all Census Tracts within the state of California. The identification of Disadvantaged Communities shall be made by Watermaster following each decennial census.

"Extraction," "extractions," "extracting," "extracted," and other variations of the same noun and verb, mean pumping, taking, diverting or withdrawing groundwater by any manner or means whatsoever from Central Basin.

"Imported Water" means water brought into Central Basin Area from a non-tributary source by a party and any predecessors in interest, either through purchase directly from Metropolitan Water District of Southern California ("MWD"), the Central Basin Municipal Water District ("CBMWD"), or any other MWD member agency and additionally, as to the Department of Water and Power of the City of Los Angeles, water brought into the Central Basin Area by that party by means of the Owens River Aqueduct. In the case of water imported for storage by a party pursuant to this Judgment, "Imported Water" means water brought into the Central Basin from any non-tributary source as one method for establishing storage in the Central Basin.

"Imported Water Use Credit" is the annual amount, computed on a calendar year basis, of Imported Water which any party and any predecessors in interest, who have timely made the required filings under Water Code Section 1005.1, have imported into Central Basin Area in any calendar year and subsequent to July 9, 1951, for beneficial use therein, but not exceeding the amount by which that party and any predecessors in interest reduces his or their extractions of groundwater from Central Basin in that calendar year from the level of his or their extractions in the preceding calendar year, or in any prior calendar year not earlier than the calendar year 1950, whichever is the greater.

"Individual Storage Allocation" is defined in Section IV(D).

"Majority Protest" means a written protest filed with the Administrative Body of Watermaster within sixty (60) days following a protested event or decision, which evidences the concurrence of a majority of the Allowed Pumping Allocations held within the Basin as of the

date thereof.

"Material Physical Harm" means material physical injury or a material diminution in the quality or quantity of groundwater available within the Basin to support extraction of Total Water Rights or Stored Water, that is demonstrated to be attributable to the placement, recharge, injection, storage or recapture of Stored Water in the Central Basin, including, but not limited to, degradation of water quality, liquefaction, land subsidence and other material physical injury caused by elevated or lowered groundwater levels. Material Physical Harm does not include "economic injury" that results from other than direct physical causes, including any adverse effect on water rates, lease rates, or demand for water. Once fully mitigated, physical injury shall no longer be considered to be material.

"Natural Replenishment" means and includes all processes other than "Artificial Replenishment" by which water may become a part of the groundwater supply of Central Basin.

"Natural Safe Yield" is the maximum quantity of groundwater, not in excess of the long term average annual quantity of Natural Replenishment, which may be extracted annually from Central Basin without eventual depletion thereof or without otherwise causing eventual permanent damage to Central Basin as a source of groundwater for beneficial use, said maximum quantity being determined without reference to Artificial Replenishment.

"Outgoing Watermaster" is the State of California, Department of Water Resources, the Watermaster appointed pursuant to the terms of the Judgment before this Third Amendment.

"Overdraft" is that condition of a groundwater basin resulting from extractions in any given annual period or periods in excess of the long term average annual quantity of Natural Replenishment, or in excess of that quantity which may be extracted annually without otherwise causing eventual permanent damage to the basin.

"Party" means a party to this action. Whenever the term "party" is used in connection with a quantitative water right, or any quantitative right, privilege or obligation, or in connection with the assessment for the budget of the Watermaster, it shall be deemed to refer collectively to those parties to whom are attributed a Total Water Right in Part I of this Judgment.

"Person" or "persons" include individuals, partnerships, associations, governmental

agencies and corporations, and any and all types of entities.

"Recycled Water" means water that has been reclaimed through treatment appropriate for its intended use in compliance with applicable regulations.

"Regional Disadvantaged Communities Incentive Program" means a program to be developed by Watermaster in the manner provided in Section II(H) of this Judgment, and approved by the Court, whereby a portion of the Community Storage Pool is made available to or for the benefit of Disadvantaged Communities, on a priority basis within the Central Basin.

"Replenishment Assessment" means the replenishment assessment imposed by WRD upon each acre-foot of groundwater extracted from the Central Basin pursuant to WRD's enabling act, California Water Code §§ 60000 et seq.

"Small Water Producers Group" means a body consisting of parties holding no greater than 5,000 acre-feet of Allowed Pumping Allocation, as set forth on Appendix 3 hereto and as may be modified from time to time by the Group's own procedures and the requirements set forth in Appendix 3.

"Storage Panel" or "Central Basin Storage Panel" means a bicameral constituent body of Watermaster consisting of (i) the Central Basin Water Rights Panel and (ii) the Board of Directors of WRD.

"Storage Project" means an activity pertaining to the placement, recharge, injection, storage, transfer, or recapture of Stored Water within the Basin, but does not include actions by WRD undertaken in connection with its replenishment activities.

"Stored Water" means water, including Recycled Water, held within Available Dewatered Space as a result of spreading, injection, in-lieu delivery, or Carryover Conversion, where there is an intention to subsequently withdraw the water for reasonable and beneficial use pursuant to this Judgment.

"Total Water Right" is the quantity arrived at in the same manner as in the computation of "Base Water Right," but including as if extracted in any particular year the Imported Water Use Credit, if any, to which a particular party may be entitled.

"Water" includes only non-saline water, which is that having less than 1,000 parts of

chlorides to 1,000,000 parts of water.

"Water Augmentation Project" means pre-approved physical actions and management activities that provide demonstrated appreciable increases in long-term annual groundwater yield in the Basin that are initiated as provided in this Judgment after January 1, 2013.

"Water Purveyor" means a Party (and successors in interest) which sells water to the public, whether a regulated public utility, mutual water company or public entity. As that term is used in Section III(B)(6), "Water Purveyor," in addition to the foregoing, means a Party which has a connection or connections for the taking of Imported Water through the Metropolitan Water District of Southern California ("MWD"), or through a MWD-member agency, or access to such Imported Water through such connection, and which normally supplies at least a part of its customers' water needs with such Imported Water.

"Watermaster" is defined in Part II and is comprised of (i) the Administrative Body, (ii) the Central Basin Water Rights Panel, and (iii) the Central Basin Storage Panel. Watermaster, and the various constituent bodies of Watermaster, as designated in this Judgment, exist as a special master pursuant to this Judgment and Watermaster serves at the pleasure of the Court. Nothing herein shall be construed as creating an independent designation of "Watermaster" as a public agency subject to the provisions of CEQA, nor does membership or participation as the designated Watermaster expand any statutory, constitutional, or other powers of the members serving as part of the Watermaster.

"West Coast Basin" is the groundwater basin adjacent to the Central Basin which is the subject of a separate adjudication of groundwater rights in *California Water Service Company, et al. v. City of Compton, et al.*, Los Angeles Superior Court Case No. 506806.

"WRD" or "Water Replenishment District" is the plaintiff herein, the Water Replenishment District of Southern California, a special district of the State of California, which brought this action under its former name, "Central and West Basin Water Replenishment District."

In those instances where any of the above-defined words, terms, phrases or clauses are utilized in the definition of any of the other above-defined words, terms, phrases and clauses,

such use is with the same meaning as is above set forth.

NOW THEREFORE, IT IS ORDERED, DECLARED, ADJUDGED AND DECREED WITH RESPECT TO THE ACTION AND CROSS-ACTION AS FOLLOWS:

I. DECLARATION AND DETERMINATION OF WATER RIGHTS OF PARTIES; RESTRICTION ON THE EXERCISE THEREOF.[1]

A. Determination of Rights of Parties.

(1) Each party, except defendants The City of Los Angeles and Department of Water and Power of the City of Los Angeles, whose name is set forth in Appendix 2 and by this reference made a part hereof, and after whose name there appears under the column "Total Water Right" a figure other than "0," is the owner of and has the right to extract annually groundwater from Central Basin for beneficial use in the quantity set forth after that party's name under said column "Total Water Right" as of the close of the Administrative Year ending June 30, 2012 in accordance with the Watermaster Reports on file with this Court and the records of the Plaintiff. This tabulation does not take into account additions or subtractions from any Allowed Pumping Allocation of a producer for the 2012-2013 Administrative Year, nor other adjustments not representing change in fee title to water rights, such as leases of water rights, nor does it include the names of lessees of landowners where the lessees are exercising the water rights. The exercise of all water rights is subject, however, to the provisions of this Judgment as hereinafter contained. All of said rights are of the same legal force and effect and are without priority with reference to each other. Each party whose name is set forth in the tabulation in Appendix "2" of this

[1] Headings in the Judgment are for purposes of reference and the language of said headings do not constitute, other than for such purpose, a portion of this Judgment.

Judgment, and after whose name there appears under the column "Total Water Right" the figure "0," owns no rights to extract any groundwater from Central Basin, and has no right to extract any groundwater from Central Basin.

(2) Defendant The City of Los Angeles is the owner of the right to extract fifteen thousand (15,000) acre feet per annum of groundwater from Central Basin, but it has the right and ability to purchase or lease additional rights to extract groundwater and increase its Allowed Pumping Allocation. Defendant Department of Water and Power of the City of Los Angeles has no right to extract groundwater from Central Basin except insofar as it has the right, power, duty or obligation on behalf of defendant The City of Los Angeles to exercise the water rights in Central Basin of defendant The City of Los Angeles. The exercise of said rights is subject, however, to the provisions of this Judgment hereafter contained, including but not limited to, sharing with other parties in any subsequent decreases or increases in the quantity of extractions permitted from Central Basin, pursuant to continuing jurisdiction of the Court, on the basis that fifteen thousand (15,000) acre feet (and any increase in its Allowed Pumping Allocation) bears to the Allowed Pumping Allocations of the other parties.

(3) No party to this action is the owner of or has any right to extract groundwater from Central Basin except as herein affirmatively determined.

B. Parties Enjoined as to Quantities of Extractions.

(1) Each party, other than The State of California and The City of Los Angeles and Department of Water and Power of The City of Los Angeles, is enjoined and restrained in any Administrative Year commencing after the date this Judgment becomes final from extracting from Central Basin any quantity of Water greater than the party's Allowed Pumping Allocation as hereinafter set forth next to the name of the party in the tabulation appearing in Appendix 2 at the end of this Judgment, subject to further provisions of this Judgment. Subject to such further provisions, the officials, agents and employees of The State of

California are enjoined and restrained in any such Administrative Year from extracting from Central Basin collectively any quantity of water greater than the Allowed Pumping Allocation of The State of California as hereinafter set forth next to the name of that party in the same tabulation. Each party adjudged and declared above not to be the owner of and not to have the right to extract groundwater from Central Basin is enjoined and restrained in any Administrative Year commencing after the date this Judgment becomes final from extracting any groundwater from Central Basin, except as may be hereinafter permitted to any such party under this Judgment.

(2) The total extraction right for each party includes a party's Allowed Pumping Allocation (to the extent not transferred by agreement or otherwise), any contractual right acquired through lease or other agreement to extract or use the rights of another party, and any right to extract Stored Water or Carryover as provided in this Judgment. No party may extract in excess of 140% of the sum of (i) the party's Allowed Pumping Allocation and (ii) the party's leased water, except upon prior approval by the applicable body of Watermaster as required pursuant to Section IV(J)as provided herein. Upon application, the body specified in Section IV(J) shall approve a party's request to extract water in excess of such limit, provided there is no Material Physical Harm. Requests to extract water in excess of such limit shall be reviewed and either approved or denied within thirty (30) days of such request.

(3) Defendant The City of Los Angeles is enjoined and restrained in any Administrative Year commencing after the date this Judgment becomes final from extracting from Central Basin any quantity of water greater than fifteen thousand (15,000) acre feet or its Allowed Pumping Allocation, as recognized by the Watermaster, if it acquires additional rights to pump groundwater through purchase or lease, subject to further provisions of this Judgment, including but not limited to, sharing with other parties in any subsequent decreases or increases in

the quantity of extractions permitted from Central Basin by parties, pursuant to continuing jurisdiction of the Court, on the basis that fifteen thousand (15,000) acre feet (or the adjusted Allowed Pumping Allocation if additional rights are acquired) bears to the Allowed Pumping Allocations of the other parties. Defendant Department of Water and Power of The City of Los Angeles is enjoined and restrained in any Administrative Year commencing after the date this Judgment becomes final from extracting from Central Basin any quantity of water other than such as it may extract on behalf of defendant The City of Los Angeles, and which extractions, along with any extractions by said City, shall not exceed that quantity permitted by this Judgment to that City in any Administrative Year. Whenever in this Judgment the term "Allowed Pumping Allocation" appears, it shall be deemed to mean as to defendant The City of Los Angeles the quantity of fifteen thousand (15,000) acre feet unless the City of Los Angeles has acquired through purchase or lease right to extract additional groundwater. The limit on extraction as provided in the preceding Section I(B)(1) shall also apply to The City of Los Angeles.

(4) Any rights decreed and adjudicated herein may be transferred, assigned, licensed or leased by the owner thereof provided, however, that no such transfer shall be complete until compliance with the appropriate notice procedures established by Watermaster.

(5) Unless a party elects otherwise, production of water from the Basin for the use or benefit of the parties hereto shall be counted against the party's total extraction right in the following order: (i) Increased extractions by certain qualified water rights holders pursuant to Section IV(K), (ii) Exchange Pool production, (iii) production of Carryover water, (iv) production of leased water, , (v) production of Allowed Pumping Allocation, (vi) production of Stored Water, (vii) production of Drought Carryover (according to Watermaster's Rules), and (viii) production of water under an agreement with WRD during a period of

emergency pursuant to Section III(B)(6).

C. Parties Enjoined as to Export of Extractions.

Except as expressly authorized herein, or upon further order of the Court, all parties are enjoined and restrained from transporting water extracted from the Central Basin outside the boundaries of the Central Basin Area. For purposes of this Section, water supplied by a Water Purveyor to its customers located within any of its service areas contiguous to the Central Basin or within WRD's service area shall be exempt from the export prohibition of this Section provided that the Water Purveyor also provides water to a service area that overlies the Basin in whole or in part. The foregoing exemption is not made, nor is it related to, a determination of an underflow between the basins, a cost or benefit allocation, or any other factor relating to the allocation of the Replenishment Assessment by WRD. Further, this injunction and restriction does not apply to export of water that will take place pursuant to contractual obligations specifically identified on Appendix 4, nor does it apply to export of Stored Water not having its origin in Carryover Conversion. The export identified on Appendix 4 may continue to the extent that any such extraction does not violate any other provisions of this Judgment, provided however that no such export identified on Appendix 4 shall exceed 5,000 acre-feet in any Year.

II. APPOINTMENT OF WATERMASTER; WATERMASTER ADMINISTRATION PROVISIONS.

The particular bodies specified below are, jointly, hereby appointed Watermaster, for an indefinite term, but subject to removal by the Court, to administer this Judgment. Such bodies, which together shall constitute the "Watermaster," shall have restricted powers, duties and responsibilities as specified herein, it being the court's intention that particular constituent bodies of Watermaster have only limited and specified powers over certain aspects of the administration of this Judgment. The Outgoing Watermaster will exercise reasonable diligence in the complete transition of Watermaster duties and responsibilities within a reasonable time

following entry of this order, and to make available to the new Watermaster all records concerning Watermaster activities. The chair of the Central Basin Water Rights Panel (defined below) shall thereafter represent the Watermaster before the Court.

A. The Administrative Body.

Plaintiff Water Replenishment District of Southern California ("WRD") is appointed the Administrative Body of the Central Basin Watermaster ("Administrative Body"). In order to assist the Court in the administration of the provisions of this Judgment and to keep the Water Rights Panel and the Court fully advised in the premises, the Administrative Body shall have the following duties, powers and responsibilities:

(1) To Require Reports, Information and Records.

In consultation with the Water Rights Panel, the Administrative Body shall require the parties to furnish such reports, information and records as may be reasonably necessary to determine compliance or lack of compliance by any party with the provisions of this Judgment.

(2) Storage Projects.

The Administrative Body shall exercise such powers as may be specifically granted to it under this Judgment with regard to Stored Water.

(3) Annual Report.

The Administrative Body shall prepare, on or before the 15th day of the fourth month following the end of the preceding Administrative Year, an annual report for the consideration of the Water Rights Panel. The Chair of the Water Rights Panel shall submit to the Court either (1) the annual report prepared by the Administrative Body, following the adoption by the Water Rights Panel, or (2) an annual report separately prepared and adopted by the Water Rights Panel. The annual report prepared by the Administrative Body shall be limited to the following, unless otherwise required by the Court:

(a) Groundwater extractions

(b) Storage Accounts maintained by each party

(c) Status of the Regional Disadvantaged Community Incentive Program, if approved by the Court

(d) Exchange Pool operation

(e) Use of Imported Water

(f) Violations of this Judgment and corrective action taken by bodies of Watermaster having jurisdiction as provided in this Judgment

(g) Change of ownership of Total Water Rights

(h) Watermaster administration costs

(i) Water spread or imported into the Basin

(j) Water Augmentation Projects

(k) Whether the Administrative Body has become aware of the development of a Material Physical Harm, or imminent threat of the development of a Material Physical Harm, as required pursuant to Section IV(B) of this Judgment

(l) Other matters as agreed with the Water Rights Panel

(m) Recommendations, if any.

In consultation with the Water Rights Panel, the Administrative Body shall provide reasonable notice to all parties of all material actions or determinations by Watermaster or any constituent body thereof, and as otherwise provided by this Third Amended Judgment.

(4) Annual Budget and Appeal Procedure in Relation Thereto.

By April 1 of each Administrative Year, the Administrative Body shall prepare a proposed administrative budget for the subsequent year stating the anticipated expense for performing the administrative functions specified in this Judgment (the "Administrative Budget"). The Administrative Body shall mail a copy of the proposed Administrative Budget to each of the Parties at least 60 days

before the beginning of each Administrative Year. The Administrative Budget mailed to the Parties shall provide sufficient detail in the Administrative Budget to demonstrate a separation in accounting between the Administrative Budget and WRD's Replenishment Assessment and operating budget. For the first Administrative Year of operation under this Third Amended Judgment, if the Administrative Body is unable to meet the above time requirement, the Administrative Body shall mail said copies as soon as possible. The first year the Administrative Budget is prepared, the amount of that budget shall not exceed an amount equal to fifty percent (50%) of the 2012-2013 charge for Watermaster service for the Central Basin collected from Parties by the California Department of Water Resources. At all times, the Administrative Body shall maintain a separation in accounting between the Administrative Budget and WRD's Replenishment Assessment and operating budget. All increases in future budgets for the Administrative Body above the amount set forth above shall be subject to approval by the Water Rights Panel following a public meeting to be held prior to the beginning of the Administrative Year, provided that the approved budget shall not be less than the amount of the first-year budget for the Administrative Body, except upon further order of the Court. Any administrative function by WRD already paid for by the Replenishment Assessment shall not be added as an expense in the Administrative Budget. Similarly, any expense paid for by the Administrative Budget shall not be added to WRD's operating budget, or otherwise added to the calculation of the Replenishment Assessment. While WRD may approve the proposed Administrative Budget at the same meeting in which WRD adopts its annual Replenishment Assessment or annual budget, the Administrative Body's budget shall be separate and distinct from the Replenishment Assessment imposed pursuant to Water Code §60317 and WRD's operating budget.

If approval by the Water Rights Panel is required pursuant to the

foregoing, the Water Rights Panel shall act upon the proposed budget within 15 calendar days after the public meeting. If the Water Rights Panel does not approve the budget prior to such deadline, the matter may be appealed to the Court within sixty (60) days. If any Party hereto has any objection to the Administrative Budget, it shall present the same in writing to Watermaster within 15 days after the date of mailing of said tentative budget by the Administrative Body. The Parties shall make the payments otherwise required of them to the Administrative Body even though an appeal of such budget may be pending. Upon any revision by the Court, the Administrative Body shall either remit to the Parties their pro rata portions of any reduction in the budget, or shall credit their accounts with respect to their budget assessments for the next ensuing Administrative Year, as the Court shall direct.

The amount of the Administrative Budget to be assessed to each party shall be determined as follows: If that portion of the final budget to be assessed to the Parties is equal to or less than $20.00 per party then the cost shall be equally apportioned among the Parties. If that portion of the final budget to be assessed to Parties is greater than $20.00 per party then each Party shall be assessed a minimum of $20.00. The amount of revenue expected to be received through the foregoing minimum assessments shall be deducted from that portion of the final budget to be assessed to the Parties and the balance shall be assessed to the Parties having Allowed Pumping Allocation, such balance being divided among them proportionately in accordance with their respective Allowed Pumping Allocation.

Payment of the assessment provided for herein, subject to adjustment by the Court as provided, shall be made by each such party prior to beginning of the Administrative Year to which the assessment relates, or within 40 days after the mailing of the tentative budget, whichever is later. If such payment by any Party is not made on or before said date, the Administrative Body shall add a penalty of 5% thereof to such party's statement. Payment required of any Party hereunder

may be enforced by execution issued out of the Court, or as may be provided by order hereinafter made by the Court, or by other proceedings by the Watermaster or by any Party on the Watermaster's behalf.

Any money unexpended at the end of any Administrative Year shall be applied to the budget of the next succeeding Administrative Year. The Administrative Body shall maintain no reserves.

Notwithstanding the above, no part of the budget of the Administrative Body shall be assessed to WRD or to any Party who has not extracted water from Central Basin for a period of two successive Administrative Years prior to the Administrative Year in which the tentative budget should be mailed by the Administrative Body under the provisions of this subparagraph (4).

(5) Rules.

The Administrative Body may adopt, and amend from time to time, rules consistent with this Judgment as may be reasonably necessary to carry out duties under the provisions of this Judgment within its particular area of responsibility. The Body shall adopt its first set of rules and procedures within three (3) months following entry of this Third Amended Judgment. The rules shall be effective on such date after the mailing thereof to the Parties as is specified by the Body, but not sooner than thirty (30) days after such mailing.

B. The Central Basin Water Rights Panel.

The Central Basin Water Rights Panel of the Central Basin Watermaster ("Water Rights Panel") shall consist of seven (7) members, each of which is a Party. The term of each member of the Panel, with the exception of the seat held by the Small Water Producers Group, as provided herein, shall be limited to four years. The Court will make the initial appointments to the Central Basin Water Rights Panel upon motion by Parties consistent with the categories set forth below at or about the time of entry of this Third Amended Judgment, and shall establish a procedure for the staggered terms of such members. Thereafter, elections of members of the Panel shall be held as provided herein. One (1) such member of the Water Rights Panel shall be

elected by vote of the Small Water Producers Group conducted in accordance with its own procedures, provided such Group, as of the date of the election, consists of at least five (5) members who are Water Purveyors. One (1) such member of the Water Rights Panel shall be elected by vote of Parties with Allowed Pumping Allocation of less than 5,000 acre-feet who are not members of the Small Water Producers Group or, if the Small Water Producers Group does not then qualify following a continuous six-month period of non-qualification as provided herein, then two (2) such members shall be so selected. One (1) such member of the Water Rights Panel shall be elected by vote of Parties with Allowed Pumping Allocation of at least 5,000 acre-feet but less than 10,000 acre-feet. Three (3) such members of the Water Rights Panel shall be elected by vote of Parties with Allowed Pumping Allocation of 10,000 acre-feet or greater. One (1) such member of the Water Rights Panel shall be elected by a vote of all holders of Allowed Pumping Allocations, with each such holder being entitled to one vote, such member to be elected by a plurality of the votes cast, following a nomination procedure to be established in the Water Rights Panel's rules. In the event of a tie, the seventh member shall be determined as may be provided in the Water Rights Panel's rules, or otherwise by the court. Except as otherwise provided in this Section, each such rights holder shall have the right to cast a total number of votes equal to the number of acre-feet of its Allowed Pumping Allocation (rounded to the next highest whole number). With the exception of voting for the seventh member, Parties shall be entitled to vote only for candidates within the category(ies) that represent that Party's Allowed Pumping Allocation. For example, parties who are members of the Small Water Producers Group are entitled to vote only for the Small Water Producer Group member and the seventh member of the Water Rights Panel, and so on. Parties are not permitted to split votes. The results of such election shall be reported to the Court for confirmation of each member's appointment to the Water Rights Panel of Watermaster. The elected members of the Water Rights Panel shall be those candidates receiving the highest vote total in their respective categories. The Water Rights Panel shall hold its first meeting within thirty (30) days of the date this Third Amended Judgment becomes final. The Water Rights Panel shall develop rules for its operation consistent with this Judgment. The Water Rights Panel shall take action, including the

election of its Chair, by majority vote of its members. Election of the Chair shall occur every two years, with no Party serving as Chair for consecutive terms. Members of the Water Rights Panel shall serve without compensation. All references to Annual Pumping Allocation, as used herein, are as determined by the last published Watermaster report.

(1) The Water Rights Panel shall have the following duties and responsibilities:

(a) Enforcement of Adjudicated Rights. As against the other bodies of Watermaster, the Water Rights Panel shall have exclusive authority to move the Court to take such action as may be necessary to enforce the terms of the Judgment with regard to the extraction of Allowed Pumping Allocation and the maintenance of adjudicated groundwater extraction rights as provided in this Judgment.

(b) Requirement of Measuring Devices. The Water Rights Panel shall require all parties owning or operating any facilities for the extraction of groundwater from Central Basin to install and maintain at all times in good working order at such party's own expense, appropriate measuring devices at such times and as often as may be reasonable under the circumstances and to calibrate or test such devices.

(c) Inspections by Watermaster. The Water Rights Panel may make inspections of groundwater production facilities, including aquifer storage and recovery facilities, and measuring devices at such times and as often as may be reasonable under the circumstances and to calibrate or test such devices.

(d) Reports. Annually, the Water Rights Panel, in cooperation with the Administrative Body, shall report to the Court, concerning any or all of the following:

(i) Groundwater extractions

(ii) Exchange Pool operation

(iii) Status of the Regional Disadvantaged Community Incentive Program, if approved by the Court

(iv) Violations of this Judgment and corrective action taken or sought

(v) Change of ownership of Total Water Rights

(vi) Assessments made by the Water Rights Panel and any costs incurred

(vii) Whether the Water Rights Panel has become aware of the development of a Material Physical Harm, or imminent threat of the development of a Material Physical Harm, as required pursuant to Section IV(B) of this Judgment

(viii) Recommendations, if any.

As provided in Section II.A(3), the Water Rights Panel may adopt the annual report prepared by the Administrative Body, and submit the same to the Court, or the Water Rights Panel may prepare, adopt and submit to the Court a separate report. The Chair of the Water Rights Panel shall be responsible for reporting to the Court concerning adjudicated water rights issues in the Basin.

(2) Assessment. The Water Rights Panel shall assess holders of water rights within the Central Basin an annual amount not to exceed $1.00 per acre-foot of Allowed Pumping Allocation, by majority vote of the members of the Water Rights Panel. The body may assess a higher amount, subject to being overruled by Majority Protest. The assessment is intended to cover any costs associated with reporting responsibilities, any Judgment enforcement action, and the review of storage projects as a component of the "Storage Panel" as provided below. It is anticipated that this body will rely on the Administrative Body's staff for the functions related to the Administrative Body's responsibilities, but the

Water Rights Panel may engage its own staff if required in its reasonable judgment. Assessments will constitute a lien on the water right assessed, enforceable as provided in this Judgment.

(3) Rules. The Water Rights Panel may adopt and amend from time to time, at an open meeting of that Panel, rules consistent with this Judgment as may be reasonably necessary to carry out duties under the provisions of this Judgment within its particular area of responsibility. The Panel shall adopt its first set of rules and procedures within three (3) months following entry of this Third Amended Judgment. The rules shall be effective on such date after the mailing thereof to the Parties as is specified by the Panel, but not sooner than thirty (30) days after such mailing.

C. The Storage Panel.

The Storage Panel of the Central Basin Watermaster ("Storage Panel") shall be a bicameral body consisting of (i) the Water Rights Panel and (ii) the Board of Directors of WRD. Action by the Storage Panel shall require separate action by a majority of each of its constituent bodies. The Storage Panel shall have the duties and responsibilities specified with regard to the Provisions for the Storage and Extraction of Stored Groundwater as set forth in Part IV and the other provisions of this Judgment.

D. Use of Facilities and Data Collected by Other Governmental Agencies.

Where practicable, the three bodies constituting the Central Basin Watermaster should not duplicate the collection of data relative to conditions of the Central Basin which is then being collected by one or more governmental agencies, but where necessary each such body may collect supplemental data. Where it appears more economical to do so, the Watermaster and its constituent bodies are directed to use such facilities of other governmental agencies as are available to it under either no cost or cost agreements with respect to the receipt of reports, billings to parties, mailings to parties, and similar matters.

E. Appeal from Watermaster Decisions.

Appeals concerning the budget proposed by the Administrative Body shall be governed by Section II(A)(4) of this Judgment. Appeals concerning decisions by the Storage Panel shall be governed by Section IV(P) of this Judgment. With respect to all other objections by a Party to any action or decision by the Watermaster, such objections will be governed by this Section II(E). Any party interested therein who objects to any rule, determination, order or finding made by the Watermaster or any constituent body thereof, may object thereto in writing delivered to the Administrative Body within 30 days after the date the Watermaster, or any constituent body thereof, mails written notice of the making of such rule, determination, order or finding. Within 30 days after such delivery the Watermaster, or the affected constituent body thereof, shall consider said objection and shall amend or affirm his rule, determination, order or finding and shall give notice thereof to all parties. Any such party may file with the Court within 60 days from the date of said notice any objection to such rule, determination, order or finding of the Watermaster, or any constituent body thereof, and bring the same on for hearing before the Court at such time as the Court may direct, after first having served said objection upon all other parties. The Court may affirm, modify, amend or overrule any such rule, determination, order or finding of the Watermaster or its affected constituent body. Any objection under this paragraph shall not stay the rule, determination, order or finding of the Watermaster. However, the Court, by *ex parte* order, may provide for a stay thereof on application of any interested party on or after the date that any such party delivers to the Watermaster any written objection.

F. Effect of Non-Compliance by Watermaster With Time Provisions.

Failure of the Watermaster to perform any duty, power or responsibility set forth in this Judgment within the time limitation herein set forth shall not deprive the Watermaster or its applicable constituent body of authority to subsequently discharge such duty, power or responsibility, except to the extent that any such failure by the Watermaster may have rendered some otherwise required act by a party impossible.

