

CITY OF INGLEWOOD

2010 Urban Water Management Plan

June 2011



Prepared By:
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2010 URBAN WATER MANAGEMENT PLAN



City of Inglewood

June 7, 2011

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2010 URBAN WATER MANAGEMENT PLAN
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ACRONYMS AND ABBREVIATIONS

AB	Assembly Bill
AC	Acre
AF	Acre Feet
AFY	Acre Feet per Year
ARRA	American Recovery and Reinvestment Act of 2009
ASCE	American Society of Civil Engineers
BMP	Best Management Practices
CAWCD	Central Arizona Water Conservation District
CCF	Hundred Cubic Feet
CCR	Consumer Confidence Reports
CDPH	California Department of Public Health
CDOF	California Department of Finance
CFS	Cubic Feet Per Second
CIMIS	California Irrigation Management Information System
CIP	Capital Improvement Plan
CRA	Colorado River Aqueduct
CUWCC	California Urban Water Conservation Council
CVP	Central Valley Project
CVWD	Coachella Valley Water District
DBP	Disinfection Byproducts
D/DBP	Disinfectants and Disinfection Byproducts
DELTA	Sacramento-San Joaquin Delta
DMM	Demand Management Measure
DOE	Department of Energy
DPH	Department of Public Health
DWR	Department of Water Resources
DWCV	Desert Water Agency/Coachella Valley Water District
ECLWRF	Edward C. Little Water Recycling Facility
EIR	Environmental Impact Report
EOC	Emergency Operations Center
EOP	Emergency Operations Plan
EPA	Environmental Protection Agency
ESA	Endangered Species Act
ET	Evapotranspiration
Etc	Evapotranspiration From a Specific Crop
ETo	Evapotranspiration From a Standardized Grass Surface
ETr	Evapotranspiration From a Standardized Alfalfa Surface
FY	Fiscal Year
GIS	Geographical Information System
GPCD	Gallons Per Capita Per Day
GPD	Gallons Per Day
GPF	Gallons Per Flush
GPM	Gallons Per Minute

ACRONYMS AND ABBREVIATIONS (cont'd)

GSWC	Golden State Water Company
HAAs	Haloacetic Acids
IAWP	Interim Agricultural Water Program
ICS	Intentionally Created Surplus
IID	Imperial Irrigation District
In	Inches
IRP	Integrated Resources Plan
IRWD	Irvine Ranch Water District
JWPCP	Joint Water Pollution Control Plant
LACDPW	Los Angeles County Department of Public Works
LACSD	Los Angeles County Sanitation District
LADWP	Los Angeles Department of Water and Power
LAX	Los Angeles International Airport
LBWD	Long Beach Water Department
LRP	Local Resources Program
MAF	Million Acre Feet
MCL	Maximum Contaminant Level
MG	Million Gallons
MGD	Million Gallons per Day
Mg/L	Milligrams Per Liter
Min	Minutes
MOU	Memorandum of Understanding
MTBE	Methyl Tertiary Butyl Ether
MWD	Metropolitan Water District of Southern California
NDMA	N-nitrosodimethylamine
ng/L	Nanogram per Liter
NOAA	National Oceanic and Atmospheric Administration
OEHHA	Office of Environmental Health Hazard Assessment
PCE	Perchloroethylene
pci/L	Picocuries Per Liter
PEIR	Program Environmental Impact Report
PG&E	Pacific Gas & Electric
PHG	Public Health Goal
PPCPs	Pharmaceuticals and Personal Care Products
PVID	Palo Verde Irrigation District
QSA	Quantification Settlement Agreement
RUWMP	Regional Urban Water Management Plan
RWQCB	Regional Water Quality Control Board
SB	Senate Bill
SCAG	Southern California Association of Governments
SDCWA	San Diego County Water Authority
SDP	Seawater Desalination Program
SEA	Scientific Education Adventure

ACRONYMS AND ABBREVIATIONS (cont'd)

SF	Square Feet
SNWA	Southern Nevada Water Authority
SWP	State Water Project
SWRCB	State Water Resources Control Board
TAF	Thousand Acre Feet
TCE	Trichloroethylene
TDML	Total Daily Maximum Loads
TDS	Total Dissolved Solids
THM	Trihalomethanes
TIN	Total Inorganic Nitrogen
TOC	Total Organic Carbon
ug/L	Micrograms Per Liter
ULFT	Ultra Low Flush Toilet
USBR	U.S. Bureau of Reclamation
USEPA	United States Environmental Protection Agency
USGS	United States Geological Survey
UWMP	Urban Water Management Plan
VOC	Volatile Organic Compounds
WAS	Water Augmentation Study
WBMWD	West Basin Municipal Water District
WBWRP	West Basin Water Recycling Plant
WMP	Water Master Plan
WRCC	Western Regional Climate Center
WRD	Water Replenishment District
WSAP	Water Supply Allocation Plan
WSDM	Water Surplus and Drought Management

EXECUTIVE SUMMARY

Background

The California Water Management Planning Act of 1983 as amended, requires urban water suppliers, either publicly or privately owned, providing water for municipal purposes to more than 3,000 customers or supplying more than 3,000 acre-feet per year (AFY), to develop an Urban Water Management Plan (UWMP) every five years. The UWMP documents the availability of an appropriate level of reliability of water service sufficient to meet the needs of various categories of customers during normal, single dry and multiple dry years. The 2010 UWMP must be adopted on or before July 1, 2011 and must be submitted to the California Department of Water Resources with 30 days of adoption.

Senate Bill (SB) X7-7, signed into law in November 2009, requires urban water suppliers to achieve a targeted 20 percent water conservation reduction by 2020 and to identify that target in their 2010 UWMP. SBX7-7 also extends the due date for adoption of 2010 UWMPs from December 31, 2010 to July 1, 2011.

City Water Service Area

The City of Inglewood serves approximately 92,400 customers within its water service area. An additional 26,700 residents of Inglewood reside in areas outside the City's water service area and are served by Golden State Water Company (GSWC) or Cal-American Water Company. These two investor-owned utilities are responsible for preparation of their own UWMPs covering the areas they serve.

The City's water system includes 152 miles of pipe varying in diameter from 3-inches to 30-inches, four active potable water wells, two booster pump stations, two reservoirs, a groundwater treatment plant, two imported water connections to the Metropolitan Water District (MWD) and a total of eight emergency interties with the Los Angeles Department of Water and Power and the GSWC. The City also purchases recycled water from the West Basin Municipal Water District (WBMWD) and distributes it to 18 customers within Inglewood.

Sources of Supply

In 2010, 64 percent of the City's water supply (6,551 AF) came from imported water purchased from MWD through its regional water supplier and MWD member agency WBMWD. The remaining 36 percent of the City's water supply (3,623 AF) came from groundwater pumping. The amount of water the City can pump from the West Coast Basin (groundwater aquifer) is limited by a 1961 Order of the Los Angeles Superior Court (the West Coast Basin Judgment or adjudication) to 4,450 AFY. Generally, the City is entitled to pump up to its maximum allowable extraction right along with any carryover or unused water rights from the previous year and any net leases or exchanges of water rights per agreements with other parties owning those rights.

Water Quality

As required by the U.S. Safe Drinking Water Act, and administered by the California Department of Public Health, the City provides annual water quality reports (also known as Consumer Confidence Reports) to its customers. As noted in the City's most recent water quality report, "*The drinking water quality of the City of Inglewood meets all State of California, Department of Public Health and USEPA drinking water standards set to protect public health.*"

While MWD has identified some water quality issues within supplies obtained from the Colorado River Aqueduct and the State Water Project, they note in their 2010 Regional UWMP, "*Metropolitan has not identified any water quality risk that cannot be mitigated.*" Additionally, both WBMWD and the Water Replenishment District of Southern California (WRD) actively monitor the West Coast Basin for water quality issues. WRD annually collect over 500 groundwater samples from over 250 monitoring wells. Those samples are analyzed for over 100 water quality constituents and appropriate action is taken if necessary.

The City of Inglewood has not experienced any significant water quality problems in the past and does not anticipate any significant changes in the future, due in large part to the mitigation actions taken by MWD, WBMWD and WRD.

Water Reliability Planning

The reliability of the City's water supply is dependent upon the imported water managed and delivered by MWD and WBMWD and the groundwater managed by WRD. These agencies continually strive to protect existing regional water supplies and identify possible new supplies through the implementation of strategic alliances and water exchange programs. In its 2010 Regional UWMP, MWD has projecting surpluses in all years through 2035 under all scenarios, i.e., normal, single-dry and multiple-dry years.

The City of Inglewood continually reviews practices that will provide its customers with adequate and reliable water supplies. The City's 2003 Water Master Plan contained a Capital Improvement Plan (CIP) with a number of recommended water system improvements. Priorities were established based on health, safety and welfare of the public with water system improvements taking precedence over pumping and storage improvements. Projects in the City's on-going CIP include planned replacement of one well, drilling of two new wells, continued implementation of an annual cast iron main replacement program, installation of emergency generators at the groundwater treatment plant and Morningside and North Inglewood Booster Stations, upgrading of the North Inglewood Booster Station, rehabilitation or replacement of the Morningside Reservoir, as well as a number of other projects at various locations throughout the water system.

20x2020 SBX7-7 Water Conservation Targets

As previously noted, SBX7-7 requires urban water supplies to achieve a 20 percent reduction in water usage by 2020, as well as a ten percent reduction by 2015. These

targets, which allow credits for past water conservation efforts, are established by calculating baseline averages based on water usage from the most advantageous ten-year period occurring over the last 15 years. The City's baseline average water usage from 1996-2005 (the most advantageous ten-year period) was 115.4 gallons per capita per day (gpcd). By analyzing the data using a number of allowable alternative methods, the City's conservation targets for 2015 and 2020 have been established at 109.1 gpcd and 102.7 gpcd, respectively.

The City has already met the 2015 water conservation target for four of the past five years (2006, 2008-2010) and has met the 2020 target for the past two years (2009 and 2010). Even if you ignore the past two drought years (2009 and 2010) and assume the three year non-drought period preceding that (2006-2008) was more representative (when baseline per capita usage averaged 106.4 gpcd), it appears that achieving the 2015 and 2020 water conservation per capita demand targets of 109.1 and 102.7, respectively, are well within reach. The relatively small conservation savings that must now be achieved to reach these goals can be realized through a variety of means including: (1) possible increased usage of recycled water; (2) encouraging City residents and businesses to conserve more water; (3) educating the public through a variety of programs on the need for continued water conservation; and (4) continuing to operate and maintain the water distribution system with an eye toward reducing water losses by repairing or eliminating any leaks that develop as soon as practical.

This UWMP presents a series of scenarios for normal, single-dry and multiple dry years. The tables presented in Section 5 of this UWMP are based largely on MWD's future water supply reliability projections as presented in their 2010 Regional UWMP as well as the City's adjudicated groundwater rights. Based on this information, it is projected that Inglewood will have surplus available water supplies under all scenarios through 2035. In normal years, supply is anticipated to exceed demand by percentages varying from 38 to 48 percent depending on the year. In single-dry years, those surpluses vary from 23 to 34 percent. In multiple-dry years, the projected surpluses vary from 10 to 21 percent.

Water Use Provisions

Water usage within the City's water service area is projected to increase from 10,069 AFY to 12,735 AFY over the next 25 years. Most of this increase will be realized over the next five years (with a 12,355 AF usage projection in 2015) due to the planned Hollywood Park Redevelopment project scheduled for completion in 2014. Similarly, the number of metered connections in the City's service area is expected to increase from the current 13,248 to 16,356 in 2035, with most of this increase occurring by 2015 when 15,456 metered connections are anticipated to be in place. Eighty-six percent of the current connections serve multi or single family residential units with about ten percent serving commercial and institutional customers. The remaining four percent serve other miscellaneous industrial customers and fire department usages. These percentages are not expected to change significantly over the next 25 years.

Demand Management Measures

The Urban Water Management Planning Act requires implementation of 14 Demand Management Measures (DMM). These 14 DMMs include technologies and methodologies that have been sufficiently documented in multiple demonstration projects to have resulted in more efficient water use and conservation. Implementation of these DMMs will thus reduce the City's reliance on imported water by introducing new alternatives sources to the extent physically and financially practicable. Many of the DMMs are implemented by the City in coordination with WBMWD and their regional conservation programs. Specifically, the 14 DMMs include: (1) water survey programs for single-family residential and multifamily residential customers; (2) residential plumbing retrofit; (3) system water audits, leak detection, and repair; (4) metering with commodity rates for all new connections and retrofit of existing connections; (5) large landscape conservation programs and incentives; (6) high-efficiency washing machine rebate programs; (7) public information programs; (8) school education programs; (9) conservation programs for commercial, industrial, and institutional accounts; (10) wholesale agency programs; (11) conservation pricing; (12) use of a water conservation coordinator; (13) water waste prohibition; (14) residential ultra-low-flush toilet replacement programs

Water Shortage Contingency Planning

The City Council has adopted several Municipal Ordinances relating to water conservation and water shortage contingency planning, including Ordinances Numbers 90-45 (establishing voluntary water conservation goals), 91-6 (declaring a water shortage and adopting mandatory water conservation practices), 93-20 (promoting water conservation practice through landscape water efficiency), and Resolution Number 03-13 (requiring recycled water to be used when permitted by regulatory agencies). Additionally, in 2010, the City Council considered adoption of proposed Ordinance 10-03, which would have established a water conservation and water supply shortage program). These ordinances and resolutions encourage water conservation practices and establish penalties for violating any prohibited usages during times of drought.

Water Recycling

Since 1995, Inglewood has purchased recycled water from WBMWD for distribution to landscape irrigation customers within the City's service area. The City currently serves 18 customers including service connections to Inglewood Park Cemetery, Hollywood Park Race Track, several City parks, Inglewood Unified School District facilities and Caltrans right-of-way. A total of 844 AF was provided to these customers during 2010. As a financial incentive to customers, the City charges only 80 percent of the potable water price to promote the use of recycled water. WBMWD also provides other financial incentives to assist potential customers who may not be covered by the City's incentive program.

1 INTRODUCTION

1.1 PURPOSE AND UWMP SUMMARY

An Urban Water Management Plan (UWMP) prepared by a water purveyor documents the availability of an appropriate level of reliability of water service sufficient to meet the needs of various categories of customers during normal, single dry and multiple dry years. Having such a long-term reliable supply of water is essential to protect the productivity of California's businesses and economic climate. The California Water Management Planning Act of 1983 (Act) as amended, requires urban water suppliers to develop an UWMP every five years in the years ending in zero and five. Under normal circumstances, all 2010 UWMPs would have been due for adoption by the City by December 31, 2010; however, Senate Bill (SB) 7-7 (or SBX7-7) provided an additional six months to retail urban water supply agencies to allow them to conduct additional required water conservation analyses. Thus, the City's 2010 UWMP must now be adopted by the City Council on or before July 1, 2011 and submitted to the Department of Water Resources (DWR) within 30 days of the date of adoption.

In addressing urban water management issues, the legislature made a number of significant declarations including:

- The waters of the state are a limited and renewable resource subject to ever increasing demands;
- Conservation and efficient use of urban water supplies are of statewide concern;
- Successful implementation of plans is best accomplished at the local level;
- Conservation and efficient use of water shall be actively pursued to protect both the people of the state and their water resources;
- Conservation and efficient use of urban water supplies shall be a guiding criterion in public decisions; and
- Urban water suppliers shall be required to develop water management plans to achieve conservation and efficient use.

The City of Inglewood's (City) 2010 UWMP has been prepared in compliance with the requirements of the Act, as amended to 2010¹ (A copy of the Act is included in Appendix A along with SBX7-7), and includes discussion on the following:

- Water Utility Service Area
- Water Utility Facilities
- Water Sources and Supplies
- Water Quality Information

¹ California Water Code, Division 6, Part 2.6; §10610, et. seq. Established by Assembly Bill 797 (1983).

- Water Conservation to Meet SBX7-7 20x2020 Criteria
- Water Reliability Planning
- Water Use Provisions
- Water Demand Management Measures
- Water Shortage Contingency Plan
- Water Recycling

1.2 UWMP UPDATE PREPARATION

The City's 2010 UWMP revises the 2005 UWMP prepared by City staff with assistance from Bucknam and Associates and incorporates changes enacted by recent legislation including SB 1087 (2005), AB 1376 (2007), AB 1465 (2010), and SBX7-7 (2010). A brief summary of each of these legislative changes, as well as other related legislative changes, follows:

- SB 1087 (2005) – Requires retail water suppliers to include single family and multiple family projections for lower income and affordable households in their UWMPs. This legislation is intended to assist the water agencies in complying with the requirements Government Code Section 65589.7, which requires water suppliers to grant a priority for provision of service to housing units affordable to lower income households.
- AB 1376 (2007) – Requires each urban water supplier to notify the Planning Department of any City or County within which the supplier provides water with at least 60 days prior notice that the supplier will be reviewing the plan and considering amendments or changes to it.
- AB 1465 (2010) – Clarifies that urban water suppliers that are members of the California Urban Water Conservation Council (CUWCC) and comply with the provisions of the “*Memorandum of Understanding Regarding Urban Water Conservation in California*”² dated December 10, 2008, as it may be amended (MOU), may submit their annual reports required under the CUWCC MOU as evidence of compliance without the need for any additional documentation in their UWMPs.
- SBX7-7 (2010) – Requires urban water suppliers to include the following information in their 2010 UWMPs with respect to a targeted 20 percent water conservation reduction by 2020: (1) baseline daily per capita use; (2) urban water use target; (3) interim water use target; and (4) compliance daily per capita water use, including technical bases and supporting data for those determinations.

² The *Memorandum of Understanding Regarding Urban Water Conservation in California* (MOU) was adopted in September 1991 by a large number of water suppliers, public advocacy organizations and other interested groups and most recently amended on December 10, 2008. The MOU created the *California Urban Water Conservation Council* and established 16 Best Management Practices (BMPs) for urban water conservation, recently refined to 14 BMPs.

- SBX7-7 (2010) – Extends the deadline for adoption of urban retail water suppliers 2010 UWMPs until July 1, 2011, to provide sufficient time to prepare the additional required water conservation analyses described in the previous bullet.

Other legislation, which does not directly impact UWMPs, but affects eligibility for grants and loans, includes:

- AB 1420 (2007) – This legislation contains several provisions relating to urban water management plans, including:
 - Conditions eligibility for State grant and loan funding to an urban water supplier awarded or administered by DWR, the State Water Resources Control Board, or California Bay-Delta Authority or its successor agency on the following factors: (1) the implementation of water demand management measures, including the extent of compliance with conservation measures described in the previously referenced “*Memorandum of Understanding Regarding Urban Water Conservation in California.*”
 - Requires DWR, in consultation with the State Water Resources Control Board and the California Bay-Delta Authority or its successor agency, to develop eligibility requirements to implement the foregoing grant and loan conditions.
 - Requires DWR, in consultation with the CUWCC, to convene a technical panel no later than January 1, 2009 to provide information and recommendations to the Department and the Legislature on new demand management measures, technologies and approaches. The panel and DWR must report to the legislature on their findings no later than January 1, 2010 and each five years thereafter.
- SBX3-27 (2009) – Exempts projects funded by the American Recovery and Reinvestment Act of 2009 (ARRA) from the conditions placed on state funding for water management to urban water suppliers regarding implementation of water conservation measures that were implemented under AB 1420.
- SBX7-7 (2010) – Repeals the existing grant funding conditions of AB 1420 on July 1, 2016 if they are not extended or altered prior to that date. After July 1, 2016, urban water retail water suppliers are required to be in compliance with the 20 percent by 2020 water use reduction goals to be eligible for state water management grants or loans.

The UWMP also incorporates water use efficiency efforts the City has implemented or is considering implementing pursuant to the previously referenced *Memorandum of Understanding Regarding Urban Water Conservation in California* (MOU). The City of Inglewood is not currently a signatory of the MOU, but is considering membership in the organization.

The sections in this Plan correspond to the outline of the Act, specifically Article 2, Contents of Plans, Sections 10631, 10632, and 10633. The sequence used for the required information; however, differs slightly to allow for presentation of the information in a manner reflecting the unique characteristics of the City's water utility. The Department of Water Resources Urban Water Management Plan Checklist form has been completed and is included in Appendix B. This document identifies the location in this UWMP where required elements can be found.

Plan Adoption

The 2010 UWMP was adopted by resolution of the Inglewood City Council on June 7, 2011 following a public hearing. The Plan was submitted to the California Department of Water Resources and the State Library within 30 days of Council approval. Copies of the Notice of Public Hearing and the Resolution of Plan Adoption are included in Appendix C. Appendix C also includes a copy of the City's letter to the County of Los Angeles providing them with the required 60-day of the public hearing. A copy of the Plan will also be provided to the County of Los Angeles within 60 days of adoption. The Plan will also be made available for public review within 30 days of submittal to DWR.

A draft copy of the Plan was posted on the City's website prior to the public hearing where it was available to the public as well as the County of Los Angeles, West Basin Municipal Water District, Water Replenishment District of Southern California, the Metropolitan Water District of Southern California and all other interested parties.

Agency Coordination

This Plan was developed with significant input from the City of Inglewood Public Works Department staff in coordination with other departments of the City and with overall coordination and assistance from Psomas staff.

To assist Inglewood staff in preparation of the City's 2010 UWMP, City staff and/or Psomas staff attended the following workshops facilitated by DWR and the Metropolitan Water District of Southern California (MWD):

- **MWD:** 2010 UWMP Workshop held on August 18, 2010 at MWD Headquarters.
- **DWR:** On-line webinars held on November 30, 2010, December 16, 2010, January 5, 2011 and January 12, 2011.
- **DWR:** 2010 UWMP Workshop at held at MWD on March 2, 2011.
- **DWR:** 2010 UWMP Workshop held at the Irvine Ranch Water District (IRWD) on March 8, 2011.

Table 1.2-1 lists the entities that Inglewood coordinated with in the development of the City's 2010 UWMP.

**Table 1.2-1
City of Inglewood UWMP Development
Coordination and Public Involvement**

Entities	Coordination and Public Involvement Actions					
	Participated in UWMP preparation	Used Agency Data as an Information Resource	Sent Draft UWMP and/or Available to on City Website	Commented on Draft UWMP	Sent Notice of Public Hearing	Attended Public Hearing
City Water Division	X	X	X	X	X	X
City Planning Department	X	X	X	X	X	X
City Clerk	X	X	X		X	X
DWR		X	X			
WBMWD	X	X	X			
MWD		X	X			
WRD		X	X			
LACSD		X	X			
LA County			X		X	
Golden State Water Company		X	X			X
Cal-American Water Company		X	X			
General Public			X		X	X

In preparing this UWMP, the City also utilized information from MWD’s November 2010 Final Regional UWMP, West Basin Municipal Water District’s (WBMWD) April 2011 Draft 2010 UWMP, and the “*Guidebook to Assist Urban Water Suppliers to Prepare a 2010 Urban Water Management Plan*” prepared by DWR. This UWMP details the specifics as they relate to the City and its service area and will refer to MWD, WBMWD, the Water Replenishment District of Southern California (WRD) and other agencies throughout. Numerous references were used in the development of this UWMP and are cited in footnotes throughout the Plan

Supplier Service Area

The City is dependent on the Metropolitan Water District of Southern California (MWD) through the West Basin Municipal Water District (WBMWD) and the Water Replenishment District of Southern California (WRD) for a portion of its long-term water supply. The City's water supply planning is partially based on the policies, rules, and regulations of these three water agencies. Development of the City’s UWMP was coordinated with WBMWD, which serves as the City’s wholesaler of potable water received from MWD and recycled water it produces at its own treatment plant; WRD, which is responsible for managing, regulating, replenishing, and protecting the quality of

the groundwater supplies within the region, and the Los Angeles County Sanitation District, which manages wastewater generated within the City of Inglewood.

This UWMP details the specifics as they relate to the City of Inglewood Water Utility and its service area and will refer to MWD, WBMWD, and WRD throughout the Plan. Numerous references were used in the development of this UWMP and are cited in footnotes throughout the Plan.

The UWMP is intended to serve as a general, flexible, and open-ended document that can be periodically updated to reflect changes in regional water supply trends, and conservation and water use efficiency policies. This Plan, along with the City's Water Master Plan and other City planning documents, will be used by City staff to guide water use and management efforts through the year 2015, when the UWMP is required to be updated.

1.3 INGLEWOOD INFORMATION AND WATER SERVICE AREA

Location

The City of Inglewood is located in the southwest portion of Los Angeles County approximately ten miles southwest of downtown Los Angeles and two miles east of Los Angeles International Airport (LAX) as depicted on the Figure 1 Vicinity Map. Inglewood has a land area of approximately 9.14 square miles and is predominantly a residential community with areas of commerce and industry. The City is generally flat, with elevations varying from approximately 65 feet to 200 feet above sea level. It is bordered to the south by Hawthorne and to the east, north and west by portions of unincorporated Los Angeles County and the City of Los Angeles.

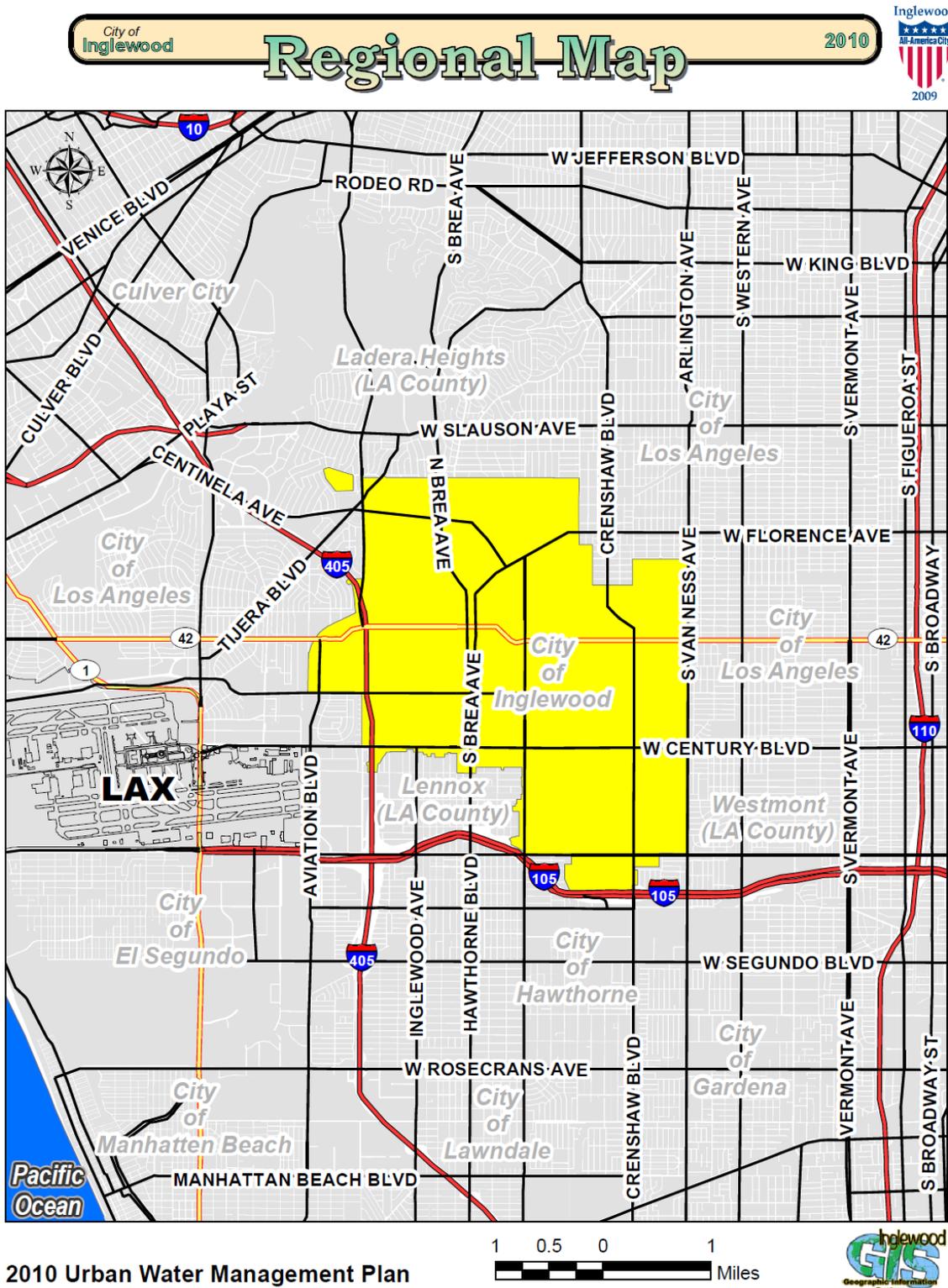
City Management

The City of Inglewood has a four-member City Council with members elected by registered voters to staggered four-year terms. Inglewood's mayor, the fifth member of the Council is elected every four years by a vote of registered voters in the City. The City Manager is appointed by the Mayor and City Council. Other City managerial positions are filled by the City Manager. The Public Works Director is responsible for the operation and management of the City's water system.

Climate Characteristics

The City of Inglewood's climate is characterized by what is known as a Southern California "Mediterranean" climate environment, i.e., a semi-arid environment with mild winters, warm summers and moderate rainfall. The climate for the City is consistent with coastal Southern California. The general region lies in the semi-permanent high-pressure zone of the eastern Pacific. As a result, the climate is mild, tempered by cool sea breezes. The usually mild climatological pattern is interrupted infrequently by periods of extremely hot weather, winter storms, or Santa Ana winds.

Figure 1
City of Inglewood Vicinity Map



The maximum and minimum temperatures over the course of a year average 70.2 and 55.3 degrees Fahrenheit. January is usually the coldest month while August and September are usually the hottest months during the year. Average annual precipitation 12.01 inches, occurring mostly between November and April. Average temperature and precipitation information for the Inglewood area is summarized in Table 1.3-1.

**Table 1.3-1
City of Inglewood Average Temperatures and Rainfall³**

		Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Total or Average
Temp (°F)	Max	65.1	65.3	65.3	67.5	69.2	71.9	75.2	76.4	76.0	73.7	70.3	66.0	70.2
	Min	47.5	49.0	50.5	53.0	56.4	59.7	62.9	63.8	62.6	58.5	52.4	47.9	55.3
Rainfall (inches)		2.70	2.73	1.82	0.77	0.17	0.05	0.02	0.07	0.16	0.37	1.41	1.73	12.01
Snowfall (inches)		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

Evapotranspiration

Evapotranspiration (ET) is the loss of water to the atmosphere by the combined processes of evaporation (from soil and plant surfaces) and transpiration (from plant tissues). It is an indication of how much water crops, lawn, garden, and trees need for healthy growth and productivity.

For ET to take place, the following conditions have to be met. First, water has to be present at the surface. Second, there must be some form of energy to convert the liquid water into a water vapor. Third, there must be a mechanism to transport the water vapor away from the evaporating surface.

Precipitation and irrigation are the two primary sources of water that plants use. Plant leaves and soil surfaces temporarily retain some part of the water applied to the field. This part is readily available for evaporation. The remaining part infiltrates into the soil. Plants extract the infiltrated water through their roots and transport it up to their leaves for photosynthesis, a process by which plants produce glucose (sugar).

Many factors affect ET including:

- Weather parameters such as solar radiation, air temperature, relative humidity and wind speed;

³ Data obtained from Western Regional Climate Center (WRCC), Desert Research Institute, Reno, Nevada (www.wrcc.dri.edu/cgi-bin/cliMAIN.pl?ca5114); WRCC program administered by the National Oceanic and Atmospheric Administration (NOAA); data extracted from monitoring Station 045114 at Los Angeles International Airport (closest WRCC station to Inglewood) covering the period August 1, 1944 through July 31, 2010.

- Soil factors such as soil texture, structure, density and chemistry; and
- Plant factors such as plant type, root depth, foliar density, height and stage of growth.

Although ET can be measured using such devices as lysimeters, estimating ET using analytical and empirical equations is a common practice because measurement methods are expensive and time consuming. Most ET equations were developed by correlating measured ET to measured weather parameters that directly or indirectly affect ET. Since there are so many factors affecting ET, it is extremely difficult to formulate an equation that can produce estimates of ET under different sets of conditions. Therefore, the idea of a reference crop evapotranspiration was developed by researchers. Reference ET is the ET rate of a reference crop expressed in inches or millimeters.

Reference crops are either grass or alfalfa surfaces whose biophysical characteristics have been studied extensively. ET from a standardized grass surface is commonly denoted as E_{To} whereas ET from a standardized alfalfa surface is denoted as E_{Tr} . The American Society of Civil Engineers (ASCE) recommends the use of E_{To} s and E_{Tr} s, respectively, where “s” stands for standardized surface conditions. The logic behind the evapotranspiration idea is to set up weather stations on standardized reference surfaces for which most of the biophysical properties used in ET equations are known. ET from such surfaces can then be estimated using these known parameters and measured weather parameters. Then a crop factor, commonly known as the “crop coefficient” of “ K_c ” is used to calculate the actual evapotranspiration (E_{Tc}) for a specific crop in the same microclimate as the weather station site.

The California Irrigation Management Information System (CIMIS), Department of Water Resources, Office of Water Efficiency is using well-watered actively growing closely clipped grass that is completely shading the soil as a reference crop at most of its over 130 weather stations. Therefore, reference evapotranspiration is mostly referred to as E_{To} on the CIMIS website, although there are a few notable exceptions with E_{Tr} . There are many theoretical and empirical equations around the world to estimate E_{To} . The choice of any one method depends on the accuracy of the equation under a given condition and the availability of the required data. For reference surfaces with known biophysical properties, the main factors affecting E_{To} include solar radiation, relative humidity/vapor pressure, air temperature and wind speed. Therefore E_{To} can be estimated quite accurately using a model (a series of mathematical equations).

The monthly average E_{To} data shown in Table 1.3-2 has been extracted from the CIMIS Santa Monica station (#99), which is the closest station to Inglewood (located near Franklin Street approximately 2,000 feet northwest of Wilshire Boulevard in Santa Monica). This station was activated on December 11, 1992.⁴

⁴ For additional information, refer to the CIMIS website at:
<http://www.cimis.water.ca.gov/cimis/frontStationDetailInfo.do?stationId=99>

**Table 1.3-2
Average Evapotranspiration (ETo) Rates for Inglewood Area⁵**

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Total
ETo (inches)	1.79	2.12	3.30	4.49	4.73	5.03	5.40	5.38	3.94	3.40	2.42	2.22	44.22

Demographics

The United States Census Bureau estimated the City’s population in 2009 at 112,241⁶, down slightly from the 2000 census figure of 112,580. The California Department of Finance (CDOF) estimated the City’s population on January 1, 2009 and January 1, 2010 at 118,427 and 119,053⁷, respectively, which is roughly 5.5 percent higher than the U.S. Census Bureau’s estimate. Given the more detailed and current nature of the CDOF estimate, and the belief by some that the Census Bureau may have undercounted residents of the City in its 2000 census, this report will utilize the 119,053 January 1, 2010 CDOF figure as a baseline population for the City.

The previously referenced population figures represent the entire City; however, a small portion of the City in the Ladera Heights area (generally located west of La Cienega Boulevard and south of West 64th Street) is served by the Cal-American Water Company. A much larger portion of the City (generally located south of West Century Boulevard – refer to Figure 2 for more specific boundary information) is served by the Golden State Water Company. The population residing within these two areas served by the two investor owned water utilities, must therefore be subtracted from the overall City population to determine the population residing within the City of Inglewood water service area.

The service area population for 2010 was derived using the 2000 Census data as well as the 2010 Department of Finance (DOF) population estimates. To calculate the population within the City of Inglewood residing within those areas served by Golden State Water Co. and Cal-American Water Company, the “Alternative Methodology for Service Area Population” in Appendix A of the *Methodologies for Calculating Baseline and Compliance Urban Per Capita Water Use*⁸ was utilized. This method calls for utilizing

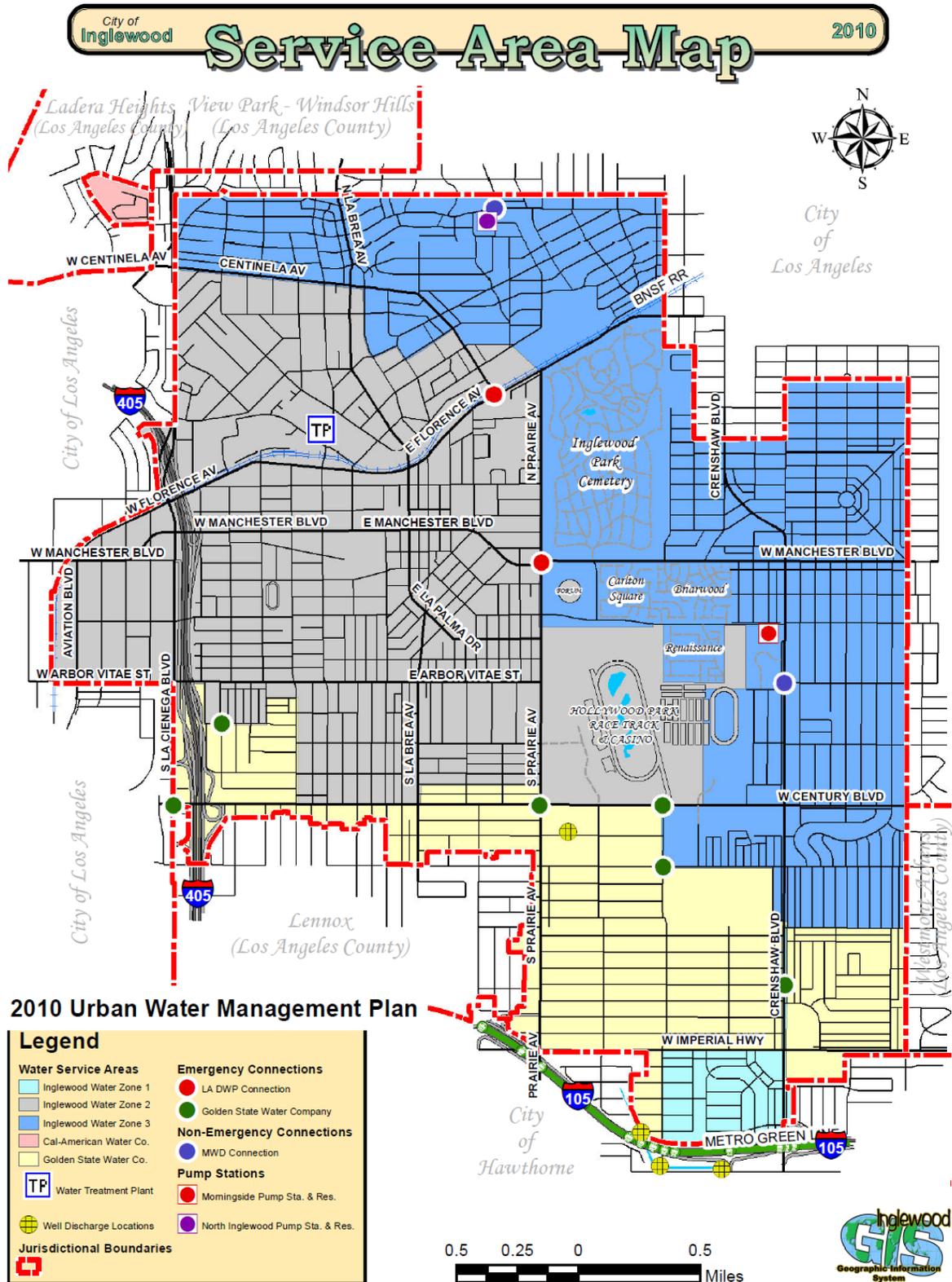
⁵ Data based on CIMIS station #99 in Santa Monica, CA, the closest station to Inglewood (<http://www.cimis.water.ca.gov/cimis/monthlyEToReport.do>); averages are based on the period this station has been in service, i.e., December 1992 through October 2010

⁶ Refer to the U.S. Census Bureau website at: http://factfinder.census.gov/servlet/SAFFPopulation?_event=Search&_name=inglewood&_state=04000US06&_county=inglewood&_cityTown=inglewood&_zip=&_sse=on&_lang=en&pctxt=fph

⁷ Refer to the California Department of Finance website at: <http://www.dof.ca.gov/research/demographic/reports/estimates/e-4/2001-10/>

⁸ This document can be found on DWR’s website at <http://www.water.ca.gov/wateruseefficiency/sb7/docs/methodologies-urban-per-capita-water-use-10042010.pdf>

Figure 2
City of Inglewood Water Service Area



Census tract and blocks to generate population differences where service areas don't match city boundaries. The Census Blocks within the distribution area in the City of Inglewood serviced by either Golden State Water Company or Cal-American Water Company were determined by using a service area map and comparing it to the U.S. Census Bureau's county/tract/block maps. Both block and tract identification numbers were then noted to link the selected blocks with their corresponding population data. Each block's population in 2000 was obtained from the Census Bureau's website under table "Census 2000 Summary File 1 (SF-1) 100-Percent Data", refer to Appendix D.

The percentages of the population served by Golden State Water Company and Cal-American Water Company were each calculated relative to the 2000 Census population of the entire City of Inglewood. The 2010 DOF population estimate for the City was then multiplied by these percentages to obtain the adjusted Golden State Water Company and Cal-American Water Company service area populations. The final City of Inglewood water service area population was then calculated by subtracting the Golden State and Cal-American Water populations from the 2010 DOF population estimate as shown in Table 1.3-3. The Service Area Population for the rest of the years in Table 1.3-3 was calculated using the same concept.

**Table 1.3-3
City of Inglewood Service Area Population With 2000 Census Benchmark**

Year	Total Inglewood Population	Golden State Water		Cal-American Water		Inglewood Service Area Population
		Population	Percent	Population	Percent	
1995	110,988	24,547		314		86,128
1996	110,509	24,441		312		85,756
1997	110,466	24,431		312		85,723
1998	110,835	24,513		313		86,009
1999	111,422	24,643		315		86,464
2000	112,580	24,899	22.12%	318	0.28%	87,363
2001	113,832	25,176		322		88,335
2002	115,264	25,493		326		89,446
2003	116,745	25,820		330		90,595
2004	117,232	25,928		331		90,973
2005	117,330	25,950		331		91,049
2006	117,665	26,024		332		91,309
2007	118,071	26,113		334		91,624
2008	118,010	26,100		333		91,577
2009	118,427	26,192		335		91,900
2010	119,053	26,331		336		92,386

The population per household in Inglewood was estimated at 3.02 by the U.S. Census Bureau based on 2006 data, which is somewhat higher than their estimate of 2.87 people per dwelling unit for the entire state of California. The Southern California Association of Governments (SCAG), in their 2008 Regional Transportation Plan, projects a 3.2 percent increase in the City’s population over the next 25 years (an annualized rate of 0.13 percent); however, that 2008 SCAG Report does not take the proposed Hollywood Park Redevelopment Project into account.

The July 2009 Final Environmental Impact Report for the Hollywood Park Redevelopment Project estimates⁹ an increase in population of 8,985 new City residents. According to that document, all of these additional housing units will be completed by 2014¹⁰

Table 1.3-4 summarizes population projections in five-year increments to the year 2035. This table incorporates the annualized 0.13 percent increase based on the 2008 SCAG Regional Transportation Plan as well as the additional 8,985 new residents associated with the Hollywood Park Redevelopment Project.

**Table 1.3-4
City of Inglewood Population Projections¹¹**

	2010	2015	2020	2025	2030	2035
Total Inglewood Population	119,053	128,812	129,649	130,492	131,340	132,194
Inglewood Population Residing Outside the City’s Water Service Area	26,667	26,840	27,015	27,190	27,367	27,545
Inglewood Water Service Area Population	92,386	101,972	102,634	103,302	103,973	104,649
Annual Projected Increase in Total City Population	-	1.64%	0.13%	0.13%	0.13%	0.13%
Annual Projected Increase in City Water Service Area Population	-	2.08%	0.13%	0.13%	0.13%	0.13%

⁹ Hollywood Park Redevelopment Final Environmental Impact Report, Introduction/Executive Summary, Page I-41

¹⁰ Hollywood Park Redevelopment Final Environmental Impact Report, Introduction/Executive Summary, Page I-42

¹¹ The City’s total 2010 population is based on the most recent DOF estimate; the 2015 through 2035 total population projections are based on SCAG’s 2008 Regional Transportation Plan population projections by City (<http://www.scag.ca.gov/forecast/index.htm>) supplemented by an additional 8,985 new residents resulting from the Hollywood Park Redevelopment Project; population estimates for the City’s water service have been interpolated assuming a linear relationship (excluding the 8,985 new residents associated with the Hollywood Park Redevelopment Project) and based on the estimated 2010 water service area population. The projected annual increase for 2010 through 2015 includes SCAG’s projected 0.13 percent annual increase plus the additional 8,985 new residents resulting from the Hollywood Park Redevelopment Project (which is entirely within the City’s water service area). The percent increase is compounded every 5-year period, but not annually.

1.4 INGLEWOOD WATER UTILITIES DIVISION AND FACILITIES

Water Utility

Inglewood was incorporated as a City on February 8, 1908, but the first water system was established in 1888 by the Centinela-Inglewood Land Company. That system consisted of eleven miles of water pipe serving the local area. In 1920, the citizens of Inglewood voted to acquire the water system from the Centinela-Inglewood Land Company, thereby creating a municipal water utility. Over the next 32 years, an additional 75 miles of two-inch and four-inch diameter distribution mains were installed. During that period, groundwater, pumped from 21 wells located throughout the City, comprised 100 percent of the City's water supply. The water system also included seven pumping and storage facilities, with a total storage capacity of 21 million gallons (MG). A water treatment plant and a water quality laboratory were added to the system in 1975.

The City of Inglewood became a member of the newly formed WBMWD in 1947. As a member of Metropolitan Water District of Southern California, WBMWD purchases wholesale potable water from MWD, imported from the Colorado River and the State Water Project, for sale to local retail water agencies including the City of Inglewood. The imported water is provided, in part, to supplement existing regional groundwater supplies in all areas of WBMWD and to provide a barrier, through injection wells, to seawater intrusion into the West Coast Basin.

Today, the City purchases approximately 55 percent of its water supply from WBMWD and pumps approximately 45 percent of its water supply from the local groundwater basin.

In 2003, the City Council adopted a Water Master Plan (WMP) and an accompanying Capital Improvement Plan (CIP). The 2003 WMP CIP has been used as a basis for including water facility projects in the City's overall CIP, which is updated on an annual basis.

Transmission and Distribution System and Related Infrastructure

Inglewood's domestic water transmission and distribution system consists of the following infrastructure:

- 152 miles of pipe varying in diameter from 3-inches to 30-inches
- Four active wells, which extract water from the West Coast Basin
- Two booster pump stations (Morningside and North Inglewood)
- Two forebay reservoirs (Morningside – 16 MG and North Inglewood – 4.6 MG)
- An 8.5 million gallon per day (MGD) water treatment plant
- Two imported water supply connections from MWD

- Two emergency interties with the Los Angeles Department of Water and Power (LADWP)
- Six emergency interties with the Golden State Water Company (GSWC)
- 13,248 domestic water services¹²
- 19 recycled water services
- 98 backflow prevention devices
- 1,548 hydrants
- 2,485 gate valves
- 927 backflow prevention devices for internal protection

Pressure Zones

The City's service area (refer to Figure 2) is divided into three distinct pressure zones as follows:

- Pressure Zone 1 is the lowest zone in elevation and is located in the southernmost part of the City, bounded by Imperial Highway to the north, Crenshaw Boulevard to the east, the Century I-105 Freeway to the south and Yukon Avenue to the west. This small zone is also separated from the remainder of the water service area by the area served by Golden State Water Company.
- Pressure Zone 2 is the middle pressure zone generally located between Centinela Avenue and Century Boulevard west of Prairie Avenue and includes Hollywood Park (to the east of Prairie Avenue).
- Pressure Zone 3 is the highest zone and covers the remaining northern and eastern parts of the City.

Water Treatment Plant

The City owns and operates the Sanford M. Anderson Water Treatment Plant, located on the southwest corner of Eucalyptus Avenue and Beach Avenue in the City of Inglewood. The treatment plant, which has a capacity of 8.64 MGD and a clear-well capacity of 834,000 gallons, processes raw groundwater pumped from the City's wells. There are a total of ten vertical turbine effluent pumps located in the pump room at the treatment plant. Five of the pumps boost treated well water from the treatment plant to the North Inglewood Facility via a 24-inch diameter transmission main. The other five pumps boost treated well water from treatment plant to Morningside Facility via a 24-inch diameter transmission main.

¹² Refer to Table 6.2-1 in this Plan for a breakdown by type of connection

Emergency Connections

The City of Inglewood has six (6) emergency connections to Golden State Water Company located in the following areas:

1. Century Boulevard and La Cienega Boulevard;
2. Redfern Avenue and 95th Street;
3. Prairie Avenue north of Century Boulevard;
4. Century Boulevard and Yukon Avenue;
5. Yukon Avenue and 104th Street; and
6. Crenshaw Boulevard and 111th Street

Additionally, the City has two (2) emergency connections to the City of Los Angeles Department of Water and Power. These connections are located at:

1. Manchester Boulevard and Prairie Avenue; and
2. Centinela Avenue east of La Colina Drive

These eight emergency interconnections are not the City's primary source of supply and are for use only in case of water supply shortages.

Recycled Water System

The City of Inglewood has 18 connections to the West Basin Municipal Water District's recycled water system. Water is delivered from WBMWD Water Recycling Plant located in El Segundo. Over the past five years, these 18 connections had an average total demand of 844 AFY ranging from a low of 683 AF in 2009/10 to a high of 968 AF in 2008/09. The recycled water is used primarily for irrigation purposes at industrial, municipal and school district sites throughout the City. Additional detailed information on the recycled water system is provided in Section 9 of this UWMP.

2 WATER SOURCES AND SUPPLIES

2.1 WATER SOURCES

The City has a dual source of water supply including groundwater pumped from four wells, which is supplemented by imported water purchased from MWD through WBMWD. The imported water is transported through the expansive Colorado River Aqueduct (CRA) system and from Northern California via the State Water Project.

As noted in Section 1, a portion in the northeast section of the City (refer to Figure 2) is served by the Cal-American Water Company and a portion of the City, generally located south of Century Boulevard (refer to Figure 2) is served by Golden State Water Company.

Groundwater

Inglewood's four wells pump water from the West Coast groundwater Basin (Basin). Prior to the 1961, up to 94,000 AFY was extracted from the underground aquifer, which led to a serious overdraft in the Basin. This over-pumping, coupled with similar heavy groundwater extraction from the adjoining Central Basin led to sea water intrusion into the Basin. To mitigate these concerns, groundwater in the West Coast and Central Basins was adjudicated by court order (Judgment) to protect the underground water supply within the two Basins.

Basin Adjudication

In 1961, by order of the Los Angeles Superior Court, pumping in the West Coast Basin was limited to 64,468.25 AFY¹³. While this Judgment resulted in significantly reduced pumping from the Basin, the adjudicated pumping limits were set higher than the natural replenishment of groundwater, which continued to result in annual overdrafts. A copy of the order (West Coast Basin Judgment) describing the City's legal right to pump groundwater is included in Appendix E.

Inglewood's adjudicated share of that water right is 4,449.89 AFY¹⁴. Generally, the City is entitled to pump up to its maximum allowable extraction right along with any carryover or unused water rights from the previous year and any net leases or exchanges of water rights per agreements with other parties owning those rights. In the water year 2009-10 (July 1 to June 30), the City had a total of 5,621.87 AFY in adjudicated, unused and negotiated water rights. This included 889.98 AF in unused carryover water rights from the previous year, and 282.00 AF in water rights transferred from Hollywood Park. Groundwater production in the Basin has been declining over the past ten years, from a high of 53,870 AFY in the water year 2000/01 to a low of 36,809 AFY in 2005/06 with

¹³ Per Water Replenishment District of Southern California website

¹⁴ Inglewood's original adjudicated right was for 4,382 AFY; the City subsequently purchased an additional 67.89 AFY in water rights from Frank Abell, Boise Cascade Building Company, Georgia Pacific Corporation, Kaufman, Leo and Sheldon Baer, and George R. Murdock

45,246 AFY being pumped in 2009/10.¹⁵ The amount of water member agencies are allowed to pump is set annually by the Water Replenishment District of Southern California (WRD), but the values remain fairly constant. The Judgment also allows water users to carry over and extract any unused water rights, up to 10% of such unused water right, as well as extract up to 10% beyond their allowable pumping rights within a given year.¹⁶

WRD tracks the amount of groundwater production (pumping) that occurs every year in the Central and West Coast groundwater Basins to identify trends that may impact groundwater resources. As previously noted, the groundwater basins currently face overdraft every year because pumping exceeds natural groundwater replenishment. Sources of replenishment water to WRD include recycled water, imported water, and natural runoff captured in the regional spreading grounds.

West Coast Basin Aquifer

The Basin is approximately 160 square miles and occupies 37 percent of the southwestern part of the Coastal Plain of the Los Angeles groundwater basin and has a total storage capacity of 6,500,000 AF (based on the Silverado Aquifer, the primary water producing aquifer). On the north, the Basin is bounded by the Ballona Escarpment, an abandoned erosional channel from the Los Angeles River. On the East, the Basin is bounded by the Newport-Inglewood fault zone. The Basin is bounded on the south and west by the Pacific Ocean and by consolidated rocks of the Palos Verdes Hills. The surface of the Basin is crossed in the south by the Los Angeles River through the Dominguez Gap, and the San Gabriel River through the Alamitos Gap, both then flowing into the San Pedro Bay.¹⁷

Water bearing formations include Holocene, Pleistocene, and Pliocene age sediments. The semiperched aquifer of the Holocene and Pleistocene age is unconfined. The groundwater in the underlying aquifers is confined throughout most of the Basin; and the Gage and Gardena aquifers are unconfined where water levels have dropped below the Bellflower aquiclude. These aquifers merge with adjacent aquifers, particularly near the Redondo Beach area. The Silverado aquifer, underlying most of the Basin, is the primary production aquifer and yields between 80 to 90 percent of the groundwater extracted from the Basin.

Figure 3, obtained from WRD's website¹⁸, depicts the location of the West Coast and Central Basins within the greater Los Angeles metropolitan region.

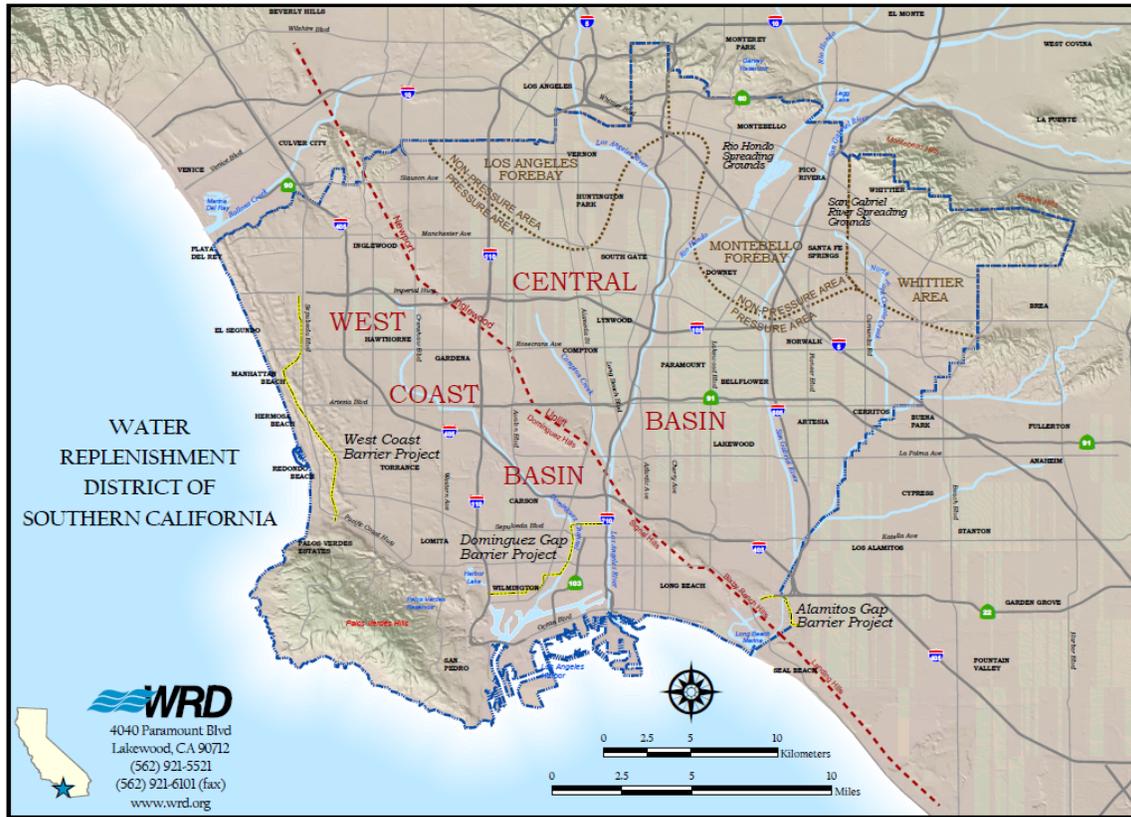
¹⁵ Information extracted from WRD's 2010 Engineering Survey and Report which can be found on their website at: http://www.wrd.org/engineering/reports/May11_2010_ESR_Final_Report.pdf

¹⁶ July 21, 1961 Judgment, Section V (Refer to Appendix E)

¹⁷ DWR, California's Groundwater Bulletin 118, 2004

¹⁸ The map can be found on WRD's website at: <http://www.wrd.org/DistrictMap.pdf>

**Figure 3
West Coast Basin and Central Basin Location Map**



Groundwater Production and Overdraft

Groundwater supply met approximately 22.7 percent of the water demand for agencies within the WBMWD during the year 2009 water year.¹⁹ During the 2009/10 water year, which is defined by WRD as October 1 to September 30, total production within the West Coast Basin was 45,246 AF. As mentioned earlier, the Central and West Coast groundwater Basins are in an overdraft condition; however, the groundwater levels and amount of overdraft fluctuate over time. WRD does not produce a groundwater management report, therefore no such report can be appended to this Plan; however, they do prepare an annual Engineering Survey and Report. Their 2010 Engineering Survey and Report notes groundwater levels within the West Coast Basin in 2009 rose in some areas, fell in others, but remained generally flat over most of the Basin. Although water levels rose in some areas of the West Coast Basin, water levels fell up to 15 feet in some areas of the Central Basin, resulting in an overall loss in groundwater storage between the two basins. WRD estimates the annual overdraft for 2008/2009 water year for both basins was 51,500 AF; however, WRD planned to offset that loss with 109,703 AF in purchased replenishment water during the ensuing water year. The average annual overdraft for the

¹⁹ Per WBMWD April 2011 Draft 2010 UWMP, Table 4-1, page 4-27, available at: <http://www.westbasin.org/files/planning-uwmp/west-basin-draft-uwmp-2010-with-appendices.pdf>

Basin from the 1999/00 water year through 2008/09 was 17,160 AF. The accumulated overdraft of the basins fluctuates depending on demands and availability of replenishment water. The accumulated overdraft was determined to be 753,300 AF for both basins in 2008/09.²⁰

In an effort to eliminate long-term overdraft conditions, WRD closely monitors the groundwater basins for fluctuations in groundwater levels. WRD utilizes a groundwater model developed by the United States Geological Survey (USGS) to study and better understand the Basin's reaction to pumping and recharge. WRD works closely with the Los Angeles County Department of Public Works, MWD, and Sanitation Districts of Los Angeles on current and future replenishment supplies.

Recharge

Another method for controlling overdraft is through recharge management programs. Natural groundwater replenishment through percolation of precipitation and irrigation waters is insufficient to sustain the groundwater pumping that takes place in the Basin. WRD must therefore depend on artificial recharge programs to replace the annual overdraft. The amount of water available for recharge will vary from year to year. In 2008/2009, WRD recharged 103,008 AF to both basins. The various methods of recharging the Basin using imported and recycled water are described below:

- Injection – WRD recharges the Basin by injecting water into it to prevent seawater intrusion. A barrier is formed by injection of treated imported water from MWD in wells along the West Coast Barrier Project (between Redondo Beach and El Segundo) and the Dominguez Gap Barrier Project (east of Palos Verdes Peninsula).
- In-lieu Replenishment Water – The In-lieu program allows the natural recharge of the Basin by offsetting groundwater production with the use of imported water. The reduction in pumping naturally recharges the Basin.
- Transfer from Central groundwater basin – Although not well quantified, groundwater from the Central groundwater basin flows into the West Coast groundwater basin through the Newport Inglewood Uplift. This, along with natural percolation due to stormwater and irrigation, make up a small part of the overall recharge to the West Coast groundwater basin.

City of Inglewood Groundwater Wells

The City of Inglewood operates four potable water wells. The locations of these existing wells are illustrated on Figure 2, included in Section 1 of this Plan. According to data posted on WRD's website, the total water production from these four wells during the

²⁰ All references in this paragraph are extracted from WRD's 2010 Engineering Survey and Report - http://www.wrd.org/engineering/reports/May11_2010_ESR_Final_Report.pdf

2009/10 water year was 3,623 AF.²¹ Table 2.1-1 shows the amount of water actually pumped from these four wells in fiscal year 2009/10 and the projected pumping over the next 25 years in five year increments.

Table 2.1-1
Existing and Projected Groundwater Pumping
(AFY Pumped for the Water Year Ending June 30th of the Year Noted)²²

Well No.	2010	2015	2020	2025	2030	2035
1	819	1,005	1,005	1,005	1,005	1,005
2	426	525	525	525	525	525
4	810	995	995	995	995	995
6	1,568	1,925	1,925	1,925	1,925	1,925
Total	3,623	4,450	4,450	4,450	4,450	4,450

Source: 2010 based on actual data; 2015 through 2035 projections from Table 5.2-1

Metropolitan Water District of Southern California (MWD)

The City purchases imported water from MWD through its MWD member agency, West Basin Municipal Water District (WBMWD). MWD was formed in the late 1920's. Collectively, charter members recognized the limited water supplies available within the region, and realized that continued prosperity and economic development of Southern California depended upon the acquisition and careful management of an adequate supplemental water supply. This foresight made the continued development of Southern California possible.

MWD acquires water from northern California via the SWP and from the Colorado River via the CRA to supply water to most of southern California. As a wholesaler, MWD has no retail customers, and distributes treated and untreated water directly to its 26 member agencies. One such member agency is WBMWD.

West Basin Municipal Water District (WBMWD)

In 1947, WBMWD was formed to help mitigate the previously referenced over pumping of groundwater resources in southwest Los Angeles County. Although local groundwater was inexpensive, it was diminishing rapidly and it was realized that pumping would have to be curtailed. This reduction in groundwater was to be supplemented with imported water. In 1948, WBMWD became a member agency of MWD. WBMWD's service area includes 17 cities and several unincorporated portions of southwest Los Angeles County. WBMWD serves the cities and communities of Carson, Palos Verdes Estates, Rancho

²¹ WRD Monthly Production Summary, 2009/10 - http://www.wrd.org/engineering/pdf_files/09-10-Production-Summary.pdf

²² Total production figures extracted from WRD Monthly Production Summary for July 1, 2009 through June 30, 2010 available at: http://www.wrd.org/engineering/pdf_files/09-10-Production-Summary.pdf

Palos Verdes, Rolling Hills, Rolling Hills Estates, Inglewood, South Ladera Heights, a portion of Lennox, Lomita, Manhattan Beach, Redondo Beach, Culver City, El Segundo, Malibu, West Hollywood, Gardena, Hawthorne, and Lawndale. WBMWD also serves portions of unincorporated areas of Los Angeles County such as Athens, Howard, Ross-Sexton, North Ladera Heights, Del Aire, Topanga, View Park, Windsor Hills, and portions of Lennox and El Camino Village.²³ WBMWD's service area is depicted in Figure 4 obtained from their website.

Figure 4
West Basin Municipal Water District Service Area



²³ The map can be found on WBMWD's website at:
<http://www.westbasin.org/files/website-maps/WBMWD---Service-Area-02-17-2009.pdf>

Water Replenishment District of Southern California (WRD)

In 1959, the State Legislature enacted the Water Replenishment Act enabling the formation of the WRD by voter approval. WRD was formed for the purpose of protecting and managing the groundwater resources of the Central and West Coast groundwater basins of south Los Angeles County. WRD manages groundwater for 43 cities of south Los Angeles County, a 420 square mile service area which uses about 250,000 acre-feet (AF) of groundwater per year.²⁴ The State of California relies on WRD to manage, regulate, replenish, and protect the quality of the groundwater supplies in the Central and West Coast groundwater basins.

Because of increasing population and diminishing groundwater resources, the Central and West Coast groundwater basins were adjudicated to limit the allowable extraction amount for every water right holder within the two basins. The adjudication, as referenced earlier in this section, was a result of a judgment from the Superior Court, County of Los Angeles. The final Judgments became effective on August 18, 1961 (West Coast Basin) and October 1, 1966 (Central Basin) and appointed DWR as the Watermaster. WRD and the Watermaster cooperate closely to record groundwater extractions from the Central and West Coast groundwater basins.

Sanitation Districts of Los Angeles County (LACSD)

The City of Inglewood lies within the LACSD service area for sewer service. The entire LACSD service area includes 23 separate Sanitation Districts that serve about 5.7 million people in Los Angeles County. The overall service area is approximately 820 square miles and encompasses 78 cities as well as unincorporated areas of the County.²⁵ The Sanitation Districts of Los Angeles County construct, operate, and maintain facilities to collect, treat, recycle, and dispose of wastewater. The LACSD operates one wastewater treatment plant and ten reclamation plants. In recent years, these plants have produced over 190,000 AFY of recycled water.²⁶

It should also be noted that WBMWD purchases secondary effluent from the City of Los Angeles's Hyperion Wastewater Treatment Plant (Hyperion), treats it to meet applicable Title 22 standards, and distributes the recycled water to Inglewood and other communities within its service area. Additional information related to recycled water is discussed in Section 9 of this Plan.

2.2 WATER SUPPLY

The City's water supply is comprised of imported water purchased from MWD through WBMWD, groundwater pumped from four potable water wells and recycled water purchased from WBMWD.

²⁴ WRD website: <http://www.wrd.org/about/about-water-replenishment-district.php>

²⁵ LACSD website: <http://www.lacsd.org/civica/filebank/blobdload.asp?BlobID=2542>

²⁶ LACSD website: http://www.lacsd.org/info/water_reuse/refy0708/default.asp

Current and projected water supplies are shown in Table 2.2-1 and described in subsequent sections. Water reliability of these supplies is analyzed in Section 4 of this Plan.

Table 2.2-1
City of Inglewood Current and Projected Water Supplies
(AFY Used During the Fiscal Year Ending on June 30th of the Year Noted)

Water Supply Sources	2010 ^[1]	2010 ^[2]	2015	2020	2025	2030	2035
Imported Water	6,551	12,700	16,060	18,600	20,950	19,980	19,130
Groundwater Production	3,623	4,450	4,450	4,450	4,450	4,450	4,450
Recycled Water	683	860	1,060	1,060	1,060	1,060	1,060
Total Water Supply	10,857	18,010	21,570	24,110	26,460	25,490	24,640

[1] Actual 2010 supply used, refer to Appendix F

[2] 2010 estimated available supply, including surplus as interpolated from Table 5.2-1

Imported Water

In 2010, the City’s imported potable water supply came from water purchased by WBMWD from MWD and wholesaled to the City. The City maintains two imported water connections to MWD’s system. Water purchased through the WB-17 connection is conveyed through a 24-inch diameter pipeline to the City’s Morningside Pump Station and Reservoir facility. Water purchased through the WB-38 connection is conveyed through a 20-inch diameter pipeline to the City’s North Inglewood Pump Station and Reservoir facility.

The characteristics of these imported water connections are shown in Table 2.2-2

Table 2.2-2
City of Inglewood Imported Water Connections

Connection Number	Capacity (cfs)	Capacity (gpm)
WB 17	9.8	4,400
WB 38	9.8	4,400
Total Capacity	19.6	8,800

The City also maintains six emergency connections with Golden State Water Company and two emergency connections with Los Angeles Department of Water and Power. The locations of these emergency connections are depicted in Figure 2 included in Section 1 of this report.

3 WATER QUALITY

3.1 WATER QUALITY OF EXISTING SOURCES

As required by the Safe Drinking Water Act, which was reauthorized in 1996, the City provides annual Water Quality Reports to its customers; also known as Consumer Confidence Reports (CCR). This mandate is governed by the Environmental Protection Agency (EPA) and the California Department of Public Health (CDPH) to inform customers of their drinking water quality. In accordance with the Safe Drinking Water Act, the City monitors a number of regulated and unregulated compounds in its water supply. The results from this testing were included in the City's 2010 Annual Water Quality Report²⁷, a copy of which was mailed to all residents of Inglewood. Additionally, the City prepared a "*Report on Water Quality Relative to Public Health Goals*" in June 2010²⁸ which notes, "*The drinking water quality of the City of Inglewood meets all State of California, Department of Public Health and USEPA drinking water standards set to protect public health.*" As mentioned earlier, the City's sources of water currently include imported water supplies, groundwater, and recycled water.

Imported Water

The City receives imported water from WBMWD through Metropolitan Water District, which receives raw water from Northern California through the SWP and from the CRA. Metropolitan water is treated at one of its five regional treatment plants. Three of these plants, the Jensen, Weymouth, and Diemer Filtration Plants, provide varying portions of their treated water to an area referred to as the "Common Pool", supplying the City.

Metropolitan Water District tests and treats its water for microbial, organic, inorganic, and radioactive contaminants as well as pesticides and herbicides. Protection of Metropolitan's water system continues to be a top priority. In coordination with its 26 member agencies, Metropolitan added new security measures in 2001 and continues to upgrade and refine procedures. Changes have included an increase in the number of water quality tests conducted each year (more than 300,000 tests are conducted for over 200 possible compounds) as well as contingency plans that coordinate with the Homeland Security Office's multicolored tiered risk alert system.²⁹ MWD also has one of the most advanced laboratories in the country where water quality staff perform tests, collect data, review results, prepare reports, and research other treatment technologies. Although not required to do so, MWD monitors and samples substances that are not regulated but have captured scientific and/or public interest. MWD has tested for chemicals such as perchlorate, methyl tertiary butyl ether (MTBE), and chromium VI among others.

²⁷ The "2010 Annual Water Quality Report" can be viewed on the City's website at <http://www.cityofinglewood.org/pdfs/pw/2010report.pdf>

²⁸ The "Report on Water Quality Relative to Public Health Goals" can be viewed on the City's website at <http://www.cityofinglewood.org/pdfs/pw/2010watergoals.pdf>

²⁹ Per Metropolitan's 2010 Regional Urban Water Management Plan, page 4-17 which can be viewed on their website at http://www.mwdh2o.com/mwdh2o/pages/yourwater/RUWMP/RUWMP_2010.pdf

MWD's October 2010 Integrated Water Resources Plan (IRP) Update³⁰, notes that water quality is intrinsically tied to supply reliability. Additionally, MWD's 2010 Regional Urban Water Management Plan, indicates each of their major sources of water (the SWP and the CRA) has specific water quality problems. However, that Plan also notes "*Metropolitan has not identified any water quality risk that cannot be mitigated.*"³¹

The major water quality concerns MWD identified in its 2010 Regional Urban Water Management Plan include the following: (1) salinity; (2) perchlorate; (3) total organic carbon and bromide (disinfection byproduct precursors); (4) nutrients (as it relates to algal productivity); (5) arsenic; (6) uranium; (7) chromium VI; (8) N-nitrosodimethylamine (NDMA); and (9) pharmaceuticals and personal care products (PPCPs). Each of these constituents of concern, as well as one additional decreasing concern (MTBE) is addressed in further detail below.

Salinity

Water from the CRA has the highest level of salinity of all MWD sources of supply, averaging 630 milligram per liter (mg/L) since 1976.³² Several actions have been taken at the state and federal level to control Colorado River salinity including (1) the International Boundary and Water Commission approval of Minute No. 242, Permanent and Definitive Solution to the International Problem of the Salinity of the Colorado River in 1973; (2) the U.S. President's approval of the Colorado River Basin Salinity Control Act in 1974 and (3) the formation of the Colorado River Basin Salinity Control Forum. In 1975, water quality standards and a plan for controlling salinity were approved by the EPA.

In contrast, water from the SWP is significantly lower in TDS, averaging 250 mg/L over the long term in water supplied through the East Branch and 325 mg/L in water supplied through the West Branch. Because of the lower salinity, MWD blends SWP water with Colorado River water to reduce the salinity in the water delivered to its customers. MWD's board has adopted a salinity objective of 500 mg/L for blended imported water as defined in Metropolitan's Salinity Management Action Plan. MWD estimates that the objective can be met in seven out of ten years. In the other three years, hydrologic conditions would result in increased salinity and reduced volume of SWP supplies.

Perchlorate in the Colorado River

Perchlorate, a contaminant of concern, which can be found in rocket propellant and some types of munitions and fireworks, is believed to inhibit the thyroid's ability to process iodide and produce hormones required for normal growth and development. Perchlorate has been detected at low levels in the Colorado River water supply. It also has the ability

³⁰ MWD's October 2010 Integrated Water Resources Update can be viewed on their website at <http://www.mwdh2o.com/mwdh2o/pages/yourwater/irp/IRP2010Report.pdf>

³¹ Per Metropolitan's 2010 Regional Urban Water Management Plan, page 4-1 which can be viewed on their website at http://www.mwdh2o.com/mwdh2o/pages/yourwater/RUWMP/RUWMP_2010.pdf

³² Ibid., page 4-3

to quickly dissolve and become mobile in groundwater. Perchlorate is difficult to remove from water supplies with conventional water treatment. Successful treatment technologies include nanofiltration, reverse osmosis, biological treatment, and fluidized bed bioreactor treatment. MWD continues to monitor perchlorate contamination of the Colorado River. Perchlorate levels in the Colorado River have been declining in recent years, following installation of remedial treatment systems at industrial point source locations in the Las Vegas area beginning in 1998. These efforts have reduced perchlorate levels entering the Colorado River from Las Vegas by up to 90 percent since 1998.

As a result of the aforementioned aggressive clean-up efforts, perchlorate levels in Colorado River water at Lake Havasu have decreased significantly in recent years from their peak of 9 micrograms per liter ($\mu\text{g/L}$) in May 1998. Since 2002, levels have remained less than 6 $\mu\text{g/L}$ and have typically been less than 2 $\mu\text{g/L}$ since June 2006. For comparison purposes, the California Department of Public Health (CDPH), on October 18, 2007, established a primary drinking water standard for perchlorate with a Maximum Contaminant Level (MCL) of 6 $\mu\text{g/L}$. There is currently no federal drinking water standard for perchlorate, but the USEPA is in the process of making its final regulatory determination for this contaminant³³

In addition to the Lake Havasu site, MWD also routinely monitors perchlorate at 34 locations within its system. Monitoring data from these locations reflect non-detectable levels (below 2 $\mu\text{g/L}$). Metropolitan has not detected perchlorate in the SWP since monitoring began in 1997.

Total Organic Carbon and Bromide (Disinfection By-Product Precursors)

SWP water supplies contain levels of total organic carbon and bromide that are a concern to MWD's objective of maintaining safe drinking water supplies. When water is disinfected at treatment plants, certain chemical reactions can occur with these impurities that can form Disinfection Byproducts (DBP). DBPs include trihalomethanes (THMs) and haloacetic Acids (HAAs). THMs and HAAs have been found to cause cancer in laboratory animals. Inherent in any through-Delta water movement is the high organic and bromide loading imposed on the water from agricultural runoff and salt water intrusion.

This poses significant treatment challenges to the receiving end users, like Metropolitan, when it comes to avoiding problems with DBPs and the formation of THMs. With this in mind, it is imperative that the quality of SWP water delivered to Metropolitan be maintained at the highest levels possible.

Water agencies such as MWD, began complying with new regulations to protect against the risks associated with DBP exposure in January 2002. This USEPA rule, known as the Stage 1 Disinfectants and Disinfection Byproducts (D/DBP) Rule, required water systems

³³ Ibid., page 4-8

to comply with new MCLs by using appropriate treatment techniques to improve control of DBPs. The USEPA then promulgated the Stage 2 D/DBP Rule in January 2006, which makes regulatory compliance more challenging because it is now determined on a locational basis, rather than on a distribution system-wide basis.

To ensure the implementation of cost-effective solutions, source water quality improvements must be combined with appropriate water treatment technologies. In addressing this requirement, MWD looked first at each of its five treatment plants. Two of those (Mills and Jensen) receive SWP water exclusively, while the other three (Skinner, Weymouth and Diemer) receive a blend of SWP and Colorado River water. In 2003, 2005, and 2010, Metropolitan completed upgrades to its Mills, Jensen and Skinner water treatment plants, respectively, to utilize ozone as its primary disinfectant. This ozonation process avoids the production of certain regulated disinfection byproducts that would otherwise form in the chlorine treatment of SWP water. The non-ozone plants utilizing blended water have met federal guidelines for these byproducts through managing the blend of SWP and Colorado River water. To maintain the byproducts at a level consistent with federal law, Metropolitan limits the percentage of water from the SWP used in each plant. Metropolitan's Board has also adopted plans to install ozonation at its other two blend plants (Weymouth and Diemer) in the coming years.

Nutrients

Increased nutrient loading (phosphorous and nitrogen compounds) can lead to the formation of algal and aquatic weed growth, noxious taste and odor compounds, algal toxins and an increase in quagga and zebra mussels and other invasive biological species. The formation or accumulation of these undesired elements has negative ramifications upon the efficiency of the water treatment and conveyance processes and inevitably leads to consumer complaints. MWD has therefore taken action to minimize nutrient loading in both its SWP and CRA delivery sources as described in the following paragraphs.

Wastewater discharges, agricultural drainage and nutrient-rich soils in the California Delta all contribute to the high levels of nutrient loading entering SWP facilities. MWD and other local water agencies have therefore been working with Delta area wastewater agencies in an effort to minimize these nutrient loadings. Metropolitan also has a comprehensive program to monitor and manage algae growth in its source water reservoirs.

In some cases, these monitoring efforts coupled with consumer taste and odor complaints have resulted in the need to temporarily bypass some of these reservoirs, which can have a short-term impact on available water supplies.

Nutrient levels in the Colorado River are much lower than in the SWP, which allows Metropolitan to blend CRA water with SWP and thereby greatly reduce overall nutrient levels in the water supplied to its member agencies. Nevertheless, nutrient loading in the CRA system is still a concern given projected growth patterns in the Las Vegas area. For this reason, MWD continues to work with entities along the Colorado River to promote

good wastewater management practices which lead to reduced phosphorous and nutrient loadings.

As a result of the aforementioned monitoring and management programs, MWD believes there should be no impact on future availability of water supplies due to high nutrient loadings.

Arsenic in Surface Waters

Arsenic, which has been linked to certain cancers and skin conditions, is a naturally occurring element found in rocks, soil, water, and air. Arsenic from these sources can enter the water supply through the natural erosion of rocks, as well as the dissolution of ores and minerals. Arsenic can also be found in wood preservatives, alloying agents, certain agricultural applications, semi-conductors, paints, dyes, and soaps. Agriculture and industrial discharges from these sources can contribute to elevated levels of arsenic in drinking water supplies.

The MCL for arsenic in domestic water supplies was lowered to 10 µg/L (from 50 µg/L), with an effective date of January 2006 in the federal regulations, and an effective date of November 2008 in California's regulations for both groundwater and surface water supplies. MWD water supplies have historically had low levels of arsenic and have therefore not required treatment to comply with this standard. However, some of MWD's water supplies are supplemented by groundwater storage programs, which in some cases have arsenic concentrations near the MCL. In general, these groundwater storage projects are used to supplement supplies only during low SWP allocation years. In some instances, MWD has restricted the use of such groundwater programs, thereby limiting the introduction of arsenic into the SWP. MWD has also worked with one of its groundwater banking partners in constructing a pilot arsenic treatment facility to reduce arsenic concentrations in this supply source.

In April 2004, based on reported lung and urinary bladder cancer risk data, California's Office of Environmental Health Hazard Assessment (OEHHA) set a public health goal (PHG) for arsenic of 0.004 µg/L. Monitoring results reported on CDPH's website for the period 2002-2005 showed arsenic is ubiquitous in drinking water sources, reflecting its natural occurrence.

Those results also show many sources have arsenic levels above the 10 µg/L MCL (e.g., Southern California drinking water sources containing arsenic concentrations over 10 µg/L include San Bernardino (64 sources), Los Angeles (48 sources), Riverside (26 sources), Orange (4 sources), and San Diego (5 sources)).³⁴

In all cases, arsenic levels detected in MWD's SWP and CRA source waters and water treatment plant effluent have been below the 10 µg/L MCL. Nevertheless, the state detection level for purposes of reporting arsenic is 2 µg/L. Between 2001 and 2008,

³⁴ Per CDPH website: <http://www.cdph.ca.gov/certlic/drinkingwater/Pages/Arsenic.aspx> - note the numbers reported on this site can change as the site is updated.

arsenic levels in MWD's water treatment plant effluents ranged from not detected (< 2 µg/L) to 2.9 µg/L. For Metropolitan's source waters, levels in Colorado River water ranged from not detected to 3.5 µg/L, while levels in SWP water ranged from not detected to 4.0 µg/L.

Arsenic has been detected in the surface waters supplied to Inglewood from MWD through West Basin MWD at levels ranging from not detected to 3.9 µg/L.³⁵ No arsenic has been detected in the City's groundwater supplies. Groundwater supplies are therefore blended with surface water supplies to effectively lower arsenic concentrations in that source water.

Uranium

Uranium is a contaminant of concern in the water from the Colorado River. A 16-million ton pile of uranium mine tailings is located approximately 750 feet from the river at Moab, Utah. Rainfall seeps through this pile and contaminates the local groundwater which flows to the river. Additionally, due to the proximity of the pile to the river, there is a potential for the tailings to enter the river as the result of a catastrophic flood event or other natural disaster.

Previous investigations have shown uranium concentrations within the pile near the Moab site, at levels significantly above the California MCL of 20 picocuries per liter (pCi/L). MWD has been monitoring for uranium in the Colorado River Aqueduct and at its treatment plants since 1986 and at Lake Powell since 1998. Uranium levels measured at Metropolitan's intake have ranged from 1 to 6 pCi/L, which are well below the California MCL. Conventional drinking water treatment, as employed at Metropolitan's water treatment plants, can remove low levels of uranium, however these processes would not be protective if a catastrophic event washed large volumes of tailings into the Colorado River.

The U.S. Department of Energy (DOE) is responsible for remediating the site near Moab, which includes removal and offsite disposal of the tailings and onsite groundwater remediation. Metropolitan continues to track progress of the remediation efforts, provide the necessary legislative support for rapid cleanup, and work with Congressional representatives to support increased annual appropriations for this effort. Site remedial actions conducted since 1999 have focused on removing contaminated water from the pile and from underlying groundwater. Through 2009, over 2,700 pounds of uranium has been removed from contaminated groundwater.

DOE issued its Final Environmental Impact Statement in July 2005, which recommended permanent offsite disposal by rail to a disposal cell at Crescent Junction, Utah, located approximately 30 miles northwest of the Moab site. Such rail shipments began in April 2009, with over 1 million tons of mill tailings shipped to the Crescent Junction disposal

³⁵ Based on data extracted from Inglewood's "2010 Annual Water Quality Report" (<http://www.cityofinglewood.org/pdfs/pw/2010report.pdf>) and "Report on Water Quality Relative to Public Health Goals" (<http://www.cityofinglewood.org/pdfs/pw/2010watergoals.pdf>)

cell through March 2010. DOE anticipates shipment of an additional two million tons of tailings by September 2011 with complete removal by 2025.