G. Limitations on Administrative Body.

WRD shall not acquire Central Basin water rights, nor lease Central Basin water or water rights to or from any Party or third party. However, the foregoing shall (i) not be interpreted to restrict WRD's ability or authority to acquire water from any source for purposes of Artificial or Natural Replenishment or for water quality activities, and (ii) not restrict WRD's authority under California Water Code Section 60000 et seq. to develop reclaimed, recycled or remediated water for groundwater replenishment activities.

H. Regional Disadvantaged Communities Incentive Program.

The Water Rights Panel, acting through the General Manager of WRD, shall develop a Regional Disadvantaged Communities Incentive Program, pursuant to which a portion of the Community Storage Pool is reserved for the benefit of Disadvantaged Communities within the Central Basin. Nothing in this Judgment, nor the establishment of such a program, shall diminish the rights otherwise granted to Parties under this Judgment, including but not limited to the right to place water in storage in the Community Storage Pool. The Water Rights Panel shall meet within thirty (30) days of its formation to identify and consider potential third-party independent consultants who may be retained to design the program, including those recommended by the General Manager of WRD. The Water Rights Panel shall select a consultant within thirty (30) days thereafter. In the event the General Manager of WRD objects to the selected consultant, in writing, then the Water Rights Panel and the General Manager of WRD shall exchange a list of no more than two (2) consultants each for further consideration. If the Water Rights Panel and the General Manager of WRD are unable to agree to a consultant within an additional thirty (30) days, then the Chair of the Water Rights Panel shall file a request with the Court for an order appointing a consultant. Upon selection of a third-party independent consultant, whether through the Water Rights Panel process or the court process identified herein, the consultant shall design a detailed program and deliver it to the Water Rights Panel within ninety (90) days of the consultant's retention. All costs associated with design of the program shall be paid for out of the Water Rights

Panel's assessment, as provided in Section II.B(2). The Water Rights Panel shall present the program to the Court for its review and approval within one year of entry of this Third Amended Judgment. If approved by the Court, the Water Rights Panel, acting through the General Manager of WRD, shall be responsible for administration of the Regional Disadvantaged Communities Incentive Program, including insuring that any funds generated through the program benefit Disadvantaged Communities. Any Storage Project established pursuant to this Program shall have priority to use up to 23,000 acre-feet of Available Storage within the Community Storage Pool, as further provided in Section IV.E(2). Watermaster shall report to the Court concerning such program as a part of its annual report.

III. PROVISIONS FOR PHYSICAL SOLUTION TO MEET THE WATER REQUIREMENTS IN CENTRAL BASIN.

In order to provide flexibility to the injunction set forth in Part I of the Judgment, and to assist in a physical solution to meet water requirements in Central Basin, the injunction so set forth is subject to the following provisions.

A. Carryover of Portion of Allowed Pumping Allocation.

(1) Amount of Carryover.

Each party adjudged to have a Total Water Right or water rights and who, during a particular Administrative Year, does not extract from Central Basin a total quantity equal to such party's Allowed Pumping Allocation for the particular Administrative Year, less any allocated subscriptions by such party to the Exchange Pool, or plus any allocated requests by such party for purchase of Exchange Pool water, is permitted to carry over (the "One Year Carryover") from such Administrative Year the right to extract from Central Basin in the next succeeding Administrative Year so much of said total quantity as it did not extract in the particular Administrative Year, not to exceed (i) the Applicable Percentage of such party's Allowed Pumping Allocation for the particular Administrative

Year, or 20 acre-feet, whichever of said percentage or 20 acre-feet is the larger, less (ii) the total quantity of water then held in that party's combined Individual and Community Storage accounts, as hereinafter defined, but in no event less than 20% of the party's Allowed Pumping Allocation for the particular Administrative Year. For purposes of this Section, the "Applicable Percentage" shall be as follows for the years indicated:

For the Administrative Year in which this Third Amended Judgment becomes final:	30%
For the next Administrative Year:	40%
For the next Administrative Year:	50%
For the next Administrative Year and years following:	60%

(2) Conversion of Carryover to Stored Water.

A party having Carryover may, from time to time, elect to convert all or part of such party's Carryover to Stored Water as authorized herein ("Carryover Conversion") upon payment of the Replenishment Assessment to WRD. Such Stored Water shall be assigned to that party's Individual Storage Allocation, if available, and otherwise to the Community Storage Pool.

(3) Declared Water Emergency.

The Board of Directors of WRD may, from time to time, declare a water emergency upon a determination that conditions within the Central Basin relating to natural and imported water supplies are such that, without implementation of the Declared Water Emergency provisions of this subsection, the water resources of the Central Basin risk degradation. In making such declaration, the Board of Directors shall consider any information and requests provided by water producers, purveyors and other affected entities and shall, for that purpose, hold a public hearing in advance of such declaration. A Declared Water Emergency

shall extend to the end of the Administrative Year during which such resolution is adopted, unless sooner ended by similar resolution.

(4) Drought Carryover.

Following the declaration of a Declared Water Emergency and until the Declared Water Emergency ends either by expiration or by resolution of the Board of Directors of WRD, each party adjudged to have a Total Water Right or water rights and who, during a particular Administrative Year, does not extract from Central Basin a total quantity equal to such party's Allowed Pumping Allocation for the particular Administrative Year, less any allocated subscriptions by such party to the Exchange Pool, or plus any allocated requests by such party for purchase of Exchange Pool water, is permitted to carry over (the "Drought Carryover") from such Administrative Year the right to extract from Central Basin so much of said total quantity as it did not extract during the period of the Declared Water Emergency, to the extent such quantity exceeds the One Year Carryover, not to exceed an additional 35% of such party's Allowed Pumping Allocation, or additional 35 acre feet, whichever of said 35% or 35 acre feet is the larger, less the amount of such party's Stored Water. Carryover amounts shall first be allocated to the One Year Carryover and any remaining carryover amount for that year shall be allocated to the Drought Carryover.

(5) Accumulated Drought Carryover.

No further amounts shall be added to the Drought Carryover following the end of the Declared Water Emergency, provided however that in the event another Declared Water Emergency is declared, additional Drought Carryover may be added, to the extent such additional Drought Carryover would not cause the total Drought Carryover to exceed the limits set forth above. The Drought Carryover shall be supplemental to and shall not affect any previous drought carryover acquired by a party pursuant to previous order of the court.

B. When Over-Extractions May be Permitted.

(1) Underestimation of Requirements for Water.

Any party hereto without Stored Water, having an Allowed Pumping Allocation, and not in violation of any provision of this Judgment may extract in an Administrative Year an additional quantity of water not to exceed: (a) 20% of such party's Allowed Pumping Allocation or 20 acre feet, whichever is greater, and (b) any amount in addition thereto which may be approved in advance by the Water Rights Panel of Watermaster.

(2) Reductions in Allowed Pumping Allocations in Succeeding Years to Compensate for Permissible Overextractions.

Any such party's Allowed Pumping Allocation for the following Administrative Year shall be reduced by the amount over-extracted pursuant to paragraph 1 above, provided that if the Water Rights Panel determines that such reduction in the party's Allowed Pumping Allocation in one Administrative Year will impose upon such a party an unreasonable hardship, the said reduction in said party's Allowed Pumping Allocation shall be prorated over a period of five (5) Administrative Years succeeding that in which the excessive extractions by the party occurred. Application for such relief to the Water Rights Panel must be made not later than the 40th day after the end of the Administrative Year in which such excessive pumping occurred. The Water Rights Panel shall grant such relief if such over-extraction, or any portion thereof, occurred during a period of Declared Water Emergency.

(3) Reductions in Allowed Pumping Allocations for the Next Succeeding Administrative Year to Compensate for Overpumping.

Whenever, pursuant to Section III(B)(1), a party over-extracts in excess of such party's Allowed Pumping Allocation plus that party's available One-Year Carryover and any Stored Water held by that party, and such excess has not been approved in advance by the Water Rights Panel, then such party's Allowed Pumping Allocation for the following Administrative Year shall be reduced by an

amount equivalent to its total over-extractions in the particular Administrative Year in which it occurred.

(4) Reports of Certain Over-extractions to the Court.

Whenever a party over-extracts in excess of 20% of such party's Allowed Pumping Allocation for the particular Administrative Year plus that party's available One-Year Carryover and any Stored Water held by that party, without having obtained prior approval of the Water Rights Panel, such shall constitute a violation of the Judgment and the Water Rights Panel shall make a written report to the Court for such action as the Court may deem necessary. Such party shall be subject to such injunctive and other processes and action as the Court might otherwise take with regard to any other violation of such Judgment.

(5) Effect of Over-extractions on Rights.

Any party who over-extracts from Central Basin in any Administrative Year shall not acquire any additional rights by reason of such over-extractions; nor shall any required reductions in extractions during any subsequent years reduce the Total Water Right or water rights of any party to the extent said over-extractions are in compliance with paragraph 1 above.

(6) Pumping Under Agreement With Plaintiff During Periods of Emergency.

Plaintiff WRD overlies Central Basin and engages in activities of replenishing the groundwaters thereof. Plaintiff by resolution has appropriated for use during emergencies the quantity of 17,000 acre feet of imported and reclaimed water replenished by it into Central Basin, and pursuant to such resolution Plaintiff reserves the right to use or cause the use of such quantity during such emergency periods for the benefit of Water Purveyors.

(a) Notwithstanding any other provision of this Judgment, parties who are Water Purveyors (including successors in interest) are authorized to enter into agreements with Plaintiff for extraction of a

portion of Plaintiff's 17,000 acre-feet of appropriated water, in excess of their respective Allowed Pumping Allocations for the particular Administrative Year when the following conditions are met:

(i) Plaintiff is in receipt of a resolution of the Board of Directors of the Metropolitan Water District of Southern California ("MWD") that there is an actual or immediately threatened temporary shortage of MWD's imported water supply compared to MWD's needs, or a temporary inability to deliver MWD's imported water supply throughout its area, which will be alleviated by overpumping from Central Basin.

(ii) The Board of Directors of both Plaintiff and Central Basin Municipal Water District by resolutions concur in the resolution of MWD's Board of Directors, and the Board of Directors of Plaintiff finds in its resolution that the average minimum elevation of water surface among those wells in the Montebello Forebay of the Central Basin designated as Los Angeles County Flood Control District Wells Nos. 1601T, 1564P, 1615P, and 1626L, is at least 43.7 feet above sea level. This computation shall be based upon the most recent "static readings" taken, which shall have been taken not more than four weeks prior. Should any of the wells designated above become destroyed or otherwise be in a condition so that readings cannot be made, or should the owner prevent their use for such readings, the Board of Directors of the Plaintiff may, upon appropriate engineering recommendation, substitute such other well or wells as it

may deem appropriate.

(iii) In said resolution, Plaintiff's Board of Directors sets a public hearing, and notice of the time, place and date thereof (which may be continued from time to time without further notice) is given by First Class Mail to the current designees of the Parties, filed and served in accordance with Section VI(C) of this Judgment. Said notice shall be mailed at least five (5) days before the scheduled hearing date.

(iv) At said public hearing, parties (including successors in interest) are given full opportunity to be heard, and at the conclusion thereof the Board of Directors of Plaintiff by resolution decides to proceed with agreements under this Section III(B)(6).

(b) All such agreements shall be subject to the following requirements, and such others as Plaintiff's Board of Directors shall require:

(i) They shall be of uniform content except as to quantity involved, and any special provisions considered necessary or desirable with respect to local hydrological conditions or good hydrologic practice.

(ii) They shall be offered to all Water Purveyors, excepting those which Plaintiff's Board of Directors determines should not overpump because such overpumping would occur in undesirable proximity to a sea water barrier project designed to forestall sea water intrusion, or within or in undesirable proximity to an area within Central Basin wherein groundwater levels are at an

elevation where overpumping is under all the circumstances then undesirable.

(iii) The maximum terms for the agreements shall be four (4) months, which agreements shall commence on the same date and end on the same date (and which may be executed at any time within the four-month period), unless an extension thereof is authorized by the Court, under Part V of this Judgment.

(iv) They shall contain provisions requiring that the Water Purveyor executing the agreement pay to the Plaintiff a price in addition to the applicable replenishment assessment determined on the following formula. The normal price per acre-foot of Central Basin Municipal Water District's (CBMWD) treated domestic and municipal water, as "normal" price of such category of water is defined in Section III(C)(10) (price to be paid for Exchange Pool Water) as of the beginning of the contract term less the deductions set forth in said paragraph 10 for the Administrative Year in which the contract term commences. The agreement shall provide for adjustments in the first of said components for any proportional period of the contract term during which the CBMWD said normal price is changed, and if the agreement straddles two administrative years, the said deductions shall be adjusted for any proportionate period of the contract term in which the amount thereof or of either subcomponent changes for purposes of said paragraph 10. Any price for a partial acre-foot shall be computed pro rata. Payments shall be due and

payable on the principle that over extractions under the agreement are of the last water pumped in the Administrative Year, and shall be payable as the agreement shall provide.

(v) They shall contain provisions that: (1) All of such agreements (but not less than all) shall be subject to termination by Plaintiff if, in the Judgment of Plaintiff's Board of Directors, the conditions or threatened conditions upon which they were based have abated to the extent over extractions are no longer considered necessary; and (2) that any individual agreement or agreements may be terminated if the Plaintiff's Board of Directors finds that adverse hydrologic circumstances have developed as a result of over extractions by any Water Purveyor(s) which have executed said agreements, or for any other reason that Plaintiff's Board of Directors finds good and sufficient.

(c) Other matters applicable to such agreements and overpumping thereunder are as follows, without need for express provisions in the agreements;

(i) The quantity of overpumping permitted shall be additional to that which the Water Purveyor could otherwise overpump under this Judgment.

(ii) The total quantity of permitted overpumping under all said agreements during said four months shall not exceed seventeen thousand (17,000) acre feet, but the individual Water Purveyor shall not be responsible or affected by any violation of this requirement. That total is additional to over extractions otherwise permitted under

this Judgment.

(iii) Only one four month period may be utilized by Plaintiff in entering into such agreements, as to any one emergency or continuation thereof declared by MWD's Board of Directors under Section III(B)(6)(a).

(iv) If any party claims it is being damaged or threatened with damage by the over extractions by any party to such an agreement, the first party or the Water Rights Panel may seek appropriate action of the Court for termination of any such agreement upon notice of hearing to the party complaining, to the party to said agreement, to the plaintiff, and to any parties who have filed a request for special notice. Any termination shall not affect the obligation of the party to make payments under the agreement for over extractions which did occur thereunder.

(v) Plaintiff shall maintain separate accounting of the proceeds from payments made pursuant to agreements entered into under this Part. Said fund shall be utilized solely for purposes of replenishment in replacement of waters in Central Basin and West Basin. Plaintiff shall as soon as practicable cause replenishment in Central Basin by the amounts to be overproduced pursuant to this Paragraph 6, whether through spreading, injection, or in lieu agreements.

(vi) Over extractions pursuant to the agreements shall not be subject to the "make up" provisions of the Judgment as amended, provided that if any party fails to make payments as required by the agreement, Plaintiff may

require such "make up" under Section III(B)(3) of this Judgment.

(vii) A Water Purveyor under any such agreement may, and is encouraged to enter into appropriate arrangements with customers who have water rights in Central Basin under or pursuant to this Judgment whereby the Water Purveyor will be assisted in meeting the objectives of the agreement.

(7) Exemption for Extractors of Contaminated Groundwater.

Any party herein may petition WRD for a Non-consumptive Water Use Permit as part of a project to remedy or ameliorate groundwater contamination. If the petition is granted as set forth in this paragraph, the petitioner may extract the groundwater as permitted hereinafter, without the production counting against the petitioner's production rights.

(a) If the Board of WRD determines by Resolution that there is a problem of groundwater contamination that a proposed program will remedy or ameliorate, an operator may make extractions of groundwater to remedy or ameliorate that problem without the production counting against the petitioner's production rights if the water is not applied to beneficial surface use, its extractions are made in compliance with all the terms and conditions of the Board Resolution, and the Board has determined in the Resolution either of the following:

(i) The groundwater to be extracted is unusable and cannot be economically treated or blended for use with other water.

(ii) The proposed program involves extraction of usable water in the same quantity as will be returned to the

underground without degradation of quality.

(b) The Resolution may provide those terms and conditions the Board deems appropriate, including, but not limited to, restrictions on the quantity of the extractions to be so exempted, limitations on time, periodic reviews, requirement of submission of test results from a Board-approved laboratory, and any other relevant terms or conditions.

(c) Upon written notice to the operator involved, the Board may rescind or modify its Resolution. The rescission or modification of the Resolution shall apply to groundwater extractions occurring more than ten (10) days after the rescission or modification. Notice of rescission or modification shall be either mailed first class mail, postage prepaid, at least two weeks prior to the meeting of the Board at which the rescission or modification will be made to the address of record of the operator or personally delivered two weeks prior to the meeting.

(d) The Board's decision to grant, deny, modify or revoke a permit or to interrupt or stop a permitted project may be appealed to this court within thirty days of the notice thereof to the applicant and upon thirty days' notice to the designees of all parties herein.

(e) WRD shall monitor and periodically inspect the project for compliance with the terms and conditions for any permit issued pursuant to these provisions.

(f) No party shall recover costs from any other party herein in connection with determinations made with respect to this Part.

(8) "Call" on Carryover Converted to Stored Water.

Where any Party has elected, as permitted by Section III(A)(2), to convert Carryover to Stored Water, any other Party which has not, within the previous ten (10) years, been granted approval to extract Carryover Conversion under this

Section III(B)(8) more than five (5) times, may apply to the Storage Panel for the right to extract all or a portion of that Carryover Conversion in the year such Conversion occurs. The Storage Panel shall grant such request, providing there is no Material Physical Harm, if it determines that leased groundwater to meet the applicant's needs within the Basin cannot be obtained for less than forty-five percent (45%) of MWD's Imported Water rate for delivery of untreated water to the Central Basin spreading facilities (which rate is presently MWD's "Full Service Untreated Volumetric Cost, Tier 1"), and that the applicant will fully extract its Allowed Pumping Allocation, Carryover, and Stored Water, if any, in addition to its permitted overextraction under Section III(B)(1), prior to accessing such Carryover Conversion.

Upon such approval, the applicant may thereafter extract such water as provided herein. A Party so extracting groundwater shall fully restore such extracted water (either through under-extraction of its rights or through importing water) during the five-year period following the Year in which the extraction under this Section occurs. Otherwise, the extracting Party shall pay to the Watermaster an amount equal to 100% of MWD's Imported Water rate for purchase and delivery of untreated water to the Central Basin spreading facilities (which rate is presently MWD's "Full Service Untreated Volumetric Cost, Tier 1") whether or not such water is available that year, for the year during which is the fifth anniversary of the year during which such Carryover Conversion extraction occurs, multiplied by the amount of Carryover Conversion so extracted and not restored during such five-year period. Payment shall be made within thirty (30) days of demand by Watermaster. No Replenishment Assessment shall be due on Carryover Conversion so extracted. However, the Party must deposit with the Watermaster an amount equal to the Replenishment Assessment that would otherwise be imposed by WRD upon such extraction. If the party restores the water within the 5-year repayment period, then the Watermaster shall

promptly return the deposit to the Party, without interest. If the Party does not restore the water within the 5-year repayment period, the deposit shall be credited towards the Party's obligation to pay 100% of MWD's Imported Water rate as required herein.

Should there be multiple requests to so extract Carryover Conversion in the same year, the Storage Panel shall allocate such extraction right such that each requesting party may extract a pro rata portion of the available Carryover Conversion for that year. No party may extract in excess of 2,500 acre feet of groundwater pursuant to this Section III(B)(8) in a single Year. Amounts paid to Watermaster hereunder shall be used by WRD solely for purchase of water for replenishment in the Basin. Watermaster, through the Storage Panel, shall give reasonable notice to the Parties of any application to so extract Carryover Conversion in such manner as the Storage Panel shall determine, including, without limitation, notice by electronic mail or by website posting, at least ten (10) days prior to consideration of any such application.

C. Exchange Pool Provisions.

(1) Definitions.

For purposes of these Exchange Pool provisions, the following words and terms have the following meanings:

(a) "Exchange Pool" is the arrangement hereinafter set forth whereby certain of the parties, ("Exchangees") may, notwithstanding the other provisions of the Judgment, extract additional water from Central Basin to meet their needs, and certain other of the parties ("Exchangors"), reduce their extractions below their Allowed Pumping Allocations in order to permit such additional extractions by others.

(b) "Exchangor" is one who offers, voluntarily or otherwise, pursuant to subsequent provisions, to reduce its extractions below its Allowed Pumping Allocation in order to permit such additional

extractions by others.

(c) "Exchangee" is one who requests permission to extract additional water from Central Basin.

(d) "Undue hardship" means unusual and severe economic or operational hardship, other than that arising (i) by reason of any differential in quality that might exist between water extracted from Central Basin and water available for importation or (ii) by reason of any difference in cost to a party in subscribing to the Exchange Pool and reducing its extractions of water from Central Basin in an equivalent amount as opposed to extracting any such quantity itself.

(2) Parties Who May Purchase Water Through the Exchange Pool.

Any party not having existing facilities for the taking of imported water as of the beginning of any Administrative Year, and any party having such facilities as of the beginning of any Administrative Year who is unable, without undue hardship, to obtain, take, and put to beneficial use, through its distribution system or systems existing as of the beginning of the particular Administrative Year, imported water in a quantity which, when added to its Allowed Pumping Allocation for that particular Administrative Year, will meet its estimated needs for that particular Administrative Year, may purchase water from the Exchange Pool, subject to the limitations contained in this Section III(C) (Subpart "C" hereinafter).

(3) Procedure for Purchasing Exchange Pool Water.

Not later than the 40th day following the commencement of each Administrative Year, each such party desiring to purchase water from the Exchange Pool shall file with the Watermaster a request to so purchase, setting forth the amount of water in acre feet that such party estimates that it will require during the then current Administrative Year in excess of the total of:

(a) Its Allowed Pumping Allocation for that particular

Administrative Year; and

(b) The imported water, if any, which it estimates it will be able, without undue hardship, to obtain, take and put to beneficial use, through its distribution system or systems existing as of the beginning of that particular Administrative Year.

Any party who as of the beginning of any Administrative Year has existing facilities for the taking of imported water and who makes a request to purchase from the Exchange Pool must provide with such request substantiating data and other proof which, together with any further data and other proof requested by the Water Rights Panel, establishes that such party is unable without undue hardship, to obtain, take and put to beneficial use through its said distribution system or systems a sufficient quantity of imported water which, when added to its said Allowed Pumping Allocation for the particular Administrative Year, will meet its estimated needs. As to any such party, the Water Rights Panel shall make a determination whether the party has so established such inability, which determination shall be subject to review by the court under the procedure set forth in Part II of this Judgment. Any party making a request to purchase from the Exchange Pool shall either furnish such substantiating data and other proof, or a statement that such party had no existing facilities for the taking of imported water as of the beginning of that Administrative Year, and in either event a statement of the basis for the quantity requested to be purchased.

(4) Subscriptions to Exchange Pool:

(a) Required Subscription. Each party having existing facilities for the taking of imported water as of the beginning of any Administrative Year hereby subscribed to the Exchange Pool for purposes of meeting Category (a) requests thereon, as more particularly defined in paragraph 5 of this Subpart C, twenty percent

(20%) of its Allowed Pumping Allocation, or the quantity of imported water which it is able, without undue hardship, to obtain, take and put to beneficial use through its distribution system or systems existing as of the beginning of the particular Administrative Year in addition to such party's own estimated needs for imported water during that Administrative Year, whichever is the lesser. A party's subscription under this subparagraph (a) and subparagraph (b) of this paragraph 4 is sometimes hereinafter referred to as a "required subscription."

(b) Report to Watermaster Water Rights Panel by Parties with Connections and Unable to Subscribe 20%. Any party having existing facilities for the taking of imported water and estimating that it will be unable, without undue hardship, in that Administrative Year to obtain, take and put to beneficial use through its distribution system or systems existing as of the beginning of that Administrative Year, sufficient imported water to further reduce its extractions from the Central Basin by twenty percent (20%) of its Allowed Pumping Allocation for purposes of providing water to the Exchange Pool must furnish not later than the 40th day following the commencement of such Administrative Year substantiating data and other proof which, together with any further data and other proof requested by the Water Rights Panel, establishes said inability or such party shall be deemed to have subscribed twenty percent (20%) of its Allowed Pumping Allocation for the purpose of providing water to the Exchange Pool. As to any such party so contending such inability, the Water Rights Panel shall make a determination whether the party has so established such inability, which determination shall be subject to review by the Court under the procedure set forth in Part II of this Judgment.

(c) Voluntary Subscriptions. Any party, whether or not having

facilities for the taking of imported water, who desires to subscribe to the Exchange Pool a quantity or further quantity of its Allowed Pumping Allocation, may so notify the Water Rights Panel in writing of the quantity of such offer on or prior to the 40th day following the commencement of the particular Administrative Year. Such subscriptions are referred to hereinafter as "voluntary subscriptions." Any Exchangor who desires that any part of its otherwise required subscription not needed to fill Category (a) requests shall be available for Category (b) requests may so notify the Water Rights Panel in writing on or prior to said 40th day. If all of that Exchangor's otherwise required subscription is not needed in order to fill Category (a) requests, the remainder of such required subscription not so used, or such part thereof as such Exchangor may designate, shall be deemed to be a voluntary subscription.

(5) Limitations on Purchases of Exchange Pool Water and Allocation of Requests to Purchase Exchange Pool Water Among Exchangors.

(a) Categories of Requests. Two categories of Exchange Pool requests are established as follows:

(i) Category (a) requests. The quantity requested by each Exchangee, whether or not that Exchangee has an Allowed Pumping Allocation, which quantity is not in excess of 150% of its Allowed Pumping Allocation, if any, or 100 acre feet, whichever is greater. Requests or portions thereof within the above criteria are sometimes hereinafter referred to as "Category (a) requests."

(ii) Category (b) requests. The quantity requested by each Exchangee having an Allowed Pumping Allocation to the extent the request is in excess of 150% of that Allowed

Pumping Allocation or 100 acre feet, whichever is greater, and the quantity requested by each Exchangee having no Allowed Pumping Allocation to the extent the request is in excess of 100 acre feet. Portions of requests within the above criteria are sometimes hereinafter referred to as "Category (b) requests."

(b) Filling of Category (a) Requests. All Exchange Pool subscriptions, required and voluntary, shall be available to fill Category (a) requests. Category (a) requests shall be filled first from voluntary subscriptions, and if voluntary subscriptions should be insufficient to fill all Category (a) requests required subscriptions shall be then utilized to fill Category (a) requests. All Category (a) requests shall be first filled before any Category (b) requests are filled.

(c) Filling of Category (b) Requests. To the extent that voluntary subscriptions have not been utilized in filling Category (a) requests, Category (b) requests shall be filled only out of any remaining voluntary subscriptions. Required subscriptions will then be utilized for the filling of any remaining Category (b) requests.

(d) Allocation of Requests to Subscriptions When Available Subscriptions Exceed Requests. In the event the quantity of subscriptions available for any category of requests exceeds those requests in that category, or exceeds the remainder of those requests in that category, such requests shall be filled out of such subscriptions proportionately in relation to the quantity of each subscription.

(e) Allocation of Subscriptions to Category (b) Requests in the Event of Shortage of Subscriptions. In the event available subscriptions are insufficient to meet Category (b) requests, available subscriptions shall be allocated to each request in the proportion that

the particular request bears to the total requests of the particular category.

(6) Additional Voluntary Subscriptions.

If subscriptions available to meet the requests of Exchangees are insufficient to meet all requests, additional voluntary subscriptions may be solicited and received from parties by the Water Rights Panel. Such additional subscriptions shall be allocated first to Category (a) requests to the extent unfilled, and next to Category (b) requests to the extent unfilled. All allocations are to be otherwise in the same manner as earlier provided in paragraph 5 (a) through 5 (e) inclusive.

(7) Effect if Category (a) Requests Exceed Available Subscriptions, Both Required and Voluntary.

In the event that the quantity of subscriptions available to fill Category (a) requests is less than the total quantity of such requests, the Exchangees may, nonetheless, extract the full amount of their Category (a) requests otherwise approved by the Water Rights Panel as if sufficient subscriptions were available. The amounts received by the Water Rights Panel on account of that portion of the approved requests in excess of the total quantities available from Exchangors shall be paid by the Water Rights Panel to WRD in trust for the purpose of purchasing imported water and spreading the same in Central Basin for replenishment thereof. Thereafter WRD may, at any time, withdraw said funds or any part thereof so credited in trust for the aforesaid purpose, or may by the 40th day of any Administrative Year utilize all or any portion of said funds for the purchase of water available from subscriptions by Exchangors in the event the total quantity of such subscriptions exceeds the total quantity of approved requests by parties to purchase Exchange Pool water. To the extent that there is such an excess of available subscriptions over requests and to the extent that the existing credit in favor of WRD is sufficient to purchase such excess quantity at

the price established for Exchange Pool purchases during that Administrative Year, the money shall be paid to the Exchangors in the same manner as if another party had made such purchase as an Exchangee. WRD shall not extract any such Exchange Pool water so purchased.

(8) Additional Pumping by Exchangees Pursuant to Exchange Pool Provisions.

An Exchangee may extract from Central Basin in addition to its Allowed Pumping Allocation for a particular Administrative Year that quantity of water which it has requested to purchase from the Exchange Pool during that Administrative Year and which has been allocated to it pursuant to the provisions of paragraphs 5, 6 and 7. The first pumping by an Exchangee in any Administrative Year shall be deemed to be pumping of the party's allocation of Exchange Pool water.

(9) Reduction in Pumping by Exchangors.

Each Exchangor shall in each Administrative Year reduce its extractions of water from Central Basin below its Allowed Pumping Allocation for the particular year in a quantity equal to the quantity of Exchange Pool requests allocated to it pursuant to the provisions of paragraphs 4, 5, 6 and 7 of this Subpart C.