Another uranium-related issue, which could negatively impact CRA water supplies, began receiving attention in 2008 as a result of renewed worldwide interest in nuclear energy and the associated increase in uranium mining claims filed throughout the western United States. Of particular interest to MWD were thousands of mining claims filed near Grand Canyon National Park and the Colorado River watershed. Metropolitan has since sent letters to the U.S. Secretary of Interior to highlight source water protection and consumer confidence concerns related to uranium exploration and mining activities near the Colorado River, and advocate for close federal oversight over these activities. In 2009, Secretary of Interior Ken Salazar announced a two-year hold on new mining claims on one million acres adjacent to the Grand Canyon to allow necessary scientific studies and environmental analyses to be conducted. In 2009, H.R. 644, the Grand Canyon Watersheds Protection Act was introduced and if enacted, would permanently withdraw areas around the Grand Canyon from new mining activities.

Uranium has been detected in the surface waters supplied to Inglewood from MWD through West Basin MWD at levels ranging from 1.6 to 3.7 pCi/L.³⁶ While these levels are above the California's Public Health Goal (PHG) of 0.43 pCi/L, they are below the MCL of 20 pCi/L.

Chromium VI

Like arsenic, chromium is a naturally occurring element found in rocks, soil, plants, and animals. Chromium III is typically the form found in soils and is an essential nutrient that helps the body use sugar, protein, and fat. Chromium VI is used in a number of industrial applications including electroplating, stainless steel production, leather tanning, textile manufacturing, dyes and pigments, wood preservation and as an anti-corrosion agent. Chromium occurs naturally in deep aquifers and can also enter drinking water through industrial discharges. In drinking water, chromium VI is very stable and soluble, whereas chromium III is not very soluble.

Chromium VI is the more toxic form and is known to cause lung cancer in humans when inhaled, but the human health effects from ingestion are still a subject of conjecture.

There are no current drinking water standards for chromium VI. Total chromium (including chromium III and chromium VI) is regulated in California with an MCL of 50 µg/L. On August 20, 2009, the OEHHA released a draft PHG of 0.06 µg/L for chromium VI in drinking water. The PHG is a health-protective, non-regulatory level that will be used by CDPH in its development of an MCL. CDPH will set the eventual MCL as close to the PHG as technically and economically feasible.

³⁶ Based on data extracted from Inglewood's "2010 Annual Water Quality Report" (<http://www.cityofinglewood.org/pdfs/pw/2010report.pdf>) and "Report on Water Quality Relative to Public Health Goals" (<http://www.cityofinglewood.org/pdfs/pw/2010watergoals.pdf>)

MWD monitors chromium levels in their source and treated waters and has found all samples to be below the State's 1 µg/L detection level for purposes of reporting, with the exception of the influent to the Mills Water Treatment Plant. MWD 2010 Regional Urban Water Management Plan reports the following findings with respect to chromium VI levels found in their source and treated waters:

- Colorado River chromium VI levels over the past 10 years were mostly not detected (<0.03 µg/L) but when detected, ranged from 0.03 – 0.08 µg/L.
- SWP chromium VI levels over the past 10 years ranged from 0.03 – 0.8 µg/L.
- Treated water chromium VI levels over the past 10 years ranged from 0.03 – 0.7 µg/L.
- The slight increase in chromium VI levels in treated water (as compared with Colorado River water) is caused from the oxidation (chlorination and ozonation) of natural background chromium (total) to chromium VI.
- Chromium VI in Metropolitan's groundwater pump-in storage programs in the Central Valley has ranged from non-detect (< 0.03 µg/L) to 9.1 µg/L with the average for the different programs ranging from 1.4 to 5.0 µg/L.
- Chromium VI has been detected in a groundwater aquifer on the site of a Pacific Gas and Electric (PG&E) gas compressor station located along the Colorado River near Topock, Arizona. However, monitoring results along the river, both upstream and downstream of the Topock site, have ranged from non-detect (<0.03 µg/L) to 0.06 µg/L.

There is no evidence of the presence of chromium VI in Inglewood's groundwater supplies. Chromium levels in the City's surface water supplies obtained from Metropolitan through West Basin MWD, range from 0.04 to 0.63 µg/L³⁷

N-nitrosodimethylamine (NDMA)

N-nitrosodimethylamine (NDMA) is part of a family of organic chemicals called nitrosamines. NDMA is a byproduct of the disinfection of some natural waters with chloramines, which are used at MWD treatment plants as a secondary disinfectant. Both the USEPA and CDPH consider NDMA to be a probable human carcinogen. While CDPH has not yet established an MCL for NDMA, they did establish a 0.01 µg/L notification level in 1998. OEHHA also set a PHG for NDMA of 0.003 µg/L in 2006 and recommended that concentrations greater than 0.01 µg/L be included in a utility's annual Consumer Confidence Report.

MWD has monitored its source waters (at treatment plant influents) and treated waters on a quarterly basis since 1999. Test results for NDMA in Metropolitan's system have

³⁷ Based on data extracted from Inglewood's "2010 Annual Water Quality Report" available on the City's website at: (<http://www.cityofinglewood.org/pdfs/pw/2010report.pdf>)

ranged from non-detect (< 0.002 µg/L) to 0.014 µg/L. Inglewood's 2010 Annual Water Quality Report, references NDMA concentrations ranging from non-detect to 0.006 µg/L.

MWD is engaged in several projects, which will lead to a better understanding of the watershed sources and occurrence of NDMA precursors in their source waters. That information can then be used to develop treatment strategies aimed at minimizing NDMA formation in drinking water treatment plants and distribution systems. To date, special studies conducted by Metropolitan have shown the use of advanced oxidation processes can be effective in removing NDMA. Other treatment processes such as biological, membrane, and carbon adsorption, may also be effective, but have not yet been studied.

Pharmaceuticals and Personal Care Products

Pharmaceuticals and personal care products (PPCPs) are a growing concern to the water industry. Numerous studies have reported the occurrence of these emerging contaminants in treated wastewater and surface water, as well as in some finished drinking water in the United States and other countries. The sources of PPCPs in the aquatic environment can include treated wastewater, industrial discharges, agricultural run-off, and leaching from municipal landfills. There is no current evidence of human health risks from long-term exposure to the low concentrations (low ng/L; parts per trillion) of PCPs found in some drinking water. There are also no current regulatory requirements for PPCPs in drinking water.

In 2007, MWD implemented a monitoring program to measure the occurrence of PPCPs and other organic wastewater contaminants in its treatment plant effluents and at selected source water locations within the Colorado River and SWP watersheds. Some PPCPs were detected at very low ng/L levels, which is consistent with reports from other utilities. MWD will continue to refine their analytical methods, which will lead to a better understanding of these occurrence issues and their impact on drinking water sources in California.

Methyl Tertiary Butyl Ether (MTBE) – A Decreasing Concern

Although no longer a major concern, Methyl tertiary-butyl ether (MTBE) is still somewhat of a concern. MTBE was the primary oxygenate in virtually all the gasoline used in California, prior to discovering it contaminated groundwater supplies and had also been found in surface water supplies. Following that discovery, MTBE was banned in California as of December 31, 2003 and was subsequently replaced by ethanol which is now the primary oxygenate in use. CDPH has adopted a primary MCL of 13 µg/L for MTBE based on carcinogenicity studies in animals. MTBE has a California secondary MCL of 5 µg/L, which was established based on taste and odor concerns.

MTBE was introduced into surface water bodies from the motor exhausts of recreational watercraft. With that in mind, Metropolitan has taken steps at Diamond Valley Lake and Lake Skinner, to reduce the potential for MTBE contamination. In 2003, Metropolitan's Board banned the use of MTBE fuel in these reservoirs and authorized implementation of

a monitoring program to detect the presence of MTBE in the lakes. In recent years, MTBE monitoring test results in source waters have remained at non-detectable levels (below 3 µg/L).

MTBE still presents a significant problem to local groundwater basins. Leaking underground storage tanks and previous poor fuel handling practices at local gas stations may continue to provide a large source of MTBE. MTBE, which is very soluble in water and has low affinity for soil particles, moves quickly into the groundwater. Some local groundwater producers within MWD service area have been forced to abandon some wells due to MTBE contamination. Unfortunately, MTBE is also resistant to chemical and microbial degradation in water, thereby making treatment more difficult than that employed to remove other gasoline components. However, a combination of an advanced oxidation process (typically ozone and hydrogen peroxide) followed by granular activated carbon has been found to be effective in reducing the levels of these contaminants.

Although some groundwater supplies remain contaminated with this highly soluble chemical, contamination of Metropolitan's surface water supplies are no longer a problem. Improved underground storage tank requirements and monitoring procedures, as well as the phase-out of MTBE as a fuel additive, has decreased the likelihood of MTBE groundwater problems in the future.

Other Constituents of Concern to Inglewood

As noted in the City's June 2010 "*Report on Water Quality Relative to Public Health Goals*,"³⁸ certain other constituents in the City's water supply have exceeded PHGs on occasion including copper, gross alpha particle activity, and bromate; however, at no time have these constituents exceeded MCLs (where MCLs have been established). Additional information on these three constituents is summarized below:

- Copper – No MCL has been established for copper; however, an "Action Level" of 1.3 mg/L has been adopted with a stipulation that samples cannot exceed the 90th percentile value of this Action Level. The PHG for copper is 0.3 mg/L. The City collected 32 samples at the tap in 2008 and all were less than the Action Level (the City's 90th percentile value was 0.77 mg/L).
- Gross Alpha Particles – Certain minerals are radioactive and may emit a form of radiation known as alpha radiation. Gross alpha particles activity in the City's water system has been detected at concentrations ranging from non-detectable to 4.7 pCi/L. The MCL for gross alpha particles activity is 15 mg/L and the PHG is 0 mg/L. Thus, the gross alpha particles activity in the City's water system has remained below the MCL at all times.

³⁸ Refer to <http://www.cityofinglewood.org/pdfs/pw/2010watergoals.pdf> for a copy of the City's June 2010 "Report on Water Quality Relative to Public Health Goals"

- **Bromate** – Bromate has been detected in the City’s imported water at a level of 6.9 µg/L. The MCL for bromate is 10 µg/L and the PHG is 0.1 µg/L. Thus, the bromate levels in the City’s water system have remained below the MCL at all times.

Imported Water Quality Programs

MWD supports and is involved in many programs that address water quality concerns related to both the SWP and Colorado River supplies. Some of the programs and activities include:

- **Source Water Protection** – Protecting the source of water supplies is of paramount importance to providing safe and reliable drinking water. CDPH requires large utilities delivering surface water to complete a Watershed Sanitary Survey every five years in accordance with California’s Surface Water Treatment Rule, Title 22 of the California Code of Regulations. The purpose of this survey is to identify possible sources of drinking water contamination, evaluate source and treated water quality, and recommend watershed management activities to protect and improve source water quality. The most recent sanitary surveys for MWD’s water sources were completed in 2005 and 2006³⁹. The next Sanitary Surveys for the watersheds of the Colorado River and the SWP will report on water quality issues and monitoring data through 2010. MWD has an active source water protection program and continues to advocate on behalf of numerous SWP and Colorado River water quality protection issues.
- **Support of SWP Water Quality Programs** – MWD continues to support DWR policies and programs aimed at maintaining or improving the quality of SWP water delivered to Metropolitan. Some examples of this support include:
 - Support of the DWR policy to govern the quality of non-project water conveyed by the California Aqueduct.
 - Support of the expansion of 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 of the Delta and SWP. These programs are designed to provide early warning of water quality changes that will affect treatment plant operations both in the short-term (hours to weeks) and seasonally.
- **Water Quality Exchanges** – MWD has implemented selective withdrawals from the Arvin-Edison storage program and exchanges with the Kern Water Bank to improve water quality. Although these programs were initially designed to provide dry-year supply reliability, they can also be used to store SWP water during periods of good water quality and then allow for their withdrawal during

³⁹ Sanitary Surveys include Metropolitan’s *Colorado River Watershed Sanitary Survey, 2005 Update* and State Water Project Contractors Authority *California State Water Project Watershed Sanitary Survey, 2006 Update*.

times of lesser water quality, thus providing better overall water quality through dilution of SWP water deliveries.

- Water Supply Security – In 2001, MWD added new security measures to protect its water supply storage and conveyance facilities and continues to upgrade and refine those procedures. Changes have included an increase in the number of water quality tests conducted each year (MWD now conducts over 300,000 analytical tests on samples collected within their service area and source waters), as well as contingency plans that coordinate with the Homeland Security Office's multicolored tiered risk alert system.

Groundwater

Both WBMWD and WRD actively monitor the Basin for water quality issues. WBMWD assists purveyors in its service area in meeting drinking water standards through its *Cooperative Basin-Wide Title 22 Groundwater Quality Monitoring Program*. The program includes wellhead testing at groundwater wells, reservoir sample collecting, water quality testing, and reporting services.⁴⁰

WRD conducts a comprehensive Groundwater Quality Program to evaluate water quality compliance in production wells, monitoring wells, and recharge/injection areas. As part of WRD's Regional Groundwater Monitoring Program, they collect nearly 500 groundwater samples from almost 250 monitoring wells at over 50 locations throughout the District. Those samples are analyzed for over 100 water quality constituents to produce almost 50,000 individual data points⁴¹.

This data is used to assess ambient conditions of the Basin, monitor the effects of extraction, monitor the effectiveness of the seawater intrusion barriers, address poor water quality areas, and also provide early warning of emerging contaminants of concern. WRD supplements their sampling with information from production wells to broaden coverage of the Basin.

WRD provides extensive information on groundwater quality in both its current Engineering and Survey Report (March 19, 2010; updated May 11, 2010)⁴² and its Regional Groundwater Monitoring Report for the Central and West Coast Basins (February 2010). Both reports have a section devoted to groundwater quality management.

⁴⁰ Per WBMWD april 2011 Draft 2010 UWMP, page 6-50 available at:

<http://www.westbasin.org/files/planning-uwmp/west-basin-draft-uwmp-2010-with-appendices.pdf>

⁴¹ WRD's most recent 2008/09 Regional Groundwater Monitoring Report for the Central and West Coast Basins can be found on their website at this location:

http://www.wrd.org/engineering/pdf/08_09%20RGWMR%20Final.pdf

⁴² WRD's May 11, 2010 Engineering and Survey Report is available on their website at this location:

http://www.wrd.org/engineering/reports/May11_2010_ESR_Final_Report.pdf

WRD's Regional Groundwater Monitoring Report presents information on ten of the most significant water quality constituents including: (1) total dissolved solids (TDS); (2) iron; (3) manganese; (4) nitrate (as total nitrogen); (5) chloride; (6) trichloroethylene (TCE); (7) tetrachloroethylene (PCE); (8) arsenic; (9) total organic carbon (TOC); and (10) perchlorate. Further detailed information on their findings has been extracted from this report and is presented below⁴³.

Total Dissolved Solids (TDS)

TDS measures the total mineralization of water and is a good indicator of overall water quality. Generally speaking, the higher the TDS, the less desirable a given water supply is for beneficial uses. The Secondary MCL for TDS ranges is 1,000 mg/L. WRD's monitoring well data for the most recent water year (2008-2009) had TDS concentrations below 1,000 mg/L in 26 out of 27 wells. However, West Coast Basin wells monitoring well data show generally higher TDS concentrations. Elevated TDS concentrations are observed along the coastal margins of the West Coast Basin and the Dominguez Gap area. In Inglewood, five of seven samples collected from WRD monitoring wells during the 2008/09 water year exceeded the secondary MCL with a recorded range of 780 to 2,400 mg/L.

Iron

Iron is a naturally occurring element found in groundwater. Iron can also be leached into the water supply from minerals or steel pipes. The Secondary MCL for iron in drinking water is 0.3 mg/L. Insufficient concentrations of iron in water can affect the water's suitability for domestic or industrial purposes and high iron concentrations will stain plumbing fixtures and clothing, encrust well screens, clog pipes, and may impart a salty taste. Iron is considered an essential nutrient, important for human health, and does not pose significant health effects except in special cases.

In the Central Basin, iron concentrations were below the MCL for most wells tested. In the West Coast Basin, nine production wells out of 34 tested had iron concentrations exceeding the secondary MCL. In Inglewood, four of eight samples collected from WRD monitoring wells during the 2008/09 water year exceeded the secondary MCL with a recorded range of not-detected to 0.48 mg/L.

Manganese

Manganese, like iron, also occurs naturally in water. However, black stains caused by manganese are more unsightly and harder to remove than those caused by iron. The secondary MCL for manganese is 50 µg/L. Like iron, it is considered an essential nutrient for human health.

⁴³ Ibid. http://www.wrd.org/engineering/pdf/08_09%20RGWMR%20Final.pdf; All references to Inglewood's water quality data are from Table 3.2, page 7 of 16 for Inglewood Well No. 1.

Manganese concentrations in the Central and West Coast Basins vary widely, with elevated manganese levels typically occurring in shallower aquifers. CDPH data collected from 2006-2009 in the Central Basin, show 49 out of 236 wells (21%) tested exceeded the MCL. In the West Coast Basin, 19 out of 30 wells (63%) tested had concentrations of manganese exceeding the MCL. In Inglewood, four of eight samples collected from WRD monitoring wells during the 2008/09 water year exceeded the secondary MCL with a recorded range of not-detected to 370 mg/L.

Nitrates

CDPH has established primary MCLs for two forms of nitrogen in drinking water, nitrite and nitrate. Nitrate cannot exceed concentrations of 45 mg/L (measured as Nitrate), corresponding to 10 mg/L as Nitrogen. Nitrite is limited to 1 mg/L as Nitrogen. The combined total of the nitrite and nitrate, measured as total nitrogen cannot exceed 10 mg/L. Concentrations higher than these can lead to anoxia in infants, an acute health risk resulting in shortness of breath, lethargy, and a bluish color (sometimes referred to as blue baby disease). Nitrate concentrations in groundwater are a concern because their presence indicates a degree of contamination has occurred due to the degradation of organic matter. Native groundwater typically does not contain nitrate. It is typically introduced into groundwater from agricultural fertilization or leaching of animal wastes.

CDPH data for nitrate collected during 2006-2009 shows detectable concentrations below the MCL were only found in the vicinity and down-gradient of the San Gabriel River and Rio Hondo Spreading Grounds of the Montebello Forebay, as well as in several scattered locations in the northwestern portion of the Central Basin. Production wells in the other areas of the Central Basin and in all of the West Coast Basin, show relatively low nitrate concentrations ranging from not-detected to below 3 mg/L. At no time during the 2006-2009 period was the nitrate MCL exceeded in any production well tested in the Central or West Coast Basins. In Inglewood, six of eight samples collected from WRD monitoring wells during the 2008/09 water year detected no nitrate, with the other two samples ranging from 7.7 to 8.0 mg/L (both below the MCL of 10 mg/L).

Chloride

When chloride levels in water are elevated, the water tastes salty. High chloride concentrations can also suggest the presence of brine due to seawater intrusion. The secondary MCL for chloride is 500 mg/L.

In the Central Basin, monitoring results from production wells show low levels of chloride. Chloride levels in the West Coast Basin exceeded the secondary MCL in some wells located in areas where seawater intrusion is a suspected source. Water quality data collected by CDPH during the 2006-2009 period did not show chloride concentrations at or above the secondary MCL level in any of the Central Basin production wells. In the West Coast Basin, available CDPH data show one production well on the west side of the basin with a chloride concentration above the MCL. Several other production wells inland from the coast show somewhat elevated chloride concentrations above the

recommended MCL. Production wells further inland in the West Coast Basin generally have very low chloride concentrations. In Inglewood, two of eight samples collected from WRD monitoring wells during the 2008/09 water year exceeded the secondary MCL with an overall recorded range of 240 to 850 mg/L.

Trichloroethylene (TCE)

TCE is a solvent used in metal degreasing, textile processing, and dry cleaning. Because of its potential health effects, it has been classified as a probable human carcinogen. High levels of TCE found in groundwater probably result from improper industrial disposal practices. The Primary MCL for TCE in drinking water is 5 µg/L.

CDPH water quality data collected during the 2006-2009 period detected TCE in 47 of 280 wells tested in the Central Basin, of which nine were above the MCL. TCE was not detected in any wells in the West Coast Basin during this same period. In Inglewood, four of eight samples collected from WRD monitoring wells during the 2008/09 water year showed non-detectable levels of TCE in four of the wells, with concentrations in the other four wells ranging from 0.97 to 1.2 µg/L, none of which exceed the MCL.

Tetrachloroethylene (PCE)

Like TCE, PCE (also known as tetrachloroethylene, perc, perclene, and perchlor) is a solvent commonly used in the dry cleaning industry, as well as in metal degreasing and textile processing. Like TCE, PCE is a probable human carcinogen. PCE is believed to have contaminated many groundwater basins as the result of improper industrial disposal practices. The Primary MCL for PCE in drinking water is 5 µg/L.

During 2008-2009 water year, PCE was detected at 10 well locations in the Central Basin. In the West Coast Basin, PCE was detected below the MCL in the shallowest zone at one monitoring well. CDPH water quality data for PCE collected during the 2006-2009 period, detected PCE in 55 production wells. Ten of the 55 wells exceeded the MCL for PCE. PCE was not detected in any production wells tested in the West Coast Basin. PCE was not detected in any of the eight samples collected at Inglewood wells during the 2008/09 water year.

Arsenic in Groundwater

As previously noted, arsenic is a naturally occurring element in the earth's crust. Over 90% of commercial arsenic is used as a wood preservative in the form of chromate copper arsenate to prevent dry rot, fungi, molds, termites, and other pests. People may also be exposed from industrial applications, such as semiconductor manufacturing, petroleum refining, animal feed additives, and herbicides. Arsenic is classified as a known human carcinogen by the EPA, and also causes other health effects, such as high blood pressure and diabetes.

CDPH established the primary MCL for arsenic at 10 µg/L. Arsenic concentration observed during the 2008-2009 water year in the Central Basin, ranged from non-

detectable to 36 µg/L, with exceedances of the MCL occurring in 7 of 26 tested wells. In the West Coast Basin, arsenic was detected above the MCL at three monitoring wells. Water quality data collected by CDPH during the 2006-2009 period indicate arsenic levels exceeded the MCL in ten production wells in the Central Basin.

Arsenic levels did not exceed the MCL in any West Coast Basin production wells. Arsenic was not detected in seven of the eight samples collected from Inglewood's wells during the 2008/09 water year, with the eighth sample having an arsenic concentration of 1.1 µg/L, which is below the MCL.

Total Organic Carbon (TOC) in Groundwater

Total organic carbon (TOC) is the broadest measure of organic material in water and is of interest because it gives an indication of the potential formation of disinfectant byproducts, some of which can be harmful. TOC can occur naturally, result from domestic and commercial activities, or can be a product of wastewater treatment processes. No MCL has been established for TOC.

In the Central Basin, TOC was present in multiple zones of all 27 monitoring wells tested during the 2008-2009 water year. Where TOC is present, concentrations are typically below 1 mg/L and less frequently between 1 and 5 mg/L. The lower concentrations occur in the shallow and middle zones of wells with higher concentrations generally found in the deeper zones. In the West Coast Basin, TOC greater than 1 mg/L is present in one or more zones at all 16 monitoring wells tested, and at concentrations greater than 5 mg/L in one or more zones in 8 of the 16 wells.

TOC data collected by CDPH in the Central and West Coast Basins during the 2006-2009 period show 26 of the 64 wells had TOC concentrations above 1 mg/L, with four of those having levels over 5 mg/L. TOC levels in eight samples collected during the 2008-2009 water year from Inglewood's wells ranged in concentration from 1.4 to 41 mg/L.

Perchlorate in Groundwater

As previously noted, perchlorate is used in a variety of defense and industrial applications, such as rockets, missiles, road flares, fireworks, air bag inflators, lubricating oils, tanning and finishing leather, and the production of paints and enamels. When ingested, it can inhibit the proper uptake of iodide by the thyroid gland, which causes a decrease in hormones needed for normal growth and development and normal metabolism. In October 2007, the CDPH finalized a new primary MCL of 6 µg/L for perchlorate.

In the Central Basin, perchlorate was detected at 13 of 27 monitoring wells during the 2008-2009 water year, with detections at two of those wells exceeding the MCL. In the West Coast Basin, perchlorate was detected at two monitoring wells with one detection above the MCL.

Water quality data collected by CDPH during the 2006-2009 period showed five production wells in the Central Basin had detectable perchlorate levels, but only two out of 271 production wells contained perchlorate concentrations above the MCL. Perchlorate was not detected in any West Coast Basin production wells. Perchlorate was not detected in any of the three samples collected from Inglewood's wells during the 2008-2009 water year.

Groundwater Water Quality Programs

WBMWD and WRD support and are involved in many programs that address water quality concerns of the Basin. Some of the programs and activities include:

- WRD's Safe Drinking Water Program – This program promotes the treatment of contaminants at the wellhead for potable purposes. WRD will continue to fund the Safe Drinking Water Program to address VOC impacted groundwater, especially by PCE and TCE in the Central and West Coast Basins.
- WRD's Groundwater Contamination Protection Program – WRD will continue efforts under its Groundwater Contamination Prevention Program aimed at minimizing or eliminating threats to groundwater supplies. The Groundwater Contamination Prevention Program is comprised of several ongoing efforts, including the Central and West Coast Basin Groundwater Contamination Forum, which includes key stakeholders from USEPA, Department of Toxic Substances Control, Los Angeles Regional Water Quality Control Board, CDPH, United States Geological Survey, and various cities. Stakeholders meet regularly and share data on contaminated groundwater sites within the District. WRD acts as the meeting coordinator and data repository/distributor, helping stakeholders to characterize contamination and develop optimal methods for addressing contamination. WRD has developed a list of high-priority contaminated groundwater sites within the District, which currently includes approximately 47 sites across the Central and West Coast Basins.
- WRD's Water Augmentation Study – WRD participates in the Water Augmentation Study (WAS) of the Los Angeles and San Gabriel River Watershed Council. This multi-year investigation is evaluating the feasibility of capturing more storm runoff at localized sites in lieu of discharge into the storm drains, channels, and ultimately to the ocean. This potential source of new replenishment water would supplement stormwater currently captured and retained for percolation at existing spreading grounds within the District. While the underlying concept for the WAS is to retain more stormwater rather than allow it to be lost to the ocean, precautions must be taken to ensure this new water does not degrade groundwater quality if allowed to percolate at local sites. More stormwater could be saved by utilizing Best Management Practices (“BMPs”), such as bio-swales, infiltration basins, and porous pavements.

3.2 WATER QUALITY EFFECT ON WATER MANAGEMENT STRATEGIES AND SUPPLY RELIABILITY

The previous section summarized the general water quality issues of MWD's imported water as well as water quality concerns associated with Basin groundwater supplies. The same water quality concerns of MWD, WBMWD, and WRD detailed in the previous section, apply to both the City's imported and pumped water supply.

The City has not experienced any significant water quality problems in the past and does not anticipate any significant changes in the future, due in large part to the mitigation actions undertaken by MWD, WBMWD, and WRD as described earlier.

4 WATER RELIABILITY PLANNING

4.1 RELIABILITY OF WATER SUPPLIES

This section provides a description of the efforts of MWD, WBMWD, WRD, and the City of Inglewood in securing an adequate and reliable regional water supply. This section also includes further discussion of these agencies and their roles in water supply reliability, and the near and long-term efforts they are involved with to ensure future reliability of water supplies to the City and the region as a whole.

The Southern California region faces a challenge in satisfying demands and securing firm water supplies. Increased environmental regulations and the competition for water from outside the region have resulted in reduced supplies of imported water. Continued population and economic growth generally leads to increased regional water demands, which results in larger demands on local supplies.

Reliability is a measure of a water system's expected success in managing water shortages. Good reliability planning requires accurate answers to the following questions:

1. What are the expected frequency and severity of shortages?
2. How will additional water management measures likely affect the frequency and severity of shortages?
3. How will available contingency measures reduce the impact of shortages when they occur?

The reliability of the City's water supply is currently dependent on the reliability of both the groundwater managed by WRD and the imported water supplies managed by MWD and delivered by WBMWD. Despite the ongoing regional water supply challenges, the goals and statutory mission of these agencies are to identify and develop projects to meet regional water demands.

State funding has been made available, through California voters' approval, to increase reliability of state water supplies. In March 2000, California voters approved Proposition 13, which authorized the State to issue \$1.97 billion of its general obligation bonds for water projects. Additionally, California voters approved Proposition 50 in November 2002 and Proposition 84 in November 2006, which authorized the issuance by the State of \$3.4 billion and \$5.4 billion, respectively, of general obligation bonds for water projects. Types of water projects eligible for funding under Propositions 13, 50, and 84 include water conservation, groundwater storage, water treatment, water quality, water security and Colorado River water management projects.

Regional Agencies and Water Reliability

Metropolitan Water District of Southern California (MWD)

MWD was formed in the late 1920's with the primary goal of providing reliable water supplies to meet the water needs of its service area at the lowest possible cost. Collectively, charter members recognized the limited water supplies available within the region, and realized that continued prosperity and economic development of Southern California depended upon the acquisition and careful management of an adequate supplemental water supply. This foresight made the continued development of Southern California possible.

MWD acquires water from Northern California via the State Water Project (SWP) and from the Colorado River via the Colorado River Aqueduct (CRA) to supply water to most of Southern California. As a wholesaler, MWD has no retail customers, and distributes treated and untreated water directly to its 26 member agencies. One such member agency is the West Basin Municipal Water District, of which the City of Inglewood is a member agency.

Through a series of Integrated Resources Plans initiated in 1996 and most recently updated in 2010, MWD has worked toward identifying and developing water supplies to provide 100 percent reliability. Due to competing needs and uses for all of the water sources and regional water operational issues, MWD undertook a number of planning processes: the Integrated Resources Planning (IRP) Process, the Water Surplus and Drought Management (WSDM) Plan, the Strategic Planning Process, the Report on Metropolitan's Water Supplies: A Blueprint for Water Reliability, and most recently, the October 2010 IRP update and the November 2010 Regional Urban Water Management Plan. Combined, these documents provide a framework and guidelines for optimum future water planning. The reliability and operational issues addressed in many of these earlier reports are discussed in detail by major source in the subsequent subsections of this Urban Water Management Plan.

MWD provides imported water supplies to the City through the City's MWD member agency, West Basin Municipal Water District. MWD is the wholesale water agency that serves supplemental imported water from northern California through the State Water Project (SWP) and the Colorado River to 26 member agencies located in portions of Los Angeles, Orange, Riverside, San Bernardino, San Diego, and Ventura Counties, of which WBMWD is one.

The construction of the SWP was authorized by the State Legislature in 1951. Eight years later, the Legislature passed the Burns-Porter Act, which provided a mechanism for bonds to be issued to pay for the construction of certain portions of the SWP facilities. The California Department of Water Resources (DWR) has entered into contracts with water districts and regional agencies (SWP Contractors) specifying the amount of SWP water to be delivered to each SWP Contractor. Each SWP Contractor was provided with a contract amount and capacity rights to the SWP aqueduct and storage system in return

for payments intended to cover operation and maintenance, bondholder obligations, and repayment of moneys loaned from the California Water Fund. DWR water supply contracts contemplate SWP eventual delivery of 4.2 million AFY to 29 SWP Contractors. Although the SWP is not fully constructed and cannot yet deliver the full 4.2 million AFY in all years, the SWP has fully met SWP Contractors' water needs twelve out of the 17 years following the end of a six year drought in 1992. The dry years include 1994, 2001, and 2007 through 2009. Of SWP water deliveries, about 70 percent is delivered to SWP urban contractors and about 30 percent is delivered to SWP agricultural contractors. Kern County Water Agency and MWD are the largest Contractors with DWR for SWP water.⁴⁴

From a statewide perspective, the maximum capacity of the overall SWP transportation system is generally limited by the capacity of the system pumps. The capacity of the California Aqueduct is 10,300 cubic feet per second (cfs) at its northern end, and 4,480 cfs below the Edmonston Pumping Plant (1,000 cfs equates to approximately 82.6 acre-feet per hour, 1,983 acre-feet per day and 724,000 AFY). If these transportation rates were maintained for a full year, they would result in the transport of approximately 7.2 million acre-feet near the Delta and 3.2 million acre-feet to users in Southern California.⁴⁵

Demand can have a significant effect upon the reliability of a water system. For example, if the demand occurs only three months in the summer, a water system with a sufficient annual supply but insufficient water storage may not be able to reliably meet the demand. If, however, the same amount of demand is distributed over the year, the system could more easily meet the demand because the need for water storage is reduced. Because the City of Inglewood overlies the West Coast Groundwater Basin (Basin) and can utilize the Basin to smooth out seasonal peaks, its imported water reliability is enhanced.

MWD's SWP imported water is stored at Castaic Lake on the western side of their service area and at Silverwood Lake near San Bernardino. MWD water imported from the Colorado River via the CRA is stored at Diamond Valley Lake and Lake Mathews in Riverside County.

MWD member agencies receive imported water at various delivery points along their system, and pay for it at tiered and/or uniform rates established by the Board, depending on the class of service. MWD has recently increased its ability to supply water, particularly in dry years, through implementation of storage and transfer programs. MWD's 26 member agencies deliver to their customers a combination of groundwater, local surface water, recycled water and imported water purchased from MWD.

⁴⁴ See, generally DWR Bulletin No. 132-06 and latter supplements to Bulletin No. 13; report available at this link: <http://www.water.ca.gov/swpao/bulletin.cfm>.

⁴⁵ DWR, Bulletin No. 132-05, December 2006; report available at this link: <http://www.water.ca.gov/swpao/bulletin.cfm>

For some member agencies, MWD supplies all the water used within their service area, while others obtain varying amounts of water from MWD to supplement local supplies. MWD has provided between 45 and 60 percent of the municipal, industrial and agricultural water used in its service area.⁴⁶

Historical water demands in the MWD service area increased from 3.14 million acre feet (MAF) in 1980 to 3.93 MAF in 1990. Total retail water demand is projected to grow from its current 4.03 MAF in 2010 to a projected 4.27 MAF in 2035.⁴⁷ For the Los Angeles County service area, according to MWD, demands are projected to decrease approximately 3.2 percent between 2010 and 2035.⁴⁸ Table 4.1-1 shows the historic and projected total retail water demands for MWD’s Los Angeles County service area. The water demand forecasts account for water savings resulting from plumbing codes, price effects, and actual and projected implementation of water conservation Best Management Practices as mandated by Senate Bill X7-7.⁴⁹

Table 4.1-1
Total Retail Water Demand in MWD’s Service Area for Los Angeles County
(Includes Municipal and Industrial, and Agriculture in MAF)

Actual			Interpolated	Projected				
1995	2000	2005	2010	2015	2020	2025	2030	2035
1.558	1.739	1.643	1.762	1.704	1.664	1.676	1.694	1.705

Source: November 2010 Regional Urban Water Management Plan for the Metropolitan Water District of Southern California, Table A.1-5

Colorado River Aqueduct (CRA)

The Colorado River was MWD’s original source of water after the agency’s establishment in 1928. MWD has a legal entitlement to receive water from the Colorado River under a permanent service contract with the U.S. Secretary of the Interior. Water from the Colorado River or its tributaries is also available to other users in California, as well as to users in the states of Arizona, Colorado, Nevada, New Mexico, Utah, and Wyoming (the “Colorado River Basin States”), resulting in both competition and the need for cooperation among these holders of Colorado River entitlements. In addition, under a 1944 treaty, Mexico has an allotment of 1.5 million acre-feet of Colorado River water annually, except in the event of extraordinary drought or serious accident to the delivery system in the United States, when the water allotted to Mexico can be curtailed. Mexico can also schedule delivery of an additional 200,000 acre-feet of Colorado River

⁴⁶ Metropolitan Water District of Southern California, Urban Water Management Plan, November 2010, page 1-6; Plan can be accessed at this link:

http://www.mwdh2o.com/mwdh2o/pages/yourwater/RUWMP/RUWMP_2010.pdf

⁴⁷ Ibid., Table A.1-5

⁴⁸ Ibid., Table A.1-5

⁴⁹ Ibid., Table A.1-5

water per year if water is available in excess of the requirements in the United States and the 1.5 million acre-feet allotted to Mexico.

The Colorado River Aqueduct, which is owned and operated by MWD, transports water from the Colorado River approximately 242 miles to its terminus at Lake Mathews in Riverside County. After deducting for conveyance losses and considering maintenance requirements, up to 1.2 million acre-feet of water a year may be conveyed through the CRA to MWD's member agencies, subject to availability of Colorado River water for delivery to MWD as described below.

California is apportioned the use of 4.4 million acre-feet of water from the Colorado River each year plus one-half of any surplus that may be available for use collectively in Arizona, California and Nevada. In addition, California has historically been allowed to use Colorado River water apportioned to, but not used by, Arizona and Nevada when such supplies have been requested for use in California. Under the 1931 priority system that has formed the basis for the distribution of Colorado River water made available to California, MWD holds the fourth priority right to 550,000 acre-feet per year. This is the last priority within California's basic apportionment of 4.4 million acre-feet. In addition, MWD holds the fifth priority right to 662,000 acre-feet of water, which is in excess of California's basic apportionment.

Until 2002, MWD had been able to take full advantage of its fifth priority right as a result of the availability of surplus water and apportioned but unused water. However, Arizona and Nevada increased their use of water from the Colorado River, leaving no unused apportionment available for California since the late 1990s. In addition, a severe drought in the Colorado River Basin has reduced storage in system reservoirs, resulting in no surplus water being available since 2002. Prior to 2002, MWD could divert over 1.2 million acre-feet in any year, but since that time, MWD's deliveries of Colorado River water varied from a low of 535,000 acre-feet in 2006 to a projected high of 1,150,000 acre-feet in 2010⁵⁰.

MWD has taken steps to augment its share of Colorado River water through agreements with other agencies that have rights to use such water. Under a 1988 water conservation agreement (the "1988 Conservation Agreement") between MWD and the Imperial Irrigation District (IID), IID has constructed and is operating a number of conservation projects that are currently conserving 105,000 acre-feet of water per year. In 2007, the conserved water augmented the amount of water available to MWD by 85,000 acre-feet and, by prior agreement, to the Coachella Valley Water District (CVWD) by 20,000 acre-feet.⁵¹

In 1992, MWD entered into an agreement with the Central Arizona Water Conservation District (CAWCD) to demonstrate the feasibility of CAWCD storing Colorado River water in central Arizona for the benefit of an entity outside of the State of Arizona.

⁵⁰ Ibid., Table A.2-1

⁵¹ Ibid, Page A.3-4

Pursuant to this agreement, CAWCD created 80,909 acre-feet of long-term storage credits that may be recovered by CAWCD for MWD. MWD, the Arizona Water Banking Authority, and CAWCD executed an amended agreement for recovery of these storage credits in December 2007. In 2007, 16,804 acre-feet were recovered. MWD requested 25,000 acre-feet be recovered in 2008, and expects to request the balance of the storage credits over the next several years. Water recovered by CAWCD under the terms of the 1992 agreement allows CAWCD to reduce its use of Colorado River water, resulting in Arizona having an unused apportionment. The Secretary of the Interior is making this unused apportionment available to MWD under its Colorado River water delivery contract.

In April 2008, MWD's Board authorized the expenditure of \$28.7 million to join the CAWCD and the Southern Nevada Water Authority (SNWA) in funding the construction of a new 8,000 acre-foot off-stream regulating reservoir near Drop 2 of the All-American Canal in Imperial County. The Drop 2 Reservoir is expected to save up to 70,000 acre-feet of water per year by capturing and storing water that would otherwise be lost. In return for its funding, MWD received 100,000 acre-feet of water that is stored in Lake Mead until recovered, with annual delivery of up to 34,000 acre-feet of water through 2010 and up to 25,000 acre-feet between 2011 and 2036. Besides the additional water supply, the new reservoir will add to the flexibility of Colorado River operations.

MWD and the Palo Verde Irrigation District (PVID) signed the program agreement for a Land Management, Crop Rotation and Water Supply Program in August 2004. This program provides up to 118,000 acre-feet of water available to MWD in certain years. The term of the program is 35 years. Fallowing of approximately 20,000 acres of land began on January 1, 2005. In 2005, 2006, 2007, 2008 and 2009 approximately 108,700, 105,500, 72,300, 94,300 and 102,200 acre-feet, respectively, of water were saved through these programs.⁵²

With Arizona's and Nevada's increasing use of their respective apportionments and the uncertainty of continued Colorado River surpluses, in 1997 the Colorado River Board of California, in consultation with MWD, IID, PVID, CVWD, the Los Angeles Department of Water and Power and the San Diego County Water Authority (SDCWA), embarked on the development of a plan for reducing California's use of Colorado River water to its basic apportionment of 4.4 million acre-feet when use of that basic allotment is necessary (California Plan). In 1999, IID, CVWD, MWD and the State of California agreed to a set of Key Terms aimed at managing California's Colorado River supply.

These Key Terms were incorporated into the Colorado River Board's May 2000 California Plan that proposed to optimize the use of the available Colorado River supply through water conservation, transfers from higher priority agricultural users to MWD's service area and storage programs.

⁵² Ibid, page A.3-7

To implement these plans, a number of agreements have been executed. One such agreement, the Quantification Settlement Agreement (QSA), is a landmark agreement signed by the four California Colorado River water use agencies and the U.S. Secretary of the Interior, which will guide reasonable and fair use of the Colorado River by California through the year 2037. The QSA was authorized in October 2003 and defined Colorado River water deliveries to the four California agencies as well as facilitated transfers from agricultural agencies to urban users. The QSA is a critical component of California's Colorado River Water Use Plan.