(10) Price to be Paid for Exchange Pool Water.

The price to be paid by Exchangees and to be paid to Exchangors per acre foot for required and voluntary subscriptions of Exchangors utilized to fill requests on the Exchange Pool by Exchangees shall be the dollar amount computed as follows by the Water Rights Panel for each Administrative Year. The "normal" price as of the beginning of the Administrative Year charged by Central Basin Municipal Water District (CBMWD) for treated MWD (Metropolitan Water District of Southern California) water used for domestic and municipal purposes shall be determined, and if on that date there are any changes

scheduled during that Administrative Year in CBMWD's "normal" price for such category of water, the weighted daily "normal" CBMWD price shall be determined and used in lieu of the beginning such price; and there shall be deducted from such beginning or weighted price, as the case may be, the "incremental cost of pumping water in Central Basin" at the beginning of the Administrative Year and any then current rate or rates, of assessments levied on the pumping of groundwater in Central Basin by Plaintiff District and any other governmental agency. The "normal" price charged by CBMWD shall be the highest price of CBMWD for normal service excluding any surcharge or higher rate for emergency deliveries or otherwise failing to comply with CBMWD rates and regulations relating to earlier deliveries. The "incremental cost of pumping water in Central Basin" as of the beginning of the Administrative Year shall be deemed to be the Southern California Edison Company Schedule No. PA-1 rate per kilowatt-hour, including all adjustments and all uniform authorized additions to the basic rate, multiplied by 560 kilowatt-hours per acre-foot, rounded to the nearest dollar (which number of kilowatt-hours has been determined to represent the average energy consumption to pump an acre-foot of water in Central Basin). In applying said PA-1 rate the charge per kilowatt-hour under the schedule shall be employed and if there are any rate blocks then the last rate block shall be employed. Should a change occur in Edison schedule designations, the Water Rights Panel shall employ that applicable to motors used for pumping water by municipal utilities.

(11) Carry-over of Exchange Pool Purchases by Exchangees.

An Exchangee who does not extract from Central Basin in a particular Administrative Year a quantity of water equal to the total of (a) its Allowed Pumping Allocation for that particular Administrative Year, reduced by any authorized amount of carryover into the next succeeding Administrative Year pursuant to the provisions of Section III(A) of this Judgment, and (b) the quantity

that it purchased from the Exchange Pool for that particular Administrative Year, may carry over into the next succeeding Administrative Year the right to extract from Central Basin a quantity equal to the difference between said total and the quantity actually extracted in that Administrative Year, but not exceeding the quantity purchased from the Exchange Pool for that Administrative Year. Any such carryover shall be in addition to that provided in said Section III(A).

If the "Basinwide Average Exchange Pool Price" in the next succeeding Administrative Year exceeds the "Exchange Pool Price" in the previous Administrative Year any such Exchangee exercising such carryover rights hereinabove provided shall pay to the Watermaster, forthwith upon the determination of the "Exchange Pool Price" in said succeeding Administrative Year, and as a condition to such carryover rights, an additional amount determined by multiplying the number of acre feet of carryover by the difference in "Exchange Pool Price" as between the two Administrative Years. Such additional payment shall be miscellaneous income to the Watermaster which shall be applied by it against that share of the Watermaster's Administrative Body's budget to be paid by the parties to this Agreement for the second Administrative Year succeeding that in which the Exchange Pool water was so purchased. For purposes of this paragraph, the term Basinwide Average Exchange Pool Price means the average price per acre foot paid for Exchange Pool water produced within the Central Basin during the year for which such determination is to be made, taking into account all Exchange Pool transactions consummated during that year.

(12) Notification by Watermaster to Exchangors and Exchangees of Exchange Pool Requests and Allocations Thereof and Price of Exchange Pool Water.

Not later than the 65th day after the commencement of each Administrative Year, the Administrative Body of Watermaster shall determine

and notify all Exchangors and Exchangees of the total of the allocated requests for Exchange Pool water and shall provide a schedule divided into categories of requests showing the quantity allocated to each Exchangee and a schedule of the allocation of the total Exchange Pool requirements among the Exchangors. Such notification shall also advise Exchangors and Exchangees of the prices to be paid to Exchangors for subscriptions utilized and the Exchange Pool Price for that Administrative Year as determined by the Water Rights Panel. The determinations of the Watermaster in this regard shall be subject to review by the Court in accordance with the procedure set forth in Part II of this Judgment.

(13) Payment by Exchangees.

Each Exchangee shall, on or prior to last day of the third month of each Administrative Year, pay to the Watermaster one-quarter of said price per acre-foot multiplied by the number of acre feet of such party's approved request and shall, on or before the last day of each of the next succeeding three months, pay a like sum to the Watermaster. Such amounts must be paid by each Exchangee regardless of whether or not it in fact extracts or uses any of the water it has requested to purchase from the Exchange Pool.

(14) Payments to Exchangors.

As soon as possible after receipt of moneys from Exchangees, the Watermaster shall remit to the Exchangors their pro rata portions of the amount so received in accordance with the provisions of paragraph 10 above.

(15) Delinquent Payments.

Any amounts not paid on or prior to any due date above shall carry interest at the rate of 1% per month or any part of a month. Any amounts required to be so paid may be enforced by the equitable powers of the Court, including, but not limited to, the injunctive process of the Court. In addition thereto, the Watermaster, as Trustee for the Exchangors and acting through the Water Rights Panel, may enforce such payment by any appropriate legal action, and shall be

entitled to recover as additional damages reasonable attorneys' fees incurred in connection therewith. If any Exchangee shall fail to make any payments required of it on or before 30 days after the last payment is due, including any accrued interest, said party shall thenceforward not be entitled to purchase water from the Exchange Pool in any succeeding Administrative Year except upon order of the Court, upon such conditions as the Court may impose.

IV. PROVISIONS FOR THE STORAGE OF WATER AND THE EXTRACTION OF STORED WATER.

A. Adjudication of Available Dewatered Space, Storage Capacity and Storage Apportionment.

There exists within the Basin a substantial amount of available space which has not been optimally utilized for basin management and for storage of native and imported waters. The Court finds and determines that (i) there is 330,000 acre feet of Available Dewatered Space in the Basin; (ii) use of this Available Dewatered Space will increase reasonable and beneficial use of the Basin by permitting the more efficient procurement and management of Replenishment Water, conjunctive use, and for direct and in-lieu recharge, thereby increasing the prudent storage and recovery of Stored Water for later use by parties to this Judgment, conservation of water and reliability of the water supply available to all Parties; and (iii) use of the Available Dewatered Space pursuant to the terms and conditions of this Judgment will not result in Material Physical Harm.

B. Avoidance of Material Physical Harm.

It is essential that the use of the Available Dewatered Space be undertaken for the greatest public benefit pursuant to uniform, certain, and transparent regulation that encourages the conservation of water and reliability of the water supply, avoids Material Physical Harm, and promotes the reasonable and beneficial use of water. Accordingly, in the event Watermaster becomes aware of the development of a Material Physical Harm, or imminent threat of the development of a Material Physical Harm, relating to the

use of the Available Dewatered Space, Watermaster shall, within thirty (30) days thereafter, notice a hearing before the Court and concurrently file a report with the Court, served on all parties, which shall explain the relevant facts then known to Watermaster relating to the Material Physical Harm, or imminent threat thereof, including without limitation, the location of the occurrence, the source or cause, existing and potential physical impacts or consequences of the identified or threatened material Physical Harm, and any recommendations to remediate the identified or threatened Material Physical Harm.

C. Apportionment of Available Dewatered Space.

To fairly balance the needs of the divergent interests of parties having water rights in the Basin, on the one hand, and the replenishment functions of WRD on the other hand, and in consideration of the shared desire and public purpose of removing impediments to the voluntary conservation, storage, exchange and transfer of water, all of the Available Dewatered Space is hereby adjudicated and apportioned into complimentary classifications of Stored Water and a Basin Operating Reserve as set forth in this Part IV. The apportionment contemplates flexible administration of storage capacity where use is apportioned among competing needs, while allowing all Available Dewatered Space to be used from time to time on a "space available" basis, subject to the priorities specified in this Judgment, and as further defined in Section IV(I) of this Judgment. The Court further finds and determines that, of the Available Dewatered Space, there is 220,000 acre-feet of storage capacity in the Central Basin which is presently available ("Adjudicated Storage Capacity"). The use of Adjudicated Storage Capacity as provided in this Judgment will not adversely affect the efficient operation of the Basin or the recharge of water necessary for the production of the parties' respective Allowed Pumping Allocations. The apportionment of Adjudicated Storage Capacity as provided herein will allow for flexible administration of groundwater storage within the Basin. The Adjudicated Storage Capacity is hereby assigned to Individual Storage Allocations and Community Storage as provided herein, provided however that if all

space in a particular classification is fully occupied then, on a "space available" basis, to available space within the other classifications of Adjudicated Storage Capacity and, only then, to available space within Basin Operating Reserve.

The Court further finds and determines that, out of the Available Dewatered Space, there is 110,000 acre feet that should be set aside for use by WRD as a Basin Operating Reserve, provided in Section IV(L), and subject to temporary occupancy by Stored Water as permitted hereunder.

No storage of water shall occur in the Basin except in conformity with this Judgment.

D. Individual Storage Allocation.

Each Party having an adjudicated groundwater extraction right hereunder shall have a priority right to store water in an Individual Storage Account, through conversion of Carryover to Stored Water as provided herein, or by any means authorized by this Judgment, up to a maximum of 50% of such party's Allowed Pumping Allocation. The cumulative quantity of Adjudicated Storage Capacity subject to individual storage allocation is 108,750 acre-feet. In recognition of prior importation of water which was introduced into the Basin as Stored Water, and which has not yet been extracted, the Court finds and determines that, as of the date of this Order, the following Parties have occupied a portion of their respective Individual Storage Allocations and have all associated rights therein, as follows:

City of Long Beach:	13,076.8 acre-feet
City of Lakewood:	500 acre-feet
City of Downey:	500 acre-feet
City of Cerritos	500 acre-feet

E. Community Storage; Regional Disadvantaged Communities Incentive Program.

In addition to Individual Storage Allocation, a Party that has fully occupied its Individual Storage allocation may, on a first in time, first in right basis (subject to the

limits expressed below) place water into storage in the "Community Storage Pool." The cumulative quantity of Adjudicated Storage Capacity allocated to Community Storage shall be 111,250 acre-feet. So long as there is available capacity in the Community Storage Pool, any Party may store water in the Community Storage Pool through conversion of Carryover to Stored Water as provided herein, or by any other means authorized by this Judgment, provided such Party has first fully occupied that party's available Individual Storage Allocation.

(1) Parties to this Judgment which, as of January 1, 2013, held Allowed Pumping Allocation of not greater than 5,000 acre-feet shall have a first priority right to occupy, in the aggregate, up to 10,000 acre-feet of storage space within the Central Basin Community Storage Pool, on the basis of first in time, first in right.

(2) Water stored pursuant to the Regional Disadvantaged Communities Incentive Program shall have a second priority right to occupy up to 23,000 acre-feet within the Community Storage Pool, on such terms as shall be determined by the Court.

(3) Any further storage in excess of the maximum quantity of Community Storage will be on a "space-available" interim basis. From time to time, and on a "space-available" basis, the total quantity of water available for storage is permitted to exceed Adjudicated Storage Capacity for the Community Storage Pool on an interim basis. This interim storage may occur if storage capacity exists as a result of unused Adjudicated Storage Capacity within other classifications, or available space exists in the Basin Operating Reserve. Such interim storage, however, is subject to priority rights to such Dewatered Space as provided in this Judgment. A party that seeks to convert the water temporarily held in interim storage to a more firm right, may contract for the use of another party's Individual Storage Allocation, or may add such water to the Community Storage Pool once space therein becomes available.

(4) After a party occupies available storage capacity within the Community Storage Pool and then withdraws water from the Community Storage Pool, the storing party will be allowed a period of twenty-four (24) months to refill the evacuated storage before the capacity will be determined excess and available for use by other parties. Once the Basin's Community Storage Pool has been filled for the first time, a party may exercise its twenty-four (24) month refill priority only once, and then only provided there is then capacity available to permit that party to refill the vacated space. Except to the extent Community Storage space may be subject to such priority right to re-fill, all space therein shall be occupied on a first in time, first in right basis.

(5) A party that has occupied storage in the Community Storage Pool for ten (10) consecutive years shall be deemed to extract its Stored Water first in subsequent years (notwithstanding the order of water production set forth in Section I(B)(3)) until its entire Community Storage account has been extracted, but thereafter may again make use of Community Storage on the same terms available to other parties on a first in time, first in right, space-available basis.

(6) Any quantity of water held in the Community Storage Pool for a term greater than ten (10) consecutive years shall be assessed an annual water loss equal to 5% of the lowest quantity of water held within the party's Community Storage Pool account at any time during the immediately preceding ten-year period. The lowest quantity means the smallest amount of water held by the Party in the Community Storage Pool during any of the preceding ten (10) years, with a new loss calculation being undertaken every year. Water subject to the loss assessment will be deemed dedicated to the Basin Operating Reserve in furtherance of the physical solution without compensation. Water lost to the Basin shall constitute water replenished into the Central Basin for the benefit of all parties

F. Limit on Storage.

Irrespective of the category of storage utilized, each party to this Judgment may not cumulatively have in storage at any time Stored Water totaling more than two hundred percent (200%) of that party's Allowed Pumping Allocation. Subject to the foregoing, the right to produce Stored Water may be freely transferred to another party to this Judgment, or as otherwise permitted herein.

G. Extractions of Stored Water; Exemption from Replenishment Assessment.

The Court finds and declares that the extraction of Stored Water as permitted hereunder does not constitute "production of groundwater" within the meaning of Water Code Section 60317 and that no Replenishment Assessment shall be levied on the extraction of Stored Water. WRD has stipulated to the same. This determination reflects the practical application of certain provisions of this Judgment concerning storage of water, including, without limitation, understanding the following: (1) payment of the Replenishment Assessment is required upon the conversion of Carryover Water into storage, and; (2) developed water introduced into the Basin for storage by or on behalf of a Party through spreading or injection need not be replenished by WRD and should not be subject to the Replenishment Assessment.

H. Storage Procedure.

The Administrative Body shall (i) prescribe forms and procedures for the orderly reporting of Stored Water, (ii) maintain records of all water stored in the Basin, and (iii) undertake monitoring and modeling of Stored Water as may be reasonably required. As to any Storage Projects that will require review and approval by the Storage Panel, the Administrative Body shall provide appropriate applications, and shall work with project applicants to complete the application documents for presentation to the Storage Panel. The Administrative Body shall be responsible for conducting any groundwater modeling necessary to evaluate a proposed Storage Project. The proponent of a proposed project will bear all costs associated with the review of the application for approval of the project and all costs associated with its implementation. Nothing in this Judgment shall alter the applicant(s) duty to comply with CEQA or to meet other legal requirements as to any

proposed Storage Project. Within thirty (30) days after final submission of the storage application documents, the Administrative Body shall provide notice of the storage application (either by electronic mail or U.S. postal mail), together with a copy of the application documents, to all parties possessing an Allowed Pumping Allocation, and to any other person requesting notice thereof. Following notice, any necessary hearings before the Storage Panel shall be conducted as provided in Section IV(O) of this Judgment.

I. Loss of Stored Water/Relative Priority.

To balance the need to protect priority uses of storage and to encourage the full utilization of Adjudicated Storage Capacity and Basin Operating Reserve where it can be accommodated without interference with priority uses, and except as otherwise provided in this Judgment, no water held in any authorized storage account will be deemed lost from that storage account unless the cumulative quantity of water held as Stored Water plus the quantity of water held within the Basin Operating Reserve exceeds 330,000 acre-feet. Where all Adjudicated Storage Capacity and Basin Operating Reserve has been occupied, the first Stored Water to be deemed lost shall be the last water stored as Community Storage. Upon receipt of a bona fide request by another use entitled to priority hereunder, Watermaster shall issue a notice requiring the other parties to evacuate their Stored Water. Any Stored Water that is not evacuated shall be deemed dedicated to the Basin Operating Reserve in furtherance of the physical solution without compensation and accounted for accordingly.

J. Limits on Extraction.

Anything in this Judgment to the contrary notwithstanding, no party shall extract greater than 140% of the sum of (i) the party's Allowed Pumping Allocation and (ii) the party's leased water, except upon prior approval by the Water Rights Panel. For this purpose, a party's total extraction right for a particular year shall include that party's Allowed Pumping Allocation and any contractual right through lease or other means to utilize the adjudicated rights of another party. Where such proposed extraction would

occur within the Central Basin Pressure Area as defined by Watermaster consistent with historical records, the Water Rights Panel shall submit such request for review by the Board of WRD. The Water Rights Panel shall not approve any request for over-extraction within the Pressure Area without a written finding by the Board of WRD that such over-extraction will not cause Material Physical Harm. The role of the Board of WRD in this process shall not be read to expand or restrict WRD's statutory authority. Consideration shall be on an expedited basis.

K. Increased Extractions in the Central Basin for Certain Water Purveyors.

(1) This Court also maintains continuing jurisdiction over the West Coast Basin, which bounds the Central Basin to the west.

(2) Certain Water Purveyors are parties to both this Amended Judgment and the judgment governing the West Coast Basin and serve communities overlying both the Central Basin and the West Coast Basin.

(3) Certain Water Purveyors may exceed their Allowed Pumping Allocation in any Administrative Year, subject to all of the following conditions:

(a) The Water Purveyor is one of the following eligible Parties:

(i) City of Los Angeles

(ii) Golden State Water Company

(iii) California Water Service Company.

(b) Increased extractions pursuant to this Section shall not exceed 5,000 acre-feet per Water Purveyor for the particular Administrative Year.

(c) Increased extractions pursuant to this Section shall not exceed the Water Purveyor's unused "Adjudicated Rights" in the West Coast Basin.

(d) Increased extractions pursuant to this Section shall not result in Material Physical Harm.

(4) Notwithstanding the foregoing, nothing herein permits extraction

of water within the Central Basin in excess of 140% of Allowed Pumping Allocation for the particular Administrative Year, except as otherwise permitted under this Judgment.

(5) Replenishment of any water extracted from the Central Basin pursuant to this Section shall occur exclusively in the Central Basin.

(6) The benefits of this Section are made available only to the certain Water Purveyors that serve communities overlying the Central Basin and communities overlying the West Basin, in recognition of the management of water resources by those Water Purveyors to serve such overlying communities. It is not made, nor is it related to, a determination of an underflow between the basins, a cost or benefit allocation, or any other factor relating to the allocation of the Replenishment Assessment.

L. Special Provisions for Temporary Storage within Community Storage Pool.

The Central Basin Municipal Water District ("CBMWD") shall take such action as may be necessary to reduce its Allowed Pumping Allocation to five (5) acre-feet or fewer by December 31, 2018, and has agreed, by stipulation, not to acquire any additional Central Basin water rights. Upon application by CBMWD, the Storage Panel may, after making each of the findings required in this subsection, approve storage of water by CBMWD within the Community Storage Pool subject to the stated conditions. The Storage Panel may only authorize such storage after finding each of the following to be true as of the date of such approval:

(1) CBMWD (a) then owns five (5) acre-feet or fewer of Allowed Pumping Allocation, and (b) has not produced water utilizing any extraction rights it holds within the Basin but has only engaged in the sale or leasing of those rights to others.

(2) There is available space for Storage within the Community Storage

Pool.

(3) CBMWD has identified a source of imported water that may be brought into the Basin and stored underground.

(4) The water identified for storage (a) is unlikely to be acquired by other parties through surface delivery for use within the Basin, and (b) was offered to WRD to purchase for replenishment purposes at the same price that CBMWD otherwise sells imported water to WRD and WRD declined to purchase said water, within a reasonable period of time.

(5) There will be no Material Physical Harm associated with the introduction of the water into storage, or its extraction, in the manner approved by the Storage Panel.

The condition expressed in Section IV(L)(1)(a) above shall not be operative until January 1, 2019, or upon reduction of CBMWD's Allowed Pumping Allocation to five (5) acre-feet or fewer, whichever first occurs. CBMWD may not extract the Stored Water, and may instead only transfer that Stored Water to a party having extraction rights, or to WRD for replenishment purposes only. Such Stored Water not so transferred within three (3) years following its storage may be purchased by WRD, at its option, for replenishment purposes only, at a price not exceeding the actual cost incurred by CBMWD in importing and storing the water in the first instance, plus a reasonable administrative charge for overhead not exceeding five percent (5%) of the price paid by CBMWD for the water with no other fees or markups imposed by CBMWD. Except as otherwise permitted in this Section, any such Stored Water held by CBMWD for a term greater than three (3) years shall be assessed an annual water loss equal to 10% of the amount of such Stored Water at the end of each year. Water subject to the loss

assessment will be deemed dedicated to the Basin Operating Reserve in furtherance of the physical solution without further compensation. The Storage Panel shall grant CBMWD one or more extensions of such term, not exceeding total extensions of three (3) additional years, following public hearing, if the Storage Panel determines that the Stored Water has been actively marketed by CBMWD for transfer to Parties on reasonable terms in the previous year. The Storage Panel may impose such additional reasonable conditions as it determines to be appropriate. Any review by the Storage Panel hereunder shall only occur at a public hearing held following at least 15 days' (but not more than 30 days') mailed notice to all Parties to this Judgment, at which hearing an opportunity for public comment shall be afforded in advance of any such decision. However, the Storage Panel may consider an application on shorter notice under exigent circumstances, including the potential loss of the water proposed to be stored if action is not taken sooner. CBMWD shall have the right to appeal any action or inaction by the Storage Panel to this court. The storage and extraction of Stored Water hereunder shall otherwise be subject to all other provisions of this Judgment. The court finds and declares that this subsection constitutes a "court order issued by a court having jurisdiction over the adjudication of groundwater extraction rights within the groundwater basin where storage is sought" within the meaning of Water Code §71610(b)(2)(B). Nothing in this provision impedes CBMWD's ability to store water pursuant to a contract with an adjudicated groundwater extraction rights holder as permitted by Water Code § 71610(b)(2)(A) and otherwise in accordance with this Judgment.

M. Basin Operating Reserve.

It is in the public interest and in furtherance of the physical solution for WRD to prudently exercise its statutory discretion to purchase, spread, and inject Replenishment Water, to provide for in-lieu replenishment, and otherwise to fulfill its replenishment function within the Basin as provided in Water Code Section 60000 et. seq. Hydrologic,

regulatory and economic conditions now prevailing within the State require that WRD be authorized to exercise reasonable discretion and have flexibility in the accomplishment of its replenishment function. Accordingly, WRD may pre-purchase or defer the purchase of Replenishment Water, and may otherwise purchase and manage available sources of Replenishment Water under the most favorable climatic and economic conditions as it may determine reasonable and prudent under the circumstances. It is the intent of the parties to preserve space for such replenishment activities, including capture of natural inflows during wet years, recapture of water when possible, and artificial replenishment when water is available at discounted rate, for the benefit of the Basin and the parties to the Judgment. The Basin Operating Reserve is intended to allow WRD to meet its replenishment needs to make APA available for extraction by all water rights holders. Accordingly, WRD shall have a priority right to occupy up to 110,000 acre-feet of the Available Dewatered Space as the "Basin Operating Reserve" for the acquisition and replenishment of water, or to ensure space remains available in the Basin to capture natural inflows during wet years for the benefit of the parties to the Judgment, to offset over-production. The priority right is not intended to allow WRD to sell or lease stored water, storage, or water rights. To the extent WRD does not require the use of all of such Basin Operating Reserve, that portion of the Basin Operating Reserve that is not then being used shall be available to other Parties to store water on a temporary and space-available basis. No Party may use any portion of the Basin Operating Reserve for space-available storage unless that Party has already maximized its allowed Storage pursuant to its Individual Storage Allocation and all available Community Storage is already in use. WRD's failure to use any portion of its Basin Operating Reserve shall not cause forfeiture or create a limitation of its right to make use of the designated space in the future. WRD's first priority right to this category of space shall be absolute. To the extent that there is a conflict between WRD and a third party regarding the availability of and desire to use any portion of the space available for replenishment up to the maximum limits set forth in this section, the interests of WRD will prevail. If a party other than

WRD is using the Basin Operating Reserve space on a "space available" basis and a conflict develops between WRD and the storing party, the storing party will, upon notice from WRD, evacuate the Stored Water within ninety (90) days thereafter. In such event, temporary occupancy within the Basin Operating Reserve shall be first in time, first in right, and the last Party to store water shall be required to evacuate first until adequate space shall be made available within the Basin Operating Reserve to meet WRD's needs. The storing party or parties assume all risks of waste, spill and loss regardless of the hardship. Stored Water that is not evacuated following WRD's notice of intent to occupy the Basin Operating Reserve will be deemed dedicated to the Basin Operating Reserve in furtherance of the physical solution without compensation and accounted for accordingly. Nothing herein shall permit WRD to limit or encumber, by contract or otherwise, its right to use the Basin Operating Reserve for Replenishment purposes for any reason, or to make space therein available to any person by any means. Notwithstanding the foregoing, to the extent excess space is available, water evacuated from the Basin Operating Reserve as provided in this Section shall be deemed added to available space within the Individual Storage Allocations and Community Storage Pool, subject to the priority rights otherwise provided in this Judgment.

N. Water Augmentation.

The parties, in coordination with WRD, may undertake projects that add to the long-term reliable yield of the Basin. Innovations and improvements in practices that increase the conservation and maximization of the reasonable and beneficial use of water should be promoted. To the extent that Parties to the Judgment, in coordination with WRD, implement a project that provides additional long-term reliable water supply to the Central Basin, the annual extraction rights in the Central Basin will be increased commensurately in an amount to be determined by the Storage Panel to reflect the actual yield enhancement associated with the project. Augmented supplies of water resulting from such a project may be extracted or stored as permitted in this Judgment in the same manner as other water. Participation in any Water Rights Augmentation Project shall be

voluntary. A party may elect to treat a proposed project as a Water Augmentation Project (for the purpose of seeking an increase in that party's Allowed Pumping Allocation) or may elect to treat such a project as a Storage Project under the other provisions of this Judgment. The terms of participation in any Water Augmentation Project will be at the full discretion of the participating parties. All Water Augmentation Projects will be approved by the Storage Panel.

(1) Participating Parties.

Parties who propose a Water Augmentation Project ("Project Leads") may do so in their absolute discretion, upon such terms as they may determine. All other parties to this Judgment will be offered an opportunity to participate in the Water Augmentation Project on condition that they share proportionally in common costs and benefits, and assume the obligation to bear exclusively the cost of any improvements that are required to accommodate their individual or particular needs. Notice shall be provided which generally describes the project and the opportunity to participate with sufficient time for deliberation and action by any of these parties who could potentially participate. Disputes over the adequacy of notice shall be referred to the Storage Panel, and then to the Court under its continuing jurisdiction. Parties who elect to participate ("Project Participants") may do so provided they agree to offer customary written and legally binding assurances that they will bear their proportionate costs attributable to the Water Rights Augmentation Project, or provide other valuable consideration deemed sufficient by the Project Leads and the Project Participants.

(2) Determination of Additional Extraction Rights.

The amount of additional groundwater extraction as a result of a Water Augmentation project will be determined by the Storage Panel, subject to review by the Court. The determination will be based upon substantial evidence which supports the finding that the Water Augmentation project will increase the long-term sustainable yield of the respective Basin by an amount at least equal to the

proposed increase in extraction rights.

(3) Increase in Extraction Rights.

A party that elects to participate and pays that party's full pro-rata share of costs associated with any Water Augmentation Project and/or reaches an agreement with other participants based upon other valuable consideration acceptable to the Project Leads and Project Participants, will receive a commensurate increase in extraction rights. Non-participating parties will not receive an increase or a decrease in extraction rights. Any party that elects not to participate will not be required to pay any of the costs attributable to the particular Water Augmentation Project, whether directly or indirectly as a component of the WRD Replenishment Assessment.

(4) Nominal Fluctuations.

Because water made available for Water Rights Augmentation will be produced annually, fluctuations in groundwater levels will be temporary, nominal and managed within the Basin Operating Reserve.

(5) Availability of New Water.

The amount of additional groundwater extraction established as a result of a Water Augmentation Project shall be equal to the quantity of new water in the Basin that is attributable to that Water Augmentation Project. No extraction shall occur and no extraction right shall be established until new water has been actually introduced into the Basin as a result of the Project. Any approval for a Water Augmentation Project shall include provisions (a) requiring regular monitoring to determine the actual amount of such new water made available, (b) requiring make-up water or equivalent payment therefor to the extent that actual water supply augmentation does not meet projections, and (c) adjusting extraction rights attributable to the Water Augmentation Project to match the actual water created. The right to extract augmented water from the Basin resulting from a party's participation in a Water Augmentation Project shall be accounted for

separately and shall not be added to a party's Allowed Pumping Allocation. No Replenishment Assessment shall be levied against the extraction of augmented water.

(6) Limitation.

Notwithstanding the foregoing, WRD will not obtain any water rights or extraction rights under this Judgment by virtue of its participation in a Water Augmentation Project. If WRD participates in a Water Rights Augmentation Project through funding or other investments, its allocation of new water from the project shall be used to offset its replenishment responsibilities.

O. Limits on Watermaster Review.

It shall not be necessary for Watermaster, or any constituent body thereof, to review or approve any of the following before the affected Party may proceed: (i) exercise of adjudicated water rights consistent with this Judgment, except for extraction above 140% of a Party's extraction right as set out in Section IV(J) of this Judgment; (ii) replenishment of the Basin with Replenishment Water by WRD consistent with Water Code Section 60000 et seq., including replenishment of water produced by water rights holders through the exercise of adjudicated water rights; (iii) WRD's operations within the Basin Operating Reserve; (iv) Carryover Conversion or other means of the filling of the Individual Storage Accounts and the Community Storage Pool, as provided in this Judgment, as long as existing water production, spreading, or injection facilities are used; and (v) individual transfers of the right to produce Stored Water as permitted in Section IV(F). All other Storage Projects and all Water Augmentation Projects shall be subject to review and approval as provided herein, including (i) material variances to substantive criteria governing projects exempt from the review and approval process, (ii) modifications to previously approved Storage Projects and agreements, (iii) a party's proposal for Carryover Conversion in quantities greater than the express apportionment of Adjudicated Storage Capacity on a non-priority, space-available, interim basis, and (iv) Storage, by means other than Carryover Conversion, when new production,

spreading, or injection facilities are proposed to be utilized.