State Water Project (SWP)

The SWP is owned and operated by the California Department of Water Resources. The reliability of the SWP impacts MWD's member agencies' ability to plan for future growth and supply. On an annual basis, each of the 29 SWP contractors, including MWD, request an amount of SWP water based on their anticipated yearly demand. In most cases, MWD's requested supply is equivalent to its full Table A Amount,⁵³ currently at 1,911,500 AFY, and in certain wetter years additional supply may be made available. The full Table A amount is defined as the maximum amount of imported water to be delivered and is specified in the contract between the DWR and the contractor. After receiving the requests, DWR assesses the amount of water supply available based on precipitation, snow pack on northern California watersheds, volume of water in storage, projected carry over storage, and Sacramento-San Joaquin Bay Delta regulatory requirements. Due to the uncertainty in water supply, contractors are not typically guaranteed their full Table A Amount, but instead, are allocated a percentage of that amount based on the available supply. Table 4-1-2 lists the historical SWP deliveries to MWD and the delivery's percentage compared to the full Table A amount. Once the percentage is set early in the water year, the agency can count on that amount of supply or more in the coming year. The percentage is typically set conservatively and is then held or adjusted upwards later in the year based on a reassessment of precipitation and snow pack.

Litigation filed by several environmental interest groups (NRDC v. Kempthorne (Case No. 05CV01207-OWW-GSA); Pacific Coast Federation of Fishermen's Associations v. Gutierrez (Case No. 06CV00245-OWW)) has alleged that certain biological opinions and incidental take permits granted by state and federal agencies for water permits in the Sacramento-San Joaquin Bay Delta inadequately analyzed impacts on species listed as endangered under the Federal Endangered Species Act (ESA). In 2007, Federal District Judge Wanger issued a decision, finding the United States Fish and Wildlife Service's

⁵³ Two types of deliveries are assumed for the SWP contractors: Table A and Article 21. Table A Amount is the contractual amount of allocated SWP supply, set by percentage amount annually by DWR; it is scheduled and uninterruptible. Article 21 water refers to the SWP contract provision defining this supply as water that may be made available by DWR when excess flows area available in the Delta (i.e., Delta outflow requirements have been met, SWP storage south of the Delta is full, and conveyance capacity is available beyond that being used for SWP operations and delivery of allocated and scheduled Table A supplies). Article 21 water is made available on an unscheduled and interruptible basis and is typically available only in average to wet years, generally only for a limited time in the later winter.

biological opinion for Delta smelt to be invalid. Judge Wanger issued an Interim Remedial Order and Findings of Fact and Conclusions of Law requiring that the SWP and Central Valley Project (CVP) operate according to certain specified criteria until a new biological opinion for the Delta smelt was issued by the United States Fish and Wildlife Service.

DWR bi-annually prepares a report on the current and future for SWP water supply conditions, if no significant improvements are made to convey water past the

**Table 4.1-2
SWP Deliveries to MWD (AF)⁵⁴**

Year	SWP Delivery	% of Full Table A
1981	826,951	43%
1982	856,996	45%
1983	385,308	20%
1984	501,682	26%
1985	740,410	39%
1986	756,142	40%
1987	769,603	40%
1988	957,276	50%
1989	1,215,139	64%
1990	1,457,676	76%
1991	624,861	33%
1992	746,991	39%
1993	663,390	35%
1994	845,305	44%
1995	451,305	24%
1996	642,871	34%
1997	724,393	38%
1998	521,255	27%
1999	790,538	41%
2000	1,442,615	75%
2001	1,119,408	59%
2002	1,413,745	74%
2003	1,560,569	82%
2004	1,792,246	94%
2005	1,720,350	90%
2006	1,911,500	100%
2007	1,146,900	60%
2008	669,025	35%
2009	764,600	40%
2010	955,750	50%
2011	1,338,050	80%

⁵⁴ Table A data extracted from DWR Website; 2011 data represents the initial allocation of 25% plus the subsequent notices to SWP Contractors in December 2010, January, March and April, 2011 increasing the allocation to 50%, 60%, 70% and 80%, respectively. MWD's full Table A amount is 1,911,500 AFY

Sacramento-San Joaquin Delta (Delta) or to store the more variable run-off expected with climate change. The latest 2009 State Water Project Delivery Reliability Report (2009 Report) is the most current of these reports dated August 2010.

The 2009 Report shows a continuing erosion of the ability of the SWP to deliver water. For current conditions, the dominant factor for these reductions is the restrictive operational requirements contained in the federal biological opinions. For future conditions, it is these requirements and the forecasted effects of climate change.

Deliveries estimated for the 2009 Report are reduced by the operational restrictions of the biological opinions issued by the U.S. Fish and Wildlife Service in December 2008 and the National Marine Fisheries Service in June 2009 governing the SWP and CVP operations. To illustrate the effect of these operational restrictions, the median value estimated for the primary component of SWP Table A deliveries for Current Conditions in the 2005 Report is 3,170 thousand acre feet (TAF); in the 2007 Report is 2,980 TAF; and in the 2009 Report is 2,680 TAF; for a reduction of almost 500 TAF. For the 2009 studies, the changes in run-off patterns and amounts are included along with a potential rise in sea level. Sea level rise has the potential to require more water to be released to repel salinity from entering the Delta in order to meet water quality objectives established for the Delta. The effect of the operational restrictions in addition to the incorporation of potential climate change impacts amounts to an estimated reduction of 970 TAF when the median value for annual SWP deliveries for Future Conditions in the 2005 Report (3,750 TAF) is compared to the updated value in the 2009 Report (2,600 TAF). DWR has altered operations of the SWP to accommodate species of fish listed under the Federal and California Endangered Species Acts (ESAs). These changes in project operations have influenced the manner in which water is diverted from the Bay-Delta and SWP deliveries to the southern part of the State. Restrictions on Bay-Delta pumping beginning in 2008 under the Interim Remedial Order in *NRDC v. Kempthorne* have resulted in reduced deliveries of SWP water to MWD.

Based on DWR estimates of SWP deliveries under the Interim Remedial Order, and assuming an equal division of curtailments between the SWP and CVP,⁵⁵ MWD has met firm demands in calendar years 2008, 2009 and 2010. However, MWD has been withdrawing supplies from surface and groundwater storage to meet current demands. Anticipating that storage could be significantly reduced by the end of 2010, MWD and its member agencies are calling for voluntary water conservation to lower demands and reduce drawdown from water storage. In fact on April 14, 2009, MWD adopted a Level 2 Allocation, which equates to a 10 percent reduction in regional water supplies. Based on similar water supply conditions, this same level of allocation was adopted on April 13, 2010 for this current fiscal year by MWD. If necessary, mandatory water allocations

⁵⁵ Assuming an equal division of curtailments between the SWP and the CVP is conservative and may have the effect of overstating the amount of SWP curtailment. As an example, in January 2009, the U.S. Bureau of Reclamation, which operates the CVP, provided notice to agricultural customers that it intended to not provide any water deliveries to agricultural customers in 2009. Thus, in the short term it appears as though agricultural users which receive water through the CVP may suffer deeper water cuts as compared to water purveyors which receive water from the SWP.

could be imposed in the future to cause further reductions in water use and reduce drawdown from water storage reserves. MWD's member agencies and retail water suppliers in MWD's service area also have the ability to implement water conservation and allocation programs, and many of the retail suppliers in MWD's service area have initiated conservation measures.

To create a systemic solution to the issues facing the Delta (which have existed since the 1970's), Governor Schwarzenegger created the Delta Vision process, which is aimed at identifying long-term solutions to the conflicts in the Bay-Delta, including natural resource, infrastructure, land use and governance issues. The Delta Vision Blue Ribbon Task Force presented findings and recommendations for a sustainable Delta as a healthy ecosystem and water supply source on January 17, 2008. In addition, state and federal resource agencies and various environmental and water user entities are currently engaged in the development of the Bay-Delta Conservation Plan, which is aimed at addressing ecosystem needs and securing long-term operating permits for the SWP. The Bay-Delta Conservation Plan process is scheduled for completion during the third quarter of 2009, with acquisition of appropriate permits and completion of the associated environmental impact statement/impact report. Recently, statewide officials have expressed support for the construction of the peripheral canal, which would alleviate some of the delta species considerations by transferring river water south before it reaches the Bay Delta.

The issues, such as the recent decline of some fish species in the Delta and surrounding regions and certain operational actions in the Delta, may impact MWD's water supply from the Delta. SWP operational requirements may be further modified through the consultation process for new biological opinions for listed species under the Federal ESA or from the California Department of Fish and Game's actions regarding the California ESA.

Decisions in current or future litigation, listings of additional species (such as the longfin smelt), or new regulatory requirements could adversely affect SWP operations in the future by requiring additional export reductions, releases of additional water from storage, or other operational changes impacting water supply operations.

Water Transfer and Exchange Programs

California's agricultural activities consume approximately 34 million acre-feet of water annually, which is 80 percent of the total water used for agricultural and urban uses and 40 percent of the water used for all consumptive uses. Voluntary water transfers and exchanges can make a portion of this agricultural water supply available to support the State's urban areas. Such existing and potential water transfers and exchanges are an important element for improving the water supply reliability within MWD's service area and accomplishing the reliability goal set by MWD's Board of Directors.

MWD is currently pursuing voluntary water transfer and exchange programs with state, federal, public and private water districts and individuals. The following information on these programs has been extracted from MWD's 2010 Regional UWMP:

- *Semitropic Storage Program:* MWD has a groundwater storage program with Semitropic Water Storage District located in the southern part of the San Joaquin Valley. The maximum storage capacity of the program is 350 TAF. The specific amount of water MWD can store in and subsequently expect to receive from the programs depends upon hydrologic conditions, any regulatory requirements restricting MWD's ability to export water for storage, and the demands placed on the Semitropic Program by other program participants. During the recent dry year of 2008, the storage program delivered 125 TAF to MWD. During wet years, MWD has the discretion to use the program to store portions of its SWP entitlement water that are in excess of the amounts needed to meet MWD's service area demand. In Semitropic, the water is delivered to district farmers who use the water in-lieu of pumping groundwater. During dry years, the districts return MWD's previously stored water to MWD by direct groundwater pump-in return and the exchange of State Water Project entitlement water.
- *Arvin-Edison Storage Program:* MWD amended the groundwater storage program with Arvin-Edison Water Storage District in 2008 to include the South Canal Improvement Project. The project increases the reliability of Arvin-Edison returning higher water quality to the California Aqueduct. The program storage capacity is 350 TAF. The specific amount of water MWD can expect to store in and subsequently receive from the programs depends upon hydrologic conditions and any regulatory requirements restricting MWD's ability to export water for storage. The storage program is estimated to deliver 75 TAF. During wet years, MWD has the discretion to use the program to store portions of its SWP Table A supplies which are in excess of the amounts needed to meet MWD's service area demand. The water can be either directly recharged into the groundwater basin or delivered to district farmers who use the water in-lieu of pumping groundwater. During dry years, the district returns MWD's previously stored water to MWD by direct groundwater pumping in return or by exchange of surface water supplies.
- *San Bernardino Valley MWD Storage Program:* The San Bernardino Valley MWD Storage program allows for the purchase of a portion of San Bernardino Valley Municipal Water District's State Water Project supply. The program includes a minimum purchase provision of 20 TAF and the option of purchasing additional supplies when available. This program can deliver between 20 TAF and 70 TAF in dry years, depending on hydrologic conditions. The expected delivery for a single dry year similar to 1977 is 70 TAF. The agreement with San Bernardino Valley MWD also allows MWD to store up to 50 TAF of transfer water for use in dry years.
- *Kern-Delta Water District Storage Program:* This groundwater storage program has 250 TAF of storage capacity. When fully developed, it will be capable of providing 50 TAF of dry-year supply. The water can be either directly recharged

into the groundwater basin or delivered to district farmers who use the water in-lieu of pumping groundwater. During dry years, the district returns MWD's previously stored water to MWD by direct groundwater pumping in return or by exchange of surface water supplies.

- *Mojave Storage Program*: Currently operated as a demonstration program, the program will store SWP supply delivered in wet years for subsequent withdrawal during dry years. When fully developed, the program is expected to have a dry-year yield of 35 TAF depending on hydrologic conditions.
- *Central Valley Transfer Programs*: MWD expects to secure Central Valley water transfer supplies via spot markets and option contracts to meet its service area demands when necessary. Hydrologic and market conditions, and regulatory measures governing Delta pumping plant operations will determine the amount of water transfer activity occurring in any year. Transfer market activity in 2003, 2005, 2008, and 2009 provide examples of how MWD has secured water transfer supplies as a resource to fill anticipated supply shortfalls needed to meet MWD's service area demands.
 - In 2003, MWD secured options to purchase approximately 145 TAF of water from willing sellers in the Sacramento Valley during the irrigation season. These options protected against potential shortages of up to 650 TAF within MWD's service area that might have arisen from a decrease in Colorado River supply or as a result of drier than expected hydrologic conditions. Using these options, MWD purchased approximately 125 TAF of water for delivery to the California Aqueduct.
 - In 2005, MWD, in partnership with seven other State Water Contractors, secured options to purchase approximately 130 TAF of water from willing sellers in the Sacramento Valley, of which MWD's share was 113 TAF. MWD also had the right to assume the options of the other State Water Contractors if they chose not to purchase the transfer water. Due to improved hydrologic conditions, MWD and the other State Water Contractors did not exercise these options.
 - In 2008, MWD in partnership with seven other State Water Contractors, secured approximately 40 TAF of water from willing sellers in the Sacramento Valley, of which MWD's share was approximately 27 TAF.
 - In 2009, MWD in partnership with eight other buyers and 21 sellers participated in a statewide Drought Water Bank, which secured approximately 74 TAF, of which MWD's share was approximately 37 TAF.

MWD's recent water transfer activities have demonstrated its ability to develop and negotiate water transfer agreements either working directly with the agricultural districts who are selling the water or through a statewide Drought Water Bank. Because of the complexity of cross-Delta transfers and the need to

optimize the use of both CVP and SWP facilities, DWR and USBR are critical players in the water transfer process, especially when shortage conditions increase the general level of demand for transfers and amplify ecosystem and water quality issues associated with through-Delta conveyance of water. Therefore, MWD views state and federal cooperation to facilitate voluntary, market-based exchanges and sales of water as a critical component of its overall water transfer strategy.

In addition to the previously mentioned programs, MWD also manages or participates in the following existing SWP programs located outside of its service area:

- *Sacramento Valley Water Management Agreement (Phase 8 Settlement)*: MWD is a signatory to the Sacramento Valley Water Management Agreement (Phase 8 Settlement) that includes work plans to develop and manage water resources to meet Sacramento Valley in-basin needs, environmental needs under the SWRCB's Water Quality Control Plan, and export supply needs for both water demands and water quality. The agreement specifies about 60 water supply and system improvement projects by 16 different entities in the Sacramento Valley.
- *Monterey Amendment*: MWD was a signatory to the 1994 Monterey Amendment to resolve disputes between the urban and agricultural SWP contractors over how contract supplies are to be allocated in times of shortage by amending certain provisions of the long-term water supply contracts with DWR. The Monterey Amendment altered the water allocation procedures such that both shortages and surpluses would be shared in the same manner for all contractors, eliminating the prior "agriculture first" shortage provision. In turn, the agricultural contractors agreed to permanently transfer 130,000 AF to urban contractors and permanently retire 45,000 AF of their contracted supply.
- *SWP Terminal Storage*: MWD has contractual rights to 65,000 AF of flexible storage at Lake Perris (East Branch terminal reservoir) and 153,940 AF of flexible storage at Castaic Lake (West Branch terminal reservoir). This storage provides MWD with additional options for managing SWP deliveries to maximize yield from the project.
- *Yuba Dry-year Water Purchase Program*: In December 2007, MWD entered into an agreement with DWR providing for MWD's participation in the Yuba Dry Year Water Purchase Program between Yuba County Water Agency and DWR through 2025.
- *Desert Water Agency/Coachella Valley Water District (DWCV) SWP Table A Transfer*: Under the transfer agreement, MWD transferred 100,000 AF of its SWP Table A amount to DWCV effective January 1, 2005. DWCV pays all SWP charges for this water, including capital costs associated with capacity in the SWP to transport this water to Perris Reservoir as well as the associated variable costs. The amount of water actually delivered in any given year depends on that year's SWP allocation. Water is delivered through the existing exchange agreements between MWD and DWCV. While MWD transferred 100,000 AF of its Table A

amount, it retained other rights, including interruptible water service, its full carryover amounts in San Luis Reservoir, its full use of flexible storage in Castaic and Perris Reservoirs, and any rate-management credits associated with the 100,000 AF. In addition, MWD is able to recall the SWP transfer water in years in which MWD determines it needs the water to meet its water management goals. The main benefit of the agreement is to reduce MWD's SWP fixed costs in wetter years when there are more than sufficient supplies to meet MWD's water management goals, while at the same time preserving its dry-year SWP supply.

- *DWCV Advance Delivery Program:* Under this program, MWD delivers Colorado River water to DWCV in advance of the exchange for their SWP Contract Table A allocations. By delivering enough water in advance to cover MWD's exchange obligations, MWD is able to receive DWCV's available SWP supplies in years in which MWD's supplies are insufficient without having to deliver an equivalent amount of Colorado River water.
- *DWCV Other SWP Deliveries:* Since 2008, MWD has provided DWCV's written consent to take delivery from the SWP facilities non-SWP supplies separately acquired by each agency. These deliveries include water acquired from the Yuba Dry Year Water Purchase Program and the 2009 Drought Water Bank.

Supply Management Strategies

On the regional level, MWD has taken a number of actions to secure a reliable water source for its member agencies. MWD recently adopted a water supply allocation plan for dealing with potential shortages that takes into consideration the impact on retail customers and the economy, changes and losses in local supplies, the investment in and development of local resources, and conservation achievements.⁵⁶ Additional actions taken by MWD during the first half of 2008 include the adoption of a \$1.9 billion spending plan, increased rates and charges,⁵⁷ and the funding of a new reservoir to benefit Colorado River supply capabilities.⁵⁸ MWD's approved budget for 2010/11 included rate increases of 7.5 percent with another 7.5 percent increase planned for 2011/12 to maintain this spending for the improvement of water conveyance facilities, water transfers, and providing financial assistance to member agency's local conservation, recycling, and groundwater clean-up efforts⁵⁹.

MWD also supports a number of resource management actions and measures, which promote consistency in the available water supply during dry years. These actions and measures, segregated below by category, include:

⁵⁶ Metropolitan Water District Press Release dated February 12, 2008.

⁵⁷ Metropolitan Water District Board Meeting, March 11, 2008, and Press Release of same date, regarding spending plan and adoption of rates and charges.

⁵⁸ Metropolitan Water District Board Meeting, April 8, 2008, and Press Release of same date, regarding new reservoir.

⁵⁹ Metropolitan Water District, Annual Budget, which can be accessed at this link:
<http://www.mwdh2o.com/mwdh2o/pages/finance/budget/AB2011.pdf>

Conservation

- Providing incentives to facilitate the installation of water conserving devices. MWD is also looking at refining their current incentive program to include more options, streamlined administrative processes, and more standardization across programs to increase participation. Total incentive payments for FY 2006/07 were \$15.4 million and for FY 2007/08 were \$18.1 million, which created 8,300 AF and 7,400 AF of new conserved water savings, respectively, bringing the total to 120,000 AF of conserved annual water savings, since 1991.
- Promoting water savings through legislative measures.
- Pursuing specific implementation strategies outlined in MWD's Conservation Strategy Plan, jointly developed with its member agencies.

Local Resources (LRP)

- Providing incentives of up to \$250 per acre-foot to expand water recycling and groundwater recovery programs. Eighty-six participating water recycling and groundwater recovery projects are expected to collectively produce about 363,000 AFY once fully implemented. Since inception of the LRP in 1982, MWD has provided more than \$244 million for the production of about 1.3 MAF of recycled water and recovered groundwater.
- Encouraging development of seawater desalination by promoting improved regional facilitation and funding. Additional information on desalination is included later in this section.
- Updating policies to allow for an open process to accept and view project applications on a continuous basis, with a goal of development of an additional 174,000 acre-feet per year of local water resources.

In-Basin Groundwater Storage

- Promoting dry-year conjunctive use programs with member and retail agencies, which provide more than 415,000 AF of additional storage within MWD's service area with a contractual yield of more than 115,000 AF during dry conditions. MWD has allocated \$52.4 million to these programs to date. MWD also has about 63,000 AF in local supplemental storage through agreements with several member agencies.

In-Basin Surface Water Storage

- Providing storage in MWD's Diamond Valley, Lake Mathews and Lake Skinner Reservoirs.
- Providing flexible storage in DWR's Castaic Lake and Lake Perris Reservoirs.

West Basin Municipal Water District (WBMWD)

Although the reliability of WBMWD's water supply is heavily dependent on MWD, WBMWD has invested in recycled water to help improve its reliability. Utilizing recycled water helps WBMWD reduce its vulnerability to extended drought or emergency shortage events. The City of Inglewood uses recycled water purchased from WBMWD primarily for irrigation purposes. Additional information on this usage is provided in Section 9 of this Plan.

Water Replenishment District of Southern California (WRD)

The California Water Code requires WRD to perform any acts necessary to replenish, protect, and preserve the groundwater supplies of the Basin.⁶⁰ WRD meets this requirement by participating in numerous projects and programs directly related to the replenishment of the Basin and the increase in water supply reliability for the region. Some of these programs were discussed in the Water Quality Section of this UWMP and include the Groundwater Quality Program, Safe Drinking Water Program, and the Regional Groundwater Monitoring Program. In addition, the existing projects and programs are listed below.

- Recycled Water Program – Recycled water continues to be used at seawater intrusion barriers to assist in the replenishment of the Basin. WRD's recycled water program ensures the recycled water quality is safe for groundwater recharge. WRD monitors and samples water quality near the spreading grounds and tracks the travel times between the spreading basins and production wells. Projects under this program improve the reliability of groundwater supplies for the region.
- Groundwater Resources Planning Program – As the entity that manages the Basin, WRD implemented this program to evaluate proposed projects/programs to determine their impacts/benefits to the overall Basin management. All new projects are brought to the WRD's Technical Advisory Committee for review and recommendation. Past programs have been conceptual in nature and have included increasing the allowed pumping allocation, banking groundwater, and relaxing carryover provisions.
- Groundwater Quality and Monitoring Programs – These programs provide a means for WRD to evaluate water quality compliance in production wells, monitoring wells, and recharge/injection waters. Water quality and water level data are compiled in GIS to better understand the dynamic changes in the Central and West Coast Groundwater Basins.
- Seawater Barrier Improvement Program – WRD purchases imported and recycled water for injection in the Alamitos, Dominguez Gap, and the West Coast Basin Barriers. The barriers are owned and operated by the Los Angeles County Department of Public Works. WRD continues to evaluate the effectiveness of the

⁶⁰ 2010 WRD Engineering Survey and Report, Updated May 11, 2010.

barriers and makes adjustments as needed to protect the freshwater groundwater sources.

Regional Water Quality Control Board – Los Angeles Region 4

Background

The SWRCB and the nine RWQCBs (Regional Boards) are responsible for the protection and, where possible, the enhancement of the quality of California's waters. The State Water Resources Control Board (SWRCB) sets statewide policy, and together with the Regional Boards, implements state and federal laws and regulations. Each of the nine Regional Boards adopts a Water Quality Control Plan or Basin Plan, which recognizes and reflects regional differences in existing water quality, the beneficial uses of the region's ground and surface waters, and local water quality conditions and problems.

In 1975, the Los Angeles RWQCB (LARWQCB) adopted separate Water Quality Control Plans (Basin Plans) for the Los Angeles Region comprised of the Santa Clara and Los Angeles River Basin Plans. The two Basin Plans were amended in 1978, 1990, and 1991. On June 13, 1994, the LARWQCB adopted a single Basin Plan⁶¹ covering both basins. For planning purposes, the single Basin Plan divides the region into major surface watersheds and groundwater basins, such as the Los Angeles River and San Gabriel River Watershed. The LARWQCB periodically updates the Basin Plan to address issues that evolve over time due to increasing population and changing water demands in the region.

The Basin Plan is more than a collection of water quality goals and policies, descriptions of conditions, and discussions of solutions. It is also the basis for the LARWQCB's regulatory programs. The Basin Plan establishes water quality standards for all the ground and surface waters of the region. Water quality problems in the region are listed in the Basin Plan, along with the causes, if known. For water bodies with quality below the recommended levels necessary for beneficial uses, plans for improving water quality are included. Legal basis and authority for the LARWQCB reflects, incorporates, and implements applicable portions of a number of national and statewide water quality plans and policies, including the California Water Code (Porter-Cologne Water Quality Control Act) and the Clean Water Act. The LARWQCB also regulates water discharges to minimize their effects on the region's ground and surface water quality. Permits are issued by the LARWQCB under a number of these programs and authorities.

Key Regional Issues

Water quality degradation due to excess nutrients, sediment, and bacteria from nonpoint source discharges are believed to be the greatest threats to rivers and streams within the Los Angeles Region. The increase in uncontrolled pollutants from nonpoint source

⁶¹ The LARWQCB Basin Plan can be accessed at this link:
http://www.swrcb.ca.gov/rwqcb4/water_issues/programs/basin_plan/basin_plan_documentation.shtml

discharges can be associated with the rapid population growth in the region. Major surface waters of the Los Angeles Region flow from head waters in pristine mountain areas, through urbanized foothill and valley areas, high density residential and industrial coastal areas, and terminate at highly utilized recreational beaches and harbors. The urbanized, high density and highly utilized areas contribute to the surface water quality concerns of the region. These key water quality issues are addressed by the LARWQCB by way of Basin Plan amendments as well as the establishment of Total Daily Maximum Loads or TMDLs⁶²

Water Resources and Water Quality Management

The LARWQCB plans to implement more watershed-based projects in the future to address water quality and/or water supply issues. The purpose of comprehensive watershed level management is to establish a more effective approach in protecting and restoring beneficial-uses by dividing the region into several watersheds. The portion of the Basin Plan, which falls within Los Angeles County, has been divided into six watershed management areas for planning purposes. This helps in addressing the coordination of planning, monitoring, assessment, permitting, and enforcement elements of the various surface and groundwater programs with activities/jurisdiction in each watershed. The City of Inglewood's service area falls into two watershed areas: the Santa Monica Bay Watershed and Dominguez Channel Watershed Planning areas.

Substantial resources have also been allocated by the LARWQCB for the investigation of polluted waters and enforcement of corrective actions needed to restore water quality. The LARWQCB has established the specific remediation programs which include:

- Underground Storage Tanks
- Well Investigations
- Spills, Leaks, Investigations, and Cleanups
- Above-ground Petroleum Storage Tanks
- U.S. Department of Defense and Department of Energy Sites
- Resource Conservation and Recovery Act
- Toxic Pits Cleanup Act
- Bay Protection and Toxic Cleanup

⁶² Specific information on Amendments and TMDLs can be accessed at this link:
http://www.swrcb.ca.gov/rwqcb4/water_issues/programs/basin_plan/wqs_list.shtml

Some of these activities bear directly on the implementation of the Basin Plan, while others may lead to future Basin Plan amendments to incorporate appropriate changes, such as revised regulatory strategies for various dischargers. These investigations and the implementation of appropriate physical solutions are an essential and integral part of the effort to restore and maintain water quality in the region.

4.2 REGIONAL DEMAND AND SUPPLIES COMPARISON

MWD Water District Supplies and Demands

As previously noted, the City of Inglewood obtains its imported water from WBMWD, its MWD member agency. As a part of its Integrated Water Resources Plan Implementation Report process (IRP)⁶³, and more recently in its November 2010 Regional Urban Water Management Plan (RUWMP), MWD chose the year 1977 as the single driest year since 1922, and the years 1990-1992 as the driest multiple (3) years over that same period. These years were selected because they represent the timing of the least amount of available water resources from the SWP, a major source of MWD's supply.

Concurrently with the preparation of its 2010 RUWMP, MWD also prepared a 2010 IRP Update, which was adopted by the MWD Board of Directors on October 12, 2010.

Based on MWD's 2010 RUWMP and 2010 IRP, Tables 4.2-1 and 4.2-2 herein summarize MWD's current imported supply availability and demand projections for average year, single dry year, and multiple dry years over the 20-year period beginning in 2015 and ending in 2035. The supply projections include current programs and programs under development as well as in-region storage and programs. Reference is made to MWD's 2010 RUWMP for a description of these programs under development, but they include only programs MWD is confident can be implemented and do not include other more speculative regional programs.

Even if all the programs under development are removed, there are surpluses in all years and scenarios listed below. Demands are firm demands on MWD and also include MWD's commitments for IID-SDCWA transfers and canal lining.

Table 4.2-1, summarizing single dry year demand data shows surpluses in all years ranging from a low of 148.3 percent (projected supply during a single dry year as a percent of single dry year demand) in 2015 to a high of 182.3 percent in 2020. Similarly, Table 4.2-2 shows surpluses in all years ranging from a low of 118.6 percent (projected supply during an average year of a multiple (three) year dry period as a percent of average multiple year demand in 2015 to a high of 142.5 percent in 2025.

⁶³ Metropolitan develops Integrated Water Resources Plans (IRPs), which lay out how Metropolitan will secure and provide water to its customer base. These IRPs utilize hydrological and other data provided by DWR and are updated periodically through IRP Report Updates to reflect changing conditions.

Table 4.2-1
MWD's Regional Water Supply/Demand Reliability Projections
(AFY) for Average and Single Dry Years

Row	Region Wide Projections	2015	2020	2025	2030	2035
Supply Information						
A	Projected Supply During an Average Year ^[1]	4,073,000	4,499,000	5,140,000	4,998,000	4,865,000
B	Projected Supply During a Single Dry Year ^[1]	3,219,000	3,644,000	4,013,000	3,859,000	3,726,000
C = B/A	Projected Supply During a Single Dry Year as a % of Average Supply	79.0	81.0	78.1	77.2	76.6
Demand Information						
D	Projected Demand During an Average Year ^[2]	2,006,000	1,933,000	1,985,000	2,049,000	2,106,000
E	Projected Demand During a Single Dry Year ^[2]	2,171,000	2,162,000	2,201,000	2,254,000	2,319,000
F = E/D	Projected Demand During a Single Dry Year as a % of Average Demand	108.2	111.8	110.9	110.0	110.1
Surplus Information						
G = A-D	Potential Surplus During an Average Year	2,067,000	2,566,000	3,155,000	2,949,000	2,759,000
H = B-E	Potential Surplus During a Single Dry Year	1,048,000	1,482,000	1,812,000	1,605,000	1,407,000
Additional Supply Information						
I = A/D	Projected Supply During an Average Year as a % of Demand During an Average Year	203.0	232.7	258.9	243.9	231.0
J = A/E	Projected Supply During an Average Year as a % of Demand During a Single Dry Year Demand	187.6	208.1	233.5	221.7	209.8
K = B/E	Projected Supply During a Single Dry Year as a % of Single Dry Year Demand (including surplus)	148.3	168.5	182.3	171.2	160.7

[1] Projected supplies include current supplies and supplies under development. This data was obtained from MWD's 2010 RUWMP, adopted by the Board on November 9, 2010 (Tables 2-9 and 2-11).

[2] Demand data obtained from MWD's 2010 RUWMP, adopted by the Board on November 9, 2010 (Tables 2-9 and 2-11).

Table 4.2-2
MWD's Regional Water Supply/Demand Reliability Projections
(AFY) for Average and Multiple Dry Years

Row	Region Wide Projections	2015	2020	2025	2030	2035
Supply Information						
A	Projected Supply During an Average Year ^[1]	4,073,000	4,499,000	5,140,000	4,998,000	4,865,000
B	Projected Supply During Average of 3 Dry Year Period ^[1]	2,652,000	2,970,000	3,253,000	3,214,000	3,170,000
C = B/A	Projected Supply During the Average Year of a 3-Dry Year Period as a % of Average Supply	65.1	66.0	63.3	64.3	65.2
Demand Information						
D	Projected Demand During an Average Year ^[2]	2,006,000	1,933,000	1,985,000	2,049,000	2,106,000
E	Projected Demand During Average of 3-Dry Year Period ^[2]	2,236,000	2,188,000	2,283,000	2,339,000	2,399,000
F = E/D	Projected Demand During the Average Year of a 3-Dry Year Period as a % of Average Demand	111.5	113.2	115.0	114.2	113.9
Surplus Information						
G = A-D	Potential Surplus During an Average Year	2,067,000	2,566,000	3,155,000	2,949,000	2,759,000
H = B-E	Potential Surplus During Average of 3-Dry Year Period	416,000	782,000	970,000	875,000	771,000
Additional Supply Information						
I = A/D	Projected Supply During an Average Year as a % of Demand During an Average Year	203.0	232.7	258.9	243.9	231.0
J = A/E	Projected Supply During an Average Year as a % of Demand During an Average Year of a 3-Dry Year Period	182.2	205.6	225.1	213.7	202.8
K = B/E	Projected Supply During an Average Year of a 3-Dry Year Period as a % of an Average 3-Dry Year Demand	118.6	135.7	142.5	137.4	132.1

[1] Projected supplies include current supplies and supplies under development. This data was obtained from MWD's November 2010 RUWMP, adopted by the Board on November 9, 2010, (Tables 2-10 and 2-11).

[2] Demand data obtained from MWD's November 2010 RUWMP, adopted by the Board on November 9, 2010, (Tables 2-10 and 2-11).

4.3 VULNERABILITY OF WATER SUPPLY TO SEASONAL OR CLIMATIC SHORTAGE

As mentioned in Section 1, the City of Inglewood is in a semi-arid environment. The area must depend on imported water supplies since natural precipitation is limited and the City does not own enough groundwater rights to fully meet its needs. Climatological data in California has been recorded since the year 1858. During the twentieth century, California has experienced three periods of severe drought: 1928-34, 1976-77 and 1987-91. The year 1977 is considered to be the driest year of record in the Four Rivers Basin by DWR. These rivers flow into the San Francisco Bay Delta and are the main source of water for the SWP. Southern California and, in particular, Los Angeles County, sustained few adverse impacts from the 1976-77 drought, but the 1987-91 drought created considerably more concern for Southern California and Los Angeles County.

As a result, the City is vulnerable to water shortages due to its climatic environment and seasonally hot summer months. Response to a future drought should follow the water use efficiency mandates of the MWD Water Surplus and Drought Management (WSDM) Plan and Water Supply Allocation Plan, along with implementation of the appropriate stage of Inglewood's Phased Water Conservation Plan. These programs are more specifically discussed in Section 8.

4.4 PLANNED WATER SUPPLY PROJECTS AND PROGRAMS TO MEET PROJECTED WATER USE

City of Inglewood Projects

The City continually reviews practices that will provide its customers with adequate and reliable supplies. Trained staff continues to ensure the water quality is safe and the water supply will meet present and future needs in an environmentally and economically responsible manner. The City consistently coordinates its long-term water shortage planning with WBMWD and WRD.

Water demands within the City of Inglewood service area should remain relatively constant over the next 25 years due to minimal growth (other than that due to the Hollywood Park Redevelopment Project) combined with water conservation and efficiency measures and the continued use of recycled water. The City's 2003 Water Master Plan included a Capital Improvement Plan with a series of recommended water system improvements. Priorities were established based on the health, safety and welfare of the public with water supply improvements taking precedence over pumping and storage improvements. In general, the recommended improvements included the following:

1. Improving monitoring of flows and pressures at pump stations and reservoirs
2. Providing additional treatment at the City's groundwater treatment plant to reduce the potential for trihalomethane formation

3. Modifying existing pumps at the groundwater treatment plant effluent booster pump station to pump directly into storage in lieu of pumping into the system
4. Replacing Well No. 4 (due to a significant sanding problem)
5. Implementing an annual cast iron water main replacement program
6. Installing an emergency generator at the groundwater treatment plant
7. Increasing the groundwater treatment plant capacity to at least 6,500 gpm
8. Installing an emergency generator at the North Inglewood Booster Pump Station
9. Installing an emergency generator at the Morningside Booster Pump Station
10. Replacing the transmission main from the groundwater treatment plant to the Morningside Facility
11. Constructing two new 1,500 gpm wells, to allow the City to pump 50% of its demand from groundwater
12. Constructing a pressure reducing station between Zones 1 and 3
13. Constructing system distribution and transmission improvements aimed at increasing fire flows in residential areas
14. Constructing system distribution and transmission improvements aimed at increasing fire flows to commercial and industrial areas
15. Upgrading or replacing the North Inglewood Booster Pump Station, which is nearing the end of its useful life
16. Replacing the deteriorating raw water transmission main

Specific water improvement projects included in the City's 2009/10 Capital Improvement Budget and their related budgeted funding amounts are as follows:

- Miscellaneous water system site improvements and studies (\$797,300)
- Design of two new groundwater production wells (\$1,200,000)
- Rehabilitation or replacement of Morningside Reservoir (\$1,600,000)
- Annual water distribution system upgrade program (\$1,120,000)
- Any additional water projects which have been identified and need immediate attention

Regional Agency Projects

Since the City purchases imported water from the SWP and the Colorado River from MWD, via WBMWD, the projects implemented by MWD to secure their water supplies have a direct effect on Inglewood. In addition, WRD's and WBMWD's planned projects and programs for groundwater and recycled water will also impact the City.

Metropolitan Water District of Southern California (MWD)

MWD is implementing water supply alternative strategies for the region and on behalf of their member agencies to ensure available water in the future. Some of the strategies identified in MWD's 2010 UWMP and referenced in previous sections of this Plan include:

- Conservation
- Water recycling and groundwater recovery
- Storage and groundwater management programs within the Southern California region
- Storage programs related to the SWP and the Colorado River
- Other water supply management programs outside of the region

These programs and strategies are discussed in further detail below.

Conservation Target

MWD's conservation policies and practices are shaped by its Integrated Resource Plan and the California Urban Water Conservation Council (CUWCC) *Memorandum of Understanding Regarding Water Conservation in California*.

Recycled Water, Groundwater Recovery, and Desalination Target

MWD supports the use of alternative water supplies such as recycled water and degraded groundwater when there is a regional benefit to offset imported water supplies. Currently, about 335 TAF per year of recycled water is permitted for use within MWD's service area. Recycled uses include irrigation, commercial and industrial, seawater intrusion barriers, and groundwater recharge applications. MWD estimates that an additional 458 TAF per year of new recycled water usage can be developed by 2035 with a total potential recycled water usage of 1.0 MAF by 2050. Most of the current recycled usage is for irrigation, groundwater replenishment and seawater barriers, with smaller amounts used in industrial applications.

MWD recognizes the importance of member agencies developing local supplies and has implemented several programs to provide financial assistance. MWD's incentive programs include:

- *Competitive LRP*: Supports the development of cost-effective water recycling and groundwater recovery projects that reduce demands for imported supplies.
- *Seawater Desalination Program (SDP)*: Supports the development of seawater desalination within MWD's service area. Additional information on the SDP program is included later in this section.

Regional Groundwater Conjunctive Use Target

Other programs within MWD, which are aimed at maximizing water supplies include storage and groundwater management programs. The Integrated Resource Plan Update identified the need for dry-year storage within surface water reservoirs and the need for groundwater storage. In 2002, Diamond Valley Lake reached its full storage capacity of 800,000 AF. Approximately 400,000 AF of this total is dedicated for dry-year storage. MWD has also developed a number of local programs to increase storage in the groundwater basins. The programs include:

- *North Las Posas*: In 1995, MWD and Calleguas Municipal Water District developed facilities for groundwater storage and extraction from the North Las Posas Basin. MWD has the right to store up to 210,000 AF of water in this basin. It is expected the North Las Posas program will yield 47,000 AF of groundwater from the basin each year.
- *Proposition 13 Projects*: In 2000, DWR selected MWD to receive financial funding to help fund the Southern California Water Supply Reliability Projects Program. The program coordinates eight conjunctive use projects with a total storage capacity of 195 TAF and a dry-year yield of 65 TAF per year.
- *Raymond Basin*: In January 2000, MWD entered into agreements with the City of Pasadena and Foothill Municipal Water District to implement a groundwater storage program anticipated to yield 22 TAF per year by 2010.
- *Other Programs*: MWD intends to expand the conjunctive use programs to add another 80 TAF to groundwater storage. Other basins in the area are being evaluated for possible conjunctive use projects.

State Water Project Target

The major actions MWD is completing to improve SWP reliability include the following previously referenced programs:

- Sacramento Valley Water Management Agreement (Phase 8 Settlement)
- Monterey Amendment
- SWP Terminal Storage
- Yuba Dry-year Water Purchase Program
- DWCVC SWP Table A Transfer
- DWCVC Advance Delivery Program
- DWCVC Other SWP Deliveries

Colorado River Aqueduct (CRA) Target

MWD also receives imported water from the CRA. MWD, Imperial IID and Coachella Valley Water District (CVWD) executed the Quantification Settlement Agreement (QSA) in October 2003. The QSA established the baseline water use for each agency and facilitated the transfer of agricultural water to urban uses. A number of programs have been identified to assist MWD meet their target goal of 1.2 MAF per year from the CRA. The following information on these programs has been extracted from the MWD's 2010 Regional UWMP:

- *Imperial Irrigation District / Metropolitan Water District Conservation Program:* Under a 1988 agreement, MWD has funded water efficiency improvements within IID's service area in return for the right to divert the water conserved by those investments. Under this program, IID implemented a number of structural and nonstructural measures, including the lining of existing earthen canals with concrete, constructing local reservoirs and spill interceptor canals, installing non-leak gates, and automating the distribution system. Other implemented programs include the delivery of water to farmers on a 12-hour rather than a 24-hour basis and improvements in on-farm water management through the installation of tailwater pumpback systems, and drip irrigation systems. Through this program, MWD obtained an additional 105 TAF per year, on average upon completion of program implementation. Execution of the QSA and amendments to the 1988 and 1989 agreements resulted in changes in the availability of water under the program, extending the term to 2078 if the term of the QSA extends through 2077 and guaranteeing MWD at least 85 TAF per year. The remainder of the conserved water is available to CVWD.
- *Palo Verde Land Management, Crop Rotation, and Water Supply Program:* In May 2004, MWD's Board authorized a 35-year land management, crop rotation, and water supply program with PVID. Under the program, participating farmers in PVID are paid to reduce their water use by not irrigating a portion of their land. A maximum of 29 percent of the lands within the Palo Verde Valley can be fallowed in any given year. Under the terms of the QSA, water savings within the PVID service area are made available to MWD. This program provides up to 133 TAF of water available to MWD in certain years, and a minimum of 33 TAF per year. As previously noted, in 2005, 2006, 2007, 2008, and 2009 approximately 108.7, 105.0, 72.3, 94.3, and 102.2 TAF of water, respectively, were saved and made available to MWD. In March 2009, MWD and PVID entered into a one-year supplemental fallowing program within PVID that provides for the fallowing of additional acreage, with savings projected to be as much as 62 TAF. Of that total, 24.1 TAF of water was saved in 2009, with the balance to be made available in 2010.
- *Southern Nevada Water Authority and MWD Storage and Interstate Release Agreement:* Southern Nevada Water Authority (SNWA) has undertaken extraordinary water conservation measures to maintain its consumptive use within Nevada's basic apportionment of 300 TAF. The success of the conservation

program has resulted in unused basic apportionment for Nevada. As SNWA expressed interest in storing a portion of the water with MWD, the agencies along with the United States and the Colorado River Commission of Nevada entered into a storage and interstate release agreement in October 2004. Under the agreement, additional Colorado River water supplies are made available to MWD when there is space available in the CRA to receive the water. MWD has received 70 TAF through 2009. SNWA may call on MWD to reduce its Colorado River water order to return this water no earlier than 2019, unless MWD agrees otherwise.

- *Lower Colorado Water Supply Project:* In March 2007, MWD, the City of Needles, and the USBR executed a Lower Colorado Water Supply Project contract. Under the contract, MWD receives, on an annual basis, Lower Colorado Water Supply Project water unused by Needles and other entities with no rights or insufficient rights to use of Colorado River water in California, the beneficiaries of the project. A portion of the payments made by MWD to Needles are placed in a trust fund for potentially acquiring a new water supply for Needles and other users of the Project should the groundwater pumped from the project's wells become too saline for use. In 2009, MWD received 2.3 TAF from this project.
- *Lake Mead Storage Program:* In May 2006, MWD and the USBR executed an agreement for a demonstration program that allowed the agency to leave conserved water in Lake Mead that would otherwise have been used in 2006 and 2007. USBR would normally make unused water available to other Colorado River water users, so the program included a provision that water left in Lake Mead must be conserved through extraordinary conservation measures and not simply be water that was not needed by MWD in the year it was stored. This extraordinary conservation was accomplished through savings realized under the Palo Verde Land Management, Crop Rotation, and Water Supply Program. Through the two-year demonstration program, MWD created 44.8 TAF of "Intentionally Created Surplus" (ICS) water. In December 2007, MWD entered into agreements to set forth the rules under which ICS water is developed, and stored in and delivered from Lake Mead. The amount of water stored in Lake Mead, created through extraordinary conservation, that is available for delivery in a subsequent year is reduced by a one-time deduction of five percent, resulting in additional system water in storage in the lake, and an annual evaporation loss, beginning in the year following the year the water is stored. MWD created 55.8 TAF of ICS water through the Palo Verde Land Management, Crop Rotation, and Water Supply Program in 2009.

As of January 1, 2010, MWD had a total of 79.8 TAF of Extraordinary Conservation ICS water in Lake Mead. The December 2007 federal guidelines concerning the operation of the Colorado River system reservoirs provided the ability for agencies to create "System Efficiency ICS" through the development and funding of system efficiency projects that save water that would otherwise be lost from the Colorado River. To that end, in 2008 the Central Arizona Water Conservation District (CAWCD), SNWA, and MWD contributed funds for the

construction of the Drop 2 Reservoir by the USBR. The purpose of the Drop 2 Reservoir is to increase the capacity to regulate deliveries of Colorado River water at Imperial Dam reducing the amount of excess flow downstream of the dam by approximately 70 TAF annually. In return for its \$28.7 million contribution toward construction, 100 TAF of water that remains stored in Lake Mead was assigned to MWD as System Efficiency ICS. As of January 1, 2010, MWD had 66 TAF of System Efficiency ICS water in Lake Mead.

In 2009, MWD entered into an agreement with the United States, SNWA, the Colorado River Commission of Nevada, and CAWCD to have USBR conduct a one-year pilot operation of the Yuma Desalting Plant at one-third capacity. The pilot operation began in May 2010 and is providing data for future decision making regarding long-term operation of the Plant and developing a near-term water supply. MWD's contribution toward plant operating costs is expected to secure 23.2 TAF of System Efficiency ICS by 2011.

- *Hayfield Groundwater Storage Program:* The Hayfield Groundwater Storage Program will allow CRA water to be stored in the Hayfield Groundwater Basin in east Riverside County (about 50 miles east of Palm Springs) for future withdrawal and delivery to the CRA. In June 2000, the MWD Board approved the implementation of the Hayfield program and authorized storage of 800 TAF of CRA supplies when available. As of 2003, there were over 70 TAF in storage. At that time, construction of facilities for extracting the stored water began, but it was then deferred because drought conditions in the Colorado River watershed resulted in a lack of surplus supplies for storage. A prototype well was completed in August 2009. Hydrogeologic investigations indicate that conversion of the prototype well into a production well could extract as much as 5 TAF per year of previously stored water. When water supplies become more plentiful, MWD may pursue this program and develop storage capacity of about 400 TAF.

CVP/SWP Storage and Transfers Target

MWD has focused on voluntary short and long-term transfer and storage programs with CVP and other SWP contractors. These previously referenced programs include:

- Semitropic Storage Program
- Arvin-Edison Storage Program
- San Bernardino Valley MWD Storage Program
- Kern-Delta Water District Storage Program
- Mojave Storage Program
- Central Valley Transfer Programs

MWD's 2010 Regional UWMP indicates these programs can supply 402,000 AFY, 306,000 AFY and 274,000 AFY in average, single dry and multiple dry years, respectively in the year 2030.⁶⁴

Water Replenishment District of Southern California (WRD)

WRD is dedicated to maintaining a reliable groundwater supply for those users of the Basin. WRD has implemented numerous programs aimed at increasing overall groundwater supply reliability. Information on those programs extracted from WRD's 2010 Engineering Survey and Report, includes:

- **Leo J. Vander Lans Water Treatment Facility Project:** The Leo J. Vander Lans Water Treatment Facility provides advanced treated recycled water to the Alamitos Seawater Intrusion Barrier. The facility receives tertiary-treated water from the Los Angeles County Sanitation Districts and provides the advanced treatment through a process train that includes microfiltration, reverse-osmosis, and ultraviolet light. The facility's operations permit was approved by the Los Angeles RWQCB on September 1, 2005, and the replenishment operations of this facility started in October 2005. The product water has since been discharging to the barrier to replace up to 50% of the potable imported water currently used, thereby improving the reliability and quality of the water supply to the barrier. The plant is designed to produce approximately 3,000 AFY for delivery to the barrier. Studies are underway to potentially expand the capacity of the facility so that it can provide up to 100% of the barrier water demands thereby eliminating the need for the imported water. The Long Beach Water Department (LBWD) is responsible for operation and maintenance of the treatment plant under contract with WRD.
- **Robert W. Goldsworthy Desalter Project:** The Robert W. Goldsworthy Desalter has been operating since 2002. The project removes brackish groundwater from a saline plume in the Torrance area, which was stranded inland of the West Coast Basin Barrier after the barrier was put into operation in the 1950s and 1960s. The production well and desalting facility are located within the City of Torrance, and the product water is delivered for potable use to the City of Torrance's distribution system. The treatment plant capacity is about 2,200 AFY.
- **Recycled Water Program:** Recycled water has been used for groundwater recharge by WRD since 1962. Using recycled water to replenish the groundwater basins provides a reliable source of high quality water for surface spreading in the Montebello Forebay and injection at the seawater intrusion barriers. In view of the drought conditions that periodically occur in California and uncertainty in the future availability of imported supplies, this resource has become increasingly vital and essential as a replenishment source. Recycled water is also injected into the three seawater intrusion barriers in Los Angeles County (Alamitos, West

⁶⁴ MWD's 2010 Regional UWMP, Table 3-3

- Coast Basin, and Dominguez Gap). Projects under this program help to improve the reliability and utilization of an available local resource.
- *Groundwater Resources Planning Program:* The Groundwater Resources Planning Program was instituted to evaluate basin management issues and to provide a means of assessing project impacts over the Central and West Coast Groundwater Basins. Prior to moving forward with a new project, an extensive evaluation is undertaken. Within the Groundwater Resources Planning Program, new projects and programs are analyzed based on benefits to overall basin management. Projects under the Groundwater Resources Planning Program serve to improve replenishment operations and general basin management and therefore improve overall groundwater reliability.
 - *Groundwater Quality Program:* This comprehensive program constitutes an ongoing effort to address water quality issues that affect WRD projects and the pumpers' facilities. WRD monitors and evaluates the impacts of proposed, pending and recently promulgated drinking water regulations and proposed legislation. The District also assesses the justification and reasoning used to draft these proposals and, if warranted, joins in coordinated efforts with other interested agencies to resolve concerns during the early phases of the regulatory and/or legislative process, thereby leading to a more reliable groundwater system.
 - *Geographic Information System (GIS):* WRD maintains an extensive in-house database and Geographic Information System (GIS). The database includes water level and water quality data throughout the entire WRD service area with information drawn not only from the District's Regional Groundwater Monitoring Program and permit compliance monitoring, but also from water quality data obtained from the California Department of Public Health (CDPH). The system requires continuous update and maintenance but serves as a powerful tool for understanding basin characteristics and overall basin health. The GIS is used to provide better planning and basin management thereby improving overall system reliability. The system is used to organize and store an extensive database of spatial information, including well locations, water level data, water quality information, well construction data, production data, aquifer locations, and computer model files. Staff uses the system daily for project support and database management. Specific information is available to any District pumper or stakeholder upon request and can be delivered through the preparation of maps, tables, reports, or other compatible format.
 - *Regional Groundwater Monitoring Program:* The Regional Groundwater Monitoring Program provides for the collection of basic information used for groundwater basin management including groundwater level data and water quality data. It currently consists of a network of about 250 WRD and USGS-installed monitoring wells at over 50 locations throughout the District, supplemented by the existing groundwater production wells. The information generated by this program is stored in the District's GIS and provides the basis to better understand the dynamic changes in the Central and West Coast Basins.

- *Safe Drinking Water Program:* WRD's Safe Drinking Water Program has operated since 1991 and is intended to promote the cleanup of groundwater resources at specific well locations. Through the installation of wellhead treatment facilities at existing production wells, the District hopes to remove contaminants from the underground supply and deliver the extracted water for potable purposes. Projects implemented through this program are accomplished through direct input and coordination with well owners. The latest treatment, a removal system for iron, manganese, and arsenic, went online in May 2007. There are also several current projects in various stages of completion and new candidates for participation are on the rise. A total of fifteen facilities have already been completed and placed into operation.
- *Dominguez Gap Barrier Recycled Water Injection:* This Project involves the delivery of recycled water from the City of Los Angeles Department of Water and Power's Terminal Island Treatment Plant Advanced Water Treatment Facility to the Dominguez Gap Barrier. Deliveries of recycled water to the Barrier commenced in late February 2006 and have continued since that time.
- *Replenishment Operations:* WRD actively monitors the operation and maintenance practices at the Los Angeles County Department of Public Works-owned and operated spreading grounds and seawater barriers within the District. Optimizing replenishment opportunities is fundamentally important to WRD, in part because imported and recycled water deliveries directly affect the District's annual budget. Consequently, the District seeks to ensure that the conservation of stormwater is maximized, and that imported and recycled water replenishment are also optimized. By maximizing the use of recycled water and stormwater, the amount of imported water can eventually be reduced or eliminated, thereby providing the groundwater basins with full replenishment needs through locally-derived water.
- *Hydrogeology Program:* This program accounts for the projects that occur regularly each year, related to the hydrogeology of the Central and West Coast Basins and surrounding groundwater basins. Staff work performed under this program includes the preparation of the annual Engineering Survey and Report, which incorporates the calculation and determination of annual overdraft, accumulated overdraft, change in storage, pumping amounts, and replenishment needs and costs. Extensive amounts of data are compiled and analyzed by staff to determine these values. Maps are created showing water levels in the basins and production patterns and amounts. The updates, maintenance, and use of the Regional Groundwater Flow Model developed by the USGS and WRD are part of this program. This model is a significant analytical tool utilized by WRD to determine basin benefits and impacts of changes proposed in the management of the Central and West Coast Basins.
- *Groundwater Reliability Improvement Program:* WRD continues to pursue projects that develop local, sustainable sources of water for use in groundwater replenishment. This has become increasingly important in light of the

environmental and political issues limiting delivery of imported water to the Los Angeles area together with the potential for a drought in California.

West Basin Municipal Water District (WBMWD)

WBMWD's major current and planned projects to be completed under the West Basin Local Supply Program (as identified in WBMWD's 2009/10 Water Use Report) include:

- *Harbor-South Bay Recycled Water Expansion Project:* The Harbor-South Bay Recycled Water Expansion Project is a partnership between West Basin and the Army Corps of Engineers. The project will allow for increased recycled water use throughout the region and improved water supply reliability. This project includes the design and construction of numerous recycled water pipelines and pumping facilities throughout various cities such as Carson, Torrance, Palos Verdes, Gardena, and unincorporated areas of Los Angeles County. Over \$30 million in federal funding has been appropriated of the Harbor-South Bay Project and most recently, the project received \$8 million in federal Economic Stimulus Package funding as part of the American Recovery and Reinvestment Act. The Army Corps of Engineers has authorized a financial commitment of \$35 million or 75% of the project funding. WBMWD provides the remaining 25% funding.
- *Phase V Expansion Project:* The Phase V Project will consist of the next major expansion at the Edward C. Little Water Recycling Facility (ECLWRF). These facilities include the expansion to the West Coast Basin Barrier system and the Title 22 system. It is anticipated that construction of these facilities will be completed in 2012. The Phase V Expansion Project will be the ultimate expansion of the Barrier Conservation Project and will increase Barrier water production at this facility by up to an additional five million gallons per day (MGD), resulting in 100% recycled water injection into the Barrier. The Title 22 treatment system at the ECLWRF will also be expanded as part of the Phase V Expansion effort. This will involve adding an additional 20 MGD of pretreatment capacity and 10 MGD of filter capacity to achieve a total of 50 MGD of Title 22 production capacity.
- *Ocean-Water Desalination Demonstration Facility:* In May 2002, WBMWD initiated piloting efforts to desalinate ocean water and evaluate the potential for developing a viable future water supply source for the region. After over six years of operations, WBMWD has identified optimal operating parameters for desalination and is pursuing expanded desalination efforts in a step-wise manner beginning with development of a demonstration level facility, and ultimately leading to implementation of a full-scale ocean water desalination plant. In late 2008, WBMWD approved and certified environmental documentation for the project and in early 2009, WBMWD received all necessary permits to proceed with the Ocean Water Desalination Demonstration Facility Implementation. This project is aimed at developing a basis of design for full-scale operation by evaluating intake technologies and impacts, optimizing operation and maintenance procedures using full-scale elements, evaluating performance of

- potential energy recovery devices, analyzing water quality, and providing opportunities for public and stakeholder education. The Demonstration Facility will be constructed and operated at the S.E.A. (Scientific Education Adventure) Lab marine educational facility in the City of Redondo Beach.
- *Hyperion Secondary Effluent Pump Station Expansion:* West Basin's Hyperion Secondary Effluent Pump Station is the source of water supply for the ECLWRF. As WBMWD's recycled water production continues to increase, secondary effluent demand will exceed the capacity of the existing Pump Station. The expansion of this pump station will potentially provide a capacity of up to 120 MGD.
 - *Hyperion Secondary Effluent Pump Station – Second Electrical Feed:* WBMWD's Hyperion Secondary Effluent Pump Station must not only have adequate capacity to supply the ECLWRF with effluent, but it must also supply the effluent at a level of reliability to meet the needs of WBMWD's industrial customers. A backup power source feed is needed to provide reliability and redundancy in the event the current power source is damaged or lost in a power outage. WBMWD is working closely with Los Angeles Department of Water & Power, the provider of electrical power to the pump station, to construct a second electrical feeder to the pump station to increase the reliability of the pumping facilities.
 - *Treatment/Conveyance Facility Repair, Replacement, and Improvements:* Multiple facility improvements are under consideration for WBMWD's treatment and conveyance system facilities. These improvements will enhance the safety, operability and efficiency of both the distribution system and treatment facilities. Some improvements are made to comply with safety, water quality or other regulatory requirements and may not result in an actual cost savings. Other improvements are identified which will result in lower operating costs or improved equipment life.
 - *Conveyance Facility Corrosion Protection Improvements:* A pipeline corrosion control survey was performed to determine the condition and integrity of WBMWD's overall recycled water distribution system. Various cathodic protection improvements were identified as being necessary to ensure the integrity of WBMWD's recycled water facilities and will be implemented in the upcoming fiscal year. Improvements will need to occur periodically to ensure system integrity over the duration of the system's useful service life. The expansion of local supplies will enable WBMWD to meet its goal of a diversified water supply portfolio to enhance the region's reliability.

4.5 EXCHANGE OR TRANSFER OPPORTUNITIES

The City has not entered into any agreements for the transfer or exchange of water other than through WBMWD. However, MWD and WRD are exploring options that would benefit the region. These exchanges were discussed earlier under proposed projects for the region.

4.6 DESALINATED WATER OPPORTUNITIES

Seawater desalination represents a significant opportunity to diversify the region's water resource mix with a new, locally controlled, reliable potable supply. Like conservation, recycling, and other new local supplies, seawater desalination will increase regional supply reliability by offsetting existing and future demands for imported water.

Regional Desalination Projects Supported by MWD

As noted in its 2010 Regional UWMP, MWD continues to pursue a target for seawater desalination of 150,000 AFY by 2025, and several local and retail water agencies have identified seawater desalination as an important component of their water supply portfolio in their Urban Water Management Plans.

The implementation of large-scale seawater desalination plants in California offers many opportunities and challenges. In the past decade, advances in energy efficiency and membrane technology have reduced the cost of seawater desalination relative to the costs for imported water supplies and other supply alternatives. Challenges to seawater desalination include high capital and operation costs, pre-treatment design, addressing environmental issues, system integration, and navigating an uncertain permitting process. MWD's member agencies are actively pursuing research into alternative intake and outfall technologies, process designs, and treatment alternatives, which could minimize some of the environmental issues and lower unit costs.

MWD has encouraged the development of seawater desalination projects since it created the Seawater Desalination Program (SDP) in 2001. MWD currently has four ongoing SDP agreements in place with a fifth one on hold. These five SDP projects, as well as three additional potential desalination projects within MWD's service area, are summarized in Table 4.6-1:

Of the projects listed in Table 4.6-1, the Carlsbad Seawater Desalination project is the farthest along, having obtained all the necessary local, State and Federal permits required to begin construction. However, some legal challenges to these permits surfaced in 2010. Nevertheless, project proponents are hopeful this project can come on-line as early as 2012.

MWD promotes the development of local seawater desalination projects by providing regional facilitation, supporting member agency projects during permit hearings and other proceedings, coordinating responses to potential legislation and regulations, and working with the member agencies to resolve related issues such as greenhouse gas emission standards and seawater intake regulations, which could impact seawater desalination projects.

MWD has also formed a special Board Committee to seek additional ways to promote potential projects and explore opportunities for developing regional seawater desalination supplies.

**Table 4.6-1
Seawater Desalination Program (SDP) and Potential Project Status**

Project	Member Agency Service Area	Annual Capacity (AFY)	Status
Long Beach Seawater Desalination Project	Long Beach Water Department	10,000	Pilot Study (SDP Agreement)
South Orange Coastal Ocean Desalination Project	Municipal Water District of Orange County	16,000-28,000	Pilot Study (SDP Agreement)
Carlsbad Seawater Desalination Project	San Diego County Water Authority	56,000	Permitting (SDP Agreement)
West Basin Seawater Desalination Project	West Basin Municipal Water District	20,000	Pilot Study (SDP Agreement)
Total SDP Desalination Projects		102,000-114,000	
Los Angeles DWP Desalination Project	Los Angeles DWP	28,000	On-Hold
Huntington Beach Seawater Desalination Project	Municipal Water District of Orange County	56,000	Permitting
Camp Pendleton Seawater Desalination Project	San Diego County Water Authority	56,000-168,000	Planning
Rosarito Beach Seawater Desalination Feasibility Study	San Diego County Water Authority	28,000-56,000	Feasibility Study
Total Additional Potential Desalination Projects		168,000-308,000	

Statewide Desalination Projects Supported by the DWR

As noted on DWR’s website⁶⁵, in November 2002, California voters passed Proposition 50, the Water Security, Clean Drinking Water, Coastal and Beach Protection Act of 2002. Chapter 6(a) of Proposition 50 allocated the sum of \$50 million for grants for brackish water and ocean water desalination projects. This grant program, administered by DWR, aimed to assist local public agencies in the development of new local water supplies through the construction of brackish water and ocean water desalination projects. The program also aimed to help advance water desalination technology and its use by means of feasibility studies, research and development, and pilot and demonstration projects.

Two rounds of funding were conducted (2004 and 2006) under this grant program, which resulted in the investment of about \$50 million to support 48 desalination projects. These projects included seven construction projects, 14 research and development projects, 15 pilot plants and demonstration projects, and 12 feasibility studies.

The California Legislature also approved Assembly Bill 2717, which asked DWR to convene the California Water Desalination Task Force to investigate potential opportunities and impediments for using seawater and brackish water desalination, and to

⁶⁵ DWR’s desalination website can be accessed at this link: <http://www.water.ca.gov/desalination/>

examine what role, if any, the State should play in furthering the use of desalination technology. A primary finding of the Task Force was that economically and environmentally acceptable desalination should be considered as part of a balanced water portfolio to help meet California's existing and future water supply and environmental needs. The Task Force arrived at 41 key findings and made 29 major recommendations relating to seawater and brackish water desalination.⁶⁶

Local Desalination Projects Supported by West Basin MWD

As noted earlier in the Section, West Basin MWD currently operates an Ocean-Water Desalination Pilot Plant Demonstration Facility. After over six years of operation, West Basin MWD has identified optimal operating parameters for desalination and has now received all necessary permits to proceed with implementation of that desalination demonstration project. As previously noted, the demonstration facility will be constructed and operated at the S. E. A. Lab marine educational facility in the City of Redondo Beach. WBMWD previously obtained DWR Proposition 50 funding for this project.

Local Desalination Projects Supported by the Water Replenishment District

WRD owns and operates a Desalter Project located within the City of Torrance. The plant, which was placed into operation in 2001, treats a saline plume located in the West Coast Basin. The plant treats saline water using microfiltration and reverse osmosis. The product water meets all state and federal drinking water standards and its product water serves as a potable water supply for the City of Torrance.

⁶⁶ A complete listing of the Task Force Report's findings and recommendations is available at this website: http://www.water.ca.gov/desalination/pud_pdf/Findings-Recommendations.pdf

5 WATER SUPPLY BASELINES AND TARGETS AND WATER SUPPLY RELIABILITY COMPARISON TABLES

5.1 WATER BASELINES AND TARGETS

To comply with the SBX7-7 water conservation legislation, water suppliers must first establish a baseline water usage, which is then used to set targets for 2015 and 2020. The SB7x7 legislation stipulates that targets must be established by using one of four allowable methods briefly defined as follows:

- Method 1: Per capita daily use equals eighty percent of the water supplier's baseline per capita usage;
- Method 2: Per capita daily use is set based on performance standards applied to indoor residential use; landscape area water use, and commercial, industrial and institutional use;
- Method 3: Per capita daily use is set at 95 percent of the applicable State hydrologic region target based on DWR's April 30, 2011 draft 20x2020 Water Conservation Plan (Inglewood is in the South Coast Region 4); and
- Method 4: Per capita daily use is set based on standards consistent with CUWCC BMPs

Detailed information on the calculation of Inglewood's baseline water usage and 2015 and 2020 per capita water conservation targets can be found in Appendix F, a Technical Memorandum dated April 18, 2011, entitled "20x2020 Baseline Calculation & Water Use Target Method Selection."

As noted in Appendix F, the City's per capita usage baseline average, minimum baseline average and SBX7-7 water conservation targets for 2015 and 2020 have been established as follows:

- Baseline Average (based on 10-year data from 1996-2005) = 115.4 gpcd
- Minimum Baseline Average (based on 5-year data from 2004-2008) = 108.1 gpcd
- 2015 Water Conservation Target = 109.1 gpcd
- 2020 Water Conservation Target = 102.7 gpcd

These per capita usage targets will be used to develop water demands over the next 25 years.

5.2 WATER SUPPLY RELIABILITY COMPARISON TABLES

Tables 5.2-1 through 5.2-7 compare the City's anticipated available water supply with expected demands for normal, single dry and multiple dry years beginning in 2010 and extending through 2035.

**Table 5.2-1
City of Inglewood
Projected Water Supply and Demand Normal Water Year
(AFY – All projections rounded to nearest ten AF)**

Water Sources	2015	2020	2025	2030	2035
Supply	Normal Years				
MWD Projected Supply During a Normal Year as a % of Demand During a Normal Year ^[1]	203.0	232.7	258.9	243.9	231.0
Imported ^[2]	16,060	18,600	20,950	19,980	19,130
Local (Groundwater) ^[3]	4,450	4,450	4,450	4,450	4,450
Potable Water Supply Total	20,510	23,050	25,400	24,430	23,580
Recycled Water ^[4]	1,060	1,060	1,060	1,060	1,060
Total City Water Supply	21,570	24,110	26,460	25,490	24,640
Demand					
Imported ^[2]	7,910	7,990	8,090	8,190	8,280
Local (Groundwater) ^[3]	4,450	4,450	4,450	4,450	4,450
Potable Water Demand Total ^[5]	12,360	12,440	12,540	12,640	12,730
Recycled Water ^[4]	1,060	1,060	1,060	1,060	1,060
Total City Water Demand	13,420	13,500	13,600	13,700	13,790
Per Capita Potable Demand (GPCD) ^[6]	108.2	99.5	99.6	99.8	99.8
% of 2010 Normal Year Demand (12,619 AF)	106.3	107.0	107.8	108.6	109.3
Supply/Demand Difference (Surplus)	8,150	10,610	12,860	11,790	10,850
Difference as a % of Supply	37.8	44.0	48.6	46.3	44.0
Difference as a % of Demand	60.7	78.6	94.6	86.1	78.7

[1] From Table 4.2-1, Row I

[2] Imported Water Supply = (Imported Water Demand) x (MWD Projected Supply Available During a Normal Year as a % of Demand During a Normal Year (from Table 4.2-1, Row I)); Imported Demand = Total Potable Demand - Groundwater

[3] Demand is equal to City of Inglewood adjudicated water rights. Groundwater Supply is estimated to equal Demand.

[4] Recycled Water Supply is estimated to equal Demand.

[5] Total Water Demand figures are based on the Agency's projections including unaccounted for water (Table 2.2-1)

[6] Total Potable Demand in GPD divided by Projected Population (from Table 1.3-3)

**Table 5.2-2
City of Inglewood
Projected Water Supply and Demand Single Dry Water Year
(AFY – All projections rounded to nearest 10 AF)**

Water Sources	2015	2020	2025	2030	2035
Supply	Single Dry Years				
MWD Projected Supply During a Single Dry Year as a % of Single Dry Year Demand (including surplus) ^[1]	148.3	168.5	182.3	171.2	160.7
Imported ^[2]	13,230	15,960	17,230	16,180	15,380
Local (Groundwater) ^[3]	4,450	4,450	4,450	4,450	4,450
Total Potable Water Supply	17,680	20,410	21,680	20,630	19,830
Recycled Water ^[4]	1,150	1,190	1,180	1,170	1,170
Total City Water Supply	18,830	21,600	22,860	21,800	21,000
Normal Year City Water Supply ^[5]	21,570	24,110	26,460	25,490	24,640
Single Dry Supply as a % of Normal Year	87.3	89.6	86.4	85.5	85.2
Demand					
MWD Projected Demand During a Single Dry Year as a % of Normal Year Demand ^[6]	108.2	111.8	110.9	110.0	110.1
Imported ^[2]	8,920	9,470	9,450	9,450	9,570
Local (Groundwater) ^[3]	4,450	4,450	4,450	4,450	4,450
Total Potable Water Demand ^[7]	13,370	13,920	13,900	13,900	14,020
Recycled Water ^[4]	1,150	1,190	1,180	1,170	1,170
Total City Water Demand	14,520	15,110	15,080	15,070	15,190
Normal Year City Water Demand ^[5]	13,420	13,500	13,600	13,700	13,790
% of Normal Year Demand	108.2	111.9	110.9	110.0	110.2
% of 2010 Normal Year Demand (12,619 AF)	115.1	119.7	119.5	119.4	120.4
Supply/Demand Difference (Surplus)	4,310	6,490	7,780	6,730	5,810
Difference as a % of Supply	22.9	30.0	34.0	30.9	27.7
Difference as a % of Demand	29.7	43.0	51.6	44.7	38.2

[1] From Table 4.2-1, Row K (includes MWD surplus supplies)

[2] Imported Water Supply (including Surplus) = (Imported Water Demand) x (MWD Projected Supply Available During a Single Dry Year as a % of Demand During a Single Dry Year (from Table 4.2-1, Row K); Imported Potable Water Demand = Total Demand - Groundwater

[3] Demand is equal to City of Inglewood adjudicated water rights. Groundwater Supply is estimated to equal Demand.

[4] Demand = (Agency's projections in a Normal Year from Table 5.2-1) x (Projected Demand During a Single Dry Year as a % of Normal Demand (from Table 4.2-1, Row F)). Recycled Water Supply is estimated to equal Demand.

[5] Normal Year City Supply and Demand from Table 5.2-1

[6] From Table 4.2-1, Row F

[7] Total Potable Water Demand = (Agency's projections in a Normal Year from Table 5.2-1) x (Projected Demand During a Single Dry Year as a % of Normal Demand (from Table 4.2-1, Row F))

**Table 5.2-3
City of Inglewood
Projected Water Supply and Demand Multiple Dry Water Years 2011-2015**
(AFY – All projections rounded to nearest 10 AF)

Water Sources	2011	2012	2013	2014	2015
Supply	Normal Years		Dry Years		
MWD Projected Supply During Average of 3 Dry Years as a % of Average 3 Dry Year Demand (including surplus) ^[1]			118.6	118.6	118.6
Imported ^{[2][3]}	13,370	14,040	10,750	10,900	11,070
Local (Groundwater) ^[4]	4,450	4,450	4,450	4,450	4,450
Total Potable Water Supply	17,820	18,490	15,200	15,350	15,520
Recycled Water ^[5]	900	940	1,090	1,140	1,180
Total City Water Supply	18,720	19,430	16,290	16,490	16,700
Normal Year City Water Supply ^[6]	18,720	19,430	20,150	20,860	21,570
% of Normal Year	100.0	100.0	80.8	79.1	77.4
Demand					
MWD Projected Demand During Average of Multiple 3 Dry Year as a % of Normal Demand ^[7]			111.5	111.5	111.5
Imported ^[3]	7,430	7,550	9,060	9,190	9,330
Local (Groundwater) ^[4]	4,450	4,450	4,450	4,450	4,450
Total Potable Water Demand ^[8]	11,880	12,000	13,510	13,640	13,780
Recycled Water ^[5]	900	940	1,090	1,140	1,180
Total City Water Demand	12,780	12,940	14,600	14,780	14,960
Normal Year Potable Water Demand ^[9]	11,880	12,000	12,120	12,240	12,360
Normal Year Recycled Water Demand ^[9]	900	940	980	1,020	1,060
Normal Year City Water Demand ^[9]	12,780	12,940	13,100	13,260	13,420
% of 2010 Normal Year Demand (12,619 AF)	101.3	102.5	115.7	117.1	118.6
Supply/Demand Difference (Surplus)	5,940	6,490	1,690	1,710	1,740
Difference as a % of Supply	31.7	33.4	10.4	10.4	10.4
Difference as a % of Demand	46.5	50.2	11.6	11.6	11.6

[1] From Table 4.2-2, Row K

[2] 2010 Import Supply = (2010 Import Normal Year Demand) x (MWD Projected Supply Available During a Normal Year as a % of Demand During a Normal Year); 2010 MWD Projected Supply % = 2015 Normal Year Supply/2015 Normal Year Demand, assumes supplies under development not available until 2015

[3] Supply: 2011-2012 = Interpolated between 2010 Supply (from footnote 2) and 2015 Supply (from Table 5.2-1); 2013-2015 = (Imported Demand) x (Projected Supply During Average of 3 Dry Years as a % of Average 3 Dry Year Demand from Table 4.2-2, Row K); Imported Demand = Total Demand - Groundwater

[4] Demand is equal to City of Inglewood adjudicated water rights. Groundwater Supply is estimated to equal Demand.

[5] Demand: 2011-2012 = Interpolated between 2010 Demand and 2015 Demand (from Table 5.2-1); 2013-2015 = (Normal Year Recycled Water Demand) x (Projected Demand During Average of Multiple 3 Dry Year as a % of Normal Demand from Table 4.2-2 Row F). Recycled Water Supply is estimated to equal Demand.

[6] Interpolated between 2010 Supply and 2015 Supply (from Table 5.2-1)

[7] From Table 4.2-2, Row F

[8] 2011-2012: Normal Year Potable Water Demand; 2013-2015: (Normal Year Potable Water Demand) x (Projected Demand During Average of Multiple 3 Dry Year as a % of Normal Demand from Table 4.2-2, Row F)

[9] Interpolated between 2010 Normal Year Demand (Potable: 11,763 AF, Recycled: 856 AF, City: 12,619) and 2015 Normal Year Demand (from Table 5.2-1)

**Table 5.2-4
City of Inglewood
Projected Water Supply and Demand Multiple Dry Water Years 2016-2020
(AFY – All projections rounded to nearest 10 AF)**

Water Sources	2016	2017	2018	2019	2020
Supply	Normal Years		Dry Years		
MWD Projected Supply During Average of 3 Dry Years as a % of Average 3 Dry Year Demand (including surplus) ^[1]			135.7	135.7	135.7
Imported ^[2]	16,570	17,080	13,030	13,040	13,070
Local (Groundwater) ^[3]	4,450	4,450	4,450	4,450	4,450
Total Potable Water Supply	21,020	21,530	17,480	17,490	17,520
Recycled Water ^[4]	1,060	1,060	1,200	1,200	1,200
Total City Water Supply	22,080	22,590	18,680	18,690	18,720
Normal Year City Water Supply ^[5]	22,080	22,590	23,090	23,600	24,110
% of Normal Year	100.0	100.0	80.9	79.2	77.6
Demand					
MWD Projected Demand During Average of Multiple 3 Dry Year as a % of Normal Demand ^[6]			113.2	113.2	113.2
Imported ^[2]	7,930	7,940	9,600	9,610	9,630
Local (Groundwater) ^[3]	4,450	4,450	4,450	4,450	4,450
Total Potable Water Demand ^[7]	12,380	12,390	14,050	14,060	14,080
Recycled Water ^[4]	1,060	1,060	1,200	1,200	1,200
Total City Water Demand	13,440	13,450	15,250	15,260	15,280
Normal Year Potable Water Demand ^[8]	12,380	12,390	12,410	12,420	12,440
Normal Year Recycled Water Demand ^[8]	1,060	1,060	1,060	1,060	1,060
Normal Year City Water Demand ^[8]	13,440	13,450	13,470	13,480	13,500
% of 2010 Normal Year Demand (12,619 AF)	106.5	106.6	120.8	120.9	121.1
Supply/Demand Difference (Surplus)	8,640	9,140	3,430	3,430	3,440
Difference as a % of Supply	39.1	40.5	18.4	18.4	18.4
Difference as a % of Demand	64.3	68.0	22.5	22.5	22.5

[1] From Table 4.2-2, Row K

[2] Supply: 2016-2017 = Interpolated between 2015 Supply and 2020 Supply (from Table 5.2-1); 2018-2020 = (Imported Demand) x (Projected Supply During Average of 3 Dry Years as a % of Average 3 Dry Year Demand from Table 4.2-2, Row K); Imported Demand = Total Demand - Groundwater

[3] Demand is equal to City of Inglewood adjudicated water rights. Groundwater Supply is estimated to equal Demand.

[4] Demand: 2016-2017 = Interpolated between 2015 Demand and 2010 Demand (from Table 5.2-1); 2018-2020 = (Normal Year Recycled Water Demand) x (Projected Demand During Average of Multiple 3 Dry Year as a % of Normal Demand from Table 4.2-2, Row F). Recycled Water Supply is estimated to equal Demand.

[5] Interpolated between 2015 Supply and 2020 Supply (from Table 5.2-1)

[6] From Table 4.2-2, Row F

[7] 2016-2017: Normal Year Potable Water Demand; 2018-2020: (Normal Year Potable Water Demand) x (Projected Demand During Average of Multiple 3 Dry Year as a % of Normal Demand from Table 4.2-2, Row F)

[8] Interpolated between 2015 and 2020 Normal Year Demand (from Table 5.2-1)

**Table 5.2-5
City of Inglewood
Projected Water Supply and Demand Multiple Dry Water Years 2021-2025
(AFY – All projections rounded to nearest 10 AF)**

Water Sources	2021	2022	2023	2024	2025
Supply	Normal Years		Dry Years		
MWD Projected Supply During Average of 3 Dry Years as a % of Average 3 Dry Year Demand (including surplus) ^[1]			142.5	142.5	142.5
Imported ^[2]	19,070	19,540	14,150	14,180	14,210
Local (Groundwater) ^[3]	4,450	4,450	4,450	4,450	4,450
Total Potable Water Supply	23,520	23,990	18,600	18,630	18,660
Recycled Water ^[4]	1,060	1,060	1,220	1,220	1,220
Total City Water Supply	24,580	25,050	19,820	19,850	19,880
Normal Year City Water Supply ^[5]	24,580	25,050	25,520	25,990	26,460
% of Normal Year	100.0	100.0	77.7	76.4	75.1
Demand					
MWD Projected Demand During Average of Multiple 3 Dry Year as a % of Normal Demand ^[6]			115.0	115.0	115.0
Imported ^[2]	8,010	8,030	9,930	9,950	9,970
Local (Groundwater) ^[3]	4,450	4,450	4,450	4,450	4,450
Total Potable Water Demand ^[7]	12,460	12,480	14,380	14,400	14,420
Recycled Water ^[4]	1,060	1,060	1,220	1,220	1,220
Total City Water Demand	13,520	13,540	15,600	15,620	15,640
Normal Year Potable Water Demand ^[8]	12,460	12,480	12,500	12,520	12,540
Normal Year Recycled Water Demand ^[8]	1,060	1,060	1,060	1,060	1,060
Normal Year City Water Demand ^[8]	13,520	13,540	13,560	13,580	13,600
% of 2010 Normal Year Demand (12,619 AF)	107.1	107.3	123.6	123.8	123.9
Supply/Demand Difference (Surplus)	11,060	11,510	4,220	4,230	4,240
Difference as a % of Supply	45.0	45.9	21.3	21.3	21.3
Difference as a % of Demand	81.8	85.0	27.1	27.1	27.1

[1] From Table 4.2-2, Row K

[2] Supply: 2021-2022 = Interpolated between 2020 Supply and 2025 Supply (from Table 5.2-1); 2021-2025 = (Imported Demand) x (Projected Supply During Average of 3 Dry Years as a % of Average 3 Dry Year Demand from Table 4.2-2, Row K); Imported Demand = Total Demand - Groundwater

[3] Demand is equal to City of Inglewood adjudicated water rights. Groundwater Supply is estimated to equal Demand.

[4] Demand: 2021-2022 = Interpolated between 2020 Demand and 2025 Demand (from Table 5.2-1); 2023-2025 = (Normal Year Recycled Water Demand) x (Projected Demand During Average of Multiple 3 Dry Year as a % of Normal Demand from Table 4.2-2, Row F). Recycled Water Supply is estimated to equal Demand.

[5] Interpolated between 2020 Supply and 2025 Supply (from Table 5.2-1)

[6] From Table 4.2-2, Row F

[7] 2021-2022: Normal Year Potable Water Demand; 2023-2025: (Normal Year Potable Water Demand) x (Projected Demand During Average of Multiple 3 Dry Year as a % of Normal Demand from Table 4.2-2, Row F)

[8] Interpolated between 2020 and 2025 Normal Year Demand (from Table 5.2-1)

**Table 5.2-6
City of Inglewood
Projected Water Supply and Demand Multiple Dry Water Years 2026-2030
(AFY – All projections rounded to nearest 10 AF)**

Water Sources	2026	2027	2028	2029	2030
Supply	Normal Years		Dry Years		
MWD Projected Supply During Average of 3 Dry Years as a % of Average 3 Dry Year Demand (including surplus) ^[1]			137.4	137.4	137.4
Imported ^[2]	20,760	20,560	13,640	13,690	13,710
Local (Groundwater) ^[3]	4,450	4,450	4,450	4,450	4,450
Total Potable Water Supply	25,210	25,010	18,090	18,140	18,160
Recycled Water ^[4]	1,060	1,060	1,210	1,210	1,210
Total City Water Supply	26,270	26,070	19,300	19,350	19,370
Normal Year City Water Supply ^[5]	26,270	26,070	25,880	25,680	25,490
% of Normal Year	100.0	100.0	74.6	75.4	76.0
Demand					
MWD Projected Demand During Average of Multiple 3 Dry Year as a % of Normal Demand ^[6]			114.2	114.2	114.2
Imported ^[2]	8,110	8,130	9,930	9,960	9,980
Local (Groundwater) ^[3]	4,450	4,450	4,450	4,450	4,450
Total Potable Water Demand ^[7]	12,560	12,580	14,380	14,410	14,430
Recycled Water ^[4]	1,060	1,060	1,210	1,210	1,210
Total City Water Demand	13,620	13,640	15,590	15,620	15,640
Normal Year Potable Water Demand ^[8]	12,560	12,580	12,600	12,620	12,640
Normal Year Recycled Water Demand ^[8]	1,060	1,060	1,060	1,060	1,060
Normal Year City Water Demand ^[8]	13,620	13,640	13,660	13,680	13,700
% of 2010 Normal Year Demand (12,619 AF)	107.9	108.1	123.5	123.8	123.9
Supply/Demand Difference (Surplus)	12,650	12,430	3,710	3,730	3,730
Difference as a % of Supply	48.2	47.7	19.2	19.3	19.3
Difference as a % of Demand	92.9	91.1	23.8	23.9	23.8

[1] From Table 4.2-2, Row K

[2] Supply: 2026-2027 = Interpolated between 2025 Supply and 2030 Supply (from Table 5.2-1); 2027-2030 = (Imported Demand) x (Projected Supply During Average of 3 Dry Years as a % of Average 3 Dry Year Demand from Table 4.2-2, Row K); Imported Demand = Total Demand - Groundwater

[3] Demand is equal to City of Inglewood adjudicated water rights. Groundwater Supply is estimated to equal Demand.