P. Hearing Process For Watermaster Review.

The following procedures shall be followed by Watermaster where Watermaster review of storage or extraction of Stored Water is required or permitted under this Judgment:

(1) No later than thirty (30) days after notice has been issued for the storage application, the matter shall be set for hearings before the Storage Panel. A staff report shall be submitted by WRD staff in conjunction with the completed storage application documents and the Water Rights Panel may prepare an independent staff report, if it elects to do so.

(2) The Board of WRD and the Water Rights Panel (sitting jointly as the Storage Panel) shall conduct a joint hearing concerning the storage application.

(3) All Watermaster meetings shall be conducted in the manner prescribed by the applicable Rules and Regulations. The Rules shall provide that all meetings of Watermaster shall be open to water rights holders and that reasonable notice shall be given of all meetings.

(4) The Board of WRD and the Water Rights Panel shall each adopt written findings explaining its decision on the proposed Storage Project, although if both entities reach the same decision on the Storage Project, they shall work together to adopt a uniform set of findings.

(5) Unless both the Board of WRD and the Water Rights Panel approve the Storage Project, the Storage Project application shall be deemed denied (a "Project Denial"). If both the Board of WRD and the Water Rights Panel approve the Storage Project, the Storage Project shall be deemed approved (a "Project Approval").

Q. Trial Court Review

(1) The applicant may seek the Storage Panel's reconsideration of a

Project Denial. However, there shall be no process for mandatory reconsideration or mediation of a Project Approval or a Project Denial either before the Administrative Body, or before the Water Rights Panel.

(2) Any Party may file an appeal from a Project Approval or Project Denial with this Court, as further described in Section II(F).

(3) In order to (a) promote the full presentation of all relevant evidence before the Storage Panel in connection with its consideration of any proposed Storage Project, (b) achieve an expeditious resolution of any appeal to the Court, and (c) accord the appropriate amount of deference to the expertise of the Storage Panel, the appeal before the Court shall be based solely on the administrative record, subject only to the limited exception in California Code of Civil Procedure section 1094.5(e).

(4) If both the WRD Board and the Water Rights Panel each vote to deny or approve a proposed Storage Project, it shall be an action by the Storage Panel and that decision shall be accorded by the Court deference according to the substantial evidence test. If one of the reviewing bodies votes to approve the proposed Storage Project and the other reviewing body votes to deny the proposed storage project, then the Court's review shall be *de novo*, although still restricted to the administrative record. In the case of any *de novo* Trial Court review, the findings made by the respective Watermaster bodies shall not be accorded any weight independent of the evidence supporting them.

R. Space Available Storage, Relative Priority, and Dedication of "Spilled" Water.

To balance the need to protect priority uses of storage and to encourage the full utilization of Available Dewatered Space within the Adjudicated Storage Capacity and the Basin Operating Reserve, any Party may make interim, temporary use of then currently unused Available Dewatered Space within any category of Adjudicated Storage Capacity, and then if all Adjudicated Storage Capacity is being fully used for Stored

Water within the Basin Operating Reserve ("Space-Available Storage"), subject to the following criteria:

(1) Any Party may engage in Space-Available Storage without prior approval from Watermaster provided that the storing Party or Parties shall assume all risks of waste, spill, and loss regardless of the hardship. Whenever the Storage Panel determines that a Party is making use of excess Available Dewatered Space for Space-Available Storage, the Storage Panel shall issue written notice to the Party informing them of the risk of spill and loss.

(2) Whenever the Available Dewatered Space is needed to accommodate the priority use within a respective category of Adjudicated Storage Capacity, or WRD seeks to make use of its priority right to the Basin Operating Reserve to fulfill its replenishment function, the Storage Panel shall issue a notice to evacuate the respective category of Adjudicated Storage Capacity or Basin Operating Reserve, as applicable, within the time-periods set forth within this Amended Judgment. To the extent the Stored Water is not timely evacuated such Stored Water will be placed into any other excess Available Dewatered Space, first within the Adjudicated Storage Capacity, if available, and then if all Adjudicated Storage Capacity is being fully used for Stored Water within the Basin Operating Reserve. If no excess Available Dewatered Space is available within the Basin Operating Reserve, then the Stored Water shall be deemed spilled and will be deemed dedicated to the Basin Operating Reserve in furtherance of the physical solution without compensation and accounted for accordingly. A Party that seeks to convert the Stored Water temporarily held in interim storage as Space-Available Storage to a more firm right, may in its discretion, contract for the use of another Party's Individual Storage Allocation, or may add such water to the Community Storage Pool once space therein becomes available.

(3) No Stored Water will be deemed abandoned unless the cumulative

quantity of water held as Stored Water plus the quantity of water held in the Basin Operating Reserve exceeds 330,000 (three hundred and thirty thousand) acre-feet in the Central Basin.

V. CONTINUING JURISDICTION OF THE COURT.

The Court hereby reserves continuing jurisdiction and upon application of any interested party, or upon its own motion, may review and redetermine the following matters and any matters incident thereto:

A. Its determination of the permissible level of extractions from Central Basin in relation to achieving a balanced basin and an economic utilization of Central Basin for groundwater storage, taking into account any then anticipated artificial replenishment of Central Basin by governmental agencies for the purpose of alleviating what would otherwise be annual overdrafts upon Central Basin and all other relevant factors.

B. Whether in accordance with applicable law any party has lost all or any portion of his rights to extract groundwater from Central Basin and, if so, to ratably adjust the Allowed Pumping Allocations of the other parties and ratably thereto any remaining Allowed Pumping Allocation of such party.

C. To remove any Watermaster or constituent body appointed from time to time and appoint a new Watermaster; and to review and revise the duties, powers and responsibilities of the Watermaster or its constituent bodies and to make such other and further provisions and orders of the Court that may be necessary or desirable for the adequate administration and enforcement of the Judgment.

D. To revise the price to be paid by Exchangees and to Exchangors for Exchange Pool purchases and subscriptions.

E. In case of emergency or necessity, to permit extractions from Central Basin for such periods as the Court may determine: (i) ratably in excess of the Allowed Pumping Allocations of the parties; or (ii) on a non-ratable basis by certain parties if

either compensation or other equitable adjustment for the benefit of the other parties is provided. Such overextractions may be permitted not only for emergency and necessity arising within Central Basin area, but to assist the remainder of the areas within The Metropolitan Water District of Southern California in the event of temporary shortage or threatened temporary shortage of its imported water supply, or temporary inability to deliver the same throughout its area, but only if the court is reasonably satisfied that no party will be irreparably damaged thereby. Increased energy cost for pumping shall not be deemed irreparable damage. Provided, however, that the provisions of this subparagraph will apply only if the temporary shortage, threatened temporary shortage, or temporary inability to deliver was either not reasonably avoidable by the Metropolitan Water District, or if reasonably avoidable, good reason existed for not taking the steps necessary to avoid it.

F. To review actions of the Watermaster.

G. To assist the remainder of the areas within The Metropolitan Water District of Southern California within the parameter set forth in subparagraph (e) above.

H. To provide for such other matters as are not contemplated by the Judgment and which might occur in the future, and which if not provided for would defeat any or all of the purposes of this Judgment to assure a balanced Central Basin subject to the requirements of Central Basin Area for water required for its needs, growth and development.

The exercise of such continuing jurisdiction shall be after 30 days' notice to the parties, with the exception of the exercise of such continuing jurisdiction in relation to subparagraphs E and G above, which may be *ex parte,* in which event the matter shall be forthwith reviewed either upon the Court's own motion or the motion of any party upon which 30 days' notice shall be so given. Within ten (10) days of obtaining any *ex parte* order, the party so obtaining the same shall mail notice thereof to the other parties. If any other party desires Court review thereof, the party obtaining the *ex parte* order shall bear the reasonable expenses of mailing notice of the proceedings, or may in lieu thereof undertake the mailing. Any contrary or

modified decision upon such review shall not prejudice any party who relied on said *ex parte* order.

VI. GENERAL PROVISIONS.

A. Judgment Constitutes Inter Se Adjudication.

This Judgment constitutes an inter se adjudication of the respective rights of all parties, except as may be otherwise specifically indicated in the listing of the water rights of the parties of this Judgment, or in Appendix "2" hereof. All parties to this Judgment retain all rights not specifically determined herein, including any right, by common law or otherwise, to seek compensation for damages arising out of any act or omission of any person. This Judgment constitutes a "court order" within the meaning of Water Code Section 71610(B)(2)(b).

B. Assignment, Transfer, Etc., of Rights.

Subject to the other provision of this Judgment, and any rules and regulations of the Watermaster requiring reports relative thereto, nothing herein contained shall be deemed to prevent any party hereto from assigning, transferring, licensing or leasing all or any portion of such water rights as it may have with the same force and effect as would otherwise be permissible under applicable rules of law as exist from time to time.

C. Service Upon and Delivery to Parties of Various Papers.

Service of the Judgment on those parties who have executed that certain Stipulation and Agreement for Judgment or who have filed a notice of election to be bound by the Exchange Pool provisions shall be made by first class mail, postage prepaid, addressed to the designee and at the address designated for that purpose in the executed and filed Counterpart of the Stipulation and Agreement for Judgment or in the executed and filed "Notice of Election to be Bound by Exchange Pool Provisions," as the case may be, or in any substitute designation filed with the Court.

Each party who has not heretofore made such a designation shall, within 30 days after the Judgment shall have been served upon that party, file with the Court, with proof

of service of a copy upon the Watermaster, a written designation of the person to whom and the address at which all future notices, determinations, requests, demands, objections, reports and other papers and processes to be served upon that party or delivered to that party are to be so served or delivered.

A later substitute designation filed and served in the same manner by any party shall be effective from the date of filing as to the then future notices, determinations, requests, demands, objections, reports and other papers and processes to be served upon or delivered to that party.

Delivery to or service upon any party by the Watermaster, by any other party, or by the Court, or any item required to be served upon or delivered to a party under or pursuant to the Judgment may be by deposit in the mail, first class, postage prepaid, addressed to the designee and at the address in the latest designation filed by that party.

D. Judgment Does Not Affect Rights, Powers, Etc., of Plaintiff District.

Nothing herein constitutes a determination or adjudication which shall foreclose Plaintiff District from exercising such rights, powers, privileges and prerogatives as it may now have or may hereafter have by reason of provisions of law.

E. Continuation of Order under Interim Agreement.

The order of Court made pursuant to the "Stipulation and Interim Agreement and Petition for Order" shall remain in effect through the Administrative Year in which this Judgment shall become final (subject to the reserved jurisdiction of the Court).

F. Effect of Extractions by Exchangees; Reductions in Extractions.

With regard to Exchange Pool purchases, the first extractions by each Exchangee shall be deemed the extractions of the quantities of water which that party is entitled to extract pursuant to his allocation from the Exchange Pool for that Administrative Year. Each Exchangee shall be deemed to have pumped his Exchange Pool request so allocated for and on behalf of each Exchangor in proportion to each Exchangor's subscription to the Exchange Pool which is utilized to meet Exchange Pool requests. No Exchangor shall ever be deemed to have relinquished or lost any of its rights determined in this

Judgment by reason of allocated subscriptions to the Exchange Pool. Each Exchangee shall be responsible as between Exchangors and that Exchangee, for any tax or assessment upon the production of groundwater levied for replenishment purposes by WRD or by any other governmental agency with respect to water extracted by such Exchangee by reason of Exchange Pool allocations and purchases. No Exchangor or Exchangee shall acquire any additional rights, with respect to any party to this action, to extract waters from Central Basin pursuant to Water Code Section 1005.1 by reason of the obligations pursuant to and the operation of the Exchange Pool.

G. Judgment Binding on Successors, Etc.

This Judgment and all provisions thereof are applicable to and binding upon not only the parties to this action, but as well to their respective heirs, executors, administrators, successors, assigns, lessees, licensees and to the agents, employees and attorneys in fact of any such persons.

H. Costs.

No party shall recover its costs herein as against any other party.

I. Intervention of Successors in Interest and New Parties.

Any person who is not a party (including but not limited to successors or parties who are bound by this Judgment) and who proposes to produce water from the Basin, store water in the Basin, or exercise water rights of a predecessor may seek to become a party to this Judgment through a Stipulation in Intervention entered into with the Plaintiff. Plaintiff may execute said Stipulation on behalf of the other parties herein, but such Stipulation shall not preclude a party from opposing such intervention at the time of the court hearing thereon. Said Stipulation for Intervention must thereupon be filed with the Court, which will consider an order confirming said intervention following thirty (30) days' notice to the parties. Thereafter, if approved by the Court, such intervenor shall be a party bound by this Judgment and entitled to the rights and privileges accorded under the physical solution herein.

J. Effect of this Amended Judgment on Orders Filed Herein.

This Third Amended Judgment shall not abrogate such rights of additional carryover of unused water rights as may otherwise exist pursuant to orders herein filed June 2, 1977 and September 29, 1977.

THE CLERK WILL ENTER THIS THIRD AMENDED JUDGMENT FORTHWITH.

DATED: 12-23-13

ABRAHAM KHAN

Judge of the Superior Court

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Sherri R. Carter, Executive Officer/Clerk
By: Roxanne Arraiga, Deputy

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SUPERIOR COURT OF THE STATE OF CALIFORNIA

FOR THE COUNTY OF LOS ANGELES

CALIFORNIA WATER SERVICE COMPANY, et al.,

Plaintiff,

vs.

CITY OF COMPTON, et al.,

Defendant.

Case No. C 506 806
[Related to Case No. C 786656]

Assigned for All Purposes to the Honorable Kenneth R. Freeman (Dept. 310)

AMENDED JUDGMENT

Action Filed: 7/21/1945

The original judgment in this action was entered on August 18, 1961 ("Judgment"). Pursuant to the reserved and continuing jurisdiction of the Court under the Judgment, certain amendments to the Judgment and temporary orders have heretofore been made and entered.

Continuing jurisdiction of the Court under the Judgment is currently assigned to the Honorable Richard Freeman.

The motion of Defendants the City of Inglewood, the City of Long Beach, the City of Los Angeles, the City of Manhattan Beach, the City of Torrance, the California Water Service Company, and the Golden State Water Company, and Intervenors the West Basin Municipal Water District and the Water Replenishment District of Southern California, for further amendments to the Judgment, notice thereof and of the hearing thereon having been duly and regularly given to all Parties, came for hearing in Department 310 of the above-entitled Court on December 9, 2014 at 9:00 a.m., before said Honorable Freeman.

This "Amended Judgment" incorporates prior amendments to the Judgment made pursuant to the following Court orders: (1) Order Authorizing Temporary Mining Of Basin entered on or about June 2, 1977, (2) Order Authorizing Temporary Mining Of Basin entered on or about September 29, 1977, (3) Order approving Intervention After Judgment Of Hughes Aircraft Company As A Party Defendant And Amending Amended Judgment Herein entered on or about September 24, 1981, (4) Order Amending Judgment entered on or about March 8, 1989, (5) Order entered on or about July 6, 1993, and (6) Order Amending Judgment To Provide Exclusion Zone entered on or about December 21, 1995 (the "Prior Amendment Orders"). To the extent this Amended Judgment is a restatement of the Judgment as heretofore amended, the Prior Amendment Orders are incorporated into this Amended Judgment for convenience and not as a re-adjudication of the matters encompassed in the Prior Amendment Orders.

NOW, THEREFORE, IT IS HEREBY ORDERED, ADJUDGED AND DECREED AS FOLLOWS:

BROWNSTEIN HYATT FARBER SCHRECK, LLP
21 East Carrillo Street
Santa Barbara, CA 93101-2706

I. EXISTENCE OF BASIN AND BOUNDARIES THEREOF

There exists in the County of Los Angeles, State of California, an underground water basin or reservoir known and hereinafter referred to as "West Coast Basin," "West Basin" or the "Basin," and the boundaries thereof are described as follows:

> Commencing at a point in the Baldwin Hills about 1300 feet north and about 100 feet west of the intersection of Marvale Drive and Northridge Drive; thence through a point about 200 feet northeasterly along Northridge Drive from the intersection of Marvale and Northridge Drives to the base of the escarpment of the Potrero fault; thence along the base of the escarpment of the Potrero fault in a straight line passing through a point about 200 feet south of the intersection of Century and Crenshaw Boulevards and extending about 2650 feet beyond this point to the southerly end of the Potrero escarpment; thence from the southerly end of the Potrero escarpment in a line passing about 700 feet south of the intersection of Western Avenue and Imperial Boulevard and about 400 feet north of the intersection of El Segundo Boulevard and Vermont Avenue and about 1700 feet south of the intersection of El Segundo Boulevard and Figueroa Street to the northerly end of the escarpment of the Avalon-Compton fault at a point on said fault about 700 feet west of the intersection of Avalon Boulevard and Rosecrans Avenue; thence along the escarpment of the Avalon-Compton fault to a point in the Dominguez Hills located about 1300 feet north and about 850 feet west of the intersection of Central Avenue and Victoria Street; thence along the crest of the Dominguez Hills in a straight line to a point on Alameda Street about 2900 feet north of Del Amo Boulevard as measured along Alameda Street; thence in a straight line extending through a point located on Del Amo Boulevard about 900 feet west of the Pacific Electric Railway to a point about 100 feet north and west of the intersection of Bixby Road and Del Mar Avenue; thence in a straight line to a point located about 750 feet west and about 730 feet south of the intersection of Wardlow Road and Long Beach Boulevard at the escarpment of the Cherry Hill fault; thence along the escarpment of the Cherry Hill fault through the intersection of Orange Avenue and Willow Street to a point about 400 feet east of the intersection of Walnut and Creston Avenues; thence to a point on Pacific Coast Highway about 300 feet west of its intersection with Obispo Avenue; thence along Pacific Coast Highway easterly to a point located about 650 feet west of the intersection of the center line of said Pacific Coast Highway with the intersection of the center line of Lakewood Boulevard; thence along the escarpment of the Reservoir Hill fault to a point about 650 feet north and about 700 feet east of the intersection of Anaheim Street and Ximeno Avenue; thence along the trace of said Reservoir Hill fault to a point on the Los Angeles - Orange County line about 1700 feet northeast of the Long Beach City limit measured along the County line; thence along said Los Angeles - Orange County line in a southwesterly direction to the shore line of the Pacific Ocean; thence in a northerly and westerly direction along the shore line of the Pacific Ocean to the intersection of said shore line with

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the southerly end of the drainage divide of the Palos Verdes Hills; thence along the drainage divide of the Palos Verdes Hills to the intersection of the northerly end of said drainage divide with the shore line of the Pacific Ocean; thence northerly along the shore line of the Pacific Ocean to the intersection of said shore line with the westerly projection of the crest of the Ballona escarpment; thence easterly along the crest of the Ballona escarpment to the mouth of Centinela Creek; thence easterly from the mouth of Centinela Creek across the Baldwin Hills in a line encompassing the entire watershed of Centinela Creek to the point of beginning.

All streets, railways and boundaries of Cities and Counties hereinabove are referred to as the same existed at 12:00 o'clock noon on August 20, 1961.

The area included within the foregoing boundaries is approximately 101,000 acres in extent.

II. DEFINITIONS

1. "*Administrative Body*" is defined in Section XI.2.A. The Administrative Body is one of the three bodies that comprises the Watermaster.

2. "*Administrative Year*" means the 12 (twelve) month period beginning July 1 and ending June 30.

3. "*Adjudicated Right*" means the right of a Party to produce groundwater in a quantity greater than 0 (zero) pursuant to the rights authorized under Section III of this Amended Judgment.

4. "*Adjudicated Storage Capacity*" means 70,900 acre-feet of the Available Dewatered Space, unless otherwise modified in accordance with Section V.1.A herein, which has been apportioned for use herein for Individual Storage Allocation, Community Storage Pool, and Regional Storage Allocation.

5. "*Amended Judgment*" means the Judgment, as amended to date.

6. "*Available Dewatered Space*" means up to 120,000 acre feet of dewatered space available to hold groundwater within the West Coast Basin that is allocated between Adjudicated Storage Capacity and Basin Operating Reserve.

7. "*Basin,*" "*West Basin,*" and "*West Coast Basin*" as these terms are interchangeably used herein, each means the ground water basin underlying the area described in Section I hereof.

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8. "*Basin Operating Reserve*" means a total of 49,100 acre-feet of Available Dewatered Space, unless otherwise modified in accordance with Section V.1.A herein, available for Basin operations as provided in Section V.2. The Basin Operating Reserve added to the Adjudicated Storage Capacity equals the amount of Available Dewatered Space.

9. "*Carryover*" is defined in Section V.4.

10. "*Carryover Conversion*" means the process of converting water properly held as Carryover into Stored Water.

11. "*CEQA*" refers to the California Environmental Quality Act, Public Resources Code § 21000 *et seq.* and its implementing regulations set forth at California Code of Regulations, Title 14, Chapter 3, which regulations shall be referred to herein as the "CEQA Guidelines."

12. "*CEQA Review Document*" means the final Environmental Impact Report, Negative Declaration or Mitigated Negative Declaration, prepared by or on behalf of the lead agency under CEQA.

13. "*Community Storage Pool Allocation*" is defined in Section V.6.A.

14. "*Contributed Water*" means a specified amount of Stored Water that the person or entity who stores water agrees to not recapture and to allow to remain in the Basin.

15. "*Developed Water*" includes Imported Water and other non-native water supplies.

16. "*Existing Facilities*" means those facilities described in Exhibit C to this Amended Judgment as well as completed New Storage Facilities approved in accordance with this Amended Judgment.

17. "*Extraction*," "*extractions*," "*extracting*," "*extracted*," and other variations of the same noun and verb in either initial capital or all lower case, mean pumping, taking, diverting or withdrawing groundwater by any manner or means whatsoever from the West Coast Basin.

18. "*Individual Storage Allocation*" is defined in Section V.5.

19. "*Imported Water*" means water brought into the West Coast Basin area from a non-tributary source by a Party, and any predecessors in interest.

20. "*Majority Protest*" means a written protest filed with the Administrative Body of

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the Watermaster by Parties holding a majority of all Adjudicated Rights.

21. "*Material Physical Harm*" means material physical injury or an appreciable diminution in the quality or quantity of groundwater available within the Basin to support extractions pursuant to Adjudicated Rights or the right to extract Stored Water that is demonstrated to be attributable to the placement, recharge, injection, storage, transfer or recapture of Stored Water, including, but not limited to, degradation of water quality, liquefaction, land subsidence and other material physical injury caused by elevated or lowered groundwater levels. Material Physical Harm does not include "economic injury" that results from other than direct physical causes, including any adverse effect on water rates, lease rates, or demand for water. Once fully mitigated, physical injury shall no longer be considered to be material.

22. "*MWD*" means the Metropolitan Water District of Southern California.

23. "*New Storage Facility*" means a physical facility that can be used to introduce Stored Water or water from a Water Augmentation Project into the Basin, including but not limited to aquifer storage and recovery wells, injection wells, percolation ponds and spreading basins, that are not listed on Exhibit C to this Amended Judgment. Once completed and approved in accordance with this Amended Judgment, a New Storage Facility shall be deemed an Existing Facility for purposes of this Amended Judgment.

24. "*Outgoing Watermaster*" means the State of California, Department of Water Resources.

25. "*Party*" or "*Parties*" means a Party or Parties to this action.

26. "*Person*" or "*persons*" include individuals, partnerships, associations, governmental agencies and corporations, and any and all types of entities.

27. "*Regional Benefit*" means a contribution to or an advantage obtained by the Basin, the public, or the environment, including but not limited to (i) Contributed Water; (ii) additional infrastructure such as production wells or transmission pipelines that can be used by other Parties or WRD to enhance reliability of water supplies; or (iii) monetary payments. If the Regional Benefit is Contributed Water, the Contributed Water must be physical, "wet" water left in the Basin, which may be used by WRD as a source of Replenishment Water and thereby reduce the

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otherwise applicable Replenishment Assessment. The value of the Contributed Water will be determined by multiplying the amount of Contributed Water by the appropriate rate for Imported Water purchased or acquired by WRD in the Basin.

28. "*Regional Storage Project(s)*" are defined in Section V.7.

29. "*Regional Storage Allocation*" is defined in Section V.7.

30. "*Replenishment Assessment*" means the replenishment assessment imposed by WRD upon each acre-foot of groundwater extracted from the West Coast Basin pursuant to the WRD Act and in compliance with all other laws of the State of California and any other applicable laws. This Amended Judgment shall not determine nor affect the determination of whether a Replenishment Assessment is valid or invalid in the event that any Replenishment Assessment is challenged in a legal action.

31. "*Replenishment Water*" means water that, in accordance with the WRD Act, WRD affirmatively captures or procures to replenish the Basin by percolating or injecting water into the Basin or in-lieu by substituting surface water in-lieu of production and use of groundwater in accordance with the WRD Act. To the extent WRD hereafter creates new means of capturing naturally occurring water and causing such newly-captured water to replenish the West Coast Basin, such newly-captured replenishment water shall also be considered "Replenishment Water."

32. "*Space-Available Storage*" is defined at Section V.10.

33. "*Storage Panel*" means a bicameral body that consists of the: (i) West Coast Basin Water Rights Panel, and (ii) Board of Directors of WRD. The Storage Panel is one of three bodies that comprise the Watermaster.

34. "*Storage Project*" means a Technically Feasible activity pertaining to the placement, recharge, injection, storage, transfer or recapture of Stored Water in the Basin. Storage Project(s) includes Regional Storage Projects.

35. "*Stored Water*" or "*Store Water*" means water held within any portion of the Available Dewatered Space in the West Coast Basin as a result of spreading, injection, Carryover Conversion or water from a Water Augmentation Project, where there is an intention to

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subsequently withdraw the water for reasonable and beneficial use pursuant to the Amended Judgment.

36. "*Technically Feasible*" means capable of being accomplished in a successful manner within a reasonable period of time, taking into account environmental and technological factors.

37. "*Total Adjudicated Production Rights*" means the sum of a Party's Adjudicated Rights and any contractual right through lease or other agreement to extract and use the Adjudicated Right of another Party.

38. "*Water Augmentation Project*" means pre-approved Technically Feasible physical actions and management activities that are initiated after entry of this Amended Judgment that provide demonstrated appreciable increases in long-term annual groundwater yield of the Basin.

39. "*Watermaster*" is comprised of the: (i) Administrative Body, (ii) Water Rights Panel, and (iii) Storage Panel. The Watermaster is not a "public agency" or a "trustee agency" within the meaning of CEQA and CEQA Guidelines 15379 and 15386.

40. "*Water Purveyor*" means a Party which sells water to the public, whether a regulated public utility, mutual water company, or public entity, which has a connection or connections for the taking of Imported Water through the MWD, through a MWD-member agency, or access to such Imported Water through such connection, and which normally supplies at least a part of its customers' water needs with such Imported Water.

41. "*Water Rights Panel*" means one of the three bodies that comprise the Watermaster consisting of five (5) members from among representatives of the Parties holding Adjudicated Rights. Three (3) of the members shall be the elected officers of president, vice-president and treasurer of the West Basin Water Association and the remaining two (2) members shall be selected by the Board of Directors of the West Basin Water Association in accordance with Section XI.2.B of the Amended Judgment.

42. "Watermaster Rules" mean the Rules that the Watermaster shall adopt, subject to Court approval, pursuant to Section XI.1.E of the Amended Judgment.

43. "*WRD*" means the Water Replenishment District of Southern California, a public

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corporation of the State of California (Division 18, commencing with Section 60000 of the Water Code).

44. "WRD Act" means the Water Replenishment District Act, California Water Code Sections 60000 *et seq.*

III. DECLARATION OF RIGHTS - WATER RIGHTS ADJUDICATED

A. Certain of the Parties and/or their successors in interest are the owners of Adjudicated Rights to extract water from the Basin, which Adjudicated Rights are of the same legal force and effect and without priority with reference to each other. The amount of such Adjudicated Rights, stated in acre-feet per year, of each of these Parties, as of the date of this Amended Judgment, is set forth in Exhibit A to this Amended Judgment and is hereby declared and established accordingly. Provided, however, that the Adjudicated Rights so declared and established shall be subject to the condition that the water produced, when used, shall be put to beneficial use through reasonable methods of use and reasonable methods of diversion; and provided further that the exercise of all of said Adjudicated Rights shall be subject to a pro rata reduction, if such reduction is required, to preserve said Basin as a common source of water supply.

B. Certain of the Parties have no Adjudicated Rights to extract water from the Basin. The name of each of said Parties, as of the date of this Amended Judgment, is listed in Exhibit A with a zero following its name, and the absence of such Adjudicated Rights in said Parties is hereby established and declared.

C. As provided in Exhibit B to this Judgment, there is hereby established a "nonconsumptive water use right" in the Basin, which is subordinate to the Adjudicated Rights set forth in Section III hereof and which right is exercisable only on specifically defined lands and cannot be separately conveyed or transferred apart therefrom.

D. As further provided in Exhibit B to this Judgment, any party herein may petition the Administrative Body, acting on behalf of the Watermaster, for a non-consumptive water use permit as part of a project to recover old refined oil or other pollutants that has leaked into the underground aquifers of the Basin.

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IV. TRANSFERABILITY OF RIGHTS

All Adjudicated Rights decreed and adjudicated herein, and the right to extract Stored Water stored within the Basin pursuant to the provisions herein, may be transferred, assigned, licensed or leased by the owner thereof provided, however, that no such transfer shall be complete until compliance with the appropriate notice procedures established by the Watermaster herein.

V. PHYSICAL SOLUTION – BASIN STORAGE, CARRYOVER, BASIN OPERATING RESERVE, AND EXCESS PRODUCTION

1. Determination of Available Dewatered Space

A. There exists within the Basin Available Dewatered Space which has not been optimally utilized for Basin management and storage of native water and Developed Water. The Court finds and determines that: (i) there is up to one hundred and twenty thousand (120,000) acre-feet of Available Dewatered Space in the Basin; (ii) use of the Available Dewatered Space will increase reasonable and beneficial use of the Basin by permitting the more efficient procurement and management of Replenishment Water and allowing Parties to have Stored Water in the Basin, thereby increasing the conservation of water and reliability of the water supply available to all Parties; and (iii) compliance with the terms, conditions and procedures set forth in this Amended Judgment is meant to prevent Material Physical Harm to the Basin associated with the use of the Available Dewatered Space for Stored Water. If the Court determines, pursuant to Section XIII of this Judgment, that the amount of Available Dewatered Space is more than or less than 120,000 acre-feet, then the Court shall equitably adjust the amount of the Basin Operating Reserve and Adjudicated Storage Capacity such that no more than 40.9% of the Available Dewatered Space is allocated to the Basin Operating Reserve. No Party shall Store Water in the Basin except in the Available Dewatered Space in conformity with this Amended Judgment.

B. It is essential that use of the Available Dewatered Space be undertaken for the greatest public benefit pursuant to uniform, certain and transparent regulation that encourages the conservation of water and reliability of the water supply, avoids Material Physical Harm, and promotes the reasonable and beneficial use of water. Accordingly, in the event the Watermaster becomes aware of the development of Material Physical Harm, or a reasonably foreseeable or

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imminent threat of the development of Material Physical Harm, relating to the use of the Available Dewatered Space, the Watermaster shall (i) promptly take all reasonably necessary action to cease or avoid such harm as authorized under this Amended Judgment and the Watermaster Rules, and (ii) notice a hearing within thirty (30) days before the Court and concurrently file a report with the Court, served on all Parties, which shall explain the relevant facts then known by the Watermaster relating to the Material Physical Harm, or imminent threat thereof, including without limitation, the location of the occurrence, the source or cause, existing and potential physical impacts or consequences of the identified or threatened Material Physical Harm, all actions taken by the Watermaster to cease or avoid such harm, and any other recommendations to remediate the identified or threatened Material Physical Harm.

C. To fairly balance the needs of the divergent interests of Parties having Adjudicated Rights in the Basin, on the one hand, and the role of WRD on the other hand, and in consideration of the shared desire and public purpose of removing impediments to the voluntary conservation, storage, exchange and transfer of water, the Available Dewatered Space is apportioned into complementary classifications of forty-nine thousand one hundred (49,100) acre-feet of Basin Operating Reserve and seventy thousand nine hundred (70,900) acre-feet of Adjudicated Storage Capacity as set forth in this Section V. The apportionment contemplates flexible administration of storage capacity where use is apportioned among competing needs, while allowing Available Dewatered Space to be used from time to time as Space-Available Storage, subject to the priorities specified in this Amended Judgment.

2. Basin Operating Reserve

A. It is in the public interest for WRD to prudently exercise its discretion to purchase, spread, and inject water, to provide for in-lieu replenishment, and otherwise to fulfill its replenishment function within the Basin in accordance with the WRD Act. Accordingly, this Amended Judgment expressly recognizes that WRD may use the Basin Operating Reserve to manage available sources of water and otherwise fulfill its replenishment functions. WRD may allow naturally occurring water to occupy the Basin Operating Reserve, as needed and in its discretion, but cannot thereupon assert ownership, control or possession over naturally occurring

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water as Replenishment Water or Stored Water. WRD's priority right to use the Basin Operating Reserve is not intended to allow WRD to sell or lease Stored Water within that portion of the Available Dewatered Space.

B. WRD shall have forty-nine thousand, one hundred (49,100) acre-feet of Available Dewatered Space as the Basin Operating Reserve in accordance with the WRD Act.

C. WRD shall have a first priority right to use the Basin Operating Reserve in accordance with the WRD Act. WRD's first priority right to the Basin Operating Reserve is absolute. To the extent that there is a conflict between WRD and any other Party regarding the availability of and desire to use any portion of the Basin Operating Reserve, the interests of WRD will prevail. Any dispute as to the use of any portion of the Basin Operating Reserve shall be heard directly by the Court, after notice of hearing served on all Parties.

D. To the extent WRD does not require the use of some or all of the Basin Operating Reserve, that portion of the Basin Operating Reserve that is not then being used shall be available for Space-Available Storage in accordance with Section V.10 of this Amended Judgment and provided that such Space-Available Storage will not impede WRD's use of the Basin Operating Reserve. WRD's failure to use any portion of the Basin Operating Reserve for any time will not cause forfeiture or limit WRD's absolute right to make use of the Basin Operating Reserve in the future without compensation. Nothing herein shall permit WRD to limit or encumber its right to use the Basin Operating Reserve in accordance with the WRD Act.

3. Adjudicated Storage Capacity

The Adjudicated Storage Capacity is further allocated among the following classifications of Stored Water:

- Individual Storage Allocation: twenty-five thousand eight hundred (25,800) acre-feet.
- Community Storage Pool: thirty-five thousand five hundred (35,500) acre-feet.
- Regional Storage Allocation: nine thousand six hundred (9,600) acre-feet.

4. Carryover

A. In order to add flexibility to the operation of this Amended Judgment and to assist in a physical solution to meet the water requirements in the West Coast Basin, each of

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the Parties who is adjudged to have an Adjudicated Right and who, by the end of an Administrative Year, does not extract from the Basin all of such Party's Total Adjudicated Production Right, is permitted to carry over from such Administrative Year the right to extract from the Basin in the immediately following Administrative Year an amount of water equivalent to the amount of its Total Adjudicated Production Right that exceeds the amount of its actual extraction during said Administrative Year of water pursuant to its Total Adjudicated Production Right (hereinafter referred to as "Carryover"). Carryover, as computed above for a Party, shall be reduced by the quantity of Stored Water then held in the Available Dewatered Space by that Party at the commencement of the immediately following Administrative Year, although such reduction shall not cause the amount of Carryover to be less than 20% of the Party's Total Adjudicated Production Right.

B. A Party having Carryover may, from time to time, elect to convert all or part of such Party's Carryover to Stored Water, as authorized herein, upon payment of the Replenishment Assessment to WRD. The WRD shall maintain, account and use the Replenishment Assessment paid for Carryover Conversion in accordance with the provisions of Section XI.2(A)(5) of this Amended Judgment. Such Stored Water shall be assigned to that Party's Individual Storage Allocation, if available, and otherwise to the Community Storage Pool, and thereafter to then existing excess capacity within other Individual Storage Allocation, the Regional Storage Allocation, and only then if all remaining space is fully occupied, to the Basin Operating Reserve for Space-Available Storage.

C. By reason of this Court's Orders dated June 2, 1977 and September 29, 1977, for the water years 1976-77 and 1977-78 any Party (including any successor in interest) can Carryover until utilized any Adjudicated Right (including any authorized Carryover from prior years) unexercised during said water years. This Amended Judgment shall not abrogate the rights of any additional Carryover of unused Adjudicated Rights of the Parties as may exist pursuant to the Orders filed as of June 2, 1977 and September 29, 1977.

5. Individual Storage Allocations

A. Up to twenty-five thousand eight hundred (25,800) acre-feet of Available

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Dewatered Space is apportioned among the Parties as "Individual Storage Allocation" for the purpose of providing each Party holding an Adjudicated Right under the Amended Judgment with a first priority right to use an amount of that Available Dewatered Space equal to approximately forty percent (40%) of their respective Adjudicated Right. Water may be deposited into storage and assigned to an Individual Storage Allocation either through Carryover Conversion or by other means authorized under the Amended Judgment. The Individual Storage Allocation will be held in the name of the Party holding the Adjudicated Right upon notice to the Storage Panel. To the extent a Party does not require the use of some or all of its Individual Storage Allocation, that portion of the Individual Storage Allocation that is not then being used shall be available for Space-Available Storage as provided in Section V10.A.

B. A Party's first priority right to its Individual Storage Allocation is absolute. To the extent that there is a conflict between a Party holding an Adjudicated Right and any other Party or WRD regarding the availability of and desire to use any portion of their Individual Storage Allocation, the interests of the Party with the Individual Storage Allocation will prevail. Any dispute as to the use of any portion of a Party's Individual Storage Allocation shall be heard directly by the Court, after notice of hearing served on all Parties.

6. Community Storage Pool

A. Up to thirty-five thousand five hundred (35,500) acre-feet of Available Dewatered Space is apportioned for the use by all Parties to the Amended Judgment with Adjudicated Rights on a shared or community basis, hereafter referred to as the "Community Storage Pool." A Party that has fully occupied its Individual Storage Allocation may, on a first-in time, first in right basis (subject to the limits expressed below) place water into storage in the Community Storage Pool upon notice to the Storage Panel. So long as there is available capacity in the Community Storage Pool, any Party may store water in the Community Storage Pool, through Carryover Conversion as provided herein or by any other means authorized under the Amended Judgment, provided such Party has first fully occupied that Party's available Individual Storage Allocation.

B. So long as there is adequate storage capacity available within the

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Community Storage Pool, any Party may store water through any authorized method up to the prescribed limits of available capacity within the Community Storage Pool upon notice to the Storage Panel.

C. After a Party effectively occupies Available Dewatered Space within the Community Storage Pool and then withdraws water from the Community Storage Pool, that Party shall be allowed a period of twenty-four (24) months to completely refill the vacated storage capacity before the capacity will be determined abandoned and available for use by other Parties. However, once the Basin's Community Storage Pool has been filled (35,500 acre-feet in storage), a Party may exercise its twenty-four (24) month refill priority only once, and thereafter only provided there is then capacity available to permit that Party to refill the vacated space. Except as to space subject to the refill right, as provided herein, all access to the Community Storage Pool shall be made available pursuant to a basis of first in time, first in right.

D. A Party that has maintained Stored Water in the Community Storage Pool for ten (10) consecutive years shall be subject to the following provisions whenever the Community Storage Pool is at least twenty-five percent (25%) occupied with Stored Water based on an aggregate of all Parties holding Adjudicated Rights who have Stored Water in the Community Storage Pool: (i) the Party may elect to have that Stored Water deemed transferred to Space-Available Storage in accordance with Section V.10 of this Amended Judgment, but if such an election is not made or there is no Space-Available Storage, then (ii) the Stored Water shall be deemed extracted first in advance of all other extraction rights in subsequent years (notwithstanding the order of production set forth in Section IX.2) until the Party's entire Community Storage account has been extracted. After the Stored Water is either transferred to Space Available Storage or extracted as provided herein, then said Party may thereafter make a renewed use of Community Storage on terms equal to other Parties on a first in time, first in right, and space-available basis.

7. Regional Storage Allocation

A. Up to nine thousand six hundred (9,600) acre feet of Available Dewatered Space in the West Coast Basin (the "Regional Storage Allocation") is designated for "Regional

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Storage Project(s)" that: (i) do not constitute Water Augmentation Projects by enhancing the long-term reliable yield of the Basin; and (ii) require storage capacity in excess of Individual Storage Allocations and the Community Storage Pool.

B. Regional Storage Projects must be pre-approved by the Storage Panel of the Watermaster, as provided in Section V.12. The Storage Panel shall not approve a Regional Storage Project unless the applicant demonstrates (i) a proposed place of use and beneficial use for the water identified at the time of storage, and (ii) that the Regional Storage Project is Technically Feasible, will not cause Material Physical Harm and will confer a "Regional Benefit".

C. It is anticipated that Regional Storage Projects will be the principal category of storage for potential Storage Projects sponsored by, or for the benefit of, entities that do not hold an Adjudicated Right, although any Party to the Judgment may also propose a Regional Storage Project. Any entity which is not a Party to the Judgment who receives approval of a Regional Storage Project shall intervene into the Judgment as a Party prior to commencing the Regional Storage Project. A Regional Storage Project approved by the Storage Panel that occupies space within the nine thousand six hundred (9,600) acre-feet of Available Dewatered Space shall have a priority right to occupy the Regional Storage Allocation over any other use being made on a space-available basis.

D. Regional Storage Projects may include in-lieu, Carryover Conversion, physical improvements, recharge of "wet water" by spreading or injection, reducing the overall cost for the WRD to perform its replenishment function, and other measures that propose to make beneficial use of the designated storage capacity.

E. Parties receiving a right to Store Water pursuant to an approved Regional Storage Project shall have the first priority right to Regional Storage Allocation. Stored Water held in the Regional Storage Allocation by a Party with an Adjudicated Right as Space-Available Storage is subject to the limits of an annual extraction of one hundred and twenty percent (120%) of the storing Party's Total Adjudicated Production Right or as otherwise specified in accordance with Section IX.1 herein.

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F. To the extent that some or all of the Regional Storage Allocation is unused, that portion of the Regional Storage Allocation that is not then being used shall be available for Space-Available Storage as provided in Section V10.A.

8. Limitations on Storage

A. Irrespective of the category of storage utilized, each Party with an Adjudicated Right shall not cumulatively have in storage in the Available Dewatered Space at any time Stored Water totaling more than two hundred percent (200%) of that Party's Adjudicated Right. However, a Party with an Adjudicated Right less than 100 acre feet may store water in the Available Dewatered Space up to 200 acre feet.

B. Notwithstanding the foregoing, a Party with an Adjudicated Right may store additional water up to 50% of its Adjudicated Right in excess of the aforementioned limit of 200% of its Adjudicated Right in Space-Available Storage as provided in Section V.10 of this Amended Judgment for a cumulative total of up to 250% of the Party's Adjudicated Right. Any Party with an Adjudicated Right seeking to store water in excess of 200% of its Adjudicated Right shall apply for additional storage from the Storage Panel, which shall determine whether additional storage space is available in light of the amount of storage space being utilized by all Parties and providing adequate protection for planned or anticipated storage projects by other Parties. The Storage Panel shall establish requirements as part of the Watermaster Rules including providing notice of such applications to all Parties, a means for objection, standards for granting or denying such requests, and promulgate requirements governing the extraction of the additional storage.

C. A Party without an Adjudicated Right who holds rights to store water in the Regional Storage Allocation by virtue of an approved Regional Storage Project shall comply with any extraction limits established by the Storage Panel in its approval of said Regional Storage Project. Subject to the foregoing, the right to extract Stored Water in the Basin may be freely transferred to another Party to this Amended Judgment, as permitted by Section IV.

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9. Extraction of Stored Water; Exemption from Replenishment Assessment

The Court finds and declares that the extraction of Stored Water as permitted hereunder does not constitute "production of groundwater" within the meaning of Water Code Section 60317 and that no Replenishment Assessment shall be levied on the extraction of Stored Water. This determination reflects the practical application of certain provisions of this Amended Judgment concerning storage of water and extraction of Stored Water, including without limitation the following: (1) payment of the Replenishment Assessment is required upon Carryover Conversion, which allows WRD to replenish the Basin (as addressed under Section V.4(B); (2) Developed Water introduced into the Basin through spreading or injection for storage by or on behalf of a Party using Individual Storage Allocation or Community Storage Pool (as authorized under Sections V.5 and V.6), or pursuant to a Water Augmentation Project (as authorized under Section V.11), which needs not be replenished by WRD requiring payment of the Replenishment Assessment; and (3) with respect to Regional Storage Projects, a Regional Benefit must be established as a prerequisite of such a project, the water from which need not be replenished by WRD requiring payment of the Replenishment Assessment.

10. Space-Available Storage, Relative Priority, and Dedication of Abandoned Water

A. To balance the need to protect first priority uses of storage and to encourage the full utilization of the Adjudicated Storage Capacity and the Basin Operating Reserve within the Available Dewatered Space, any Party with an Adjudicated Right may make interim, temporary use of then currently unused Available Dewatered Space within (i) any category of Adjudicated Storage Capacity, and then (ii) if all Adjudicated Storage Capacity is being fully used for Stored Water, then within the Basin Operating Reserve ("Space-Available Storage"), subject to the following criteria:

(1) Any Party with an Adjudicated Right may engage in Space-Available Storage without prior approval from the Storage Panel of the Watermaster provided that the storing Party or Parties with an Adjudicated Right shall assume all risks of waste and loss regardless of the hardship.

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(2) No Party with an Adjudicated Right may use any portion of the Basin Operating Reserve for Space-Available Storage unless that Party with an Adjudicated Right has already maximized its allowed storage pursuant to its Individual Storage Allocation and all available Community Storage and Regional Storage is already in use.

(3) Space-Available Storage shall first utilize unused storage space within the Individual Storage Allocation category, subject to the provisions in this Amended Judgment, and the Regional Storage Allocation before utilizing any available unused storage space within Community Storage. No utilization of Community Storage under Space-Available Storage shall be counted in making determinations under Sections V.6.C. or V.6.D.

(4) Whenever the Administrative Body determines that a Party with an Adjudicated Right is making use of excess Available Dewatered Space for Space-Available Storage without prior approval from the Storage Panel, the Administrative Body shall issue written notice to the Party with an Adjudicated Right informing them of the risk of loss and inform that Party what space (Individual Allocation, Regional Storage, Community Pool or Basin Operating Reserve) it is occupying on a Space-Available basis.

(5) Use of Space-Available Storage shall be administered in accordance with the rule of first in time, first in right. The Party with an Adjudicated Right holding the lowest priority right in Space-Available Storage shall assume responsibility for evacuating their Stored Water as may be necessary to accommodate a Party with an Adjudicated Right holding superior priority right. Any dispute concerning Space-Available Storage priorities, except as to Basin Operating Reserve or the Individual Storage Allocation, shall be submitted first to the Storage Panel for hearing and determination. The Storage Panel's determination, or lack thereof, may be appealed by motion to the Court by any Party to the dispute. Any dispute concerning the Community Storage Pool Allocation or the Regional Storage Allocation shall be submitted first to the Storage Panel for hearing and determination. The Storage Panel's determination, or lack thereof, may be appealed by motion to the Court by any Party to the dispute.

(6) Whenever the Available Dewatered Space is needed to accom-

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modate the priority use within a respective category of Adjudicated Storage Capacity, or WRD seeks to make use of its priority right to the Basin Operating Reserve to fulfill its replenishment function, the Storage Panel shall issue a notice to evacuate within ninety (90) days the respective category of Adjudicated Storage Capacity or Basin Operating Reserve. Within sixty (60) days after receipt of such a notice to evacuate, the Party with an Adjudicated Right receiving the notice may provide a written election to the Storage Panel that it will store its Stored Water in any other excess Available Dewatered Space first within the Adjudicated Storage Capacity, if available, and then if all Adjudicated Storage Capacity is being fully used for Stored Water, then within the Basin Operating Reserve, if available. The Party with an Adjudicated Right's Stored Water shall be deemed spilled and dedicated to the Basin in furtherance of replenishment of the Adjudicated Rights without compensation if the Party with an Adjudicated Right does not make a timely election or if there is no excess Available Dewatered Space. No Stored Water will be deemed so dedicated unless the cumulative quantity of water held as Stored Water in the Available Dewatered Space exceeds one hundred and twenty thousand (120,000) acre-feet in the West Coast Basin. Any dispute as to Stored Water threatening to be spilled or dedicated to the Basin shall be submitted to the Court pursuant to a motion by any Party to the dispute after to the expiration of sixty (60) days of the ninety-day period in the notice to evacuate.

B. A Party with an Adjudicated Right that seeks to convert the Stored Water held as Space-Available Storage to a more firm right, may in their discretion, contract for the use of another Party with an Adjudicated Right's Individual Storage Allocation, or may apply for approval of its request as a Regional Storage Project, or may add such water to the Community Storage Pool once space therein becomes available.

11. Water Augmentation

A. Physical and management actions of the Parties in consultation with WRD shall add to the long-term reliable yield of the Basin. Innovations and improvements in management practices that increase the conservation and maximization of the reasonable and beneficial use of water should be promoted. To the extent that Parties to the Amended Judgment in consultation with WRD implement a project that provides additional long-term reliable water

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supply to the West Coast Basin, the annual extraction rights in the West Coast Basin will be increased commensurately in an amount to be determined by the Storage Panel to reflect the actual yield enhancement associated with the project. Augmented supplies of water resulting from such a project may be extracted or stored as permitted in this Amended Judgment in the same manner as other water.

B. Participation in any Water Augmentation Project shall be voluntary. The terms of participation will be at the full discretion of the participating Parties. Parties who propose a Water Augmentation Project ("Project Leads") may do so in their absolute discretion, upon such terms as they may determine and with Storage Panel approval. All other Parties will be offered a reasonable opportunity to participate in any Water Augmentation Project on condition that they share proportionately in generally common costs and benefits, and assume the obligation to bear exclusively the cost of any improvements that are required to accommodate their individual or peculiar needs.

C. Advance written notice shall be provided which reasonably describes the potential project and the proposed terms under which a Party may "opt-in." Parties shall be afforded a reasonable time under the then prevailing circumstances for appropriate deliberation and action by the Parties. Disputes as to the adequacy of the notice and the time for project approval may be referred to the Storage Panel and then to the Court under its continuing jurisdiction.

D. Parties may elect, in their discretion, to opt into a Water Augmentation Project ("Project Participants") so long as they agree to offer customary written and legally binding assurances that they will bear their proportionate share of all costs attributable to the Water Augmentation Project or provide other valuable consideration that is deemed sufficient by the Project Leads and Project Participants.

E. All Water Augmentation Projects must be pre-approved by the Storage Panel, as provided in Section V.12. The Storage Panel shall determine the amount of additional groundwater extraction authorized as a result of a Water Augmentation Project, which determination shall be based upon substantial evidence. The amount of additional groundwater

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extraction shall not exceed the amount by which the Water Augmentation Project will increase the long-term sustainable yield of the Basin. No extraction right shall be established and no extraction shall occur until new water has been actually introduced into the Basin as a result of the Water Augmentation Project. Any approval for a Water Augmentation Project shall include provisions: (i) requiring regular monitoring to determine the actual amount of such new water made available; (ii) requiring make up water or equivalent payment therefore to the extent that actual water supply augmentation does not meet projections; and (iii) adjusting water rights attributable to the Water Augmentation Project to match the actual water created. Any approval for a Water Augmentation Project shall be based on a finding the Water Augmentation Project is Technically Feasible and will not cause Material Physical Harm.

F. The right to extract augmented water from the Basin pursuant to a Water Augmentation Project shall be accounted for separately and shall not be added to a Party's Adjudicated Right.

G. A Party that elects to participate and pays its full pro-rata share of costs associated with any Water Augmentation Project, and/or reaches an agreement with other participants based upon other valuable consideration acceptable to the Lead Parties and the remaining Project Participants, will receive a proportionate right to extract the water resulting from the Water Augmentation Project.

H. A Party that does not elect to participate ("Non-Participating Party") will not receive a right to extract water resulting from to the Water Augmentation Project. Non-Participating Parties will not be required to pay any costs, fees or assessments of any kind attributable to the respective Water Augmentation Project including the fees required hereunder for the Watermaster duties or directly or indirectly as the WRD Replenishment Assessment.

I. Because water made available for Water Augmentation will be produced annually, fluctuations in groundwater levels will be temporary, nominal, and managed within the Basin Operating Reserve.

J. WRD shall not obtain any extraction right or other water right under the Amended Judgment by virtue of its consultation in any Water Augmentation Project.

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12. Storage Procedure

A. Storage Reporting and Monitoring

The Administrative Body (defined below) shall: (i) prescribe forms and procedures for the orderly reporting of Stored Water and water from a Water Augmentation Project; (ii) maintain records of all water stored in the Basin; (iii) undertake the monitoring and modeling of Storage Projects, Water Augmentation Projects and New Storage Facilities required by this Judgment; and (iv) provide an accounting of Stored Water and/or water from a Water Augmentation Project within thirty (30) days of a written request by an Adjudicated Rights holder or a Party with rights to Stored Water. For purposes of Sections V.12 and V.13 of this Amended Judgment, Water Augmentation Project(s), New Storage Facilities and Storage Projects that require the approval of the Storage Panel shall collectively be referred to as "Projects."

B. Application and Notification Procedure

(1) Nothing in this Amended Judgment shall alter a Party's duty to comply with CEQA or any other applicable legal requirements as to any Project imposed by applicable law. Further, no action or approval under this Amended Judgment shall constitute a bar to a Party's duty to comply with CEQA or any other legal requirements as to any Project imposed by applicable law. However, a Party to this Amended Judgment who is undertaking or engaging in CEQA review for a Project that requires approval by the Storage Panel shall provide to the Watermaster copies of the notices required under CEQA to be provided to the public within the time periods proscribed by CEQA.

(2) For Projects that require review and approval by the Storage Panel, as provided in Section V.13, the Administrative Body shall provide appropriate applications, and shall work with Project applicant(s) to complete the application documents for presentation to the Storage Panel.

(3) The Administrative Body shall conduct the groundwater modeling necessary to support a Party's application for approval of a Project prior to the Storage Panel's hearing on said Project. Upon receipt of a notice of a lead agency's intention to prepare a CEQA Review Document, the Administrative Body shall conduct the modeling described in Section

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V.12 of this Amended Judgment and submit such modeling to the lead agency for inclusion in the proposed or draft CEQA documentation and the CEQA Review Document, subject to the Party's payment of the costs of that modeling. Such modeling is not required to be conducted by the Administrative Body if the Administrative Body and the Chair of the Water Rights Panel determine in writing that (i) the likely rise in water levels from the proposed Project would be minimal, (ii) other evidence (including any modeling prepared by the Project proponent) demonstrates that the Project will not cause Material Physical Harm after consideration of the factors outlined in Section V.13.B(3), and (iii) an Environmental Impact Report is not required under CEQA. If the Administrative Body and the Chair of the Water Rights Panel make such a determination, they shall promptly inform the entire Storage Panel. Such modeling shall thereafter be conducted by the Administrative Body if either the Water Rights Panel or the Board of Directors of WRD request that such modeling be conducted.

(4) The Party which is the proponent of a proposed Project shall bear all costs associated with the Watermaster's preparation and review of the application for approval of the Project and all costs associated with its implementation, including reimbursement of fees and costs incurred by the Administrative Body in conducting the necessary modeling and other technical studies.

(5) Within 30 days of receipt of an application for a Project or any notification(s) associated with the CEQA review for such Project, the Administrative Body shall provide written notice (either by electronic mail or U.S. postal mail) and access to a copy of the Project application and/or any available CEQA documentation, including the CEQA Review Document, to all Parties to the Amended Judgment. Any Party to the Amended Judgment shall be entitled to submit its own report related to the Project, and the Administrative Body shall consider such report in its processing of the Project application.

(6) As part of the application process, the Administrative Body shall cause the preparation of any study or analysis necessary to determine that the Project is Technically Feasible and will not cause Material Physical Harm, including the appropriate modeling of the cumulative effect of the particular Project on water levels in the West Basin. The

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Administrative Body may rely on CEQA documentation, including the CEQA Review Document, for a Project for the information necessary to make a determination on Technical Feasibility and Material Physical Harm and not prepare any additional analyses if the CEQA documentation contains the necessary information for consideration of the Project including the groundwater modeling required by this Amended Judgment.

C. Notice Process

Within thirty (30) days after submission of the final and complete Project application documents (including the technical reports, CEQA Review Document and modeling results), the Administrative Body shall provide notice (either by electronic mail or U.S. postal mail), and access to copies of the final and complete application documents to all Parties to the Amended Judgment.

13. Review/Approval Process

A. Projects Subject to Review

(1) Storage Projects exempt from the review and approval process provided in this Section V.13 include:

- use of Total Adjudicated Production Rights, except for extraction above one hundred and twenty percent (120%) of a Party's extraction right, as set out in Section IX.1;
- replenishment of the Basin with Replenishment Water by WRD;
- WRD's operations within the Basin Operating Reserve;
- Carryover Conversion; and
- Use of Existing Facilities to store water in the Individual Storage Allocation or the Community Storage Pool.

(2) All other Projects shall be subject to review and approval, as provided in this Section V.13, including, but not limited to, those projects involving:

- material variances to substantive criteria governing projects exempt from the review and approval process;
- modifications to previously approved Projects and related agreements;

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- a Party's proposal for Carryover Conversion in quantities greater than the express apportionment of Adjudicated Storage Capacity on a non-priority, space-available, interim basis, and
- any other means of storage not exempt by Section V.13.A(1).

B. Hearing and Approval Process for Watermaster Review

The following procedures shall be followed by the Watermaster where Storage Panel review is required or permitted under this Amended Judgment.

(1) No later than thirty (30) days after notice has been issued in accordance with Section V.12, the matter shall be set for hearing before the Storage Panel. A staff report shall be submitted by the Administrative Body in conjunction with the completed application documents, which report shall include proposed conditions of approval if the recommendation in the staff report is to approve the Project. The Water Rights Panel may prepare a separate independent staff report, if it elects to do so. Any Party to the Amended Judgment shall be entitled to submit its own report, and such report shall be considered by the Storage Panel as part of its review; however, a Party shall not be entitled to raise issues to the Storage Panel that it failed to raise as part of any previously completed CEQA process for the Project under consideration by the Storage Panel.

(2) Whenever feasible, the WRD Board of Directors and the Water Rights Panel shall conduct a joint hearing (i.e., the presumption shall be in favor of joint hearings). If a joint hearing is not held, the Water Rights Panel hearing shall be conducted in the manner prescribed for public agency hearings under the Brown Act.

(3) Factors to be considered in reviewing a Project include (i) facilities in the vicinity of the Project; (ii) proximity to drinking water wells and depths at which such wells are screened; (iii) depth at which water will be added under the Project; (iv) resulting groundwater elevations from the Project based on groundwater modeling conducted by the Administrative Body and, if they elect to do so, the Project proponent, (v) existing contamination, if any, in the vicinity of the Project; (vi) preferential groundwater pathways; (vii) the source of the water for the Project; and (v) information provided by any Party.

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(4) The WRD Board of Directors and the Water Rights Panel shall each adopt written findings explaining their decision on the Project, although if both entities reach the same decision, they shall work together to adopt a uniform set of findings. The findings must include the evaluation of the factors identified in Section V.13.B(3) and a determination that the Project is Technically Feasible and will not cause Material Physical Harm.