[4] Demand: 2026-2027 = Interpolated between 2025 Demand and 2030 Demand (from Table 5.2-1); 2028-2030 = (Normal Year Recycled Water Demand) x (Projected Demand During Average of Multiple 3 Dry Year as a % of Normal Demand from Table 4.2-2, Row F). Recycled Water Supply is estimated to equal Demand.

[5] Interpolated between 2025 Supply and 2030 Supply (from Table 5.2-1)

[6] From Table 4.2-2, Row F

[7] 2026-2027: Normal Year Potable Water Demand; 2028-2030: (Normal Year Potable Water Demand) x (Projected Demand During Average of Multiple 3 Dry Year as a % of Normal Demand from Table 4.2-2, Row F)

[8] Interpolated between 2025 and 2030 Normal Year Demand (from Table 5.2-1)

**Table 5.2-7
City of Inglewood
Projected Water Supply and Demand Multiple Dry Water Years 2031-2035
(AFY – All projections rounded to nearest 10 AF)**

Water Sources	2031	2032	2033	2034	2035
Supply	Normal Years		Dry Years		
MWD Projected Supply During Average of 3 Dry Years as a % of Average 3 Dry Year Demand (including surplus) ^[1]			132.1	132.1	132.1
Imported ^[2]	19,810	19,640	13,230	13,250	13,280
Local (Groundwater) ^[3]	4,450	4,450	4,450	4,450	4,450
Total Potable Water Supply	24,260	24,090	17,680	17,700	17,730
Recycled Water ^[4]	1,060	1,060	1,210	1,210	1,210
Total City Water Supply	25,320	25,150	18,890	18,910	18,940
Normal Year City Water Supply ^[5]	25,320	25,150	24,980	24,810	24,640
% of Normal Year	100.0	100.0	75.6	76.2	76.9
Demand					
MWD Projected Demand During Average of Multiple 3 Dry Year as a % of Normal Demand ^[6]			113.9	113.9	113.9
Imported ^[2]	8,210	8,230	10,010	10,030	10,050
Local (Groundwater) ^[3]	4,450	4,450	4,450	4,450	4,450
Total Potable Water Demand ^[7]	12,660	12,680	14,460	14,480	14,500
Recycled Water ^[4]	1,060	1,060	1,210	1,210	1,210
Total City Water Demand	13,720	13,740	15,670	15,690	15,710
Normal Year Potable Water Demand ^[8]	12,660	12,680	12,690	12,710	12,730
Normal Year Recycled Water Demand ^[8]	1,060	1,060	1,060	1,060	1,060
Normal Year City Water Demand ^[8]	13,720	13,740	13,750	13,770	13,790
% of 2010 Normal Year Demand (12,619 AF)	108.7	108.9	124.2	124.3	124.5
Supply/Demand Difference (Surplus)	11,600	11,410	3,220	3,220	3,230
Difference as a % of Supply	45.8	45.4	17.0	17.0	17.1
Difference as a % of Demand	84.5	83.0	20.5	20.5	20.6

[1] From Table 4.2-2, Row K

[2] Supply: 2031-2032 = Interpolated between 2030 Supply and 2035 Supply (from Table 5.2-1); 2033-2035 = (Imported Demand) x (Projected Supply During Average of 3 Dry Years as a % of Average 3 Dry Year Demand from Table 4.2-2, Row K); Imported Demand = Total Demand - Groundwater

[3] Demand is equal to City of Inglewood adjudicated water rights. Groundwater Supply is estimated to equal Demand.

[4] Demand: 2031-2032 = Interpolated between 2030 Demand and 2035 Demand (from Table 5.2-1); 2033-2035 = (Normal Year Recycled Water Demand) x (Projected Demand During Average of Multiple 3 Dry Year as a % of Normal Demand from Table 4.2-2, Row F). Recycle Water Supply is estimated to equal Demand.

[5] Interpolated between 2030 Supply and 2035 Supply (from Table 5.2-1)

[6] From Table 4.2-2, Row F

[7] 2031-2032: Normal Year Potable Water Demand; 2033-2035: (Normal Year Potable Water Demand) x (Projected Demand During Average of Multiple 3 Dry Year as a % of Normal Demand from Table 4.2-2, Row F)

[8] Interpolated between 2030 and 2035 Normal Year Demand (from Table 5.2-1)

5.3 LOW-INCOME PROJECTED WATER DEMANDS

The California Water Code, Division 6, Part 2.6, Section 10631.1⁶⁷ requires each urban water retailer to include projected water use for single family and multi-family residential housing needed for lower income households as defined in Section 50079.5⁶⁸ of the Health and Safety Code, as identified in the housing element of the City.

The City of Inglewood’s fair share for affordable housing units under the 2006-2014 Regional Housing Needs Assessment (RHNA) requirements is as shown in Table 5.3-1.⁶⁹

**Table 5.3-1
City of Inglewood Share of Regional Housing Needs
2006-2014 RHNA**

Income Group	Number of Units	Percentage
Very Low	398	24.0%
Low	255	15.4%
Moderate	278	16.8%
Above Moderate	727	43.8%
TOTAL	1,658	100.0%

As shown in Table 5.3-1, the very low and low income dwelling units total to 653 (398 + 255) by 2014, which are the lower income housing units subject to the new Water Code requirements described in the first paragraph of this section. Since the City water service area’s population and housing units are approximately 78 percent of the population of the City, the City water service area should be proportioned down to 78 percent of the City requirements. Therefore, the total very low and low income dwelling units applicable to the water service area would be 509 (653 x 0.78). According to the City’s Housing Element report dated March 16, 2011, a total of 34 low income units were completed from January 2006 to December 2010, leaving a remaining need for 619 very low and low income units or 483 units when the previously referenced 78 percent factor is applied. Using the 2010 residential usage of 7,101 AFY from Table 6.1-1 and the 2010 water service area population of 92,386 from Table 1.3-3, yields an average use of 69 gpcd. Using the City-wide population per dwelling unit of 3.17 projected by DOF for 2010, the 509 very low and low income dwelling units within the City’s water service area would equate to a population of approximately 1,614. That population would

⁶⁷ All California Law Codes can be accessed at this website: <http://www.leginfo.ca.gov/calaw.html>;
Section 10631.1 of the California Water Code is available at this website:

<http://www.leginfo.ca.gov/cgi-bin/displaycode?section=wat&group=10001-11000&file=10630-10634>

⁶⁸ Section 500.79.5 of the Health and Safety Code is available at this website:

<http://www.leginfo.ca.gov/cgi-bin/displaycode?section=hsc&group=50001-51000&file=50050-50106>

⁶⁹ Draft Regional Housing Need Allocation Plan (January 1, 2006 – June 30, 2014) for Jurisdictions within the Six-County SCAG Region available at:

http://www.scag.ca.gov/Housing/pdfs/rhna/RHNA_DraftAllocationPlan011807.pdf

generate a total demand of 111,366 gpd or 125 AFY at the 69 gpcd usage factor calculated above. Table 6.1-1 reflects a 1,734 AFY increase in demand between 2010 and 2015, which is more than adequate to encompass the 125 AFY for very low and low income usage referenced above.

5.4 WATER USE REDUCTION PLAN

As demonstrated from the historical water usage data presented in Appendix F, the City has realized substantial reductions in per capita water usage in recent years. In fact, the City has met its 2015 water conservation target for four of the past five years (2006, 2008-2010) and has met its 2020 target for the past two years (2009 and 2010). Even if you ignore the past two drought years (2009 and 2010) and assume the three year non-drought period preceding that (2006-2008) was more representative (when baseline per capita usage averaged 106.4 gpcd), it appears that achieving the 2015 and 2020 water conservation per capita demands of 109.1 and 102.7, respectively, are well within reach.

The City plans to meet its SB7x7 water conservation targets, through a variety of means including:

- Possible increased usage of recycled water;
- Encouraging residents and businesses in the City to conserve water;
- Educating the public through a variety of programs on the need for continued water conservation; and
- Continuing to operate and maintain the water distribution system with an eye toward reducing water losses by repairing or eliminating any leaks that may develop as soon as practical.

6 WATER USE PROVISIONS

6.1 PAST, CURRENT AND PROJECTED WATER USE AMONG SECTORS

Table 6.1 shows past, current and projected water use between 2010 and 2035. The significant increase reflected in the projections for 2015 is due to the planned redevelopment of Hollywood Park, which is scheduled for completion in 2014. Increases in usage subsequent to 2015 are minimal due to the built-out nature of the City, but do show a slight increase to account for a slight growth in population per Table 1.3-4.

**Table 6.1-1
Past, Current and Projected Water Use by Billing Classification (AF)**

City Billing Class	2010	2015	2020	2025	2030	2035
Single / Multi-Family Residential	7,101	8,835	8,920	9,014	9,107	9,202
Commercial / Institutional	2,533	2,746	2,746	2,746	2,746	2,746
Industrial	45	51	51	51	51	51
Landscape Irrigation	0	0	0	0	0	0
Agriculture	0	0	0	0	0	0
Other - Fire	276	315	315	315	315	315
Subtotal	9,955	11,948	12,033	12,126	12,220	12,315
Unaccounted for System Losses ^[1]	114	408	411	414	417	420
Total Water Use	10,069	12,355	12,444	12,540	12,637	12,735

Source: Calendar Year 2010 data from City of Inglewood; all future water use by billing class from Table 5.2-3

[1] 2010 unaccounted for losses are based on actual data; all other years based on an estimated average loss of 3.3% (i.e., the average percentage loss over the past three calendar years)

Unaccounted-for water is the difference between water production and water consumption and represents “lost” water. Unaccounted-for water occurs for a number of reasons:

- Water lost from system leaking, i.e., from pipes, valves, pumps, and other water system appurtenances.
- The City Fire Department performs hydrant testing to monitor the level of fire protection available throughout the City. The City Water Utilities Division performs hydrant flushing to eliminate settled sediment and ensure better water quality. Hydrant testing and flushing is not metered. However, this quantity of water is estimated and taken into consideration when calculating unaccounted-for water.
- Water used by the Fire Department to fight fires. This water is also not metered.
- Customer meter inaccuracies. Meters have an inherent accuracy for a specified flow range. However, flow above or below this range is usually registered at a lower rate. Meters become less accurate with time due to wear.

The City’s 2003 Water Master Plan reports unaccounted-for water averaged 8.05 percent from 1995/96 through 2001/02. More recent data provided by the City demonstrates that City staff members have done a good job maintaining the water system and reducing losses or unaccounted-for water caused by leakage. Recent data for the calendar years 2008 through 2010 reflects losses for the past two years below 1.1 percent and average losses over the past three years of 3.3 percent as reflected in Table 6.2 below:

**Table 6.1-2
City of Inglewood Unaccounted-for-Water – 2008 Through 2010 (AFY)**

Item	2008	2009	2010	3-Year Totals
Water Produced or Purchased	11,088	10,770	10,069	31,927
Water Consumption	10,215	10,676	9,955	30,846
Difference (Unaccounted-for-Water)	873	94	114	1,081
Percent Unaccounted-for-Water	7.8%	0.9%	1.1%	3.3%

6.2 WATER SERVICE CONNECTIONS BY SECTOR

Table 6.2-1 shows the current and projected number of water service customers by sector from 2010 through 2035.

**Table 6.2-1
Number of Water Service Connections by Billing Classification**

City Billing Class	2010	2015	2020	2025	2030	2035
Single / Multi-Family Residential ^{[1] [2]}	11,439	13,599	13,808	14,037	14,267	14,499
Commercial / Institutional ^[3]	1,346	1,394	1,394	1,394	1,394	1,394
Industrial ^[4]	62	62	62	62	62	62
Landscape Irrigation ^[4]	0	0	0	0	0	0
Agricultural ^[4]	0	0	0	0	0	0
Other ^[4]	401	401	401	401	401	401
Total Connections	13,248	15,456	15,665	15,894	16,124	16,356

Note: 2010 data from City of Inglewood; future projections are based on percentages proportionate to 2010 actual data.

[1] Assumed SCAG population projections will be single family residential and have a 3.169 persons per household factor (from 2010 DOF Estimates)

[2] Assumed Hollywood Park will have 1,715 single family DUs and 1280 multi family DUs with 5 multi-family DUs per connection

[3] Assumed 20,000 sf of retail and commercial area per connection, 300 hotel rooms per connection, 5,000 sf of community serving area per connection, 30,000 sf of casino area per connection, 1 connection per acre per civic uses area, and one connection each for the two race track lakes

[4] Assumed no additional agricultural connections

7 WATER DEMAND MANAGEMENT MEASURES

7.1 INTRODUCTION

The City of Inglewood supports water conservation planning and implementation of water conservation measures. Historically, the City has employed numerous conservation measures to discourage water waste and over-use. Additionally, the City also participates in the promotion of water conservation programs developed and implemented by its regional imported water supplier WBMWD.

The Urban Water Management Planning Act requires implementation of 14 Demand Management Measures (DMM) or best management practices (BMP). These 14 BMPs include technologies and methodologies that have been sufficiently documented in multiple demonstration projects that result in more efficient water use and conservation. Implementation of these DMMs will thus reduce the City's reliance on imported water by introducing new alternatives sources to the extent practicable. Many of the BMPs are implemented by the City in coordination with WBMWD and their regional conservation programs. Specifically, the 14 BMPs include:

1. Water survey programs for single-family residential and multifamily residential customers
2. Residential plumbing retrofit
3. System water audits, leak detection, and repair
4. Metering with commodity rates for all new connections and retrofit of existing connections
5. Large landscape conservation programs and incentives
6. High-efficiency washing machine rebate programs
7. Public information programs
8. School education programs
9. Conservation programs for commercial, industrial, and institutional accounts
10. Wholesale agency programs
11. Conservation pricing
12. Water conservation coordinator
13. Water waste prohibition
14. Residential ultra-low-flush toilet replacement programs

7.2 DETERMINATION OF DMM IMPLEMENTATION

The City has implemented several of the above noted DMMs. Some DMMs are in the planning and review stage, while others have been deferred due to other priorities, inadequate funding, or because they are not cost-effective.

Even though Inglewood has yet to implement some DMMs, the City has made significant strides in developing and implementing water conservation programs. The City continues to be committed to the concept of good water management practice and intends to expand its water conservation program as budgets and staffing allow. The City's water conservation program will be periodically re-evaluated and modified to effect better methods or techniques as the need arises.

Currently, the City does not offer any grants, loans or other financial incentives to any sector of the community for the installation of water conservation measures. The State of California also does not offer any grants or loans for this type of water conservation. In the future, it is hoped that the State government will be able to provide financial incentives for water conservation to assist the local and regional agencies with the cost of implementing these programs.

In response to the Urban Water Management Planning Act DMM implementation requirements, the City is providing the following information on its efforts to conserve water and reduce daily water usage through BMP implementation. When reviewing this data, it is important to keep in mind that the City of Inglewood is virtually built-out, with a relatively slow rising population, and little overall increase in landscape area over the past ten years.

1. DMM 1 -- Water Survey Programs for Single-Family Residential and Multi-Family Residential Customers

The City's system is comprised mainly of single and multi-family dwellings. Data indicates that overall system loss (3.3 percent over the past three years) is very good for a water system of its size. The City provides water conservation literature to alert the public to be on the lookout for water system leaks and to correct them expediently. City staff is also available to answer questions regarding system leaks or higher than expected water usage.

The City monitors its water usage by water use category. Since a majority of the City's users are in the residential usage category, any changes in water demand patterns can be easily noticed.

By monitoring water consumption by category, the City is able to gauge customer water use and recognize abnormal usage. The City is confident that its users are educated in good water conservation practices. The City may alter its present program of usage monitoring and adopt an alternative water survey program if it becomes evident that such modification is necessary. Currently, there are no

funds in the budget for implementing a new water survey program. The City is focusing on other higher priority water system needs such as upgraded infrastructure for greater water system reliability. The City would consider instituting a more advanced water survey program, if state funding becomes available for such a program.

2. DMM 2 -- Residential Plumbing Retrofit

The City participates in several programs to encourage the retrofit of residential plumbing. These include installation of low flow showerheads and toilet dams to conserve water. It also includes participation in ultra low flush toilet replacement and rebate programs (covered under DMM 14).

The City has previously distributed water conservation kits, including showerheads, toilet dams, leak detection dye tablets, and a water conservation information booklet. Switching from a high flow showerhead to a low flow showerhead can save as much as 8,000 gallons per year per household.

The City has participated in ultra low flush toilet distribution and rebate programs with WBMWD and MWD (refer to DMM 14). These programs have proven to be very successful. In 1994, the State of California passed legislation requiring the manufacture and sale of toilets which use 1.6 gallons per flush or less. The state plumbing code requires the installation of ultra low flush (ULF) toilets in new dwellings. Since 1990, the WBMWD has distributed over 223,000 of these ULF toilets, which have generated water savings in the amount of 1,049 AF.⁷⁰

3. DMM 3 – System Water Audits, Leak Detection and Repair

As a part of normal operation and maintenance of the water system, water division staff performs preventive maintenance on approximately 152 miles of water pipelines. This includes regular valve, meter, detector check, and pipeline maintenance. If, during routine inspection of the system, leaks are encountered or suspected, further evaluation is conducted, and if leaks are found, they are repaired. In addition to the aforementioned preventative maintenance program, City staff also hold a monthly water audit meeting to evaluate and analyze water production, use and water losses that may impact water revenues.

The City also maintains 18 recycled water service connections and 1,548 fire hydrants. According to the City's Water Master Plan prepared in 2003, on average, 92 percent of the water produced and purchased each year is used by consumers. However, through diligent operation and maintenance of the system, the City has been able to reduce this eight percent loss to an average loss of 3.3 percent over the past three years. Despite this relatively low loss, the City will

⁷⁰ Per the WBMWD April 2011 DRAFT 2010 UWMP, page 7-62, available at:
<http://www.westbasin.org/files/planning-uwmp/west-basin-draft-uwmp-2010-with-appendices.pdf>

continue to monitor system losses through existing Water Department Operation & Maintenance funding. If such losses increase, City staff will conduct further analyses and seek the necessary funds to institute a more formal leak detection program.

4. DMM 4 – Metering with Commodity Rates for All New Connections and Retrofit of Existing Connections

The City meters all customers, including separate metering for residential, commercial, industrial, and municipal (governmental/institutional) facilities, and fire flow. The City has an inclining block rate for water service based on the quantity of water consumed. Monthly service charges are added to the commodity rate to comprise the total water bill. The service charges are based on the size of the meter and range from \$9.00 per month for a 3/4-inch meter to \$144.00 per month for a 12-inch meter. Water bills are sent out monthly. A water rate sheet showing current rates is located in Appendix R.

Based on the current billing system, the more water a customer consumes, the higher the water bill because the commodity rates are per unit of water consumed. This applies to all water-use sectors (e.g., residential, industrial, municipal, etc.). In addition, the higher the quantity consumed within a billing cycle, the higher the per-unit cost of water. Therefore, there is a cost benefit to conserving water.

The commodity rate for reclaimed water also varies depending upon the quantity of water used per billing cycle. The recycled water rate is 80% of the potable water rate. As with potable water, the more water used, the higher the unit cost.

The City calibrates and replaces meters in the system as needed, as part of its ongoing operations and maintenance program.

Large increases in water consumption within a short period of time on any account is noted and investigated. In addition, if any customer questions the water use within his/her own residence or facility, and so informs City staff, the City will investigate the matter to determine the cause.

The City's water rate schedule is discussed in more detail under DMM 11, Conservation Pricing.

5. DMM 5 -- Large Landscape Conservation Programs and Incentives

The City provides recycled water at a lower rate than potable water to provide an incentive to use that water source. Over the past five years, the City has purchased an average of 844 AF annually to irrigate a number of sites including Hollywood Park Race Track, Inglewood Park Cemetery, city parks, School District facilities and Caltrans right-of-way. If the current WBMWD recycled water system infrastructure is expanded making such water more accessible within the City of Inglewood, it may be feasible to increase the number of sites

using recycled water. Recycled water will be used to serve major landscape irrigation in the proposed Hollywood Park development.

Since 1993, the City has required water efficiency in the landscape for all new and rehabilitated landscaping for public agency projects and private development projects requiring permits. According to the Landscape Ordinance No. 93-20 (Appendix I), a landscape plan is required prior to the issuing a building permit. The plan must include a water conservation statement which includes calculations of the project's maximum applied water allowance, and estimated applied water use. It must identify all components of the irrigation system, and include an annual irrigation schedule. Installation of recycled water irrigation systems is required unless an exemption has been granted. Exemptions are available when recycled water is not available, but may not be available in the future.

Furthermore, in February 2003, the Inglewood City Council adopted Resolution No. 03-13 (Appendix J) requiring the use of recycled water for future development projects in the City "where feasible, appropriate and acceptable to all regulatory agencies."

6. DMM 6 -- High-Efficiency Washing Machine Rebate Programs

In cooperation with WBMWD and other agency sponsors, the City participates in a high efficiency washing machine rebate program. High efficiency washing machines use up to 50% less water, 60% less energy and 50% less detergent. According to WBMWD, this equates to about \$1,000 in savings to consumers over a ten year period, and a savings of 6,000 gallons per year per household.

In accordance with program guidelines, high efficiency clothes washers must meet specific guidelines and be on an approved list of washer models to qualify for the rebate. To apply, a rebate application must be completed with the original sales receipt attached, and submitted to the rebate program address. The rebate for the high efficiency clothes washer is currently set at \$100.

The City also relies on manufacturers and retail sales outlets to inform customers of the benefits of purchasing a high-efficiency washing machine, and any rebates that may be available to them through the manufacturer.

Since 2003, Inglewood residents have been eligible to receive washing machine rebates under this program.

7. DMM 7 -- Public Information Programs

The City has developed a public information program to educate the public on the benefits of water conservation. The program involves dissemination of information through literature provided at City Hall and other City facilities. Such information is also disseminated through articles published in the City newsletter, presented on local cable television and made available on the City's

website. The City periodically includes informational flyers with the water bills to address water conservation and other important matters.

Southern California Edison Company, in cooperation with the City, printed and distributed 2,000 brochures providing residents and businesses with suggestions on water conservation. Entitled “*25 Ways to Conserve Water*,” the brochure was distributed to the public at City information counters, library lobbies, school district offices and the local Chamber of Commerce office.

Another available brochure is entitled “*Southern California Lifestyle – We Value Water, A Defining Difference*.” It was developed by a consortium of agencies including WBMWD, MWD, and the Southern California Water Education Center. The brochure provides numerous household and landscaping water saving tips.

A brochure entitled “*A Homeowner’s Guide to Garden and Lawn Water Savings*” has also been available. It was prepared by MWD and contains water management topics, lawn care information, scrub and tree care items, hillside planting tips, and irrigation systems advice.

As discussed under DMM Nos. 1, 2, 6, 8, 9, and 14, the City has participated in many programs to conserve water and educate the public to wise water use. The City increases its educational efforts during times of drought to reinforce the concept of practicing daily water conservation. The City may consider expanding the public education program on water conservation as the need arises, subject to the availability of funding.

8. DMM 8 -- School Education

The City participates in a variety of school education programs in concert with WBMWD. In October 1999, WBMWD began the first annual “Water Harvest Festival”, a free family event featuring booths, games, prizes with the purpose of educating the public about water. The City always participates in both the annual Water Harvest Festival hosted by WBMWD and the Treasure Beneath our Feet Festival hosted by WRD, by sponsoring a booth providing informational materials and giveaways, showcasing the use recycled water and stressing the importance of water conservation. Families and children of all ages were delighted to learn about the City’s innovative ways of conserving potable water supplies. WBMWD and WRD invite children and their parents to the West Basin Water Recycling Facility in El Segundo and the WRD headquarters in Lakewood where they are encouraged to participate in a variety of games and obtain information on the Districts water conservation programs and recycling facilities.

WBMWD representatives have visited schools to discuss water conservation, interacting with school children in grades 3 through 9. This discussion is usually included as part of an overall presentation on the water system and how it works.

The City has provided colorful stickers about conserving water to children, and has distributed an interactive booklet entitled “Everyday is Coastal Cleanup Day,” an activity and education guide sponsored by Heal the Bay. The booklet provides water facts, water sources, water environments, the science of water, watershed designations, pollution consequences, and numerous ways to conserve water. These educational materials are prepared in an effort to reach even the youngest children. Educating school children is a way of indirectly educating the parents of the school children. The City also distributes key chains with water conservation logos.

The City will continue to support the school education programs to promote water conservation to that sector of the community. This will be done as a part of normal operation and administrative duties; no separate budget has been created for this program.

9. DMM 9 – Conservation Programs for Commercial, Industrial and Institutional Accounts

Based on water consumption over the past five years, the commercial sector uses approximately 27.7 percent of the annual water demand. The City has very small industrial and governmental/institutional (municipal) components. The industrial sector consumes approximately 0.6 percent and the municipal sector consumes approximately 2.3 percent.

The City has a standard procedure to review plans and specifications for new commercial and industrial facilities before construction. The review consists of evaluating the water usage and wastewater discharge for the new facility, particularly to determine if there are sufficient water supplies and sewer capacities. For existing facilities with new or revised operations, the City will review the proposed requirements prior to issuance of permits. Budget funds are provided annually for departmental reviews of this type.

The City’s existing commercial, industrial and institutional water usage is not expected to grow significantly in future years. The general public education program is used to educate this sector as well as the rebate programs. Water use for these accounts can be monitored easily by viewing the monthly billing records to determine any major shifts in water usage. The City will continue to coordinate with this sector of the community with respect to their water usage and conservation through public education, the review process described above, and incentives offered through WBMWD.

10. DMM 10 – Wholesale Agency Programs

In 2010, approximately 64 percent of the City’s water demands were met through water purchased from MWD via WBMWD. The City relies on its wells to produce the remaining 36 percent of its potable supply. The 64/36 split between

imported purchases and groundwater production is anticipated to continue in future years. The City is currently conducting a study for the construction of two groundwater wells. Previous studies and tests were performed on numerous sites, which resulted in the identification of water quality issues. Further studies on well siting are now in progress. If funding becomes available and good well sites are identified, the City could potentially reduce its dependence on imported supplies by increasing the production of groundwater through upgraded wells or new wells, and by acquiring additional groundwater rights.

As a member of WBMWD, the City participates in many water conservation programs offered by that agency as well as programs offered by MWD. These programs are aimed at conserving water and reducing dependence on imported water supplies. Available programs include those for residential retrofit, toilet replacement, toilet rebates, washing machine rebates, and public education programs as discussed elsewhere in this section of the City’s 2010 UWMP. Inglewood’s support of these programs will continue as long as WBMWD and MWD continue to sponsor such programs.

11. DMM 11 – Conservation Pricing

In 1999, the City evaluated its water rate structure and modified it to include an increasing block rate structure. This structure was developed to discourage wasteful practices by increasing the unit cost of water as usage increased. The City adopted the increasing rate, in keeping with water conservation and good water system management, and phased the new rates over a three-year period. Accounts are billed monthly.

The City’s current water rates were adopted in 2003. They include three tiers in both the potable and recycled water rate structures as shown in Tables 7.2-1 and 7.2-2, respectively.

**Table 7.2-1
City of Inglewood Potable Water Tiered Rate Structure
Rates Effective Since 2003**

Tiered Usage in Hundred Cubic Feet	Cost per Unit in \$
1 - 8	\$2.212
9- 750	\$2.950
> 750	\$3.392

**Table 7.2-2
City of Inglewood Recycled Water Tiered Rate Structure
Rates Effective Since 2003**

Tiered Usage in Hundred Cubic Feet	Cost per Unit in \$
1 - 8	\$1.77
9- 750	\$2.36
> 750	\$2.714

The recycled water rate schedule encourages water users to use recycled water wherever possible, and particularly benefits large water users (over 750 units) by lowering the unit price.

The City carefully considered the economic impact of conservation pricing, and determined that this rate structure provides additional revenues needed to maintain the water system and water quality and provide a higher level of service to its customers, in addition to encouraging conservation.

The City periodically evaluates the water rate schedule and makes appropriate modifications as needed.

12. DMM 12 – Water Conservation Coordinator

Various City staff are involved in the water conservation program. These include Water Division maintenance and operations personnel, Department of Public Works administrative staff, and financial/administrative staff who answer billing and usage questions. Inglewood staff are also involved in Code Enforcement by overseeing conformance with the City’s landscape ordinance.

Primarily, three Department of Public Works staff (Principal Engineer, Senior Engineer and Senior Administrative Analyst) serve as water conservation coordinators by nature of their duties and responsibilities in performing their job functions. This includes implementation of DMMs. The amount of time these three staff members conduct water conservation activities varies depending upon water supply and demand issues, and drought conditions; however, it averages between eight and ten percent per year.

At this time, the City of Inglewood does not retain a full-time water conservation coordinator because those responsibilities are adequately served collectively by the Water Division employees.

13. DMM 13 – Water Waste Prohibition

In May 1990, the City adopted Resolution No. 90-45 (Appendix G) encouraging water conservation practices by all water users. The resolution declared that a water shortage existed and requested and encouraged all water users to reduce

water usage. That voluntary measure discouraged wasteful water practices, including hosing walkways and other hard surfaces, washing of vehicles without use of a hose, cleaning and filling of non-re circulating decorative fountains, watering landscape between 7:00 am and 7:00 pm, and serving water in restaurants unless requested to do so.

The following year, in March 1991, the City adopted Ordinance No. 91-6 (Appendix H) declaring a water shortage and adopting mandatory water conservation practices. The ordinance includes many of the same provisions as contained in the voluntary resolution plus additional water waste practices, and including a provision for penalties for failure to comply. Ordinance No. 91-6 is described in more detail in the Section 8 of this UWMP (Water Shortage Contingency Planning).

In July 1993, the City adopted Ordinance No. 93-20 (Appendix I) amending the municipal code to provide for water efficiency in the landscape, and further restricting the use of water in a wasteful manner. Ordinance No. 93-20 is described in more detail in Section 8 of this UWMP. Additionally, the City considered adoption of proposed Ordinance No 10-03 intended to establish a water conservation and water supply shortage program. Ordinance No. 10-03 is also described in more detail in Section 8 of this UWMP.

Collectively, these measures require specific actions on the part of all water users to reduce water consumption during declared water shortages.

14. DMM 14 – Residential Ultra-Low Flush Toilet Replacement Program

As indicated earlier under DMM 2, the City has participated extensively with WBMWD in an ultra-low flush toilet (ULFT) distribution program.

In 1992, the City participated in a toilet replacement program offered through an arrangement between the First African Methodist Episcopal (FAME) Church, WBMWD, MWD and the U.S. Bureau of Reclamation. By March 1994, 2,000 ULFTs had been distributed. In 1995 an additional 1,000 toilets were distributed. The installation of those 3,000 toilets saved an estimated 94 AF per year. Since 2000, an additional 4,093 ULFTs have been installed.

In the early 1990s the City participated in a toilet rebate program with WBMWD whereby a \$75 and \$37.50 rebate were offered for the first and second ultra low flush toilet installed in a dwelling unit. In fiscal year 1999-2000, WBMWD supplied over 900 rebates. Since 2000, an additional 164 ultra low flush rebates (\$50 rebate) have been issued.

Studies indicate that a family of four could save approximately 28 gallons per day (gpd) by using an ultra low flush toilet, and multi-family dwellings would save as much as 48 gpd.

As part of the ULFT program, the City shared the cost of providing the toilets to customers with WBMWD. This provided an incentive for customers to change out their existing toilet for a new low-flow type toilet. The City may consider cost sharing with WBMWD on other types of future water conservation programs as they become available.

The Uniform Building Code requires the installation of ultra low flow toilets in new construction as of 1992. Even though this does not affect older facilities, it has aided water conservation throughout the region. It is most probably a causative factor that prompted manufacturers and suppliers to only have low flush toilets readily available.

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8 WATER SHORTAGE CONTINGENCY PLAN

8.1 INTRODUCTION

California's extensive system of water supply infrastructure, its reservoirs, groundwater basins, and inter-regional conveyance facilities, mitigates the effect of short-term dry periods. Defining when a drought begins is a function of drought impacts to water users. Drought is a gradual phenomenon. Although droughts are sometimes characterized as emergencies, they differ from typical emergency events. Droughts occur slowly, over a multi-year period. Drought impacts increase with the length of a drought, as carry-over supplies in reservoirs are depleted and water levels in groundwater basins decline.

Good water shortage contingency planning by the City involves closely coordinating with others in the water community, particularly MWD and WBMWD, as well as adhering to applicable municipal ordinances. Specific information relating to these actions is discussed in further detail in the following subsections.

8.2 STAGES OF ACTION

The City of Inglewood has adopted several Municipal Ordinances relating to water conservation and water shortage contingency planning, including the following four specific Ordinances:

1. Ordinance No. 90-45 - "*An Ordinance of the City of Inglewood, California Encouraging Water Conservation Among the City's Water Users*" adopted in 1990.
2. Ordinance No. 91-6 entitled "*An Ordinance of the City of Inglewood, California Declaring a Water Shortage and Adopting Mandatory Water Conservation Practices*" adopted in 1991.
3. Ordinance No. 93-20 entitled "*An Ordinance of the City of Inglewood, California, Amending the Inglewood Municipal Code, Chapter 5, Article 7, Water Conservation Practices, to Provide for Water Efficiency in the Landscape*" adopted in 1993.
4. Resolution No. 03-13 (Appendix J) entitled "Resolution of the City Council of the City of Inglewood, California. To Require Recycled Water to be Used for Purposes Permitted by Regulatory Agencies," adopted in 2003.

Copies of these three Ordinances and the Resolution can be found in Appendices G, H, I, and J, respectively.

The initial 1990 Ordinance was a purely voluntary program, which encouraged a 10 percent reduction in water usage among residents and businesses in the City by discouraging:

1. Hosing off walkways, driveways, parking areas, and other hard surfaces;

2. Washing vehicles without use of a hose end shut-off, while encouraging bucket washes;
3. Cleaning, filling, or refilling non-re-circulating decorative fountains;
4. Watering lawns, landscape areas, parks and school grounds, between 7:00 a.m. and 7:00 p.m.; and
5. Serving water in restaurants unless requested.

The voluntary program also encouraged the installation of water efficient plumbing fixtures and the use of drought-tolerant landscaping whenever possible. The Parks and Code Enforcement Department assisted water users in reducing water usage by disseminating information on water conservation techniques including customer conservation practices, low-flow toilets and the use of recycled water.

Beginning in 1991, a series of mandatory water conservation Ordinances were adopted, which made most of the practices addressed in the 1990 voluntary ordinance mandatory.

Ordinances 91-6 and 93-20 establish mandatory provisions prohibiting or restricting the following water consumption activities:

- Restricting watering landscape with potable water between the hours of 4:00 p.m. and 10:00 a.m.; watering with recycled water is allowed at any time;
- Prohibiting exterior washing practices with hand-held hose unless equipped with positive shut-off nozzle;
- Prohibiting hosing off walkways, driveways, parking areas, and other hard surfaces;
- Prohibiting flushing water mains except as necessary to protect public health;
- Requiring all water leaks to be repaired within 24 hours;
- Requiring the preparation of new landscape plans for all new developments or remodels requiring a building permit; plans must include estimated water use, irrigation schedules, soils testing, use of recycled water unless an exemption has been issued; and
- Requiring conducting water audits every five years for landscaped areas in excess of one acre.

In 2003, the City Council also adopted Resolution No. 03-13, which requires the use of recycled water for future development projects in the City “where feasible, appropriate and acceptable to all regulatory agencies.” Additional information on this Resolution is included in Section 9.6 of this UWMP.

Additionally, the City recently considered adoption of proposed Ordinance 10-03 entitled “*An Ordinance of the City of Inglewood, California, Adding an Article 17 to Chapter 10 (Public Works) to Establish a Water Conservation and Water Supply Shortage Program.*” A copy of this draft document is included in Appendix K.

The proposed Ordinance 10-03 addresses specific actions to be undertaken by the City subsequent to the City Council's declaration of a Level One, Two or Three Water Shortage. The Ordinance would require the following mandatory actions:

- A Level One declaration will address water shortages of up to 10 percent and will result in implementation of the following mandatory restrictions:
 1. All residential and commercial landscape irrigation (except commercial nurseries) will be limited to no more than three days per week, but no more than one day per week during the months of November through March;
 2. Lawn watering and landscape irrigation will be limited to no more than ten minutes per watering station per day (on allowable days);
 3. All landscaped areas must be irrigated by use of water efficient devices; and
 4. All leaks must be repaired within 72 hours.

- A Level Two declaration will address water shortages of up to 20 percent and will result in implementation of the following mandatory restrictions:
 1. All residential and commercial landscape irrigation will be limited to no more than two days per week, but no more than one day per week during the months of November through March;
 2. All leaks must be repaired within 48 hours;
 3. Ornamental lakes or ponds can no longer be filled unless required to maintain actively managed aquatic life of significant value;
 4. Washing vehicles is prohibited except at commercial car washes that recirculate water; and
 5. Limits filling of residential swimming pools and spas to no more than one foot and prohibits initial filling/refilling of such facilities.

- A Level Three declaration will address water shortages greater than 20 percent and up to and including 50 percent shortages. A level Three declaration will result in implementation of the following mandatory restrictions:
 1. All residential and commercial landscaping (except commercial nurseries) must cease;
 2. All leaks must be repaired in 24 hours;
 3. No new permanent or temporary potable water services will be provided;
 4. Service to customers who violate provisions of the Ordinance will be discontinued; and
 5. The City will suspend considerations of any annexations.

In addition to the City's mandatory actions described above, the need to implement other stages of action will be determined on a regional basis by MWD as described in the following sections.

Metropolitan Water Surplus and Drought Management Plan (WSDM)

In 1999, MWD in conjunction with its member agencies developed the WSDM Plan.⁷¹ This plan addresses both surplus and shortage contingencies.

The WSDM Plan will guide management of regional water supplies to achieve the reliability goals of Southern California's IRP. The IRP sought to meet long-term supply and reliability goals for future water supply planning. The WSDM Plan's guiding principle is to minimize adverse impacts of water shortage and ensure regional reliability. From this guiding principle come the following supporting principles:

- Encourage efficient water use and economical local resource programs;
- Coordinate operations with member agencies to make as much surplus water as possible available for use in dry years;
- Pursue innovative transfers and banking programs to secure more imported water for use in dry years; and
- Increase public awareness about water supply issues.

The WSDM Plan guides the operations of water resources (local resources, Colorado River, State Water Project, and regional storage) to ensure regional reliability. It identifies the expected sequence of resource management actions MWD will take during surpluses and shortages of water to minimize the probability of severe shortages that require curtailment of full-service demands. Mandatory allocations are avoided to the extent practicable; however, in the event of an extreme shortage MWD's Water Supply Allocation Plan (as described later in this Section) will be implemented.

The WSDM Plan distinguishes between *Surpluses*, *Shortages*, *Severe Shortages*, and *Extreme Shortages*. Within the WSDM Plan, these terms have specific meaning relating to Metropolitan's capability to deliver water to the City as described below:

- **Surplus:** MWD can meet full-service and interruptible program demands, and it can deliver water to local and regional storage.
- **Shortage:** MWD can meet full-service demands and partially meet or fully meet interruptible demands, using stored water or water transfers as necessary.
- **Severe Shortage:** MWD can meet full-service demands only by using stored water, transfers, and possibly calling for extraordinary conservation. In a Severe

⁷¹ A copy of Metropolitan's WSDM Plan can be found in Appendix A.4 to the agencies November 2010 RUWMP at: http://www.mwdh2o.com/mwdh2o/pages/yourwater/RUWMP/RUWMP_2010.pdf

Shortage, MWD may have to curtail Interim Agricultural Water Program (IAWP) deliveries in accordance with IAWP.

- **Extreme Shortage:** MWD must allocate available supply to full-service customers.

The WSDM Plan also defines five surplus management stages and seven shortage management stages to guide resource management activities. Each year, MWD will consider the level of supplies available and the existing levels of water in storage to determine the appropriate management stage for that year. Each stage is associated with specific resource management actions designed to: 1) avoid an Extreme Shortage to the maximum extent possible; and 2) minimize adverse impacts to retail customers should an “Extreme Shortage” occur. The current sequencing outlined in the WSDM Plan reflects anticipated responses based on detailed modeling of MWD’s existing and expected resource mix. This sequencing may change as the resource mix evolves.

WSDM Plan Shortage Actions by Shortage Stage

When MWD must make net withdrawals from storage, it is considered to be in a shortage condition. However, under most of these stages, it is still able to meet all end-use demands for water. The following summaries describe water management actions to be taken under each of the seven shortage stages.

- **Shortage Stage 1** – MWD may make withdrawals from Diamond Valley Lake.
- **Shortage Stage 2** – MWD will continue Shortage Stage 1 actions and may draw from out-of-region groundwater storage.
- **Shortage Stage 3** – MWD will continue Shortage Stage 2 actions and may curtail or temporarily suspend deliveries to Long Term Seasonal and Replenishment Programs in accordance with their discounted rates.
- **Shortage Stage 4** – MWD will continue Shortage Stage 3 actions and may draw from conjunctive use groundwater storage (such as the North Las Posas program) and the SWP terminal reservoirs.
- **Shortage Stage 5** – MWD will continue Shortage Stage 4 actions. MWD’s Board of Directors may call for extraordinary conservation through a coordinated outreach effort and may curtail Interim Agricultural Water Program deliveries in accordance with their discounted rates. In the event of a call for extraordinary conservation, MWD’s Drought Program Officer will coordinate public information activities with member agencies and monitor the effectiveness of ongoing conservation programs. The Drought Program Officer will implement monthly reporting on conservation program activities and progress and will provide quarterly estimates of conservation water savings.
- **Shortage Stage 6** – MWD will continue Shortage Stage 5 actions and may exercise any and all water supply option contracts and/or buy water on the open market either for consumptive use or for delivery to regional storage facilities for use during the shortage.

- **Shortage Stage 7** – MWD will discontinue deliveries to regional storage facilities, except on a regulatory or seasonal basis, continue extraordinary conservation efforts, and implement its Water Supply Allocation Plan.

The overriding goal of the WSDM Plan is to never reach Shortage Stage 7, an Extreme Shortage.

Reliability Modeling of the WSDM Plan

Using a technique known as “sequentially indexed Monte Carlo simulation,” MWD undertook an extensive analysis of system reservoirs, forecasted demands, and probable hydrologic conditions to estimate the likelihood of reaching each Shortage Stage through 2010. The results of this analysis demonstrated the benefits of coordinated management of regional supply and storage resources. Expected occurrence of a Severe Shortage is four percent or less in most years and never exceeded six percent; equating to an expected shortage occurring once every 17 to 25 years. An Extreme Shortage was avoided in every simulation run.

MWD’s Water Supply Allocation Plan⁷²

MWD adopted its Water Supply Allocation Plan (WSAP) following critically dry conditions, which affected all of Metropolitan’s main supply sources in 2007. Those dry conditions coupled with a Federal Court ruling in August 2007 providing protective measures for the Delta smelt in the Sacramento-San Joaquin River Delta, brought uncertainty about future pumping operations from the State Water Project.

MWD worked jointly with the member agency managers and staff to develop a Water Supply Allocation Plan (Plan) to address such needs. The Plan that was eventually adopted includes specific formulas for calculating member agency supply allocations and the key implementation elements needed for administering an allocation should a shortage be declared. The adopted allocation formulas seek to balance the impacts of a shortage at the retail level while maintaining equity on the wholesale level, and takes into account growth, local investments, changes in supply conditions and the beneficial impacts of non-potable recycled water use and the implementation of conservation savings programs. The adopted formulas are calculated in three steps: (1) base period calculations; (2) allocation year calculations, and (3) supply allocation calculations. These steps are described in further detail below.

- **Step 1: Base Period Calculations:** The first step in calculating a water supply allocation is to estimate water supply and demand using a historical base period with established water supply and delivery data. The base period for each of the different categories of demand and supply is calculated using data from the three most recent non-shortage years (base period), which for the current allocation

⁷² Information presented in this section has been extracted from MWD’s Water Supply Allocation Plan, June 2009, a copy of which can be found in Appendix A.4 to the agencies November 2010 RUWMP at: http://www.mwdh2o.com/mwdh2o/pages/yourwater/RUWMP/RUWMP_2010.pdf

were 2004-2006. The calculations take into account various factors including local supplies, wholesale supplies, retail supplies, demands, in-lieu deliveries, agricultural deliveries, conservation achieved and conservation rate structures.

- Step 2: Allocation Year Calculations: The next step in calculating the water supply allocation is estimating water needs in the allocation year. This is done by adjusting the base period estimates of retail demand for population or economic growth and changes in local supplies. A number of factors are taken into consideration in this step including: (1) allocation year retail demands; (2) allocation year local supplies; and (3) allocation year wholesale demands.
- Step 3: Supply Allocation Calculations: The final step is calculating the water supply allocation for each member agency based on the allocation year water needs identified in Step 2. Again, several elements are considered at this stage including: (1) regional shortage levels; (2) regional shortage percentages; (3) extraordinary increased production adjustments; (4) wholesale minimum allocations; (5) maximum retail impact adjustments; (6) interim agricultural water program reductions; (7) conservation demand hardening credits; (8) municipal and industrial allocations; and (9) total allocation

The Allocation Plan takes effect when a regional shortage is declared by MWD's Board of Directors. The allocation period covers twelve consecutive months, from July of a given year through the following June (this period was selected to minimize the impacts of varying SWP allocations and to provide member agencies with sufficient time to implement their outreach strategies and rate modifications).

The Allocation Plan also allows for an appeals process to address any changes or corrections to an agency's allocation. Appeals can be made to request adjustments for (1) erroneous historical data used in base period calculations; (2) unforeseen loss or gain in local supply; (3) extraordinary increases in local supply; (4) population growth rates; and (5) reviewing calculation of base period, allocation year and supply allocation figures for consistency with the standards outlined in the Allocation Plan.

The Allocation Plan also allows for enforcement through a penalty rate structure. Penalty rates and charges will only be assessed to the extent that an agency's total annual usage exceeds its total annual allocation. Any funds collected will be applied towards investments in conservation and local resources development within the service area of the member agency by which the penalties are incurred. No billing or assessment of penalty rates will take place until the end of the twelve-month allocation period.

Additional information on MWD's Water Supply Allocation Plan can be found in that document as previously referenced by footnote.

Health and Safety Requirements

The primary goal of the City's water system is to preserve the health and safety of its personnel and the public. Meeting this goal is a continuous function of the system –

before, during and after a disaster or water shortage. Fire suppression capabilities will continue to be maintained during any water shortage contingency stage. Some water needs are more immediate than others. The following list of public health needs and the allowable time without potable water is a guideline and will depend on the magnitude of the water shortage:

- Hospitals – continuous need
- Emergency shelters – immediate need
- Kidney dialysis – 24 hours
- Drinking water – 72 hours
- Personal hygiene, waste disposal – 72 hours

Based on commonly accepted estimates of interior residential water use in the United States, Table 8.2 indicates per capita health and safety water requirements. During the initial stage of a shortage, customers may adjust either interior and/or outdoor water use to meet the voluntary water reduction goal.

**Table 8.2-1
Per Capita Health and Safety Water Quantity Calculations**

	Non-Conserving Fixtures		Habit Changes ^[1]		Conserving Fixtures ^[2]	
Toilet	5 flushes x 5.5 gpf	27.5	3 flushes x 5.5 gpf	16.5	5 flushes x 1.6 gpf	8.0
Shower	5 min. x 4.0 gpm	20.0	4 min. x 3.0 gpm	12.0	4 min. x 2.5 gpm	10.0
Washer	12.5 gpcd	12.5	11.5 gpcd	11.5	11.5 gpcd	11.5
Kitchen	4 gpcd	4.0	4 gpcd	4.0	4 gpcd	4.0
Other	4 gpcd	4.0	4 gpcd	4.0	4 gpcd	4.0
Total		68.0		48.0		37.5
CCF per capita per year		33.0		23.0		18.0

gpcd = gallons per capita per day

gpf = gallons per flush

gpm = gallons per minute

CCF = hundred cubic feet (approximately 748 gallons)

^[1] Reduced shower use from shorter and reduced flow. Reduced washer use from fuller loads.

^[2] Fixtures include ULF 1.6 gpf toilets, 2.5 gpm showerheads, and efficient clothes washers.

Priority by Use

Conditions prevailing in the City of Inglewood area require that available water resources be put to maximum beneficial use to the extent possible. The waste, unreasonable use, or unreasonable method of use, of water should be prevented and water conservation and water use efficiency should be encouraged with a view toward maximizing reasonable and beneficial use thereof in the interests of the people of the City and for the public welfare. Preservation of health and safety will be a top priority for the City.

8.3 ESTIMATE OF MINIMUM SUPPLY FOR NEXT THREE YEARS

MWD projects 100 percent reliability for full-service demands through the year 2035. Additionally, through a variety of groundwater reliability programs conducted by WRD and participated in by the City, local supplies are projected to be maintained at demand levels. The City anticipates the ability to meet water demand through the next three years based on the driest historic three-years as shown in Table 8.3.

Table 8.3-1
Three Year Estimated Minimum Water Supply in AF
(Based on Driest 3-Year Historic Sequence)

Water Sources	2011	2012	2013	2011	2012	2013
Supply	Normal Years			Dry Years		
Imported	13,370	14,040	14,720	10,430	10,590	10,750
Local (Groundwater)	4,450	4,450	4,450	4,450	4,450	4,450
Total Supply	17,820	18,490	19,170	14,880	15,040	15,200

Source: Projections are interpolated from data in Tables 5.2-1 and 5.2-3

8.4 CATASTROPHIC SUPPLY INTERRUPTION PLAN

Water Shortage Emergency Response

In addition to the previously described water shortage contingency measures, the City will also implement its Emergency Operations Plan (EOP) during significant periods of drought. The EOP is designed to prepare the City for a planned response to emergency situations associated not only with intentional acts, but also with natural disasters, technological incidents, and national security emergencies. It also includes provisions for notifying and receiving direction from WBMWD and MWD pertaining to imported water supply distribution. The key elements of the City's EOP include:

- Implementing an effective emergency response communication system;
- Developing an interagency mutual aid program;
- Addressing water supply, water quality, emergency operations center (EOC), and providing an information resource list which includes contact information on key personnel; and
- Training of water personnel on emergency response procedures.

During emergency situations, both the City and WBMWD are responsible for maintaining communications between the utilities and with the MWD emergency response network. Good communications during emergencies will help facilitate requests for manpower and equipment, collect and process damage reports, coordinate available resources if and when MWD implements its water supply allocation plan.

Water Shortage Contingency Ordinances

As previously noted, copies of the City's water shortage contingency ordinances can be found in Appendices G, H, I, J and K.

Prohibitions, Penalties, And Consumption Reduction Methods

Water consumption and usage activities, which are prohibited during a declared water shortage, were described under "Stages of Action" in this Section. Proposed Ordinance 10-03 sets for the following penalties for violation of the Ordinance:

1. Any violation may be prosecuted as a misdemeanor punishable by imprisonment in the County jail for not more than 30 days, by a fine not exceeding \$1,000 or by both.
2. Penalties for a first violation: The City will issue a written warning with a copy delivered by mail.
3. Penalties for a second violation: A second violation within 12 months is punishable by a fine not to exceed \$100.
4. Penalties for a third violation: A third violation within 12 months is punishable by a fine not to exceed \$250.
5. Penalties for fourth and subsequent violations: Punishable by a fine of up to \$500. The City may also install one gallon per minute flow restriction devices at the violator's service location for a minimum of 48 hours. The cost for installation of these devices shall be borne by the violator.
6. In addition to any fines, the City may also discontinue service to the violator.

8.5 MECHANISMS TO DETERMINE REDUCTIONS IN WATER USE

In accordance with the Water Shortage Contingency Plan Ordinances, reporting requirements will be modified depending upon the phase of shortage declared. Under normal water supply conditions, potable water production figures are recorded daily. Totals are generally reported on a weekly basis.

During a declared water shortage, daily water production figures will be reported to applicable City staff. The water usage information will be compared to the target weekly production to verify that the reduction goal is being met. In the event targets are not being met, City staff will report that information to the City Manager. A monthly summary will be furnished to the City Council.

These modified procedures will keep all levels of the City government informed of the water use during critical emergency times. This is done to assure swift and decisive action if required to protect public safety and provide water service for essential services.

8.6 REVENUE AND EXPENDITURE IMPACTS AND MEASURES TO OVERCOME THOSE IMPACTS

A 50 percent reduction in supply availability during a 36-month drought period would impact revenues for potable water. The anticipated shortfall in net operating revenues could be dealt with in a variety of individual approaches or combinations thereof including:

1. Increasing water commodity and service charges to offset revenue shortfalls;
2. Reducing annual operating expenses; including salaries, benefits, maintenance and improvement programs, and the use of outside professional services;
3. Utilizing appropriated and unappropriated fund balances and reserves earmarked for long range capital improvements to offset the operating shortfall; and
4. Temporarily diverting General fund tax revenues earmarked for future capital improvements to offset net operating losses.

Over the term of 36 months, the most feasible, and least disruptive alternative, would be to divert general tax revenues from future capital improvements to operating expenses. Because of prolonged drought periods affecting City of Inglewood water customers in the early 1990's as well as over the past few years, the City is prepared to implement both voluntary and mandatory conservation provisions when necessary. Conservation measures adopted during the two most recent drought periods proved effective. The City's drought and emergency management measures are designed to deliver necessary water savings, while minimizing, to the extent possible, any negative effects on the lifestyles and economic basis of the City's customers.

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9 WATER RECYCLING

9.1 RECYCLED WATER IN SOUTHERN CALIFORNIA

The Southern California region, from Ventura to San Diego, discharges over 1 billion gallons of treated wastewater to the ocean each day. These discharges represent a reliable and drought-proof water source, which could greatly reduce the region's reliance on imported water. As technological improvements continue to reduce treatment costs, and as public perception and acceptance continue to improve, numerous reuse opportunities should develop. Recycled water is a critical part of the California water picture because of the area's high likelihood of drought. As treatment technology continues to improve, demand for recycled water will also increase.

9.2 COORDINATION OF RECYCLED WATER IN THE CITY OF INGLEWOOD SERVICE AREA

Recycled water is defined as domestic wastewater purified through primary, secondary and tertiary treatment. Recycled water is acceptable for most non-potable water purposes such as irrigation and commercial/industrial processes.

Since 1995, the City has purchased recycled water from the WBMWD Water Recycling Plant (WBWRP), located in El Segundo, California. WBMWD obtains secondary treated wastewater effluent from the City of Los Angeles' Hyperion Wastewater Treatment Plant and provides additional tertiary treatment at the WBWRP to meet Title 22 requirements. WBMWD produces five different qualities of recycled water including: 1) Disinfected Tertiary Water, 2) Nitrified Water, 3) Softened Reverse Osmosis Water, 4) Pure Reverse Osmosis, and 5) Ultra-Pure Reverse Osmosis Water.

Current demand for recycled water within the City is low, being presently used mostly for irrigation purposes. Rates for recycled water service are eighty percent (80%) of the commodity rates currently in effect for potable water service.

WBMWD and the City of Inglewood also closely collaborate to identify innovative uses for recycled water. That collaboration resulted in the Inglewood Street Sweeping Recycled Water Project – the first approved recycled water use of its kind in the state. As part of that project, street sweeping and sewer flushing trucks are fitted with a unique tank-filling design that allows the tanks to be filled with either recycled or potable water while eliminating the potential for them to come in contact with each other. The vehicles began using recycled water in April 2003 and it is estimated they conserve more than 1.5 million gallons of potable water annually.

9.3 WASTEWATER COLLECTION AND TREATMENT IN THE CITY OF INGLEWOOD SERVICE AREA

The Los Angeles County Sanitation District (LACSD) manages the wastewater collection and treatment system within the City of Inglewood. Wastewater generated within the City is conveyed to the Joint Water Pollution Control Plant (JWPCP) in Carson, via

LACSD interceptor sewers. The dry weather average design treatment capacity of the JWPCP is 400 MGD and the maximum design peak flow is 540 MGD.⁷³ Treated wastewater from the JWPCP is disposed into an outfall in the Pacific Ocean located two miles offshore from White Point on the Palos Verdes Peninsula. The depth of the discharge point is approximately 200 feet below sea level.⁷⁴ The JWPCP has an advanced primary treatment with 60 percent secondary treatment.

Municipal wastewater is generated in Inglewood’s service area from a combination of residential, commercial, and industrial sources. The quantities of wastewater generated are generally proportional to the population and water usage in the service area. It is estimated that Inglewood’s customers generate wastewater based on 60 to 70 percent of water demand. Table 9.3-1 projects wastewater flows generated within the City’s service area through 2035. Because the wastewater treated at the JWPCP is discharged to the ocean, none of the wastewater generated within Inglewood is treated to recycled water standards.

**Table 9.3-1
City of Inglewood
Historic and Projected Wastewater Collection in AFY**

	2010	2015	2020	2025	2030	2035
Potable Water Demand	10,174	12,360	12,440	12,540	12,640	12,730
Estimate Volume of Wastewater Collected	6,613	8,047	8,086	8,151	8,216	8,275

Note: 2010 is actual demand from Table 2.2-1; water demands for subsequent years are from Table 5.3-1; Wastewater collected is assumed to equal 65% of the potable water demand.

9.4 CITY OF INGLEWOOD RECYCLED WATER PLANNING

As previously noted, the City of Inglewood began purchasing recycled water from WBMWD in 1995 and serving it to customers for non-portable purposes, mainly irrigation usage. The City currently has 18 connections to the West Basin’s recycled water system including service connections to Inglewood Park Cemetery, Hollywood Park Race Track, City parks, Inglewood Unified School District facilities, and Caltrans right-of-way.

Current and Projected Recycled Water Use

Table 9.4-1 summarizes the most recent five years of annual recycled water demand for the City. Table 9.4-2 summarizes the current and projected recycled water demand through the year 2035.

⁷³ LARWQCB Order No. ORDER NO. R4-2006-0042, Waste Discharge Requirements for the JWPCP, adopted April 6, 2006 available at: http://63.199.216.6/larwqcb/docs/1758_R4-2006-0042_WDR_PKG.pdf

⁷⁴ LACSD website: <http://www.lacsd.org/waswater/wrp/jwpcp1.htm>

**Table 9.4-1
City of Inglewood Projected Recycled Water Use by User in AFY**

Recycled Water Users	2005/06	2006/07	2007/08	2008/09	2009/10	5-Year Average
Edward Vincent Jr. Park	107.23	128.70	103.82	102.97	94.23	107.39
Queen Park	4.52	4.68	3.69	2.75	20.95	7.32
Rogers Park	20.79	23.25	18.45	18.66	17.48	19.73
Grevillea Mall Park #1 ¹	1.49	0.67	0.00	0.00	0.00	0.43
Grevillea Mall Park #2	3.74	3.09	3.92	3.31	3.35	3.48
Inglewood City Hall and Library	9.60	9.43	9.67	8.44	6.67	8.76
Inglewood Park Cemetery	460.65	586.29	467.59	507.30	445.01	493.37
Caltrans (118 th St. & Crenshaw)	6.09	5.22	5.08	217.97	0.41	46.95
Hollywood Park	228.45	19.71	60.48	20.07	16.53	69.05
Coleman Stadium #1 Connection	6.60	11.09	11.05	8.67	6.77	8.84
Coleman Stadium #2 Connection	4.69	4.11	4.13	5.45	4.47	4.57
Morningside High School	56.67	52.55	43.55	48.28	44.40	49.09
Center Park #1 Connection	3.39	3.74	2.96	3.48	2.77	3.27
Center Park #2 Connection	3.26	3.37	2.97	3.50	2.78	3.18
City Water Treatment Plant	8.97	6.85	5.52	4.18	4.93	6.09
Market Street	5.65	4.80	4.03	5.30	3.39	4.63
Florence Avenue	6.50	2.92	3.93	2.61	2.17	3.63
City Yard Fire Hydrant	0.25	0.03	0.00	0.03	0.07	0.08
Crozier Middle School	0.00	2.61	6.92	5.39	7.00	4.38
Total	938.54	873.11	757.76	968.36	683.38	844.24

¹ Grevillea Mall Park #1 Meter was pulled in 2009

**Table 9.4-2
Current and Projected Future Recycled Water Use by Type**

Recycled Water Use	Consumption in AFY					
	2010	2015	2020	2025	2030	2035
Landscape Irrigation	844.16	1,059.9	1,059.9	1,059.9	1,059.9	1,059.9
Other (City Yard Fire Hydrant - Street Sweeping)	0.08	0.1	0.1	0.1	0.1	0.1
Total	844.24	1,060	1,060	1,060	1,060	1,060

Source: 2010 data is from Table 9.2; 2015 through 2035 projections are from Table 5.1-2

9.5 2005 Projection Compared to 2010 Actual Use

The City's 2005 UWMP did not include a 2010 projection for recycled water use so no direct comparison can be made at this time. However, the City's 2005 UWMP did note an actual 2005 recycled water usage of 654 AF and an historical 5-year average (2001-2005) usage of 670 AFY. In 2005 the City served 14 connections as compared with 18 connections in 2010. This information can be used to approximate the 2010 projection that might have been made five years ago. While the recycled water usage is not spread equally over the existing 18 users, a linear interpretation of the data from 2005 would suggest the City's 2005 UWMP might have projected a 2010 recycled water usage of 841 AFY (i.e., $[18 \text{ existing connections} \div 14 \text{ 2005 connections}] \times 654 \text{ AFY actual 2005 usage} = 841 \text{ AFY}$). This potential 2010 projection of 841 AFY is within 0.3 percent of the actual 2010 usage of 844 AFY.

Potential Users of Recycled Water

Since planning and constructing its recycled water system in the early 1990s, WBMWD has delivered over 100 billion gallons (approximately 307,000 AF) of recycled water to offset what would have otherwise been potable water deliveries.⁷⁵ WBMWD also continues to look at expansion of its existing reclamation system to include additional potential users. Current recycled water system expansion projects in various stages of planning or construction include:⁷⁶

- *Edward C. Little Water Recycling Facility (ECLWRF) Plant Expansion Project:* This project is currently under construction with scheduled completion in 2012. The project will expand the plant's tertiary treatment capacity by 10 mgd.
- *Hyperion Secondary Effluent Pump Station Expansion:* This project, which is currently in the planning stages, will increase pumping capacity to 70 mgd.
- *Harbor-South Bay Recycled Water Expansion Project:* This planned system expansion will provide recycled water to new users in the Cities of Carson, Torrance, Palos Verdes, Gardena and unincorporated areas of Los Angeles County.
- *Treatment/Conveyance Facility Repair, Replacement and Improvements;* These planned improvements will enhance the safety, operability and efficiency of the overall system including components of that system serving the City of Inglewood.
- *Conveyance Facility Corrosion Protection Improvements:* These improvement will be implemented periodically to ensure system integrity during its useful life.

Implementation of the above-noted projects will indirectly benefit Inglewood and position the City for expansion of recycled water users within its service area.

⁷⁵ WBMWD Draft 2010 UWMP, page 9-85; plan available at this website:

<http://www.westbasin.org/files/planning-uwmp/west-basin-draft-uwmp-2010-with-appendices.pdf>

⁷⁶ Ibid, pages 9-88 and 9-89

In an effort to identify potential additional recycled water customers, the City continues to work closely with WBMWD in assessing potential expansions of recycled water user connections within Inglewood. Prior to proceeding with any significant recycled water system expansions, City staff will carefully evaluate the potential project's cost effectiveness by considering each of the following essential factors:

- The cost of adding any required transmission and distribution facilities;
- The cost of retrofitting existing irrigation systems;
- The cost of installation of meters;
- The cost of operation and maintenance of a separate system;
- The cost of administering user agreements;
- The potential for water quality issues;
- The difference in revenue resulting from the use of recycled water as compared with domestic water;
- The potential number of users; and the potential usage volume.

9.6 ENCOURAGING RECYCLED WATER USE

In February 2003, the Inglewood City Council adopted Resolution No. 03-13 (Appendix J) requiring the use recycled water for future development projects in the City "where feasible, appropriate and acceptable to all regulatory agencies." As noted in that resolution, the use of recycled water will be required if the following conditions exist:

- Recycled water is available and of adequate quality;
- The recycled water can be furnished at a reasonable cost;
- The use of recycled water will not be detrimental to the public health;
- The use of recycled water will not adversely affect downstream water rights;
- The recycled water will not degrade water quality; and
- The use or recycled water will not be injurious to plantlife, fish or wildlife.

In addition to the City's efforts, WBMWD has also been successful in marketing efforts aimed at changing the perception of recycled water from merely a conservation tool with minimal application to a cost-effective business tool. As a result of this marketing effort, WBMWD has expanded its target customer from traditional irrigation users such as golf courses to now include many less conventional commercial and industrial users.

WBMWD also provides financial incentives for the purchase of recycled water. Those incentives include selling recycled water at a lower rate than potable water and funding plumbing retrofits to accept recycled water. WBMWD projects an increase in recycled water demands due to these actions.

WBMWD also provides other financial incentives to assist potential customers who may not be covered by the City's incentive program. For example, some potential recycled water users may not have the financial capability to pay for on-site plumbing retrofits necessary to accept recycled water. In such instances, WBMWD may advance funds for retrofit expenses that can later be reimbursed through water bills.⁷⁷

To further encourage recycled water usage, the City of Inglewood has set the cost of recycled water at 80 percent of the cost of potable water. While the City's current recycled water usage is primarily for irrigation purposes, there is a potential market for industrial users. Special additional recycled water rate reductions may be considered as a further incentive to increase potential usage among those customers.

9.7 Optimizing Recycled Water Use

The City's optimization plan is also covered by Resolution No. 03-13 (Appendix J). As noted earlier in this section, recycled water will be required if water of adequate quality is available at a reasonable cost and can be provided in a manner that will not be detrimental to the public health, injurious to plantlife, fish or wildlife or affect downstream water rights.

Another aspect of optimizing recycled water use is the continual search for funding opportunities. Some significant funding opportunities include:

- Participation in MWD's Local Resources Program which can provide rebates of up to \$250 AFY for recycled water used to offset imported water; and
- Participation in Federal or State recycled water grant applications through WBMWD, which can provide qualified programs with up to 75 percent of their required project funding amounts.

Cost benefit analyses, taking into account the factors described earlier in this section, will also be conducted to further advance and optimize the use of recycled water.

⁷⁷ Ibid, page 9-91

Appendix A

Urban Water Management Planning Act of 1983
as Amended to 2010 with SBX7-7

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CALIFORNIA WATER CODE DIVISION 6

PART 2.6. URBAN WATER MANAGEMENT PLANNING

All California Codes have been updated to include the 2010 Statutes.

CHAPTER 1.	GENERAL DECLARATION AND POLICY	10610-10610.4
CHAPTER 2.	DEFINITIONS	10611-10617
CHAPTER 3.	URBAN WATER MANAGEMENT PLANS	
Article 1.	General Provisions	10620-10621
Article 2.	Contents of Plans	10630-10634
Article 2.5.	Water Service Reliability	10635
Article 3.	Adoption and Implementation of Plans	10640-10645
CHAPTER 4.	MISCELLANEOUS PROVISIONS	10650-10656

WATER CODE

SECTION 10610-10610.4

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

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

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

on water management strategies and supply reliability.

(b) This part is intended to provide assistance to water agencies in carrying out their long-term resource planning responsibilities to ensure adequate water supplies to meet existing and future demands for water.

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

(a) The management of urban water demands and efficient use of water shall be actively pursued to protect both the people of the state and their water resources.

(b) The management of urban water demands and efficient use of urban water supplies shall be a guiding criterion in public decisions.

(c) Urban water suppliers shall be required to develop water management plans to actively pursue the efficient use of available supplies.

WATER CODE

SECTION 10611-10617

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

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

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

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

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

10615. "Plan" means an urban water management plan prepared pursuant to this part. A plan shall describe and evaluate sources of supply, reasonable and practical efficient uses, reclamation and demand management activities. The components of the plan may vary according to an individual community or area's characteristics and its capabilities to efficiently use and conserve water. The plan shall address measures for residential, commercial, governmental, and industrial water demand management as set forth in Article 2 (commencing with Section 10630) of Chapter 3. In addition, a strategy and time schedule for implementation shall be included in the plan.

10616. "Public agency" means any board, commission, county, city

and county, city, regional agency, district, or other public entity.

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

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

WATER CODE

SECTION 10620-10621

10620. (a) Every urban water supplier shall prepare and adopt an urban water management plan in the manner set forth in Article 3 (commencing with Section 10640).

(b) Every person that becomes an urban water supplier shall adopt an urban water management plan within one year after it has become an urban water supplier.

(c) An urban water supplier indirectly providing water shall not include planning elements in its water management plan as provided in Article 2 (commencing with Section 10630) that would be applicable to urban water suppliers or public agencies directly providing water, or to their customers, without the consent of those suppliers or public agencies.

(d) (1) An urban water supplier may satisfy the requirements of this part by participation in areawide, regional, watershed, or basinwide urban water management planning where those plans will reduce preparation costs and contribute to the achievement of conservation and efficient water use.

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

(e) The urban water supplier may prepare the plan with its own staff, by contract, or in cooperation with other governmental agencies.

(f) An urban water supplier shall describe in the plan water management tools and options used by that entity that will maximize resources and minimize the need to import water from other regions.

10621. (a) Each urban water supplier shall update its plan at least once every five years on or before December 31, in years ending in five and zero.

(b) Every urban water supplier required to prepare a plan pursuant to this part shall, at least 60 days prior to the public hearing on the plan required by Section 10642, notify any city or county within which the supplier provides water supplies that the urban water

supplier will be reviewing the plan and considering amendments or changes to the plan. The urban water supplier may consult with, and obtain comments from, any city or county that receives notice pursuant to this subdivision.

(c) The amendments to, or changes in, the plan shall be adopted and filed in the manner set forth in Article 3 (commencing with Section 10640).

WATER CODE

SECTION 10630-10634

10630. It is the intention of the Legislature, in enacting this part, to permit levels of water management planning commensurate with the numbers of customers served and the volume of water supplied.

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

(a) Describe the service area of the supplier, including current and projected population, climate, and other demographic factors affecting the supplier's water management planning. The projected population estimates shall be based upon data from the state, regional, or local service agency population projections within the service area of the urban water supplier and shall be in five-year increments to 20 years or as far as data is available.

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

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

(2) A description of any groundwater basin or basins from which the urban water supplier pumps groundwater. For those basins for which a court or the board has adjudicated the rights to pump groundwater, a copy of the order or decree adopted by the court or the board and a description of the amount of groundwater the urban water supplier has the legal right to pump under the order or decree. For basins that have not been adjudicated, information as to whether the department has identified the basin or basins as overdrafted or has projected that the basin will become overdrafted if present management conditions continue, in the most current official departmental bulletin that characterizes the condition of the groundwater basin, and a detailed description of the efforts being undertaken by the urban water supplier to eliminate the long-term overdraft condition.

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

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

(c) (1) Describe the reliability of the water supply and vulnerability to seasonal or climatic shortage, to the extent practicable, and provide data for each of the following:

- (A) An average water year.
- (B) A single dry water year.
- (C) Multiple dry water years.

(2) For any water source that may not be available at a consistent level of use, given specific legal, environmental, water quality, or climatic factors, describe plans to supplement or replace that source with alternative sources or water demand management measures, to the extent practicable.

(d) Describe the opportunities for exchanges or transfers of water on a short-term or long-term basis.

(e) (1) Quantify, to the extent records are available, past and current water use, over the same five-year increments described in subdivision (a), and projected water use, identifying the uses among water use sectors, including, but not necessarily limited to, all of the following uses:

- (A) Single-family residential.
- (B) Multifamily.
- (C) Commercial.
- (D) Industrial.
- (E) Institutional and governmental.
- (F) Landscape.
- (G) Sales to other agencies.
- (H) Saline water intrusion barriers, groundwater recharge, or conjunctive use, or any combination thereof.

(I) Agricultural.

(2) The water use projections shall be in the same five-year increments described in subdivision (a).

(f) Provide a description of the supplier's water demand management measures. This description shall include all of the following:

(1) A description of each water demand management measure that is currently being implemented, or scheduled for implementation, including the steps necessary to implement any proposed measures, including, but not limited to, all of the following:

- (A) Water survey programs for single-family residential and multifamily residential customers.
- (B) Residential plumbing retrofit.
- (C) System water audits, leak detection, and repair.
- (D) Metering with commodity rates for all new connections and retrofit of existing connections.
- (E) Large landscape conservation programs and incentives.
- (F) High-efficiency washing machine rebate programs.
- (G) Public information programs.
- (H) School education programs.
- (I) Conservation programs for commercial, industrial, and institutional accounts.

- (J) Wholesale agency programs.
 - (K) Conservation pricing.
 - (L) Water conservation coordinator.
 - (M) Water waste prohibition.
 - (N) Residential ultra-low-flush toilet replacement programs.
- (2) A schedule of implementation for all water demand management measures proposed or described in the plan.
- (3) A description of the methods, if any, that the supplier will use to evaluate the effectiveness of water demand management measures implemented or described under the plan.
- (4) An estimate, if available, of existing conservation savings on water use within the supplier's service area, and the effect of the savings on the supplier's ability to further reduce demand.
- (g) An evaluation of each water demand management measure listed in paragraph (1) of subdivision (f) that is not currently being implemented or scheduled for implementation. In the course of the evaluation, first consideration shall be given to water demand management measures, or combination of measures, that offer lower incremental costs than expanded or additional water supplies. This evaluation shall do all of the following:
- (1) Take into account economic and noneconomic factors, including environmental, social, health, customer impact, and technological factors.
 - (2) Include a cost-benefit analysis, identifying total benefits and total costs.
 - (3) Include a description of funding available to implement any planned water supply project that would provide water at a higher unit cost.
 - (4) Include a description of the water supplier's legal authority to implement the measure and efforts to work with other relevant agencies to ensure the implementation of the measure and to share the cost of implementation.
- (h) Include a description of all water supply projects and water supply programs that may be undertaken by the urban water supplier to meet the total projected water use as established pursuant to subdivision (a) of Section 10635. The urban water supplier shall include a detailed description of expected future projects and programs, other than the demand management programs identified pursuant to paragraph (1) of subdivision (f), that the urban water supplier may implement to increase the amount of the water supply available to the urban water supplier in average, single-dry, and multiple-dry water years. The description shall identify specific projects and include a description of the increase in water supply that is expected to be available from each project. The description shall include an estimate with regard to the implementation timeline for each project or program.
- (i) Describe the opportunities for development of desalinated water, including, but not limited to, ocean water, brackish water, and groundwater, as a long-term supply.
 - (j) For purposes of this part, urban water suppliers that are members of the California Urban Water Conservation Council shall be deemed in compliance with the requirements of subdivisions (f) and (g) by complying with all the provisions of the "Memorandum of Understanding Regarding Urban Water Conservation in California,"

dated December 10, 2008, as it may be amended, and by submitting the annual reports required by Section 6.2 of that memorandum.

(k) Urban water suppliers that rely upon a wholesale agency for a source of water shall provide the wholesale agency with water use projections from that agency for that source of water in five-year increments to 20 years or as far as data is available. The wholesale agency shall provide information to the urban water supplier for inclusion in the urban water supplier's plan that identifies and quantifies, to the extent practicable, the existing and planned sources of water as required by subdivision (b), available from the wholesale agency to the urban water supplier over the same five-year increments, and during various water-year types in accordance with subdivision (c). An urban water supplier may rely upon water supply information provided by the wholesale agency in fulfilling the plan informational requirements of subdivisions (b) and (c).

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

(b) It is the intent of the Legislature that the identification of projected water use for single-family and multifamily residential housing for lower income households will assist a supplier in complying with the requirement under Section 65589.7 of the Government Code to grant a priority for the provision of service to housing units affordable to lower income households.

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

(2) For the purposes of this section, water management grants and loans include funding for programs and projects for surface water or groundwater storage, recycling, desalination, water conservation, water supply reliability, and water supply augmentation. This section does not apply to water management projects funded by the federal American Recovery and Reinvestment Act of 2009 (Public Law 111-5).

(3) Notwithstanding paragraph (1), the department shall determine that an urban water supplier is eligible for a water management grant or loan even though the supplier is not implementing all of the water demand management measures described in Section 10631, if the urban water supplier has submitted to the department for approval a schedule, financing plan, and budget, to be included in the grant or loan agreement, for implementation of the water demand management measures. The supplier may request grant or loan funds to implement the water demand management measures to the extent the request is consistent with the eligibility requirements applicable to the water management funds.

(4) (A) Notwithstanding paragraph (1), the department shall

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

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

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

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

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

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

(i) Compliance on an individual basis.

(ii) Compliance on a regional basis. Regional compliance shall require participation in a regional conservation program consisting of two or more urban water suppliers that achieves the level of conservation or water efficiency savings equivalent to the amount of conservation or savings achieved if each of the participating urban water suppliers implemented the water demand management measures. The urban water supplier administering the regional program shall provide participating urban water suppliers and the department with data to demonstrate that the regional program is consistent with this clause. The department shall review the data to determine whether the urban water suppliers in the regional program are meeting the eligibility requirements.

(B) The department may require additional information for any determination pursuant to this section.

(3) The department shall not deny eligibility to an urban water supplier in compliance with the requirements of this section that is participating in a multiagency water project, or an integrated regional water management plan, developed pursuant to Section 75026 of the Public Resources Code, solely on the basis that one or more of

the agencies participating in the project or plan is not implementing all of the water demand management measures described in Section 10631.

(c) In establishing guidelines pursuant to the specific funding authorization for any water management grant or loan program subject to this section, the agency administering the grant or loan program shall include in the guidelines the eligibility requirements developed by the department pursuant to subdivision (b).

(d) Upon receipt of a water management grant or loan application by an agency administering a grant and loan program subject to this section, the agency shall request an eligibility determination from the department with respect to the requirements of this section. The department shall respond to the request within 60 days of the request.

(e) The urban water supplier may submit to the department copies of its annual reports and other relevant documents to assist the department in determining whether the urban water supplier is implementing or scheduling the implementation of water demand management activities. In addition, for urban water suppliers that are signatories to the Memorandum of Understanding Regarding Urban Water Conservation in California and submit biennial reports to the California Urban Water Conservation Council in accordance with the memorandum, the department may use these reports to assist in tracking the implementation of water demand management measures.

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

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

10632. (a) The plan shall provide an urban water shortage contingency analysis that includes each of the following elements that are within the authority of the urban water supplier:

(1) Stages of action to be undertaken by the urban water supplier in response to water supply shortages, including up to a 50 percent reduction in water supply, and an outline of specific water supply conditions that are applicable to each stage.

(2) An estimate of the minimum water supply available during each of the next three water years based on the driest three-year historic

sequence for the agency's water supply.

(3) Actions to be undertaken by the urban water supplier to prepare for, and implement during, a catastrophic interruption of water supplies including, but not limited to, a regional power outage, an earthquake, or other disaster.

(4) Additional, mandatory prohibitions against specific water use practices during water shortages, including, but not limited to, prohibiting the use of potable water for street cleaning.

(5) Consumption reduction methods in the most restrictive stages. Each urban water supplier may use any type of consumption reduction methods in its water shortage contingency analysis that would reduce water use, are appropriate for its area, and have the ability to achieve a water use reduction consistent with up to a 50 percent reduction in water supply.

(6) Penalties or charges for excessive use, where applicable.

(7) An analysis of the impacts of each of the actions and conditions described in paragraphs (1) to (6), inclusive, on the revenues and expenditures of the urban water supplier, and proposed measures to overcome those impacts, such as the development of reserves and rate adjustments.

(8) A draft water shortage contingency resolution or ordinance.

(9) A mechanism for determining actual reductions in water use pursuant to the urban water shortage contingency analysis.

(b) Commencing with the urban water management plan update due December 31, 2015, for purposes of developing the water shortage contingency analysis pursuant to subdivision (a), the urban water supplier shall analyze and define water features that are artificially supplied with water, including ponds, lakes, waterfalls, and fountains, separately from swimming pools and spas, as defined in subdivision (a) of Section 115921 of the Health and Safety Code.

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

(a) A description of the wastewater collection and treatment systems in the supplier's service area, including a quantification of the amount of wastewater collected and treated and the methods of wastewater disposal.

(b) A description of the quantity of treated wastewater that meets recycled water standards, is being discharged, and is otherwise available for use in a recycled water project.

(c) A description of the recycled water currently being used in the supplier's service area, including, but not limited to, the type, place, and quantity of use.

(d) A description and quantification of the potential uses of recycled water, including, but not limited to, agricultural irrigation, landscape irrigation, wildlife habitat enhancement, wetlands, industrial reuse, groundwater recharge, indirect potable reuse, and other appropriate uses, and a determination with regard to the technical and economic feasibility of serving those uses.

(e) The projected use of recycled water within the supplier's

service area at the end of 5, 10, 15, and 20 years, and a description of the actual use of recycled water in comparison to uses previously projected pursuant to this subdivision.

(f) A description of actions, including financial incentives, which may be taken to encourage the use of recycled water, and the projected results of these actions in terms of acre-feet of recycled water used per year.

(g) A plan for optimizing the use of recycled water in the supplier's service area, including actions to facilitate the installation of dual distribution systems, to promote recirculating uses, to facilitate the increased use of treated wastewater that meets recycled water standards, and to overcome any obstacles to achieving that increased use.

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

WATER CODE

SECTION 10635

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

(b) The urban water supplier shall provide that portion of its urban water management plan prepared pursuant to this article to any city or county within which it provides water supplies no later than 60 days after the submission of its urban water management plan.

(c) Nothing in this article is intended to create a right or entitlement to water service or any specific level of water service.

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

WATER CODE

SECTION 10640-10645

10640. Every urban water supplier required to prepare a plan pursuant to this part shall prepare its plan pursuant to Article 2 (commencing with Section 10630).

The supplier shall likewise periodically review the plan as required by Section 10621, and any amendments or changes required as a result of that review shall be adopted pursuant to this article.

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

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

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

10644. (a) 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.

(b) The department shall prepare and submit to the Legislature, on or before December 31, in the years ending in six and one, a report summarizing the status of the plans adopted pursuant to this part. The report prepared by the department shall identify the exemplary elements of the individual plans. The department shall provide a copy of the report to each urban water supplier that has submitted its plan to the department. The department shall also prepare reports and provide data for any legislative hearings designed to consider the effectiveness of plans submitted pursuant to this part.

(c) (1) For the purpose of identifying the exemplary elements of the individual plans, the department shall identify in the report those water demand management measures adopted and implemented by specific urban water suppliers, and identified pursuant to Section

10631, that achieve water savings significantly above the levels established by the department to meet the requirements of Section 10631.5.