(5) The Storage Panel shall not be required to conduct a hearing on a Project if it (i) reviews the CEQA Review Document adopted by a lead agency; (ii) the CEQA Review Document includes the groundwater modeling required under this Amended Judgment; (iii) determines that the CEQA Review Document evaluated the factors identified in Section V.13.B(3); and (iv) determines that the CEQA Review Document demonstrates that the Project is Technically Feasible and will not cause Material Physical Harm.

(6) Unless both the WRD Board of Directors and Water Rights Panel approve the Project, the application shall be deemed denied (a "Project Denial"), provided, however, that if either the WRD Board of Directors or the Water Rights Panel is unable to render a decision on the application due to a conflict of interest arising under Section V.13 (A)(8) of this Amended Judgment, then the application shall be deemed approved if the remaining body of the Storage Panel approves the application. If both the WRD Board of Directors and Water Rights Panel approve the Project, the Project shall be deemed approved (a "Project Approval").

(7) If the Storage Panel approves the Project, it may impose reasonable conditions of approval on matters relevant to the Project, which shall include mandatory conditions of approval including annual limits on the amount of Stored Water, annual extraction limits of Stored Water, and water quality standards. The WRD Board of Directors and the Water Rights Panel shall work together to adopt a uniform set of conditions of approval promulgated after adoption of the Rules pursuant to Section X.1(E) and following the same review and comment process set forth in Section XI.1(E).

(8) Neither WRD nor any member of the Water Rights Panel shall render any decision on Projects subject to Watermaster review under Section V.13 of this Amendment Judgment if said entity has a conflict of interest under applicable law or the rules and

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regulations promulgated pursuant to Section XI.1(E) with respect to said Project.

(9) Any factual determinations made by the Watermaster, or any constituent body thereof, pursuant to this section, shall be based on the substantial evidence test.

C. Trial Court Review

An applicant, Adjudicated Rights holder or a Party holding rights to Stored Water may seek the Storage Panel's reconsideration of a Project Denial or Project Approval. However, there shall be no process for mandatory reconsideration or mediation of a Project Approval or a Project Denial either before the Administrative Body or the Water Rights Panel. Any Party may file an appeal from a Project Approval or Project Denial with this Court, as further described in Section XI.4.D. The Trial Court shall review the decisions of the Watermaster, Storage Panel and Water Rights Panel in accordance with Section XI.4(D)

14. Excess Production

In order to meet possible emergencies, each of the Parties who is adjudged to have an Adjudicated Right and not possessing Stored Water, is permitted to extract from the Basin in any Administrative Year for beneficial use an amount in excess of each such Party's Total Adjudicated Production Rights not to exceed two (2) acre-feet or ten percent (10%) of such Party's Total Adjudicated Production Rights, whichever is the larger, and in addition thereto, such greater amount as may be approved by the Court. Notwithstanding Section XI.4 herein, if such greater amount is recommended by the Water Rights Panel, such order of Court may be made *ex parte*. Each such Party so extracting water in excess of its Total Adjudicated Production Rights shall be required to reduce its extractions below its Total Adjudicated Production Rights by an equivalent amount in the Administrative Year next following. Such requirement shall be subject to the proviso that in the event the Court determines that such reduction will impose upon such a Party, or others relying for water service upon such Party, an unreasonable hardship, the Court may grant an extension of time within which such Party may be required to reduce its extractions by the amount of the excess theretofore extracted by such Party.

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VI. PHYSICAL SOLUTION - EXCHANGE POOL

As a further part of said physical solution herein imposed:

1. Mandatory Offer to Exchange Pool

Not less than sixty (60) days prior to the beginning of each Administrative Year, each Party having supplemental water available to it through then existing facilities, other than water which any such Party has the right to extract hereunder, shall file with the Water Rights Panel the offer of such Party to release to the Exchange Pool the amount by which such Party's Adjudicated Right exceeds one-half of the estimated total required use of water by such Party during the ensuing Administrative Year, provided that the amount required to be so offered for release shall not exceed the amount such Party can replace with supplemental water so available to it.

2. Basis of Offer to Exchange Pool; Redetermination of Offer by Water Rights Panel

Such estimate of total required use and such mandatory offer shall be made in good faith and shall state the basis on which the offer is made, and shall be subject to review and redetermination by the Water Rights Panel, who may take into consideration the prior use by such Party for earlier Administrative Years and all other factors indicating the amount of such total required use and the availability of replacement water.

3. Voluntary Offer to Exchange Pool

Any Party filing an offer to release water under the mandatory provisions of this Section VI may also file a voluntary offer to release any part or all of any remaining amount of water which such Party has the right under this Amended Judgment to pump or otherwise extract from the Basin, and any Party who is not required to file an offer to release water may file a voluntary offer to release any part or all of the amount of water which such Party has the right under this Amended Judgment to pump or otherwise extract from the basin. All such voluntary offers shall be made not less than sixty (60) days prior to the beginning of each Administrative Year.

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4. Price of Water Offered to Exchange Pool

Each offer to release water pursuant to this Section VI shall be the price per acre-foot declared and determined at the time of the filing of such offer by the releasing Party; provided that:

(a) such price per acre-foot shall not exceed the price that the releasing Party would have to pay to obtain from others, in equal monthly amounts, through existing facilities, a quantity of supplemental water equal in amount to that offered to be released; *or*

(b) if any such releasing Party has no existing facilities through which to obtain water from others, such price shall not exceed the sum of the price per acre-foot charged by MWD and West Coast Basin Municipal Water District to municipalities and public utilities for water received from MWD.

5. Price Dispute Objection - Water Rights Panel Determination

A. In the event of a dispute as to any price at which water is offered for release, any Party affected thereby may, within thirty (30) days thereafter, by an objection in writing, refer the matter to the Water Rights Panel for determination. Within thirty (30) days after such objection is filed, the Water Rights Panel shall consider said objection and shall make its finding as to the price at which said water should be offered for release and notify all Parties.

B. The costs of such determination shall be apportioned or assessed by the Water Rights Panel in its discretion between or to the Parties to such dispute, and the Water Rights Panel shall have the power to require, at any time prior to making such determination, any Party or Parties to such dispute to deposit with the Water Rights Panel funds sufficient to pay the cost of such determination.

C. Any Party may appeal to the Court from a decision of the Water Rights Panel as provided in Section XI.4. Pending the Court's determination if the water so offered has been allocated, the Party making the offer shall be paid the price declared in its offer, subject to appropriate adjustment upon final determination.

6. Request for Water From Exchange Pool

A. Not less than sixty (60) days prior to the beginning of each Administrative

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Year, any Party whose estimated demand for water during the ensuing Administrative Year exceeds the sum of all of the Party's supplies available to it from the Basin under this Amended Judgment, may file with the Water Rights Panel a request for the release of water in the amount that said estimated demand exceeds said available supply. Such request shall be made in good faith and shall state the basis upon which the request is made, and shall be subject to review and redetermination by the Water Rights Panel.

B. Within thirty (30) days thereafter, the Water Rights Panel shall advise, in writing, those Parties requesting water of the estimated price thereof. Any Party desiring to amend its request by reducing the amount requested may do so after the service of such notice.

C. Prior to the first day of each Administrative Year, the Water Rights Panel shall determine if sufficient water has been offered to satisfy all requests. If it determines that sufficient water has not been offered, it shall reduce such requests pro rata in the proportion that each request bears to the total of all requests.

D. Not later than the first day of each Administrative Year, the Water Rights Panel shall advise all Parties offering to release water of the quantities to be released by each and accepted in the Exchange Pool and the price at which such water is offered. Simultaneously, it shall advise all Parties requesting water of the quantities of released water allocated from the Exchange Pool and to be taken by each requesting Party and the price to be paid therefore.

7. Allocation of Exchange Pool Water by Water Rights Panel

A. In allocating water which has been offered for release to the Exchange Pool under Section VI.1, the Water Rights Panel shall first allocate that water required to be offered for release and which is offered at the lowest price, and progressively thereafter at the next lowest price or prices. If the aggregate quantity of water required to be released is less than the aggregate quantity of all requests for the release of water made pursuant to Section VI.6, the Water Rights Panel shall then allocate water voluntarily offered for release and which is offered at the lowest price and progressively thereafter at the next lowest price or prices, provided that the total allocation of water shall not exceed the aggregate of all such requests. Any water offered for release under Section VI and not accepted in the Exchange Pool, and not allocated therefrom,

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shall be deemed not to have been offered for release and may be extracted from the Basin by the Party offering the same as if such offer had not been made.

B. Each Party requesting the release of water for its use and to whom released water is allocated from the Exchange Pool may thereafter, subject to all of the provisions of this Amended Judgment, extract such allocated amount of water from the Basin, in addition to the amount such Party is otherwise entitled to extract hereunder during the Administrative Year for which the allocation is made.

8. Exchange Pool Water Pumped Before Pumper's Own Right

From and after the first day of each Administrative Year, all water extracted from the Basin by any Party requesting the release of water and to whom such water is allocated shall be deemed to have been water so released until the full amount released for use by it shall have been taken, and no such Party shall be deemed to have extracted from the Basin any water under its own right so to do until said amount of released water shall have been extracted. Water extracted from the Basin by Parties pursuant to their request for the release of water shall be deemed to have been taken by the offerors of such water under their own rights to extract water from the Basin.

9. Price and Payment for Water Released for Exchange Pool

A. All Parties allocated water under Section VI.6 shall pay a uniform price per acre-foot for such water, which price shall be the weighted average of the prices at which all the water allocated was offered for release.

B. Each Party shall pay to the Water Rights Panel, in five equal monthly installments during the applicable Administrative Year, an amount equal to the quantity of water allocated to it multiplied by said uniform price. The Water Rights Panel shall bill each such Party monthly for each such installment, the first such billing to be made on or before the first day of the second month of the Administrative Year involved, and payment therefore shall be made to the Water Rights Panel within thirty (30) days after the service of each such statement. If such payment be not made within said thirty (30) days such payment shall be delinquent and a penalty shall be assessed thereon at the rate of one percent (1%) per month until paid. Such delinquent

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payment, including penalty, may be enforced against any Party delinquent in payment by execution or by suit commenced by the Water Rights Panel or by any Party hereto for the benefit of the Water Rights Panel.

C. Promptly upon receipt of such payment, the Water Rights Panel shall make payment for the water released and allocated, first, to the Party or Parties which offered such water at the lowest price, and then through successive higher offered prices up to the total allocated.

VII. ADDITIONAL PUMPING ALLOWED UNDER AGREEMENT WITH WRD DURING PERIODS OF EMERGENCY

A. WRD overlies the West Coast Basin and engages in activities of replenishing the groundwaters thereof with Replenishment Water. During an actual or threatened temporary shortage of the Imported Water supply to West Coast Basin, WRD may, by resolution, determine to subsequently replenish the Basin for any water produced in excess of a Party's Adjudicated Rights hereunder, within a reasonable period of time, pursuant to Over-Production Agreements with such Parties. Such Over-Production Agreements shall not exceed in the aggregate ten thousand (10,000) acre-fee (the "Initial Cumulative Over-Production Cap"). WRD may determine that a quantity of water is available for such agreements that exceed the Initial Cumulative Over-Production Cap (the "Supplemental Over-Production Water") based on a determination made after a public hearing and taking into account the water levels in the Basin and the availability of water to replenish the Basin other than Imported Water. Over-Production Agreements for Supplemental Over-Production Water shall be made available on an equal basis to all Parties with an Adjudicated Right who (i) possess no Carryover or Stored Water, (ii) have purchased Imported Water in the immediately preceding Administrative Year or will receive less water from a Water Purveyor due to the declared drought curtailing that Water Purveyor's available supplies, (iii) have exercised or contractually agreed to not exercise its rights under Section V.14 of this Amended Judgment, and (iv) provide important goods and services to the general public, provided, however, that WRD shall give priority to Parties meeting those criteria who have not entered into an Over-Production Agreement for an portion of the Initial Cumulative

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Over-Production Cap. Over-Production Agreements for Supplemental Over-Production Water shall be on the same terms as required under Sections VII.D and E.

B. Notwithstanding any other provision of this Amended Judgment, any Party with Adjudicated Rights who is (i) Water Purveyors, (ii) possess no Carryover or Stored Water, and (iii) have exercised or contractually agreed to not exercise its rights under Section V.14 of this Amended Judgment, is authorized to enter into agreements with WRD under which such Water Purveyors may exceed their Adjudicated Rights for a particular Administrative Year (an "Over-Production Agreement") when the following conditions are met:

(1) WRD is in receipt of a resolution of the Board of Directors of MWD stating there is an actual or immediately threatened temporary shortage of MWD's Imported Water supply compared to MWD's needs, or a temporary inability to deliver MWD's Imported Water supply throughout its service area, which will be alleviated in part by over-pumping from West Coast Basin.

(2) The Board of Directors of both WRD and the Water Rights Panel, by resolutions, concur in the resolution of MWD's Board of Directors and each determine that the temporary overproduction in West Coast Basin will not adversely affect the integrity of the Basin or the sea water barrier maintained along the coast of the West Coast Basin. In said resolution, WRD's Board of Directors shall set a public hearing, and notice the time, place and date thereof (which may be continued from time to time without further notice) and which said notice shall be given by First Class Mail to all Parties. Said notice shall be mailed at least ten (10) days before said scheduled hearing date. At said public hearing, Parties shall be given full opportunity to be heard, and at the conclusion thereof the Board of Directors of WRD by resolution (a "Drought Resolution") decides to proceed with agreements under this Section VII.

C. If WRD has not entered into Over-Production Agreements with Water Purveyors for the entirety of the Initial Cumulative Over-Production Cap within thirty (30) days after the Drought Resolution, then WRD may enter into Over-Production Agreements with other Parties to this Judgment, although the amount of said Agreements shall not cause an exceedance of the Initial Cumulative Over-Production Cap. In considering such Agreements with other

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Parties, WRD shall accord priority to Parties who provide important goods and services to the general public.

D. All Over-Production Agreements with WRD shall be subject to the following requirements, and such reasonable others as WRD's Board of Directors shall require:

(1) The Over-Production Agreements shall be of uniform content except as to the quantity involved, and any special provisions considered necessary or desirable with respect to local hydrological conditions or good hydrologic practice.

(2) The Over-Production Agreements shall be offered to Water Purveyors and Parties, excepting those which WRD's Board of Directors determine should not over-pump because such over-pumping would occur in undesirable proximity to a sea water barrier project designed to forestall sea water intrusion, or within, or in undesirable proximity to, an area within West Coast Basin wherein groundwater levels are at an elevation where over-pumping is, under all the circumstances, undesirable.

(3) The maximum term of any such Over-Production Agreement shall be four (4) months. All such Over-Production Agreements shall commence and end on the same day (and which may be executed at any time within said four month period), unless an extension thereof is authorized by the Court under this Amended Judgment.

(4) The Over-Production Agreements shall contain provisions that the Water Purveyor or Party executing the agreement pay to WRD a price, in addition to the applicable Replenishment Assessment, determined on the following formula: The price per acre-foot of West Basin Municipal Water District's treated domestic and municipal water for the Administrative Year in which the agreement is to run, less the total of: (a) an amount per acre-foot as an allowance on account of incremental cost of pumping, as determined by WRD's Board of Directors; and (b) the rate of the replenishment assessment of WRD for the same Administrative Year. If the term of the Over-Production Agreement is for a period which will be partially in one Administrative Year and partially in another, and a change in either or both the price per acre-foot of West Basin Municipal Water District's treated domestic and municipal water and rate of the replenishment assessment of WRD is scheduled, the price formula shall be

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determined by averaging the scheduled changes with the price and rate then in effect, based on the number of months each will be in effect during the term of the Over-Production Agreement. Any price for a partial acre-foot shall be computed pro rata. Payments shall be due and payable on the principle that over-extractions under the Over-Production Agreement are the last water pumped in the Administrative Year, and shall be payable as the Over-Production Agreement shall provide.

(5) The Over-Production Agreements shall contain provisions that: (a) All of such agreements (but not less than all) shall be subject to termination by WRD if, in the judgment of WRD's Board of Directors, the conditions or threatened conditions upon which they were based have abated to the extent over-extractions are no longer considered necessary; and (b) that any individual agreement or agreements may be terminated if the WRD's Board of Directors finds that Material Physical Harm has developed as a result of over-extractions by any Water Purveyor or Party which have executed said Over-Production Agreements, or for any other reason that WRD's Board of Directors find good and sufficient.

E. Other matters applicable to such Over-Production Agreements and over-pumping thereunder are as follows, and to the extent they would affect obligations of the WRD they shall be anticipated in said Over-Production Agreements:

(1) The quantity of over-pumping permitted shall be additional to that which the Water Purveyor or Party could otherwise over-pump under this Amended Judgment.

(2) The total quantity of permitted over-pumping under all said agreements during said four months shall not exceed ten thousand (10,000) acre-feet, but the individual Water Purveyor or Party shall not be responsible or affected by any violation of this requirement. That total is additional to over-extractions otherwise permitted under this Amended Judgment.

(3) Only one four-month period may be utilized by WRD in entering into such Over-Production Agreements, as to any one emergency or continuation thereof declared by MWD's Board of Directors under Section VII.B(2) hereof.

(4) If any Party claims that it is being damaged or threatened with

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damage by the over-extractions by any Party to such an Over-Production Agreement, the Water Rights Panel or any Party hereto may seek appropriate action of the Court for termination of any such Over-Production Agreement upon notice of hearing served on all Parties. Any such termination shall not affect the obligation of the Party having entered into an Over-Production Agreement pursuant to this Section to make payments under the Over-Production Agreement for over-extractions which previously occurred thereunder.

(5) WRD shall maintain separate accounting and a separate fund of the proceeds from payments made pursuant to agreements entered into under this Section. Said fund shall be utilized solely for purposes of replenishment and the replacement of waters in West Coast Basin. WRD shall, as soon as practicable, cause replenishment in West Coast Basin by the amounts to be over-extracted pursuant to this Section, whether through spreading, injection, or in-lieu agreements.

(6) Over-extractions made pursuant to the said Over-Production Agreements shall not be subject to the "make up" provisions provided in Section V.14, provided, that if any Party fails to make payments as required by the Over-Production Agreement, Water Rights Panel may require such "make up" under Section V.14.

(7) The Water Purveyor or Party under any such Over-Production Agreement may, and is encouraged to, enter into appropriate arrangements with customers who have Adjudicated Rights in West Coast Basin under or pursuant to this Amended Judgment, whereby the Water Purveyor or Party will be assisted in meeting the objectives of the agreement.

(8) Nothing in this Section VII limits the exercise of the reserved and continuing jurisdiction of the court as provided in Sections XII and XIII hereof.

VIII. INJUNCTION

Upon entry of this Amended Judgment, each of the Parties hereto, their successors and assigns, and each of their agents, employees, attorneys, and any and all persons acting by, through, or under them or any of them, are and each of them is hereby perpetually enjoined and restrained from pumping or otherwise extracting from the Basin any water in excess of said Party's Adjudicated Rights, except as otherwise provided in this Amended Judgment. Consistent

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with the Order Amending Judgment to Provide Exclusion Zone, dated December 21, 1995, no person shall construct, operate or maintain a well for the production of groundwater within 2,000 feet of any seawater barrier injection well operated in connection with the West Coast Basin Seawater Barrier Project.

IX. LIMITATIONS UPON EXTRACTION; ORDER OF PRODUCTION

1. Limits on Extractions

The total extraction right for an Administrative Year includes a Party's Total Adjudicated Production Right (to the extent not transferred by agreement or otherwise), and any right to extract Stored Water or Carryover as provided in this Amended Judgment. Any Party who has Carryover and/or Stored Water in the aggregate amount equal to or exceeding twenty percent (20%) of the Party's Total Adjudicated Production Right shall be allowed to extract, in any one Administrative Year, up to one-hundred and twenty percent (120%) of the Party's Total Adjudicated Production Right, except upon prior approval by the Storage Panel, as provided herein. Upon application, the Storage Panel shall approve a Party's request to extract water in excess of one hundred and twenty percent (120%) of such limitation consistent with Section V.13.B. Requests to extract water in excess of one hundred and twenty percent (120%) of a Party's Total Adjudicated Production Right shall be reviewed and either approved or denied by the Storage Panel in accordance with the procedure set forth in Section V.13 of this Amended Judgment.

2. Prioritization of Production

Except as provided in Section V.6.D, unless a Party elects otherwise, production of water from the Basin for the use or benefit of the Parties hereto shall be credited to each such Party in the following order: (i) Exchange Pool production; (ii) production of Carryover Water (but excluding the Carryover Water described in Section V.4.C, (iii) production of water pursuant to a lease or other agreement of an Adjudicated Right; (iv) production of water pursuant to that Party's Adjudicated Right; (v) production of Stored Water; (vi) the production of the Carryover Water described in Section V.4.C; and (vi) emergency production pursuant to an Over-Production Agreement with WRD pursuant to Section VII.

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X. LOSS OF DECREED RIGHTS

A. It is in the best interests of the Parties herein and the reasonable beneficial use of the Basin and its water supply that no Party be encouraged to take and use more water than is actually required. Failure to produce all of the water to which a Party is entitled hereunder shall not, in and of itself, be deemed or constitute an abandonment of such Party's right in whole or in part.

B. No taking of water under Sections III, V, VI and VII hereof, by any Party to this action shall constitute a taking adverse to any other Party; nor shall any Party to this action have the right to plead the statute of limitations or an estoppel against any other Party by reason of its said extracting of water from the Basin pursuant to a request for the release of water; nor shall such release of water to the Exchange Pool by any Party constitute a forfeiture or abandonment by such Party of any part of its Adjudicated Right to water; nor shall such release in anywise constitute a waiver of such right although such water, when released under the terms of this Amended Judgment may be devoted to a public use; nor shall such release of water by any such Party in anywise obligate any Party so releasing to continue to release or furnish water to any other Party or its successor in interest, or to the public generally, or to any Party thereof, otherwise than as provided herein.

XI. WATERMASTER

1. Appointment

A. The constituent bodies specified below are, jointly, hereby appointed Watermaster to administer this Amended Judgment, for an indefinite term, but subject to removal by the Court. Collectively such bodies, which together shall constitute the "Watermaster," shall have restricted powers, duties and responsibilities as specified herein, it being the Court's intention that particular constituent bodies of the Watermaster have only limited and specified powers over certain aspects of the administration of this Amended Judgment.

B. The Outgoing Watermaster has agreed to exercise reasonable diligence in the complete transition of Watermaster duties and responsibilities within a reasonable time following entry of this order, and to make available to the new Watermaster all records

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concerning Watermaster activities.

C. Watermaster, and each of its constituent bodies, as designated below, exist as a special master pursuant to this Amended Judgment and serve at the pleasure of the Court. Nothing herein shall be construed as creating an independent designation of "Watermaster" as a public agency subject to the provisions of CEQA.

D. Chair of the Water Rights Panel (defined below) shall represent the Watermaster before the Court subject to the provisions of Sections XI.2(B)(1) of this Amended Judgment.

E. The Administrative Body and the Water Rights Panel, acting jointly as the Watermaster, shall adopt Watermaster Rules that are reasonably necessary to carry out this Amended Judgment and are consistent with this Amended Judgment. Said Rules shall also include provisions for the appropriate application of existing laws to actions by the Watermaster concerning conflicts of interests; limiting gifts and monies to individuals holding a position on or in any constituent body of Watermaster; hiring outside contractors and consultants; and use of fees and assessments paid to the Watermaster authorized under this Amended Judgment. Within ninety (90) days after entry of this Amended Judgment, the Watermaster shall issue draft Watermaster Rules. The Watermaster Rules and any subsequent amendments shall be subject to a 30 day review and comment period by the Adjudicated Rights holders. The Watermaster is required to respond to all comments received during the 30 day review and comment period within a reasonable amount of time. Thereafter, the Watermaster is required to hold a hearing on the final Watermaster Rules or any amendments before submittal to the Court for review. The Watermaster Rules, and any subsequent amendments thereto, shall be presented to the Court for review and approval upon a noticed motion in the manner set forth in Section XI.4.D herein.

2. Watermaster Constituents

A. Administrative Body

WRD is appointed the Administrative Body of the West Coast Basin Watermaster ("Administrative Body"). In order to assist the Court in the administration and enforcement of the provisions of this Amended Judgment and to keep the Court fully advised, the Administrative

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Body shall have the following duties, powers and responsibilities in addition to those before or hereafter provided in this Judgment.

(1) *Require Reports, Information and Records*

In consultation with the Water Rights Panel, the Administrative Body shall require the Parties to furnish such reports, information and records as may be reasonably necessary to determine compliance or lack of compliance by any Party with the provisions of this Amended Judgment. The Administrative Body shall collect and assemble the records and other data required of the Parties hereto, and evaluate such records and other data as part of its duties herein. The Water Rights Panel shall make its records available to the Administrative Body for record-keeping. The Administrative Body shall maintain copies of all records prepared or received by each body of the Watermaster consistent with the Watermaster Rules. Subject to compliance with all applicable laws protecting the disclosure of a party's confidential or proprietary information, the Administrative Body shall allow any Party or its representative to inspect and copy the Watermaster's records and other data during normal business hours and in accordance with the rules and regulations promulgated by the Watermaster hereafter.

(2) *Notices by Watermaster*

The Administrative Body shall provide notice to all Parties of all material actions or determinations by the Watermaster or any constituent body thereof, which shall be defined or delineated in the Watermaster Rules, and as otherwise provided by this Amended Judgment. The Administrative Body shall set a regular meeting day per month where it can hold a meeting and is required to post the agenda and give notice per the Watermaster Rules. The Watermaster Rules shall identify the days of the month on which the Storage Panel shall hold noticed meetings when a meeting is necessary. If notice is required to be given per email, then the timing for the notice is 5 business days. If the notice is required to be given per U.S. mail, then the timing for the notice is 10 business days. No action or determination of the Watermaster or the constituent bodies thereof shall be valid unless the notice requirements are satisfied.

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(3) *Annual Groundwater Monitoring*

The Administrative Body shall undertake at least one annual groundwater modeling event to evaluate the current condition of the Basin and determine that cumulatively, all Existing Facilities and New Storage Facilities do not pose actual or an imminent threat of Material Physical Harm. Said groundwater modeling shall incorporate the results of modeling conducted by the Administrative Body in accordance with Section V.12 of this Amended Judgment for the Storage Panel's review. The Administrative Body shall provide the Parties notice of and access to the results of the annual groundwater modeling, which notice may be by delivery of the Watermaster's annual report.

(4) *Annual Report*

On or before October 15 of every year, the Administrative Body shall prepare and deliver an annual report for the consideration of the Water Rights Panel. On or before December 15 of every year, the Watermaster shall report to the Court on the Basin and, for that purpose, may adopt the report of the Administrative Body, or separately may make its own report. Each annual report to the Court shall include, but not be limited to, the following:

- All water extractions in the Basin, including that by producers who have no Adjudicated Right;
- Storage accounts maintained by each Party, including Carryover Conversion;
- Proposed and ongoing Water Augmentation Projects;
- Proposed and ongoing Storage Projects;
- Proposed and constructed New Storage Facilities;
- The results of groundwater modeling conducted by the Administrative Body consistent with Section V.12 of this Amended Judgment during the preceding year, which modeling shall including modeling necessary to assess the cumulative effect on water levels in the Basin;
- Exchange Pool operation;
- Use of Developed Water, including Imported Water;
- Violations of the Amended Judgment and corrective action taken by the bodies of the Watermaster having jurisdiction as provided in this Amended Judgment;

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- Change of ownership of Adjudicated Rights;
- Watermaster administration costs;
- Water spread or injected into the Basin, including water injected for seawater intrusion barriers;
- Development of Material Physical Harm, or imminent threat of the development of Material Physical Harm; and
- Recommendations, if any.

(5) *Carryover Conversion Payment*

All payments of the Replenishment Assessment received by WRD from a Party converting Carryover to Stored Water shall be maintained and accounted for by WRD separate from any other funds held by WRD, either in its capacity as the Administrative Body or in its statutory capacity under the WRD Act. WRD shall use said Replenishment Assessments solely for the purpose of securing Replenishment Water for causing replenishment of the West Basin. WRD shall provide an accounting of the monies received, how spent, and, if not spent within an Administrative Year, the total amount maintained by WRD and the reason for not utilizing the funds for that Administrative Year.

(6) *Annual Budget and Appeal Procedure in Relation Thereto*

(a) At all times, the Administrative Body shall maintain a separation in accounting between the expense for performing the administrative functions specified in this Amended Judgment (the "Administrative Budget") and WRD's Replenishment Assessment and operating budget. By April 1 of each Administrative Year, the Administrative Body shall prepare a tentative Administrative Budget for the subsequent year. The Administrative Body shall mail a copy of said tentative Administrative Budget to each of the Parties at least sixty (60) days before the beginning of each Administrative Year. For the first Administrative Year of operation under this Amended Judgment, if the Administrative Body is unable to meet the above time requirement, the Administrative Body shall mail said copies as soon as possible. The Administrative Budget mailed to the Parties shall provide sufficient detail in the Administrative Budget to demonstrate a separation in accounting between the Administrative Budget and WRD's

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Replenishment Assessment and operating budget.

(b) The first year that the Administrative Budget is prepared by the Administrative Body pursuant to this Amended Judgment, the amount of that budget shall not exceed an amount equal to fifty percent (50%) of the 2013-2014 charge for Watermaster service for the West Coast Basin collected from Parties by the Outgoing Watermaster (the "Base Budget Amount"). All increases in future budgets for the Administrative Body above the amount set forth above shall be subject to approval by the Water Rights Panel following a public meeting to be held prior to the beginning of the Administrative Year, provided that the approved budget shall not be less than the amount of the first-year budget for the Administrative Body, except upon further order of the Court. Any administrative function by WRD already paid for by the Replenishment Assessment shall not be added as an expense in the Administrative Budget. Any expense or cost attributable to performing the duties of the Administrative Body imposed by this Amended Judgment shall not be added to WRD's operating budget, or otherwise added to the calculation of the Replenishment Assessment. WRD, operating under the WRD Act, acknowledges that it has been preparing and maintaining financial statements and budgets in accordance with generally accepted accounting principles for state and local governments (GAAP) and conducting audits in accordance with generally accepted government auditing standards (GAGAS). In order to fulfill those budget and accounting provisions of the Amended Judgment relating to WRD acting in its statutory capacity, WRD agrees, acting under the WRD Act, to (i) continue its practice of preparing and maintaining financial statements and budgets in accordance with GAAP and conducting audits in accordance with GAGAS and (ii) certify, each year after an audit is completed within three (3) months after end of the Administrative Year, that no expense in WRD's operating budget or its Replenishment Assessment was charged or assessed contrary to the express provisions of Sections XI.2A5, 6 and 7 of the Amended Judgment. While WRD may approve the proposed Administrative Budget at the same meeting in which WRD adopts its annual Replenishment Assessment or annual budget, the Administrative Body's budget shall be separate and distinct from the Replenishment Assessment imposed pursuant to Water Code § 60317 and WRD's operating budget. If approval by the Water Rights Panel is required

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pursuant to the foregoing, the Water Rights Panel shall act upon the proposed budget within 15 calendar days after the public meeting. If the Water Rights Panel does not approve the budget prior to such deadline, the matter may be appealed to the Court within sixty (60) days.

(c) If any Party has any objection to the Administrative Budget, it shall present the same in writing to the Watermaster within fifteen (15) days after the date of mailing of said tentative budget by the Administrative Body. The Parties shall make the payments otherwise required of them to the Administrative Body even though an appeal of such budget may be pending. Upon any revision by the Court, the Administrative Body shall either remit to the Parties their pro rata portions of any reduction in the budget, or shall credit their accounts with respect to their budget assessments for the next ensuing Administrative Year, as the Court shall direct.

(d) The Administrative Body shall prepare and maintain financial statements and budgets in accordance with generally accepted accounting principles (GAAP) for state and local governments in order to meet this requirement. Audits will be conducted in accordance with generally accepted government auditing standards (GAGAS). The Administrative Body shall, each year after an audit is completed, certify within three (3) months after end of the Administrative Year that no expense was part of the budget or paid for by the budget contrary to the Amended Judgment.

(7) *Administrative Budget as Parties' Costs*

(a) The amount of the Administrative Budget to be assessed to each Party shall be determined as follows: If that portion of the final Administrative Budget to be assessed to the Parties holding an Adjudicated Right is equal to or less than twenty dollars ($20.00) per said Party then the cost shall be equally apportioned among said Parties. If that portion of the final Administrative Budget to be assessed to said Parties is greater than twenty dollars ($20.00) per said Party then each Party holding an Adjudicated Right shall be assessed a minimum of twenty dollars ($20.00), the amount of revenue expected to be received through the foregoing minimum assessments shall be deducted from that portion of the final Administrative Budget to be assessed to the Parties holding an Adjudicated Rights and the balance shall be

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assessed to the Parties having Adjudicated Rights, such balance being divided among them proportionately in accordance with their respective Adjudicated Rights. As a condition of approving a Regional Storage Project or a Water Augmentation Project, the Storage Panel shall require any Party participating in such a Project who does not hold an Adjudicated Right to pay a portion of the Administrative Body's budget consistent with the amount of water that can be stored by the Regional Storage Project relative to the total amount of Adjudicated Rights.

(b) Payment of the assessment provided for herein, subject to adjustment by the Court as provided, shall be made by each such Party prior to beginning of the Administrative Year to which the assessment relates, or within forty (40) days after the mailing of the tentative Administrative Budget, whichever is later. If such payment by any Party is not made on or before said date, the Administrative Body shall add a penalty of five percent (5%) thereof to such Party's statement. Payment required of any Party hereunder may be enforced by execution issued out of the Court, or as may be provided by order hereinafter made by the Court, or by other proceedings by the Watermaster or by any Party hereto on the Watermaster's behalf.

(c) All such payments and penalties received by the Administrative Body shall be expended by it for the administration of this Amended Judgment. Any money remaining at the end of any Administrative Year shall be available for such use in the following Administrative Year. The Administrative Body shall maintain no reserves.

(8) *Concerns About Material Physical Harm*

Any Party shall raise concerns regarding actual or an imminent threat of Material Physical Harm to the Administrative Body or the Storage Panel prior to filing a motion with the Court unless the Party reasonably believes that irreparable harm to the Basin or itself is imminent if the Court does not order provisional relief. If reasonable concerns are raised to the Administrative Body, it shall promptly consider any such concerns including undertaking any investigation, modeling or other technical analysis necessary to address the concern. The Administrative Body shall provide written notice of its determination, and copy of its report, to all Parties by either electronic mail or U.S. postal mail. If a Party disagrees with the Administrative Body's conclusion, the Party may request a hearing before the Storage Panel. Any hearing before the

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Storage Panel shall proceed as outlined in Section V.13.B. Any decision of the Storage Panel shall be reviewable by the Court in accordance with Section XI.4.

(9) *Other Administrative Body Duties*

The Administrative Body shall perform such other duties as directed by the Court and the Watermaster Rules.

B. The Water Rights Panel

The Water Rights Panel shall consist of five (5) members from among representatives of the Parties holding Adjudicated Rights under this Amended Judgment. Three (3) of the members shall be the elected officers of president, vice-president and treasurer of the West Basin Water Association and the remaining two (2) members shall be selected by the Board of Directors of the West Basin Water Association. At least one (1) member of the Water Rights Panel shall be a non-Water Purveyor Adjudicated Rights holder possessing at least 1% of the Adjudicated Rights in the Basin. Members of the Water Rights Panel shall serve without compensation. The Water Rights Panel shall take action by majority of its members. The Water Rights Panel shall have the following duties and responsibilities:

(1) *Judicial Action Concerning Adjudicated Rights and Stored Water*

As among the other bodies of the Watermaster, the Water Rights Panel shall (i) have exclusive authority to move the Court to take such action as may be necessary to enforce the terms of the Amended Judgment, including but not limited to matters involving the extraction and maintenance of Adjudicated Rights, provided, however, that in matters involving Stored Water, the Water Rights Panel and the WRD Board of Directors must concur in the decision to take judicial action, in which case the Chair of the Water Rights Panel shall represent the Storage Panel in such action. If the WRD Board of Directors does not concur in taking judicial action, any Party may file a motion with the Court concerning the matter in their status as Parties to the Judgment if permitted by Section XIII of this Amended Judgment. No Party to the Amended Judgment waives any rights to seek relief or review of the decisions of the Watermaster or any body thereof. The Water Rights Panel's retention of legal counsel shall comply with the Watermaster Rules.

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(2) *Requirement of Measuring Devices*

The Water Rights Panel shall require all parties owning or operating any facilities for the extraction of groundwater from West Basin to install and maintain at all times in good working order at such party's own expense, appropriate measuring devices at such times and as often as may be reasonable under the circumstances and to calibrate or test such devices.

(3) *Inspections by Watermaster*

Subject to compliance with all applicable laws protecting the disclosure of a party's confidential or proprietary information, the Water Rights Panel may make inspections of groundwater production facilities, including aquifer storage and recovery facilities, and measuring devices at such times and as often as may be reasonable under the circumstances and to calibrate or test such devices.

(4) *Reports*

The Water Rights Panel shall be responsible for reporting to the Court concerning Adjudicated Rights in the Basin, including any and all of the following:

- Groundwater extractions;
- Exchange Pool operation;
- Violations of this Amended Judgment and corrective action taken or sought;
- Change of ownership of an Adjudicated Right;
- Assessments made by the Water Rights Panel and any costs incurred;
- Development of Material Physical Harm, or imminent threat of the development of Material Physical Harm; and
- Recommendations, if any.

(5) *Assessment*

The Water Rights Panel shall assess holders of Adjudicated Rights within the West Coast Basin an annual amount not to exceed one dollar ($1.00) per acre-foot of Adjudicated Rights, by majority vote of the members of the Water Rights Panel. The Water Rights Panel may assess a higher amount, subject to being overruled by Majority Protest. If an assessment is assessed in excess of one dollar ($1.00) per acre-foot, the assessment shall only be applied for that

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Administrative Year. The assessment is intended to cover any costs associated with any Amended Judgment enforcement action, the reporting to the Court pursuant to Section XI.2.B(1), and the review of Storage Projects as a component of the Storage Panel, as provided herein. It is anticipated that this body will rely on the Administrative Body's staff for most functions, but the Water Rights Panel may engage its own staff if required in its reasonable judgment and in accordance with the Watermaster Rules. The Water Rights Panel shall prepare and maintain financial statements and budgets in accordance with generally accepted accounting principles (GAAP) for state and local governments in order to meet this requirement. Every other year, the Water Rights Panel shall cause a Review of its Financial Statements by a certified public accountant. The Water Rights Panel shall, each year after a review is completed, certify within three (3) months after end of the Administrative Year that no expense was part of the budget or paid for by the budget contrary to the Amended Judgment. As a condition of approving a Regional Storage Project or a Water Augmentation Project, the Storage Panel will require any Party participating in such a Project who does not hold an Adjudicated Right to pay a reasonable portion of the Water Rights Panel's budget consistent with the amount of water that can be stored by the Regional Storage Project relative to the total amount of Adjudicated Rights.

(6) *Notices*

The Water Rights Panel shall, to the extent practical, hold regular meetings on a quarterly basis or more often as needed. Notices of meetings of the Water Rights Panel shall be provided as required under Section XI.2.A(2).

C. The Storage Panel

The Storage Panel of the Watermaster shall be a bicameral body consisting of (i) the West Coast Basin Water Rights Panel and (ii) the Board of Directors of WRD. Action by the Storage Panel shall require separate action by each of its constituent bodies provided, however, that action can be taken by each constituent body at a joint hearing. The Storage Panel shall have the duties and responsibilities specified with regard to the provisions for the storage and extraction of Stored Water as set forth in Section V and elsewhere within this Amended Judgment.

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D. Capacity As Court-Appointed Watermaster

In performing any duty not required by any other law or regulation, specifically set forth within this Amended Judgment and in conformance with all requirements for said duty therein for the Administrative Body, the Water Rights Panel or the Storage Panel then those bodies shall be deemed to act solely as the Court's appointed Watermaster and not in any other capacity.

3. Limitations on Powers and Duties of the Watermaster and its Constituent Bodies

A. Use of Facilities and Data Collected by Other Governmental Agencies

Where practicable, the three bodies constituting the Watermaster should not duplicate the collection of data relative to conditions of the West Coast Basin which is then being collected by one or more governmental agencies, but where necessary each constituent body of the Watermaster may collect supplemental data. Where it appears more economical to do so, the Watermaster and its constituent bodies are directed to use such facilities of other governmental agencies as are available to it at either no cost or cost agreements with respect to the data collection, receipt of reports, billings to Parties, mailings to Parties, and similar matters.

B. Limitations on WRD's Leasing Authority

WRD shall not engage in a lease of Adjudicated Rights, Stored Water or any other water within the Basin to or from any Party or third party, provided, however, that the foregoing prohibition shall (i) not apply during any emergency declared pursuant to Section VII of this Judgment, (ii) not be interpreted to restrict WRD's ability or authority to lease in water from any source or entity for purposes of replenishment of the Basin or for water quality activities, and (iii) not apply to any reclaimed, recycled or remediated water that may be developed by WRD pursuant to its replenishment authority under WRD's enabling act (California Water Code Section 60000 *et seq.*).

C. Wasted and Nonchargeable Production Authorized By Watermaster

(1) In the event there is a rapid increase in the salinity of water produced from a well within the Basin and the Party producing the water has reason to believe that such increased salinity is the result of or potentially relates to sea water intrusion into the

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Basin, a Party may petition the Administrative Body, acting on behalf of the Watermaster, for its consent to make various changes in the operation of said well and waste the production therefrom during such changed conditions, in an effort to identify the reason for the rapid increase in salinity of the water produced from such well and to attempt to discover a method of operation for said well which will decrease the salinity of the water produced therefrom to such an extent that the well may be used in the future as part of the potable water supply of said Party.

(2) Upon receipt of such petition, the Administrative Body shall consult with the Los Angeles County Flood Control District and may consult with others, as needed, to determine whether such increased salinity in the water produced from said well potentially relates to sea water intrusion into the Basin. After such consultation, should the Administrative Body determine that the higher saline water produced from said well potentially relates to sea water intrusion, the Administrative Body may issue a written approval that authorizes the production and waste of water from said well in a manner which seeks to analyze and find a method of well operation for correction of the increased salinity of the water produced therefrom (a "Salinity Pumping Approval"). Such authorized water production and the waste thereof shall not be charged to the production right of such producing Party and shall be exempt from WRD's Replenishment Assessment.

(3) Regardless of the number of applications therefor, the Administrative Body may authorize a maximum aggregate of 100 acre feet per fiscal year of pumping and water wasting activities authorized under Salinity Pumping Approvals.

(4) If, during such authorized water production and waste thereof, such produced water becomes potable or is used by such producer, the Administrative Body shall immediately issue an order terminating the Salinity Pumping Approval.

(5) The results of all such Salinity Pumping Approvals shall be made available to any party herein upon request therefor to the Watermaster.

D. Material Physical Harm

The Storage Panel shall consider any reasonable concern that a Storage Project, Water Augmentation Project or New Storage Facility either individually or cumulatively is causing or is

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reasonably likely to cause an imminent threat of Material Physical Harm made pursuant to a report or request for hearing received pursuant to Section XI.2.A(8) of this Amended Judgment. The Storage Panel shall act on that matter in accordance with Section V,13(B) of this Amended Judgment. Any Party objecting to the Storage Panel's decision may file a motion with the Court pursuant to Section XI.4.D of this Amended Judgment.

4. Appeal from Watermaster Decisions Other Than With Respect to Budget

A. The provisions of this Section shall not apply to budgetary matters, as to which the appellate procedure is provided in Section XI.2.A(6).

B. Any Party who objects to any rule, determination, order or finding made by the Watermaster, or any constituent body of the Watermaster, may, but is not required to, object in writing delivered to the Administrative Body within thirty (30) days after the date the constituent body of Watermaster mails written notice of the making of such rule, determination, order or finding.

C. Within thirty (30) days after such delivery, the Watermaster, or the affected constituent body thereof, shall consider said objection and shall amend or affirm the ruling, determination, order or finding and shall give notice thereof to all Parties.

D. Within sixty (60) days from the date of said notice of a final ruling, determination, order or finding of a constituent body of the Watermaster, any objecting Party may file with the Court its objection to such final rule, determination, order or finding, and may bring the same on for hearing before the Court at such time as the Court may direct, after first having served said objection upon all other Parties. The Court may affirm, modify, amend or overrule any such rule, determination, order or finding. Any factual determinations made by the Watermaster or any constituent body thereof, shall be reviewed by the Court based on substantial evidence in light of the whole record, and any questions of law shall be reviewed de novo.

E. Any objection under this paragraph shall not stay the rule, determination, order or finding of a constituent body of the Watermaster. However, the Court, by ex parte order, may provide for a stay thereof on application of any interested Party on or after the date that any such Party delivers to the pertinent constituent body of the Watermaster any written objection.

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XII. RESERVED AND CONTINUING JURISDICTION OF COURT

The Court hereby reserves continuing jurisdiction and, upon application of any Party hereto having an Adjudicated Right or upon its own motion, may review: (1) its determination of the safe yield of the Basin, or (2) the Adjudicated Rights, in the aggregate, of all of the Parties as affected by the abandonment or forfeiture of any such rights, in whole or in part, and by the abandonment or forfeiture of any such rights by any other person or entity, and, in the event material change be found, to adjudge that the Adjudicated Right of each Party shall be ratably changed; provided, however, that notice of such review shall be served on all Parties hereto having Adjudicated Rights or any other right under this Amended Judgment to extract groundwater at least thirty (30) days prior thereto. Except as provided herein, and except as rights decreed herein may be abandoned or forfeited in whole or in part, each and every right decreed herein shall be fixed as of the date of the entry hereof.

XIII. JUDGMENT MODIFICATIONS AND FURTHER ORDERS OF COURT

A. The Court further reserves jurisdiction so that at any time, upon its own motion or upon application of any Party hereto having an Adjudicated Right, and upon at least thirty (30) days' notice to all such Parties, to make such modifications of or such additions to, the provisions of this Amended Judgment, or make such further order or orders as may be necessary or desirable for the adequate enforcement, protection or preservation of the Basin and of the rights of the Parties as herein determined.

B. This Amended Judgment does not determine nor affect the determination of whether WRD's adoption of a Replenishment Assessment complied with applicable laws in the event that any Replenishment Assessment is challenged in a legal action.

XIV. RESERVATION OF RIGHTS

All Parties retain all rights not specifically determined herein, including any right, by common law or otherwise, to seek compensation for damages arising out of any act or omission of any person. WRD retains any rights, powers or privileges that it may now have or may hereafter have by reason of provision of law, including but not limited to the WRD Act, provided that WRD shall perform any express duty or obligation specifically imposed on it, either in its

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capacity as the Administrative Body or its statutory capacity, by this Amended Judgment. Further, this Amended Judgment shall not excuse any Party from complying with any applicable law, regulation or order.

XV. DESIGNEES OF PARTIES FOR FUTURE NOTICE AND SERVICE

A. Service of this Amended Judgment on those Parties who have executed and filed with the Court "Agreement and Stipulation for Judgment" or otherwise have named a designee, filed the same herein and have therein designated a person thereafter to receive notices, requests, demands, objections, reports, and all other papers and processes in this cause, shall be made by first class mail, postage prepaid, addressed to such designees (or their successors) and at the address designated for that purpose.

B. Each Party who has not heretofore made such a designation shall, within thirty (30) days after the Amended Judgment herein shall have been served upon that Party or its designee, file with the Court, with proof of service of a copy thereof upon the Watermaster, a written designation of the person to whom and the address at which all future notices, determinations, requests, demands, objections, reports and other papers and processes to be served upon that Party or delivered to that Party, are to be so served or delivered.

C. A later substitute or successor designation filed and served in the same manner by any Party shall be effective from the date of such filing as to the then future notices, determinations, requests, demands, objections, reports and other papers and processes to be served upon or delivered to that Party.

D. Delivery to or service upon any Party by the Watermaster, by any other Party, or by the Court, of any item required to be served upon or delivered to a Party under or pursuant to this Amended Judgment, may be by deposit in the mail, first class, postage prepaid, addressed to the latest designee and at the address in said latest designation filed by that Party.

E. Parties hereto who have not entered their appearance or whose default has been entered and who are adjudged herein to have an Adjudicated Right, and who have not named a designee for service herein, shall be served with all said future notices, papers and process herein, and service herein shall be accomplished, by publication of a copy of such said

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notice, paper or process addressed to, "Parties to the West Coast Basin Adjudication"; said publication shall be made once each week for two successive weeks in a newspaper of general circulation, printed and published in the County of Los Angeles, State of California, and circulated within the West Coast Basin Area; the last publication of which shall be at least two weeks and not more than five weeks immediately preceding the event for which said notice is given or immediately preceding the effective date of any order, paper or process; in the event an effective date other than the date of its execution is fixed by the Court in respect of any order, paper or process, said last publication shall be made not more than five weeks following an event, the entry of an order by the Court, or date of any paper or process with respect to which such notice is given.

XVI. INTERVENTION OF SUCCESSORS IN INTEREST AND NEW PARTIES

Any person who is not a Party herein or successor to such Party and who proposes to produce or store and produce water from the Basin may seek to intervene in this Amended Judgment in accordance with applicable law, including, but not limited to, the California Code of Civil Procedure, or through a Stipulation for Intervention entered into with the Water Rights Panel. The Water Rights Panel may execute said Stipulation on behalf of the other Parties herein, but such Stipulation shall not preclude a Party from opposing such intervention at the time of the court hearing thereon. Said Stipulation for Intervention must thereupon be filed with the Court, which will consider an order confirming said intervention following thirty (30) days' notice thereof to the Parties, served as herein provided. Thereafter, if approved by the Court, such Intervenors shall be a Party herein, bound by this Amended Judgment and entitled to the rights and privileges accorded under the physical solution imposed herein.

XVII. JUDGMENT BINDING ON SUCCESSORS

Subject to the specific provisions hereinbefore contained, this Amended Judgment and all provisions thereof are applicable to, binding upon and inure to the benefit of not only the Parties, but as well to their respective heirs, executors, administrators, successors, assigns, lessees, licensees and to the agents, employees and attorneys-in-fact of any such persons.

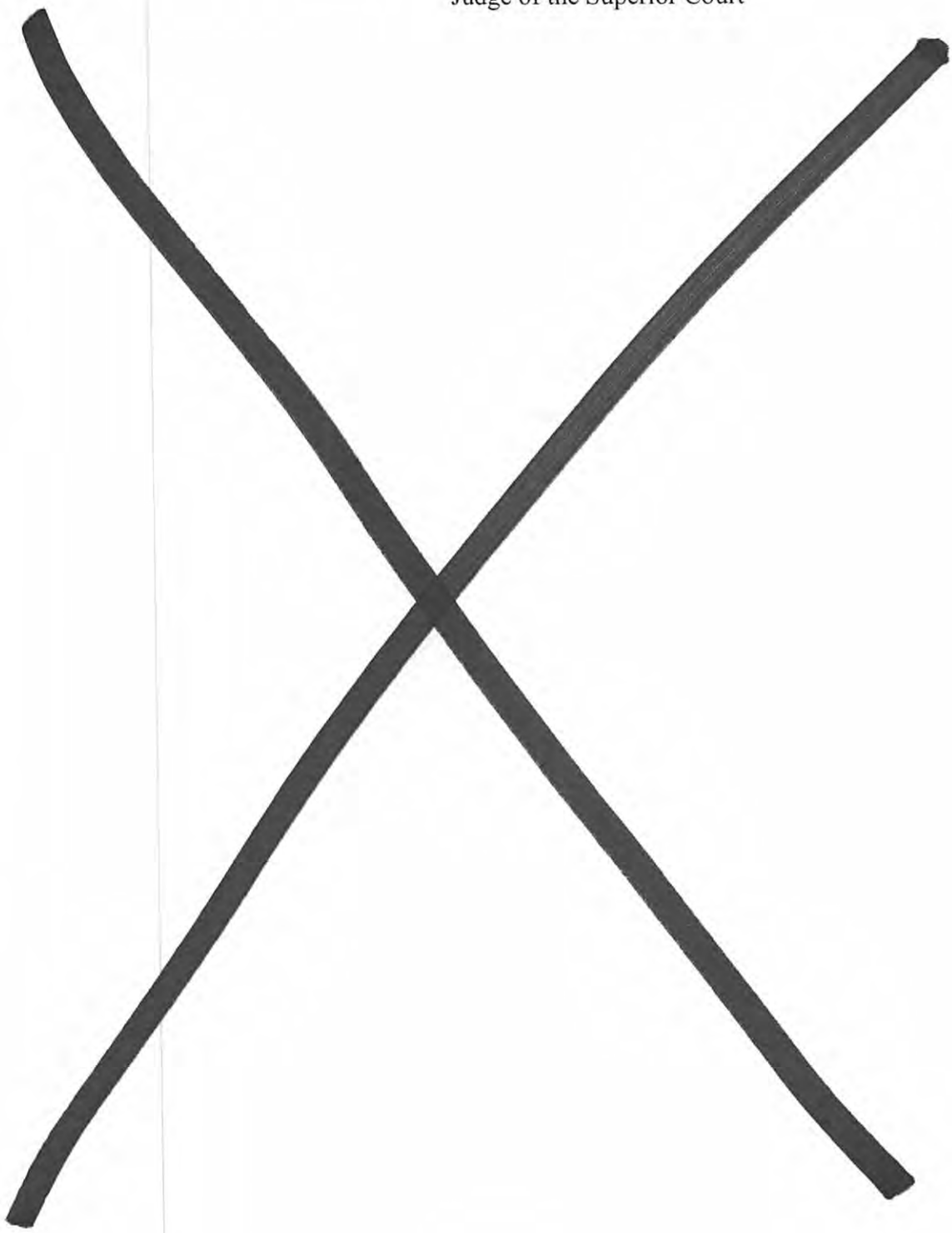
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THE CLERK WILL ENTER THIS AMENDED JUDGMENT FORTHWITH.

DATED: DEC 0 5 2014

KENNETH R. FREEMAN

Judge of the Superior Court



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Appendix E
Water Loss Audit Worksheets

Appendix F
UWMP Outreach and Public Notices

(To be included in final UWMP)

Appendix G
UWMP Standard Reporting Tables
(To be included in final UWMP)

Appendix H
UWMP Act

WATER CODE - WAT

DIVISION 6. CONSERVATION, DEVELOPMENT, AND UTILIZATION OF STATE WATER RESOURCES [10000 - 12999]

(Heading of Division 6 amended by Stats. 1957, Ch. 1932.)

PART 2.6. URBAN WATER MANAGEMENT PLANNING [10610 - 10657]

(Part 2.6 added by Stats. 1983, Ch. 1009, Sec. 1.)

Chapter 1. General Declaration and Policy
Section 10610 - 10610.4

10610.

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

10610.2.

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

(1) The waters of the state are a limited and renewable resource subject to ever-increasing demands.

(2) The conservation and efficient use of urban water supplies are of statewide concern; however, the planning for that use and the implementation of those plans can best be accomplished at the local level.

(3) A long-term, reliable supply of water is essential to protect the productivity of California's businesses and economic climate, and increasing long-term water conservation among Californians, improving water use efficiency within the state's communities and agricultural production, and strengthening local and regional drought planning are critical to California's resilience to drought and climate change.

(4) As part of its long-range planning activities, every urban water supplier should make every effort to ensure the appropriate level of reliability in its water service sufficient to meet the needs of its various categories of customers during normal, dry, and multiple dry water years now and into the foreseeable future, and every urban water supplier should collaborate closely with local land-use authorities to ensure water demand forecasts are consistent with current land-use planning.

(5) Public health issues have been raised over a number of contaminants that have been identified in certain local and imported water supplies.

(6) Implementing effective water management strategies, including groundwater storage projects and recycled water projects, may require specific water quality and salinity targets for meeting groundwater basins water quality objectives and promoting beneficial use of recycled water.

(7) Water quality regulations are becoming an increasingly important factor in water agencies' selection of raw water sources, treatment alternatives, and modifications to existing treatment facilities.

(8) Changes in drinking water quality standards may also impact the usefulness of water supplies and may ultimately impact supply reliability.
(9) The quality of source supplies can have a significant impact on water management strategies and supply reliability.

(b) This part is intended to provide assistance to water agencies in carrying out their long-term resource planning responsibilities to ensure adequate water supplies to meet existing and future demands for water.

(Amended by Stats. 2018, Ch. 14, Sec. 18. (SB 606) Effective January 1, 2019.)

10610.4.

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

(a) The management of urban water demands and efficient use of water shall be actively pursued to protect both the people of the state and their water resources.

(b) The management of urban water demands and efficient use of urban water supplies shall be a guiding criterion in public decisions.

(c) Urban water suppliers shall be required to develop water management plans to achieve the efficient use of available supplies and strengthen local drought planning.

(Amended by Stats. 2018, Ch. 14, Sec. 19. (SB 606) Effective January 1, 2019.)

CHAPTER 2. Definitions [10611 - 10618]

(Chapter 2 added by Stats. 1983, Ch. 1009, Sec. 1.)

10611.

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

(Added by Stats. 1983, Ch. 1009, Sec. 1.)

10611.3.

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

(Added by renumbering Section 10612 by Stats. 2018, Ch. 14, Sec. 20. (SB 606) Effective January 1, 2019.)

10611.5.

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

(Amended by Stats. 1995, Ch. 854, Sec. 3. Effective January 1, 1996.)

10612.

"Drought risk assessment" means a method that examines water shortage risks based on the driest five-year historic sequence for the agency's water supply, as described in subdivision (b) of Section 10635.
(Added by Stats. 2018, Ch. 14, Sec. 21. (SB 606) Effective January 1, 2019.)

10613.
"Efficient use" means those management measures that result in the most effective use of water so as to prevent its waste or unreasonable use or unreasonable method of use.
(Added by Stats. 1983, Ch. 1009, Sec. 1.)

10614.
"Person" means any individual, firm, association, organization, partnership, business, trust, corporation, company, public agency, or any agency of such an entity.
(Added by Stats. 1983, Ch. 1009, Sec. 1.)

10615.
"Plan" means an urban water management plan prepared pursuant to this part. A plan shall describe and evaluate sources of supply, reasonable and practical efficient uses, reclamation and demand management activities. The components of the plan may vary according to an individual community or area's characteristics and its capabilities to efficiently use and conserve water. The plan shall address measures for residential, commercial, governmental, and industrial water demand management as set forth in Article 2 (commencing with Section 10630) of Chapter 3. In addition, a strategy and time schedule for implementation shall be included in the plan.
(Amended by Stats. 1995, Ch. 854, Sec. 4. Effective January 1, 1996.)

10616.
"Public agency" means any board, commission, county, city and county, city, regional agency, district, or other public entity.
(Added by Stats. 1983, Ch. 1009, Sec. 1.)

10616.5.
'Recycled water" means the reclamation and reuse of wastewater for beneficial use.
(Added by Stats. 1995, Ch. 854, Sec. 5. Effective January 1, 1996.)

10617.
"Urban water supplier" means a supplier, either publicly or privately owned, providing water for municipal purposes either directly or indirectly to more than 3,000 customers or supplying more than 3,000 acre-feet of water annually. An urban water supplier includes a supplier or contractor for water, regardless of the basis of right, which distributes or sells for ultimate resale to customers. This part

applies only to water supplied from public water systems subject to Chapter 4 (commencing with Section 116275) of Part 12 of Division 104 of the Health and Safety Code.
(Amended by Stats. 1996, Ch. 1023, Sec. 428. Effective September 29, 1996.)

10617.5.
"Water shortage contingency plan" means a document that incorporates the provisions detailed in subdivision (a) of Section 10632 and is subsequently adopted by an urban water supplier pursuant to this article.
(Added by Stats. 2018, Ch. 14, Sec. 22. (SB 606) Effective January 1, 2019.)

10618.
"Water supply and demand assessment" means a method that looks at current year and one or more dry year supplies and demands for determining water shortage risks, as described in Section 10632.1.
(Added by Stats. 2018, Ch. 14, Sec. 23. (SB 606) Effective January 1, 2019.)

CHAPTER 3. Urban Water Management Plans [10620 - 10645]
(Chapter 3 added by Stats. 1983, Ch. 1009, Sec. 1.)

ARTICLE 1. General Provisions [10620 - 10621]
(Article 1 added by Stats. 1983, Ch. 1009, Sec. 1.)

10620.

(a) Every urban water supplier shall prepare and adopt an urban water management plan in the manner set forth in Article 3 (commencing with Section 10640).

(b) Every person that becomes an urban water supplier shall adopt an urban water management plan within one year after it has become an urban water supplier.

(c) An urban water supplier indirectly providing water shall not include planning elements in its water management plan as provided in Article 2 (commencing with Section 10630) that would be applicable to urban water suppliers or public agencies directly providing water, or to their customers, without the consent of those suppliers or public agencies.

(d)

(1) An urban water supplier may satisfy the requirements of this part by participation in areawide, regional, watershed, or basinwide urban water management planning where those plans will reduce preparation costs and contribute to the achievement of conservation, efficient water use, and improved local drought resilience.

(2) Notwithstanding paragraph (1), each urban water supplier shall develop its own water shortage contingency plan, but an urban water supplier may incorporate, collaborate, and otherwise share information with other urban water suppliers or other governing

entities participating in an areawide, regional, watershed, or basinwide urban water management plan, an agricultural management plan, or groundwater sustainability plan development.

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

(e) The urban water supplier may prepare the plan with its own staff, by contract, or in cooperation with other governmental agencies.

(f) An urban water supplier shall describe in the plan water management tools and options used by that entity that will maximize resources and minimize the need to import water from other regions.

(Amended by Stats. 2018, Ch. 14, Sec. 24. (SB 606) Effective January 1, 2019.)

10621.

(a) Each urban water supplier shall update its plan at least once every five years on or before July 1, in years ending in six and one, incorporating updated and new information from the five years preceding each update.

(b) Every urban water supplier required to prepare a plan pursuant to this part shall, at least 60 days before the public hearing on the plan required by Section 10642, notify any city or county within which the supplier provides water supplies that the urban water supplier will be reviewing the plan and considering amendments or changes to the plan. The urban water supplier may consult with, and obtain comments from, any city or county that receives notice pursuant to this subdivision.

(c) An urban water supplier regulated by the Public Utilities Commission shall include its most recent plan and water shortage contingency plan as part of the supplier's general rate case filings.

(d) The amendments to, or changes in, the plan shall be adopted and filed in the manner set forth in Article 3 (commencing with Section 10640).

(e) Each urban water supplier shall update and submit its 2015 plan to the department by July 1, 2016.

(f) Each urban water supplier shall update and submit its 2020 plan to the department by July 1, 2021.

(Amended by Stats. 2019, Ch. 239, Sec. 7. (AB 1414) Effective January 1, 2020.)

ARTICLE 2. Contents of Plans [10630 - 10634]

(Article 2 added by Stats. 1983, Ch. 1009, Sec. 1.)

10630.

It is the intention of the Legislature, in enacting this part, to permit levels of water management planning commensurate with the numbers of customers served and the volume of water supplied, while accounting for impacts from climate change.

(Amended by Stats. 2018, Ch. 14, Sec. 26. (SB 606) Effective January 1, 2019.)

10630.5.

Each plan shall include a simple lay description of how much water the agency has on a reliable basis, how much it needs for the foreseeable future, what the agency's strategy is for meeting its water needs, the challenges facing the agency, and any other information necessary to provide a general understanding of the agency's plan.

(Added by Stats. 2018, Ch. 14, Sec. 27. (SB 606) Effective January 1, 2019.)

10631.

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

(a) Describe the service area of the supplier, including current and projected population, climate, and other social, economic, and demographic factors affecting the supplier's water management planning. The projected population estimates shall be based upon data from the state, regional, or local service agency population projections within the service area of the urban water supplier and shall be in five-year increments to 20 years or as far as data is available. The description shall include the current and projected land uses within the existing or anticipated service area affecting the supplier's water management planning. Urban water suppliers shall coordinate with local or regional land use authorities to determine the most appropriate land use information, including, where appropriate, land use information obtained from local or regional land use authorities, as developed pursuant to Article 5 (commencing with Section 65300) of Chapter 3 of Division 1 of Title 7 of the Government Code.

(b) Identify and quantify, to the extent practicable, the existing and planned sources of water available to the supplier over the same five-year increments described in subdivision (a), providing supporting and related information, including all of the following:

(1) A detailed discussion of anticipated supply availability under a normal water year, single dry year, and droughts lasting at least five years, as well as more frequent and severe periods of drought, as described in the drought risk assessment. For each source of water supply, consider any information pertinent to the reliability analysis conducted pursuant to Section 10635, including changes in supply due to climate change.

(2) When multiple sources of water supply are identified, a description of the management of each supply in correlation with the other identified supplies.

(3) For any planned sources of water supply, a description of the measures that are being undertaken to acquire and develop those water supplies.

(4) If groundwater is identified as an existing or planned source of water available to the supplier, all of the following information:

(A) The current version of any groundwater sustainability plan or alternative adopted pursuant to Part 2.74 (commencing with Section 10720), any groundwater management plan adopted by the urban water

supplier, including plans adopted pursuant to Part 2.75 (commencing with Section 10750), or any other specific authorization for groundwater management for basins underlying the urban water supplier's service area.

(B) A description of any groundwater basin or basins from which the urban water supplier pumps groundwater. For basins that a court or the board has adjudicated the rights to pump groundwater, a copy of the order or decree adopted by the court or the board and a description of the amount of groundwater the urban water supplier has the legal right to pump under the order or decree. For a basin that has not been adjudicated, information as to whether the department has identified the basin as a high- or medium-priority basin in the most current official departmental bulletin that characterizes the condition of the groundwater basin, and a detailed description of the efforts being undertaken by the urban water supplier to coordinate with groundwater sustainability agencies or groundwater management agencies listed in subdivision (c) of Section 10723 to maintain or achieve sustainable groundwater conditions in accordance with a groundwater sustainability plan or alternative adopted pursuant to Part 2.74 (commencing with Section 10720).

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

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

(c) Describe the opportunities for exchanges or transfers of water on a short-term or long-term basis.

(d)

(1) For an urban retail water supplier, quantify, to the extent records are available, past and current water use, over the same five-year increments described in subdivision (a), and projected water use, based upon information developed pursuant to subdivision (a), identifying the uses among water use sectors, including, but not necessarily limited to, all of the following:

(A) Single-family residential.

(B) Multifamily.
(C) Commercial.
(D) Industrial.
(E) Institutional and governmental.
(F) Landscape.
(G) Sales to other agencies.
(H) Saline water intrusion barriers, groundwater recharge, or conjunctive use, or any combination thereof.
(I) Agricultural.
(J) Distribution system water loss.

(2) The water use projections shall be in the same five-year increments described in subdivision (a).

(3)

(A) The distribution system water loss shall be quantified for each of the five years preceding the plan update, in accordance with rules adopted pursuant to Section 10608.34.

(B) The distribution system water loss quantification shall be reported in accordance with a worksheet approved or developed by the department through a public process. The water loss quantification worksheet shall be based on the water system balance methodology developed by the American Water Works Association.

(C) In the plan due July 1, 2021, and in each update thereafter, data shall be included to show whether the urban retail water supplier met the distribution loss standards enacted by the board pursuant to Section 10608.34.

(4)

(A) Water use projections, where available, shall display and account for the water savings estimated to result from adopted codes, standards, ordinances, or transportation and land use plans identified by the urban water supplier, as applicable to the service area.

(B) To the extent that an urban water supplier reports the information described in subparagraph (A), an urban water supplier shall do both of the following:

(i) Provide citations of the various codes, standards, ordinances, or transportation and land use plans utilized in making the projections.

(ii) Indicate the extent that the water use projections consider savings from codes, standards, ordinances, or transportation and land use plans. Water use projections that do not account for these water savings shall be noted of that fact.

(e) Provide a description of the supplier's water demand management measures. This description shall include all of the following:

(1)

(A) For an urban retail water supplier, as defined in Section 10608.12, a narrative description that addresses the nature and extent of each water demand management measure implemented over the past five years. The narrative shall describe the water demand management measures that the supplier plans to implement to achieve its water use targets pursuant to Section 10608.20.

(B) The narrative pursuant to this paragraph shall include descriptions of the following water demand management measures:

(i) Water waste prevention ordinances.

(ii) Metering.

(iii) Conservation pricing.

(iv) Public education and outreach.

(v) Programs to assess and manage distribution system real loss.

(vi) Water conservation program coordination and staffing support.

(vii) Other demand management measures that have a significant impact on water use as measured in gallons per capita per day, including innovative measures, if implemented.

(2) For an urban wholesale water supplier, as defined in Section 10608.12, a narrative description of the items in clauses (ii), (iv), (vi), and (vii) of subparagraph (B) of paragraph (1), and a narrative description of its distribution system asset management and wholesale supplier assistance programs.

(f) Include a description of all water supply projects and water supply programs that may be undertaken by the urban water supplier to meet the total projected water use, as established pursuant to subdivision (a) of Section 10635. The urban water supplier shall include a detailed description of expected future projects and programs that the urban water supplier may implement to increase the amount of the water supply available to the urban water supplier in normal and single-dry water years and for a period of drought lasting five consecutive water years. The description shall identify specific projects and include a description of the increase in water supply that is expected to be available from each project. The description shall include an estimate with regard to the implementation timeline for each project or program.

(g) Describe the opportunities for development of desalinated water, including, but not limited to, ocean water, brackish water, and groundwater, as a long-term supply.

(h) An urban water supplier that relies upon a wholesale agency for a source of water shall provide the wholesale agency with water use projections from that agency for that source of water in five-year increments to 20 years or as far as data is available. The wholesale agency shall provide information to the urban water supplier for inclusion in the urban water supplier's plan that identifies and quantifies, to the extent practicable, the existing and planned sources of water as required by subdivision (b), available from the wholesale agency to the urban water supplier over the same five-year increments, and during various water-year types in accordance with subdivision (f). An urban water supplier may rely upon water supply information provided by the wholesale agency in fulfilling the plan informational requirements of subdivisions (b) and (f).

(Amended by Stats. 2019, Ch. 239, Sec. 8. (AB 1414) Effective January 1, 2020.)

10631.1.

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

(b) It is the intent of the Legislature that the identification of projected water use for single-family and multifamily residential housing for lower income households will assist a supplier in complying with the requirement under Section 65589.7 of the Government Code to grant a priority for the provision of service to housing units affordable to lower income households.

(Added by Stats. 2005, Ch. 727, Sec. 2. Effective January 1, 2006.)

10631.2.

(a) In addition to the requirements of Section 10631, an urban water management plan shall include any of the following information that the urban water supplier can readily obtain:

(1) An estimate of the amount of energy used to extract or divert water supplies.

(2) An estimate of the amount of energy used to convey water supplies to the water treatment plants or distribution systems.

(3) An estimate of the amount of energy used to treat water supplies.

(4) An estimate of the amount of energy used to distribute water supplies through its distribution systems.

(5) An estimate of the amount of energy used for treated water supplies in comparison to the amount used for nontreated water supplies.

(6) An estimate of the amount of energy used to place water into or withdraw from storage.

(7) Any other energy-related information the urban water supplier deems appropriate.

(b) The department shall include in its guidance for the preparation of urban water management plans a methodology for the voluntary calculation or

estimation of the energy intensity of urban water systems. The department may consider studies and calculations conducted by the Public Utilities Commission in developing the methodology.

(c) The Legislature finds and declares that energy use is only one factor in water supply planning and shall not be considered independently of other factors.

(Amended by Stats. 2018, Ch. 14, Sec. 29. (SB 606) Effective January 1, 2019.)

10632.

(a) Every urban water supplier shall prepare and adopt a water shortage contingency plan as part of its urban water management plan that consists of each of the following elements:

(1) The analysis of water supply reliability conducted pursuant to Section 10635.

(2) The procedures used in conducting an annual water supply and demand assessment that include, at a minimum, both of the following:

(A) The written decisionmaking process that an urban water supplier will use each year to determine its water supply reliability.

(B) The key data inputs and assessment methodology used to evaluate the urban water supplier's water supply reliability for the current year and one dry year, including all of the following:

(i) Current year unconstrained demand, considering weather, growth, and other influencing factors, such as policies to manage current supplies to meet demand objectives in future years, as applicable.

(ii) Current year available supply, considering hydrological and regulatory conditions in the current year and one dry year. The annual supply and demand assessment may consider more than one dry year solely at the discretion of the urban water supplier.

(iii) Existing infrastructure capabilities and plausible constraints.

(iv) A defined set of locally applicable evaluation criteria that are consistently relied upon for each annual water supply and demand assessment.

(v) A description and quantification of each source of water supply.

(3)

(A) Six standard water shortage levels corresponding to progressive ranges of up to 10, 20, 30, 40, and 50 percent shortages and greater than 50 percent shortage. Urban water suppliers shall define these shortage levels based on

the suppliers' water supply conditions, including percentage reductions in water supply, changes in groundwater levels, changes in surface elevation or level of subsidence, or other changes in hydrological or other local conditions indicative of the water supply available for use. Shortage levels shall also apply to catastrophic interruption of water supplies, including, but not limited to, a regional power outage, an earthquake, and other potential emergency events.

(B) An urban water supplier with an existing water shortage contingency plan that uses different water shortage levels may comply with the requirement in subparagraph (A) by developing and including a cross-reference relating its existing categories to the six standard water shortage levels.

(4) Shortage response actions that align with the defined shortage levels and include, at a minimum, all of the following:

(A) Locally appropriate supply augmentation actions.

(B) Locally appropriate demand reduction actions to adequately respond to shortages.

(C) Locally appropriate operational changes.

(D) Additional, mandatory prohibitions against specific water use practices that are in addition to state-mandated prohibitions and appropriate to the local conditions.

(E) For each action, an estimate of the extent to which the gap between supplies and demand will be reduced by implementation of the action.

(5) Communication protocols and procedures to inform customers, the public, interested parties, and local, regional, and state governments, regarding, at a minimum, all of the following:

(A) Any current or predicted shortages as determined by the annual water supply and demand assessment described pursuant to Section 10632.1.

(B) Any shortage response actions triggered or anticipated to be triggered by the annual water supply and demand assessment described pursuant to Section 10632.1.

(C) Any other relevant communications.

(6) For an urban retail water supplier, customer compliance, enforcement, appeal, and exemption procedures for triggered shortage response actions as determined pursuant to Section 10632.2.

(7)

(A) A description of the legal authorities that empower the urban water supplier to implement and enforce its shortage response actions specified in paragraph (4) that may include, but are not limited to, statutory authorities, ordinances, resolutions, and contract provisions.

(B) A statement that an urban water supplier shall declare a water shortage emergency in accordance with Chapter 3 (commencing with Section 350) of Division 1.

(C) A statement that an urban water supplier shall coordinate with any city or county within which it provides water supply services for the possible proclamation of a local emergency, as defined in Section 8558 of the Government Code.

(8) A description of the financial consequences of, and responses for, drought conditions, including, but not limited to, all of the following:

(A) A description of potential revenue reductions and expense increases associated with activated shortage response actions described in paragraph (4).

(B) A description of mitigation actions needed to address revenue reductions and expense increases associated with activated shortage response actions described in paragraph (4).

(C) A description of the cost of compliance with Chapter 3.3 (commencing with Section 365) of Division 1.

(9) For an urban retail water supplier, monitoring and reporting requirements and procedures that ensure appropriate data is collected, tracked, and analyzed for purposes of monitoring customer compliance and to meet state reporting requirements.

(10) Reevaluation and improvement procedures for systematically monitoring and evaluating the functionality of the water shortage contingency plan in order to ensure shortage risk tolerance is adequate and appropriate water shortage mitigation strategies are implemented as needed.

(b) For purposes of developing the water shortage contingency plan pursuant to subdivision (a), an urban water supplier shall analyze and define water features that are artificially supplied with water, including ponds, lakes, waterfalls, and fountains, separately from swimming pools and spas, as defined in subdivision (a) of Section 115921 of the Health and Safety Code.

(c) The urban water supplier shall make available the water shortage contingency plan prepared pursuant to this article to its customers and any city or county within which it provides water supplies no later than 30 days after adoption of the water shortage contingency plan.

(Repealed and added by Stats. 2018, Ch. 14, Sec. 32. (SB 606) Effective January 1, 2019.)

10632.1.

An urban water supplier shall conduct an annual water supply and demand assessment pursuant to subdivision (a) of Section 10632 and, on or before July 1 of each year, submit an annual water shortage assessment report to the department with information for anticipated shortage, triggered shortage response actions, compliance and enforcement actions, and communication actions consistent with the supplier's water shortage contingency plan. An urban water supplier that relies

on imported water from the State Water Project or the Bureau of Reclamation shall submit its annual water supply and demand assessment within 14 days of receiving its final allocations, or by July 1 of each year, whichever is later.
(Amended by Stats. 2019, Ch. 239, Sec. 9. (AB 1414) Effective January 1, 2020.)

10632.2.
An urban water supplier shall follow, where feasible and appropriate, the prescribed procedures and implement determined shortage response actions in its water shortage contingency plan, as identified in subdivision (a) of Section 10632, or reasonable alternative actions, provided that descriptions of the alternative actions are submitted with the annual water shortage assessment report pursuant to Section 10632.1. Nothing in this section prohibits an urban water supplier from taking actions not specified in its water shortage contingency plan, if needed, without having to formally amend its urban water management plan or water shortage contingency plan.
(Added by Stats. 2018, Ch. 14, Sec. 34. (SB 606) Effective January 1, 2019.)

10632.3.
It is the intent of the Legislature that, upon proclamation by the Governor of a state of emergency under the California Emergency Services Act (Chapter 7 (commencing with Section 8550) of Division 1 of Title 2 of the Government Code) based on drought conditions, the board defer to implementation of locally adopted water shortage contingency plans to the extent practicable.
(Added by Stats. 2018, Ch. 14, Sec. 35. (SB 606) Effective January 1, 2019.)

10632.5.
(a) In addition to the requirements of paragraph (3) of subdivision (a) of Section 10632, beginning January 1, 2020, the plan shall include a seismic risk assessment and mitigation plan to assess the vulnerability of each of the various facilities of a water system and mitigate those vulnerabilities.
(b) An urban water supplier shall update the seismic risk assessment and mitigation plan when updating its urban water management plan as required by Section 10621.
(c) An urban water supplier may comply with this section by submitting, pursuant to Section 10644, a copy of the most recent adopted local hazard mitigation plan or multihazard mitigation plan under the federal Disaster Mitigation Act of 2000 (Public Law 106-390) if the local hazard mitigation plan or multihazard mitigation plan addresses seismic risk.
(Added by Stats. 2015, Ch. 681, Sec. 1. (SB 664) Effective January 1, 2016.)

10633.
The plan shall provide, to the extent available, information on recycled water and its potential for use as a water source in the service area of the urban water supplier. The preparation of the plan shall be coordinated with local water,

wastewater, groundwater, and planning agencies that operate within the supplier's service area, and shall include all of the following:

(a) A description of the wastewater collection and treatment systems in the supplier's service area, including a quantification of the amount of wastewater collected and treated and the methods of wastewater disposal.

(b) A description of the quantity of treated wastewater that meets recycled water standards, is being discharged, and is otherwise available for use in a recycled water project.

(c) A description of the recycled water currently being used in the supplier's service area, including, but not limited to, the type, place, and quantity of use.

(d) A description and quantification of the potential uses of recycled water, including, but not limited to, agricultural irrigation, landscape irrigation, wildlife habitat enhancement, wetlands, industrial reuse, groundwater recharge, indirect potable reuse, and other appropriate uses, and a determination with regard to the technical and economic feasibility of serving those uses.

(e) The projected use of recycled water within the supplier's service area at the end of 5, 10, 15, and 20 years, and a description of the actual use of recycled water in comparison to uses previously projected pursuant to this subdivision.

(f) A description of actions, including financial incentives, which may be taken to encourage the use of recycled water, and the projected results of these actions in terms of acre-feet of recycled water used per year.

(g) A plan for optimizing the use of recycled water in the supplier's service area, including actions to facilitate the installation of dual distribution systems, to promote recirculating uses, to facilitate the increased use of treated wastewater that meets recycled water standards, and to overcome any obstacles to achieving that increased use.

(Amended by Stats. 2009, Ch. 534, Sec. 2. (AB 1465) Effective January 1, 2010.)

10634.

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

(Added by Stats. 2001, Ch. 644, Sec. 3. Effective January 1, 2002.)

ARTICLE 2.5. Water Service Reliability [10635- 10635.]

(Article 2.5 added by Stats. 1995, Ch. 854, Sec. 11.)

10635.

(a) Every urban water supplier shall include, as part of its urban water management plan, an assessment of the reliability of its water service to its customers during normal, dry, and multiple dry water years. This water supply and demand assessment shall compare the total water supply sources available to the water supplier with the long-term total projected water use

over the next 20 years, in five-year increments, for a normal water year, a single dry water year, and a drought lasting five consecutive water years. The water service reliability assessment shall be based upon the information compiled pursuant to Section 10631, including available data from state, regional, or local agency population projections within the service area of the urban water supplier.

(b) Every urban water supplier shall include, as part of its urban water management plan, a drought risk assessment for its water service to its customers as part of information considered in developing the demand management measures and water supply projects and programs to be included in the urban water management plan. The urban water supplier may conduct an interim update or updates to this drought risk assessment within the five-year cycle of its urban water management plan update. The drought risk assessment shall include each of the following:

(1) A description of the data, methodology, and basis for one or more supply shortage conditions that are necessary to conduct a drought risk assessment for a drought period that lasts five consecutive water years, starting from the year following when the assessment is conducted.

(2) A determination of the reliability of each source of supply under a variety of water shortage conditions. This may include a determination that a particular source of water supply is fully reliable under most, if not all, conditions.

(3) A comparison of the total water supply sources available to the water supplier with the total projected water use for the drought period.

(4) Considerations of the historical drought hydrology, plausible changes on projected supplies and demands under climate change conditions, anticipated regulatory changes, and other locally applicable criteria.

(c) The urban water supplier shall provide that portion of its urban water management plan prepared pursuant to this article to any city or county within which it provides water supplies no later than 60 days after the submission of its urban water management plan.

(d) Nothing in this article is intended to create a right or entitlement to water service or any specific level of water service.

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

(Amended by Stats. 2018, Ch. 14, Sec. 36. (SB 606) Effective January 1, 2019.)

ARTICLE 3. Adoption and Implementation of Plans [10640 - 10645]

(Article 3 added by Stats. 1983, Ch. 1009, Sec. 1.)

10640.

(a) Every urban water supplier required to prepare a plan pursuant to this part shall prepare its plan pursuant to Article 2 (commencing with Section

10630). The supplier shall likewise periodically review the plan as required by Section 10621, and any amendments or changes required as a result of that review shall be adopted pursuant to this article.

(b) Every urban water supplier required to prepare a water shortage contingency plan shall prepare a water shortage contingency plan pursuant to Section 10632. The supplier shall likewise periodically review the water shortage contingency plan as required by paragraph (10) of subdivision (a) of Section 10632 and any amendments or changes required as a result of that review shall be adopted pursuant to this article.

(Amended by Stats. 2018, Ch. 14, Sec. 37. (SB 606) Effective January 1, 2019.)

10641.

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

(Amended by Stats. 2018, Ch. 14, Sec. 38. (SB 606) Effective January 1, 2019.)

10642.

Each urban water supplier shall encourage the active involvement of diverse social, cultural, and economic elements of the population within the service area prior to and during the preparation of both the plan and the water shortage contingency plan. Prior to adopting either, the urban water supplier shall make both the plan and the water shortage contingency plan available for public inspection and shall hold a public hearing or hearings thereon. Prior to any of these hearings, notice of the time and place of the hearing shall be published within the jurisdiction of the publicly owned water supplier pursuant to Section 6066 of the Government Code. The urban water supplier shall provide notice of the time and place of a hearing to any city or county within which the supplier provides water supplies. Notices by a local public agency pursuant to this section shall be provided pursuant to Chapter 17.5 (commencing with Section 7290) of Division 7 of Title 1 of the Government Code. A privately owned water supplier shall provide an equivalent notice within its service area. After the hearing or hearings, the plan or water shortage contingency plan shall be adopted as prepared or as modified after the hearing or hearings.

(Amended by Stats. 2018, Ch. 14, Sec. 39. (SB 606) Effective January 1, 2019.)

10643.

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

(Added by Stats. 1983, Ch. 1009, Sec. 1.)

10644.

(a)

(1) An urban water supplier shall submit to the department, the California State Library, and any city or county within which the

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

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

(b) If an urban water supplier revises its water shortage contingency plan, the supplier shall submit to the department a copy of its water shortage contingency plan prepared pursuant to subdivision (a) of Section 10632 no later than 30 days after adoption, in accordance with protocols for submission and using electronic reporting tools developed by the department.

(c)

(1)

(A) Notwithstanding Section 10231.5 of the Government Code, the department shall prepare and submit to the Legislature, on or before July 1, in the years ending in seven and two, a report summarizing the status of the plans and water shortage contingency plans adopted pursuant to this part. The report prepared by the department shall identify the exemplary elements of the individual plans and water shortage contingency plans. The department shall provide a copy of the report to each urban water supplier that has submitted its plan and water shortage contingency plan to the department. The department shall also prepare reports and provide data for any legislative hearings designed to consider the effectiveness of plans and water shortage contingency plans submitted pursuant to this part.

(B) The department shall prepare and submit to the board, on or before September 30 of each year, a report summarizing the submitted water supply and demand assessment results along with appropriate reported water shortage conditions and the regional and statewide analysis of water supply conditions developed by the department. As part of the report, the department shall provide a summary and, as appropriate, urban water supplier specific information regarding various shortage response actions implemented as a result of annual supplier-specific water supply and demand assessments performed pursuant to Section 10632.1.

(C) The department shall submit the report to the Legislature for the 2015 plans by July 1, 2017, and the report to the Legislature for the 2020 plans and water shortage contingency plans by July 1, 2022.

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

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

(Amended by Stats. 2018, Ch. 14, Sec. 40. (SB 606) Effective January 1, 2019.)

10645.

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

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

(Amended by Stats. 2018, Ch. 14, Sec. 41. (SB 606) Effective January 1, 2019.)

CHAPTER 4. Miscellaneous Provisions [10650 - 10657]

(Chapter 4 added by Stats. 1983, Ch. 1009, Sec. 1.)

10650.

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

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

(b) Any action or proceeding alleging that a plan or water shortage contingency plan, or action taken pursuant to either, does not comply with this part shall be commenced within 90 days after filing of the plan or water shortage contingency plan or an amendment to either pursuant to Section 10644 or the taking of that action.

(Amended by Stats. 2018, Ch. 14, Sec. 42. (SB 606) Effective January 1, 2019.)

10651.

In any action or proceeding to attack, review, set aside, void, or annul a plan or a water shortage contingency plan, or an action taken pursuant to either by an urban water supplier on the grounds of noncompliance with this part, the inquiry shall extend only to whether there was a prejudicial abuse of discretion. Abuse of discretion is established if the supplier has not proceeded in a manner required by law or if the action by the water supplier is not supported by substantial evidence.

(Amended by Stats. 2018, Ch. 14, Sec. 43. (SB 606) Effective January 1, 2019.)

10652.

The California Environmental Quality Act (Division 13 (commencing with Section 21000) of the Public Resources Code) does not apply to the preparation and adoption of plans pursuant to this part or to the implementation of actions taken pursuant to Section 10632. Nothing in this part shall be interpreted as exempting from the California Environmental Quality Act any project that would significantly affect water supplies for fish and wildlife, or any project for implementation of the plan, other than projects implementing Section 10632, or any project for expanded or additional water supplies.
(Amended by Stats. 1995, Ch. 854, Sec. 16. Effective January 1, 1996.)

10653.

The adoption of a plan shall satisfy any requirements of state law, regulation, or order, including those of the board and the Public Utilities Commission, for the preparation of water management plans, water shortage contingency plans, or conservation plans; provided, that if the board or the Public Utilities Commission requires additional information concerning water conservation, drought response measures, or financial conditions to implement its existing authority, nothing in this part shall be deemed to limit the board or the commission in obtaining that information. The requirements of this part shall be satisfied by any urban water demand management plan that complies with analogous federal laws or regulations after the effective date of this part, and which substantially meets the requirements of this part, or by any existing urban water management plan which includes the contents of a plan required under this part.
(Amended by Stats. 2018, Ch. 14, Sec. 44. (SB 606) Effective January 1, 2019.)

10654.

An urban water supplier may recover in its rates the costs incurred in preparing its urban water management plan, its drought risk assessment, its water supply and demand assessment, and its water shortage contingency plan and implementing the reasonable water conservation measures included in either of the plans.
(Amended by Stats. 2018, Ch. 14, Sec. 45. (SB 606) Effective January 1, 2019.)

10655.

If any provision of this part or the application thereof to any person or circumstances is held invalid, that invalidity shall not affect other provisions or applications of this part which can be given effect without the invalid provision or application thereof, and to this end the provisions of this part are severable.
(Added by Stats. 1983, Ch. 1009, Sec. 1.)

10656.

An urban water supplier is not eligible for a water grant or loan awarded or administered by the state unless the urban water supplier complies with this part.
(Amended by Stats. 2018, Ch. 14, Sec. 46. (SB 606) Effective January 1, 2019.)

10657.

The department may adopt regulations regarding the definitions of water, water use, and reporting periods, and may adopt any other regulations deemed necessary or desirable to implement this part. In developing regulations pursuant to this section, the department shall solicit broad public participation from stakeholders and other interested persons.
(Added by Stats. 2018, Ch. 14, Sec. 47. (SB 606) Effective January 1, 2019.)

Appendix I
UWMP Checklist

(To be included in final UWMP)