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

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

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

WATER CODE

SECTION 10650-10656

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

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

(b) Any action or proceeding alleging that a plan, or action taken pursuant to the plan, does not comply with this part shall be commenced within 90 days after filing of the plan or amendment thereto pursuant to Section 10644 or the taking of that action.

10651. In any action or proceeding to attack, review, set aside, void, or annul a plan, or an action taken pursuant to the plan by an urban water supplier on the grounds of noncompliance with this part, the inquiry shall extend only to whether there was a prejudicial abuse of discretion. Abuse of discretion is established if the supplier has not proceeded in a manner required by law or if the action by the water supplier is not supported by substantial evidence.

10652. The California Environmental Quality Act (Division 13 (commencing with Section 21000) of the Public Resources Code) does not apply to the preparation and adoption of plans pursuant to this part or to the implementation of actions taken pursuant to Section 10632. Nothing in this part shall be interpreted as exempting from the California Environmental Quality Act any project that would significantly affect water supplies for fish and wildlife, or any project for implementation of the plan, other than projects implementing Section 10632, or any project for expanded or additional water supplies.

10653. The adoption of a plan shall satisfy any requirements of state law, regulation, or order, including those of the State Water Resources Control Board and the Public Utilities Commission, for the preparation of water management plans or conservation plans; provided, that if the State Water Resources Control Board or the Public Utilities Commission requires additional information concerning water conservation to implement its existing authority, nothing in this part shall be deemed to limit the board or the commission in obtaining that information. The requirements of this part shall be satisfied by any urban water demand management plan prepared to meet federal laws or regulations after the effective date of this part, and which substantially meets the requirements of this part, or by any existing urban water management plan which includes the contents of a plan required under this part.

10654. An urban water supplier may recover in its rates the costs incurred in preparing its plan and implementing the reasonable water conservation measures included in the plan. Any best water management practice that is included in the plan that is identified in the

"Memorandum of Understanding Regarding Urban Water Conservation in California" is deemed to be reasonable for the purposes of this section.

10655. If any provision of this part or the application thereof to any person or circumstances is held invalid, that invalidity shall not affect other provisions or applications of this part which can be given effect without the invalid provision or application thereof, and to this end the provisions of this part are severable.

10656. An urban water supplier that does not prepare, adopt, and submit its urban water management plan to the department in accordance with this part, is ineligible to receive funding pursuant to Division 24 (commencing with Section 78500) or Division 26 (commencing with Section 79000), or receive drought assistance from the state until the urban water management plan is submitted pursuant to this article.

Senate Bill No. 7

CHAPTER 4

An act to amend and repeal Section 10631.5 of, to add Part 2.55 (commencing with Section 10608) to Division 6 of, and to repeal and add Part 2.8 (commencing with Section 10800) of Division 6 of, the Water Code, relating to water.

[Approved by Governor November 10, 2009. Filed with
Secretary of State November 10, 2009.]

LEGISLATIVE COUNSEL'S DIGEST

SB 7, Steinberg. Water conservation.

(1) Existing law requires the Department of Water Resources to convene an independent technical panel to provide information to the department and the Legislature on new demand management measures, technologies, and approaches. "Demand management measures" 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.

This bill would require the state to achieve a 20% reduction in urban per capita water use in California by December 31, 2020. The state would be required to make incremental progress towards this goal by reducing per capita water use by at least 10% on or before December 31, 2015. The bill would require each urban retail water supplier to develop urban water use targets and an interim urban water use target, in accordance with specified requirements. The bill would require agricultural water suppliers to implement efficient water management practices. The bill would require the department, in consultation with other state agencies, to develop a single standardized water use reporting form. The bill, with certain exceptions, would provide that urban retail water suppliers, on and after July 1, 2016, and agricultural water suppliers, on and after July 1, 2013, are not eligible for state water grants or loans unless they comply with the water conservation requirements established by the bill. The bill would repeal, on July 1, 2016, an existing requirement that conditions eligibility for certain water management grants or loans to an urban water supplier on the implementation of certain water demand management measures.

(2) Existing law, until January 1, 1993, and thereafter only as specified, requires certain agricultural water suppliers to prepare and adopt water management plans.

This bill would revise existing law relating to agricultural water management planning to require agricultural water suppliers to prepare and adopt agricultural water management plans with specified components on or before December 31, 2012, and update those plans on or before December

31, 2015, and on or before December 31 every 5 years thereafter. An agricultural water supplier that becomes an agricultural water supplier after December 31, 2012, would be required to prepare and adopt an agricultural water management plan within one year after becoming an agricultural water supplier. The agricultural water supplier would be required to notify each city or county within which the supplier provides water supplies with regard to the preparation or review of the plan. The bill would require the agricultural water supplier to submit copies of the plan to the department and other specified entities. The bill would provide that an agricultural water supplier is not eligible for state water grants or loans unless the supplier complies with the water management planning requirements established by the bill.

(3) The bill would take effect only if SB 1 and SB 6 of the 2009–10 7th Extraordinary Session of the Legislature are enacted and become effective.

The people of the State of California do enact as follows:

SECTION 1. Part 2.55 (commencing with Section 10608) is added to Division 6 of the Water Code, to read:

PART 2.55. SUSTAINABLE WATER USE AND DEMAND REDUCTION

CHAPTER 1. GENERAL DECLARATIONS AND POLICY

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

(a) Water is a public resource that the California Constitution protects against waste and unreasonable use.

(b) Growing population, climate change, and the need to protect and grow California's economy while protecting and restoring our fish and wildlife habitats make it essential that the state manage its water resources as efficiently as possible.

(c) Diverse regional water supply portfolios will increase water supply reliability and reduce dependence on the Delta.

(d) Reduced water use through conservation provides significant energy and environmental benefits, and can help protect water quality, improve streamflows, and reduce greenhouse gas emissions.

(e) The success of state and local water conservation programs to increase efficiency of water use is best determined on the basis of measurable outcomes related to water use or efficiency.

(f) Improvements in technology and management practices offer the potential for increasing water efficiency in California over time, providing an essential water management tool to meet the need for water for urban, agricultural, and environmental uses.

(g) The Governor has called for a 20 percent per capita reduction in urban water use statewide by 2020.

(h) The factors used to formulate water use efficiency targets can vary significantly from location to location based on factors including weather, patterns of urban and suburban development, and past efforts to enhance water use efficiency.

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

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

(a) Require all water suppliers to increase the efficiency of use of this essential resource.

(b) Establish a framework to meet the state targets for urban water conservation identified in this part and called for by the Governor.

(c) Measure increased efficiency of urban water use on a per capita basis.

(d) Establish a method or methods for urban retail water suppliers to determine targets for achieving increased water use efficiency by the year 2020, in accordance with the Governor's goal of a 20-percent reduction.

(e) Establish consistent water use efficiency planning and implementation standards for urban water suppliers and agricultural water suppliers.

(f) Promote urban water conservation standards that are consistent with the California Urban Water Conservation Council's adopted best management practices and the requirements for demand management in Section 10631.

(g) Establish standards that recognize and provide credit to water suppliers that made substantial capital investments in urban water conservation since the drought of the early 1990s.

(h) Recognize and account for the investment of urban retail water suppliers in providing recycled water for beneficial uses.

(i) Require implementation of specified efficient water management practices for agricultural water suppliers.

(j) Support the economic productivity of California's agricultural, commercial, and industrial sectors.

(k) Advance regional water resources management.

10608.8. (a) (1) Water use efficiency measures adopted and implemented pursuant to this part or Part 2.8 (commencing with Section 10800) are water conservation measures subject to the protections provided under Section 1011.

(2) Because an urban agency is not required to meet its urban water use target until 2020 pursuant to subdivision (b) of Section 10608.24, an urban retail water supplier's failure to meet those targets shall not establish a violation of law for purposes of any state administrative or judicial proceeding prior to January 1, 2021. Nothing in this paragraph limits the use of data reported to the department or the board in litigation or an

administrative proceeding. This paragraph shall become inoperative on January 1, 2021.

(3) To the extent feasible, the department and the board shall provide for the use of water conservation reports required under this part to meet the requirements of Section 1011 for water conservation reporting.

(b) This part does not limit or otherwise affect the application of Chapter 3.5 (commencing with Section 11340), Chapter 4 (commencing with Section 11370), Chapter 4.5 (commencing with Section 11400), and Chapter 5 (commencing with Section 11500) of Part 1 of Division 3 of Title 2 of the Government Code.

(c) This part does not require a reduction in the total water used in the agricultural or urban sectors, because other factors, including, but not limited to, changes in agricultural economics or population growth may have greater effects on water use. This part does not limit the economic productivity of California's agricultural, commercial, or industrial sectors.

(d) The requirements of this part do not apply to an agricultural water supplier that is a party to the Quantification Settlement Agreement, as defined in subdivision (a) of Section 1 of Chapter 617 of the Statutes of 2002, during the period within which the Quantification Settlement Agreement remains in effect. After the expiration of the Quantification Settlement Agreement, to the extent conservation water projects implemented as part of the Quantification Settlement Agreement remain in effect, the conserved water created as part of those projects shall be credited against the obligations of the agricultural water supplier pursuant to this part.

CHAPTER 2. DEFINITIONS

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

(a) "Agricultural water supplier" means a water supplier, either publicly or privately owned, providing water to 10,000 or more irrigated acres, excluding recycled water. "Agricultural water supplier" includes a supplier or contractor for water, regardless of the basis of right, that distributes or sells water for ultimate resale to customers. "Agricultural water supplier" does not include the department.

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

(1) The urban retail water supplier's estimate of its average gross water use, reported in gallons per capita per day and calculated over a continuous 10-year period ending no earlier than December 31, 2004, and no later than December 31, 2010.

(2) For an urban retail water supplier that meets at least 10 percent of its 2008 measured retail water demand through recycled water that is delivered within the service area of an urban retail water supplier or its urban wholesale water supplier, the urban retail water supplier may extend the calculation described in paragraph (1) up to an additional five years to a maximum of

a continuous 15-year period ending no earlier than December 31, 2004, and no later than December 31, 2010.

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

(c) "Baseline commercial, industrial, and institutional water use" means an urban retail water supplier's base daily per capita water use for commercial, industrial, and institutional users.

(d) "Commercial water user" means a water user that provides or distributes a product or service.

(e) "Compliance daily per capita water use" means the gross water use during the final year of the reporting period, reported in gallons per capita per day.

(f) "Disadvantaged community" means a community with an annual median household income that is less than 80 percent of the statewide annual median household income.

(g) "Gross water use" means the total volume of water, whether treated or untreated, entering the distribution system of an urban retail water supplier, excluding all of the following:

(1) Recycled water that is delivered within the service area of an urban retail water supplier or its urban wholesale water supplier.

(2) The net volume of water that the urban retail water supplier places into long-term storage.

(3) The volume of water the urban retail water supplier conveys for use by another urban water supplier.

(4) The volume of water delivered for agricultural use, except as otherwise provided in subdivision (f) of Section 10608.24.

(h) "Industrial water user" means a water user that is primarily a manufacturer or processor of materials as defined by the North American Industry Classification System code sectors 31 to 33, inclusive, or an entity that is a water user primarily engaged in research and development.

(i) "Institutional water user" means a water user dedicated to public service. This type of user includes, among other users, higher education institutions, schools, courts, churches, hospitals, government facilities, and nonprofit research institutions.

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

(k) "Locally cost effective" means that the present value of the local benefits of implementing an agricultural efficiency water management practice is greater than or equal to the present value of the local cost of implementing that measure.

(l) "Process water" means water used for producing a product or product content or water used for research and development, including, but not limited to, continuous manufacturing processes, water used for testing and maintaining equipment used in producing a product or product content, and

water used in combined heat and power facilities used in producing a product or product content. Process water does not mean incidental water uses not related to the production of a product or product content, including, but not limited to, water used for restrooms, landscaping, air conditioning, heating, kitchens, and laundry.

(m) “Recycled water” means recycled water, as defined in subdivision (n) of Section 13050, that is used to offset potable demand, including recycled water supplied for direct use and indirect potable reuse, that meets the following requirements, where applicable:

(1) For groundwater recharge, including recharge through spreading basins, water supplies that are all of the following:

(A) Metered.

(B) Developed through planned investment by the urban water supplier or a wastewater treatment agency.

(C) Treated to a minimum tertiary level.

(D) Delivered within the service area of an urban retail water supplier or its urban wholesale water supplier that helps an urban retail water supplier meet its urban water use target.

(2) For reservoir augmentation, water supplies that meet the criteria of paragraph (1) and are conveyed through a distribution system constructed specifically for recycled water.

(n) “Regional water resources management” means sources of supply resulting from watershed-based planning for sustainable local water reliability or any of the following alternative sources of water:

(1) The capture and reuse of stormwater or rainwater.

(2) The use of recycled water.

(3) The desalination of brackish groundwater.

(4) The conjunctive use of surface water and groundwater in a manner that is consistent with the safe yield of the groundwater basin.

(o) “Reporting period” means the years for which an urban retail water supplier reports compliance with the urban water use targets.

(p) “Urban retail water supplier” means a water supplier, either publicly or privately owned, that directly provides potable municipal water to more than 3,000 end users or that supplies more than 3,000 acre-feet of potable water annually at retail for municipal purposes.

(q) “Urban water use target” means the urban retail water supplier’s targeted future daily per capita water use.

(r) “Urban wholesale water supplier,” means a water supplier, either publicly or privately owned, that provides more than 3,000 acre-feet of water annually at wholesale for potable municipal purposes.

CHAPTER 3. URBAN RETAIL WATER SUPPLIERS

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

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

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

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

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

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

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

(A) For indoor residential water use, 55 gallons per capita daily water use as a provisional standard. Upon completion of the department's 2016 report to the Legislature pursuant to Section 10608.42, this standard may be adjusted by the Legislature by statute.

(B) For landscape irrigated through dedicated or residential meters or connections, water efficiency equivalent to the standards of the Model Water Efficient Landscape Ordinance set forth in Chapter 2.7 (commencing with Section 490) of Division 2 of Title 23 of the California Code of Regulations, as in effect the later of the year of the landscape's installation or 1992. An urban retail water supplier using the approach specified in this subparagraph shall use satellite imagery, site visits, or other best available technology to develop an accurate estimate of landscaped areas.

(C) For commercial, industrial, and institutional uses, a 10-percent reduction in water use from the baseline commercial, industrial, and institutional water use by 2020.

(3) Ninety-five percent of the applicable state hydrologic region target, as set forth in the state's draft 20x2020 Water Conservation Plan (dated April 30, 2009). If the service area of an urban water supplier includes more than one hydrologic region, the supplier shall apportion its service area to each region based on population or area.

(4) A method that shall be identified and developed by the department, through a public process, and reported to the Legislature no later than December 31, 2010. The method developed by the department shall identify per capita targets that cumulatively result in a statewide 20-percent reduction in urban daily per capita water use by December 31, 2020. In developing urban daily per capita water use targets, the department shall do all of the following:

(A) Consider climatic differences within the state.

- (B) Consider population density differences within the state.
 - (C) Provide flexibility to communities and regions in meeting the targets.
 - (D) Consider different levels of per capita water use according to plant water needs in different regions.
 - (E) Consider different levels of commercial, industrial, and institutional water use in different regions of the state.
 - (F) Avoid placing an undue hardship on communities that have implemented conservation measures or taken actions to keep per capita water use low.
- (c) If the department adopts a regulation pursuant to paragraph (4) of subdivision (b) that results in a requirement that an urban retail water supplier achieve a reduction in daily per capita water use that is greater than 20 percent by December 31, 2020, an urban retail water supplier that adopted the method described in paragraph (4) of subdivision (b) may limit its urban water use target to a reduction of not more than 20 percent by December 31, 2020, by adopting the method described in paragraph (1) of subdivision (b).
- (d) The department shall update the method described in paragraph (4) of subdivision (b) and report to the Legislature by December 31, 2014. An urban retail water supplier that adopted the method described in paragraph (4) of subdivision (b) may adopt a new urban daily per capita water use target pursuant to this updated method.
- (e) An urban retail water supplier shall include in its urban water management plan required pursuant to Part 2.6 (commencing with Section 10610) due in 2010 the baseline daily per capita water use, urban water use target, interim urban water use target, and compliance daily per capita water use, along with the bases for determining those estimates, including references to supporting data.
- (f) When calculating per capita values for the purposes of this chapter, an urban retail water supplier shall determine population using federal, state, and local population reports and projections.
- (g) An urban retail water supplier may update its 2020 urban water use target in its 2015 urban water management plan required pursuant to Part 2.6 (commencing with Section 10610).
- (h) (1) The department, through a public process and in consultation with the California Urban Water Conservation Council, shall develop technical methodologies and criteria for the consistent implementation of this part, including, but not limited to, both of the following:
- (A) Methodologies for calculating base daily per capita water use, baseline commercial, industrial, and institutional water use, compliance daily per capita water use, gross water use, service area population, indoor residential water use, and landscaped area water use.
 - (B) Criteria for adjustments pursuant to subdivisions (d) and (e) of Section 10608.24.
- (2) The department shall post the methodologies and criteria developed pursuant to this subdivision on its Internet Web site, and make written copies

available, by October 1, 2010. An urban retail water supplier shall use the methods developed by the department in compliance with this part.

(i) (1) The department shall adopt regulations for implementation of the provisions relating to process water in accordance with subdivision (l) of Section 10608.12, subdivision (e) of Section 10608.24, and subdivision (d) of Section 10608.26.

(2) The initial adoption of a regulation authorized by this subdivision is deemed to address an emergency, for purposes of Sections 11346.1 and 11349.6 of the Government Code, and the department is hereby exempted for that purpose from the requirements of subdivision (b) of Section 11346.1 of the Government Code. After the initial adoption of an emergency regulation pursuant to this subdivision, the department shall not request approval from the Office of Administrative Law to readopt the regulation as an emergency regulation pursuant to Section 11346.1 of the Government Code.

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

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

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

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

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

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

(A) Differences in evapotranspiration and rainfall in the baseline period compared to the compliance reporting period.

(B) Substantial changes to commercial or industrial water use resulting from increased business output and economic development that have occurred during the reporting period.

(C) Substantial changes to institutional water use resulting from fire suppression services or other extraordinary events, or from new or expanded operations, that have occurred during the reporting period.

(2) If the urban retail water supplier elects to adjust its estimate of compliance daily per capita water use due to one or more of the factors described in paragraph (1), it shall provide the basis for, and data supporting, the adjustment in the report required by Section 10608.40.

(e) When developing the urban water use target pursuant to Section 10608.20, an urban retail water supplier that has a substantial percentage of industrial water use in its service area, may exclude process water from the calculation of gross water use to avoid a disproportionate burden on another customer sector.

(f) (1) An urban retail water supplier that includes agricultural water use in an urban water management plan pursuant to Part 2.6 (commencing with Section 10610) may include the agricultural water use in determining gross water use. An urban retail water supplier that includes agricultural water use in determining gross water use and develops its urban water use target pursuant to paragraph (2) of subdivision (b) of Section 10608.20 shall use a water efficient standard for agricultural irrigation of 100 percent of reference evapotranspiration multiplied by the crop coefficient for irrigated acres.

(2) An urban retail water supplier, that is also an agricultural water supplier, is not subject to the requirements of Chapter 4 (commencing with Section 10608.48), if the agricultural water use is incorporated into its urban water use target pursuant to paragraph (1).

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

(1) Allow community input regarding the urban retail water supplier's implementation plan for complying with this part.

(2) Consider the economic impacts of the urban retail water supplier's implementation plan for complying with this part.

(3) Adopt a method, pursuant to subdivision (b) of Section 10608.20, for determining its urban water use target.

(b) In complying with this part, an urban retail water supplier may meet its urban water use target through efficiency improvements in any combination among its customer sectors. An urban retail water supplier shall avoid placing a disproportionate burden on any customer sector.

(c) For an urban retail water supplier that supplies water to a United States Department of Defense military installation, the urban retail water supplier's implementation plan for complying with this part shall consider the United States Department of Defense military installation's requirements under federal Executive Order 13423.

(d) (1) Any ordinance or resolution adopted by an urban retail water supplier after the effective date of this section shall not require existing customers as of the effective date of this section, to undertake changes in product formulation, operations, or equipment that would reduce process water use, but may provide technical assistance and financial incentives to those customers to implement efficiency measures for process water. This section shall not limit an ordinance or resolution adopted pursuant to a declaration of drought emergency by an urban retail water supplier.

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

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

(1) Through an urban wholesale water supplier.

(2) Through a regional agency authorized to plan and implement water conservation, including, but not limited to, an agency established under the Bay Area Water Supply and Conservation Agency Act (Division 31 (commencing with Section 81300)).

(3) Through a regional water management group as defined in Section 10537.

(4) By an integrated regional water management funding area.

(5) By hydrologic region.

(6) Through other appropriate geographic scales for which computation methods have been developed by the department.

(b) A regional water management group, with the written consent of its member agencies, may undertake any or all planning, reporting, and implementation functions under this chapter for the member agencies that consent to those activities. Any data or reports shall provide information both for the regional water management group and separately for each consenting urban retail water supplier and urban wholesale water supplier.

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

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

10608.40. Urban water retail suppliers shall report to the department on their progress in meeting their urban water use targets as part of their urban water management plans submitted pursuant to Section 10631. The data shall be reported using a standardized form developed pursuant to Section 10608.52.

10608.42. The department shall review the 2015 urban water management plans and report to the Legislature by December 31, 2016, on progress towards achieving a 20-percent reduction in urban water use by December 31, 2020. The report shall include recommendations on changes to water efficiency standards or urban water use targets in order to achieve

the 20-percent reduction and to reflect updated efficiency information and technology changes.

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

(a) Appropriate metrics for evaluating commercial, industrial, and institutional water use.

(b) Evaluation of water demands for manufacturing processes, goods, and cooling.

(c) Evaluation of public infrastructure necessary for delivery of recycled water to the commercial, industrial, and institutional sectors.

(d) Evaluation of institutional and economic barriers to increased recycled water use within the commercial, industrial, and institutional sectors.

(e) Identification of technical feasibility and cost of the best management practices to achieve more efficient water use statewide in the commercial, industrial, and institutional sectors that is consistent with the public interest and reflects past investments in water use efficiency.

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

CHAPTER 4. AGRICULTURAL WATER SUPPLIERS

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

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

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

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

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

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

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

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

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

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

(B) Conjunctive use of groundwater.

(C) Appropriate increase of groundwater recharge.

(D) Reduction in problem drainage.

(E) Improved management of environmental resources.

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

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

(6) Increase flexibility in water ordering by, and delivery to, water customers within operational limits.

(7) Construct and operate supplier spill and tailwater recovery systems.

(8) Increase planned conjunctive use of surface water and groundwater within the supplier service area.

(9) Automate canal control structures.

(10) Facilitate or promote customer pump testing and evaluation.

(11) Designate a water conservation coordinator who will develop and implement the water management plan and prepare progress reports.

(12) Provide for the availability of water management services to water users. These services may include, but are not limited to, all of the following:

(A) On-farm irrigation and drainage system evaluations.

(B) Normal year and real-time irrigation scheduling and crop evapotranspiration information.

(C) Surface water, groundwater, and drainage water quantity and quality data.

(D) Agricultural water management educational programs and materials for farmers, staff, and the public.

(13) Evaluate the policies of agencies that provide the supplier with water to identify the potential for institutional changes to allow more flexible water deliveries and storage.

(14) Evaluate and improve the efficiencies of the supplier's pumps.

(d) Agricultural water suppliers shall include in the agricultural water management plans required pursuant to Part 2.8 (commencing with Section 10800) a report on which efficient water management practices have been implemented and are planned to be implemented, an estimate of the water use efficiency improvements that have occurred since the last report, and an estimate of the water use efficiency improvements estimated to occur five and 10 years in the future. If an agricultural water supplier determines that an efficient water management practice is not locally cost effective or technically feasible, the supplier shall submit information documenting that determination.

(e) The data shall be reported using a standardized form developed pursuant to Section 10608.52.

(f) An agricultural water supplier may meet the requirements of subdivisions (d) and (e) by submitting to the department a water conservation plan submitted to the United States Bureau of Reclamation that meets the requirements described in Section 10828.

(g) On or before December 31, 2013, December 31, 2016, and December 31, 2021, the department, in consultation with the board, shall submit to the Legislature a report on the agricultural efficient water management practices that have been implemented and are planned to be implemented and an assessment of the manner in which the implementation of those efficient water management practices has affected and will affect agricultural operations, including estimated water use efficiency improvements, if any.

(h) The department may update the efficient water management practices required pursuant to subdivision (c), in consultation with the Agricultural Water Management Council, the United States Bureau of Reclamation, and the board. All efficient water management practices for agricultural water use pursuant to this chapter shall be adopted or revised by the department only after the department conducts public hearings to allow participation of the diverse geographical areas and interests of the state.

(i) (1) The department shall adopt regulations that provide for a range of options that agricultural water suppliers may use or implement to comply with the measurement requirement in paragraph (1) of subdivision (b).

(2) The initial adoption of a regulation authorized by this subdivision is deemed to address an emergency, for purposes of Sections 11346.1 and 11349.6 of the Government Code, and the department is hereby exempted for that purpose from the requirements of subdivision (b) of Section 11346.1 of the Government Code. After the initial adoption of an emergency regulation pursuant to this subdivision, the department shall not request approval from the Office of Administrative Law to readopt the regulation as an emergency regulation pursuant to Section 11346.1 of the Government Code.

CHAPTER 5. SUSTAINABLE WATER MANAGEMENT

10608.50. (a) The department, in consultation with the board, shall promote implementation of regional water resources management practices through increased incentives and removal of barriers consistent with state and federal law. Potential changes may include, but are not limited to, all of the following:

(1) Revisions to the requirements for urban and agricultural water management plans.

(2) Revisions to the requirements for integrated regional water management plans.

(3) Revisions to the eligibility for state water management grants and loans.

(4) Revisions to state or local permitting requirements that increase water supply opportunities, but do not weaken water quality protection under state and federal law.

(5) Increased funding for research, feasibility studies, and project construction.

(6) Expanding technical and educational support for local land use and water management agencies.

(b) No later than January 1, 2011, and updated as part of the California Water Plan, the department, in consultation with the board, and with public input, shall propose new statewide targets, or review and update existing statewide targets, for regional water resources management practices, including, but not limited to, recycled water, brackish groundwater desalination, and infiltration and direct use of urban stormwater runoff.

CHAPTER 6. STANDARDIZED DATA COLLECTION

10608.52. (a) The department, in consultation with the board, the California Bay-Delta Authority or its successor agency, the State Department of Public Health, and the Public Utilities Commission, shall develop a single standardized water use reporting form to meet the water use information needs of each agency, including the needs of urban water suppliers that elect to determine and report progress toward achieving targets on a regional basis as provided in subdivision (a) of Section 10608.28.

(b) At a minimum, the form shall be developed to accommodate information sufficient to assess an urban water supplier's compliance with conservation targets pursuant to Section 10608.24 and an agricultural water supplier's compliance with implementation of efficient water management practices pursuant to subdivision (a) of Section 10608.48. The form shall accommodate reporting by urban water suppliers on an individual or regional basis as provided in subdivision (a) of Section 10608.28.

CHAPTER 7. FUNDING PROVISIONS

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

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

(c) Notwithstanding subdivision (a), the department shall determine that an urban retail water supplier is eligible for a water grant or loan even though the supplier has not met the per capita reductions required pursuant to Section 10608.24, if the urban retail water supplier has submitted to the department for approval a schedule, financing plan, and budget, to be included in the grant or loan agreement, for achieving the per capita reductions. The supplier may request grant or loan funds to achieve the per capita reductions to the extent the request is consistent with the eligibility requirements applicable to the water funds.

(d) Notwithstanding subdivision (b), the department shall determine that an agricultural water supplier is eligible for a water grant or loan even though the supplier is not implementing all of the efficient water management practices described in Section 10608.48, if the agricultural water supplier has submitted to the department for approval a schedule, financing plan, and budget, to be included in the grant or loan agreement, for implementation of the efficient water management practices. The supplier may request grant or loan funds to implement the efficient water management practices to the extent the request is consistent with the eligibility requirements applicable to the water funds.

(e) Notwithstanding subdivision (a), the department shall determine that an urban retail water supplier is eligible for a water grant or loan even though the supplier has not met the per capita reductions required pursuant to Section 10608.24, if the urban retail water supplier has submitted to the department for approval documentation demonstrating that its entire service area qualifies as a disadvantaged community.

(f) The department shall not deny eligibility to an urban retail water supplier or agricultural water supplier in compliance with the requirements of this part and Part 2.8 (commencing with Section 10800), that is participating in a multiagency water project, or an integrated regional water management plan, developed pursuant to Section 75026 of the Public Resources Code, solely on the basis that one or more of the agencies participating in the project or plan is not implementing all of the requirements of this part or Part 2.8 (commencing with Section 10800).

10608.60. (a) It is the intent of the Legislature that funds made available by Section 75026 of the Public Resources Code should be expended, consistent with Division 43 (commencing with Section 75001) of the Public Resources Code and upon appropriation by the Legislature, for grants to implement this part. In the allocation of funding, it is the intent of the

Legislature that the department give consideration to disadvantaged communities to assist in implementing the requirements of this part.

(b) It is the intent of the Legislature that funds made available by Section 75041 of the Public Resources Code, should be expended, consistent with Division 43 (commencing with Section 75001) of the Public Resources Code and upon appropriation by the Legislature, for direct expenditures to implement this part.

CHAPTER 8. QUANTIFYING AGRICULTURAL WATER USE EFFICIENCY

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

SEC. 2. Section 10631.5 of the Water Code is amended to read:

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

(2) For the purposes of this section, water management grants and loans include funding for programs and projects for surface water or groundwater storage, recycling, desalination, water conservation, water supply reliability, and water supply augmentation. This section does not apply to water management projects funded by the federal American Recovery and Reinvestment Act of 2009 (Public Law 111-5).

(3) Notwithstanding paragraph (1), the department shall determine that an urban water supplier is eligible for a water management grant or loan even though the supplier is not implementing all of the water demand management measures described in Section 10631, if the urban water supplier has submitted to the department for approval a schedule, financing plan, and budget, to be included in the grant or loan agreement, for implementation of the water demand management measures. The supplier may request grant or loan funds to implement the water demand management measures to the extent the request is consistent with the eligibility requirements applicable to the water management funds.

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

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

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

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

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

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

(i) Compliance on an individual basis.

(ii) Compliance on a regional basis. Regional compliance shall require participation in a regional conservation program consisting of two or more urban water suppliers that achieves the level of conservation or water efficiency savings equivalent to the amount of conservation or savings achieved if each of the participating urban water suppliers implemented the water demand management measures. The urban water supplier administering the regional program shall provide participating urban water suppliers and the department with data to demonstrate that the regional program is consistent with this clause. The department shall review the data to determine whether the urban water suppliers in the regional program are meeting the eligibility requirements.

(B) The department may require additional information for any determination pursuant to this section.

(3) The department shall not deny eligibility to an urban water supplier in compliance with the requirements of this section that is participating in a multiagency water project, or an integrated regional water management plan, developed pursuant to Section 75026 of the Public Resources Code, solely on the basis that one or more of the agencies participating in the project or plan is not implementing all of the water demand management measures described in Section 10631.

(c) In establishing guidelines pursuant to the specific funding authorization for any water management grant or loan program subject to this section, the agency administering the grant or loan program shall include in the guidelines the eligibility requirements developed by the department pursuant to subdivision (b).

(d) Upon receipt of a water management grant or loan application by an agency administering a grant and loan program subject to this section, the agency shall request an eligibility determination from the department with respect to the requirements of this section. The department shall respond to the request within 60 days of the request.

(e) The urban water supplier may submit to the department copies of its annual reports and other relevant documents to assist the department in determining whether the urban water supplier is implementing or scheduling the implementation of water demand management activities. In addition, for urban water suppliers that are signatories to the Memorandum of Understanding Regarding Urban Water Conservation in California and submit biennial reports to the California Urban Water Conservation Council in accordance with the memorandum, the department may use these reports to assist in tracking the implementation of water demand management measures.

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

SEC. 3. Part 2.8 (commencing with Section 10800) of Division 6 of the Water Code is repealed.

SEC. 4. Part 2.8 (commencing with Section 10800) is added to Division 6 of the Water Code, to read:

PART 2.8. AGRICULTURAL WATER MANAGEMENT PLANNING

CHAPTER 1. GENERAL DECLARATIONS AND POLICY

10800. This part shall be known and may be cited as the Agricultural Water Management Planning Act.

10801. The Legislature finds and declares all of the following:

- (a) The waters of the state are a limited and renewable resource.
- (b) The California Constitution requires that water in the state be used in a reasonable and beneficial manner.
- (c) Urban water districts are required to adopt water management plans.

(d) The conservation of agricultural water supplies is of great statewide concern.

(e) There is a great amount of reuse of delivered water, both inside and outside the water service areas.

(f) Significant noncrop beneficial uses are associated with agricultural water use, including streamflows and wildlife habitat.

(g) Significant opportunities exist in some areas, through improved irrigation water management, to conserve water or to reduce the quantity of highly saline or toxic drainage water.

(h) Changes in water management practices should be carefully planned and implemented to minimize adverse effects on other beneficial uses currently being served.

(i) Agricultural water suppliers that receive water from the federal Central Valley Project are required by federal law to prepare and implement water conservation plans.

(j) Agricultural water users applying for a permit to appropriate water from the board are required to prepare and implement water conservation plans.

10802. The Legislature finds and declares that all of the following are the policies of the state:

(a) The conservation of water shall be pursued actively to protect both the people of the state and the state's water resources.

(b) The conservation of agricultural water supplies shall be an important criterion in public decisions with regard to water.

(c) Agricultural water suppliers shall be required to prepare water management plans to achieve conservation of water.

CHAPTER 2. DEFINITIONS

10810. Unless the context otherwise requires, the definitions set forth in this chapter govern the construction of this part.

10811. "Agricultural water management plan" or "plan" means an agricultural water management plan prepared pursuant to this part.

10812. "Agricultural water supplier" has the same meaning as defined in Section 10608.12.

10813. "Customer" means a purchaser of water from a water supplier who uses water for agricultural purposes.

10814. "Person" means any individual, firm, association, organization, partnership, business, trust, corporation, company, public agency, or any agency of that entity.

10815. "Public agency" means any city, county, city and county, special district, or other public entity.

10816. "Urban water supplier" has the same meaning as set forth in Section 10617.

10817. “Water conservation” means the efficient management of water resources for beneficial uses, preventing waste, or accomplishing additional benefits with the same amount of water.

CHAPTER 3. AGRICULTURAL WATER MANAGEMENT PLANS

Article 1. General Provisions

10820. (a) An agricultural water supplier shall prepare and adopt an agricultural water management plan in the manner set forth in this chapter on or before December 31, 2012, and shall update that plan on December 31, 2015, and on or before December 31 every five years thereafter.

(b) Every supplier that becomes an agricultural water supplier after December 31, 2012, shall prepare and adopt an agricultural water management plan within one year after the date it has become an agricultural water supplier.

(c) A water supplier that indirectly provides water to customers for agricultural purposes shall not prepare a plan pursuant to this part without the consent of each agricultural water supplier that directly provides that water to its customers.

10821. (a) An agricultural water supplier required to prepare a plan pursuant to this part shall notify each city or county within which the supplier provides water supplies that the agricultural water supplier will be preparing the plan or reviewing the plan and considering amendments or changes to the plan. The agricultural water supplier may consult with, and obtain comments from, each city or county that receives notice pursuant to this subdivision.

(b) The amendments to, or changes in, the plan shall be adopted and submitted in the manner set forth in Article 3 (commencing with Section 10840).

Article 2. Contents of Plans

10825. (a) It is the intent of the Legislature in enacting this part to allow levels of water management planning commensurate with the numbers of customers served and the volume of water supplied.

(b) This part does not require the implementation of water conservation programs or practices that are not locally cost effective.

10826. An agricultural water management plan shall be adopted in accordance with this chapter. The plan shall do all of the following:

(a) Describe the agricultural water supplier and the service area, including all of the following:

- (1) Size of the service area.
- (2) Location of the service area and its water management facilities.
- (3) Terrain and soils.
- (4) Climate.

- (5) Operating rules and regulations.
- (6) Water delivery measurements or calculations.
- (7) Water rate schedules and billing.
- (8) Water shortage allocation policies.
- (b) Describe the quantity and quality of water resources of the agricultural water supplier, including all of the following:
 - (1) Surface water supply.
 - (2) Groundwater supply.
 - (3) Other water supplies.
 - (4) Source water quality monitoring practices.
 - (5) Water uses within the agricultural water supplier's service area, including all of the following:
 - (A) Agricultural.
 - (B) Environmental.
 - (C) Recreational.
 - (D) Municipal and industrial.
 - (E) Groundwater recharge.
 - (F) Transfers and exchanges.
 - (G) Other water uses.
 - (6) Drainage from the water supplier's service area.
 - (7) Water accounting, including all of the following:
 - (A) Quantifying the water supplier's water supplies.
 - (B) Tabulating water uses.
 - (C) Overall water budget.
 - (8) Water supply reliability.
- (c) Include an analysis, based on available information, of the effect of climate change on future water supplies.
- (d) Describe previous water management activities.
- (e) Include in the plan the water use efficiency information required pursuant to Section 10608.48.

10827. Agricultural water suppliers that are members of the Agricultural Water Management Council, and that submit water management plans to that council in accordance with the "Memorandum of Understanding Regarding Efficient Water Management Practices By Agricultural Water Suppliers In California," dated January 1, 1999, may submit the water management plans identifying water demand management measures currently being implemented, or scheduled for implementation, to satisfy the requirements of Section 10826.

10828. (a) Agricultural water suppliers that are required to submit water conservation plans to the United States Bureau of Reclamation pursuant to either the Central Valley Project Improvement Act (Public Law 102-575) or the Reclamation Reform Act of 1982, or both, may submit those water conservation plans to satisfy the requirements of Section 10826, if both of the following apply:

- (1) The agricultural water supplier has adopted and submitted the water conservation plan to the United States Bureau of Reclamation within the previous four years.

(2) The United States Bureau of Reclamation has accepted the water conservation plan as adequate.

(b) This part does not require agricultural water suppliers that are required to submit water conservation plans to the United States Bureau of Reclamation pursuant to either the Central Valley Project Improvement Act (Public Law 102-575) or the Reclamation Reform Act of 1982, or both, to prepare and adopt water conservation plans according to a schedule that is different from that required by the United States Bureau of Reclamation.

10829. An agricultural water supplier may satisfy the requirements of this part by adopting an urban water management plan pursuant to Part 2.6 (commencing with Section 10610) or by participation in areawide, regional, watershed, or basinwide water management planning if those plans meet or exceed the requirements of this part.

Article 3. Adoption and Implementation of Plans

10840. Every agricultural water supplier shall prepare its plan pursuant to Article 2 (commencing with Section 10825).

10841. Prior to adopting a plan, the agricultural water supplier shall make the proposed plan available for public inspection, and shall hold a public hearing on the plan. Prior to the hearing, notice of the time and place of hearing shall be published within the jurisdiction of the publicly owned agricultural water supplier pursuant to Section 6066 of the Government Code. A privately owned agricultural water supplier shall provide an equivalent notice within its service area and shall provide a reasonably equivalent opportunity that would otherwise be afforded through a public hearing process for interested parties to provide input on the plan. After the hearing, the plan shall be adopted as prepared or as modified during or after the hearing.

10842. An agricultural water supplier shall implement the plan adopted pursuant to this chapter in accordance with the schedule set forth in its plan, as determined by the governing body of the agricultural water supplier.

10843. (a) An agricultural water supplier shall submit to the entities identified in subdivision (b) a copy of its plan no later than 30 days after the adoption of the plan. Copies of amendments or changes to the plans shall be submitted to the entities identified in subdivision (b) within 30 days after the adoption of the amendments or changes.

(b) An agricultural water supplier shall submit a copy of its plan and amendments or changes to the plan to each of the following entities:

- (1) The department.
- (2) Any city, county, or city and county within which the agricultural water supplier provides water supplies.
- (3) Any groundwater management entity within which jurisdiction the agricultural water supplier extracts or provides water supplies.
- (4) Any urban water supplier within which jurisdiction the agricultural water supplier provides water supplies.

(5) Any city or county library within which jurisdiction the agricultural water supplier provides water supplies.

(6) The California State Library.

(7) Any local agency formation commission serving a county within which the agricultural water supplier provides water supplies.

10844. (a) Not later than 30 days after the date of adopting its plan, the agricultural water supplier shall make the plan available for public review on the agricultural water supplier's Internet Web site.

(b) An agricultural water supplier that does not have an Internet Web site shall submit to the department, not later than 30 days after the date of adopting its plan, a copy of the adopted plan in an electronic format. The department shall make the plan available for public review on the department's Internet Web site.

10845. (a) The department shall prepare and submit to the Legislature, on or before December 31, 2013, and thereafter in the years ending in six and years ending in one, a report summarizing the status of the plans adopted pursuant to this part.

(b) The report prepared by the department shall identify the outstanding elements of any plan adopted pursuant to this part. The report shall include an evaluation of the effectiveness of this part in promoting efficient agricultural water management practices and recommendations relating to proposed changes to this part, as appropriate.

(c) The department shall provide a copy of the report to each agricultural water supplier that has submitted its plan to the department. The department shall also prepare reports and provide data for any legislative hearing designed to consider the effectiveness of plans submitted pursuant to this part.

(d) This section does not authorize the department, in preparing the report, to approve, disapprove, or critique individual plans submitted pursuant to this part.

CHAPTER 4. MISCELLANEOUS PROVISIONS

10850. (a) Any action or proceeding to attack, review, set aside, void, or annul the acts or decisions of an agricultural water supplier on the grounds of noncompliance with this part shall be commenced as follows:

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

(2) Any action or proceeding alleging that a plan, or action taken pursuant to the plan, does not comply with this part shall be commenced within 120 days after submitting the plan or amendments to the plan to entities in accordance with Section 10844 or the taking of that action.

(b) In an action or proceeding to attack, review, set aside, void, or annul a plan, or an action taken pursuant to the plan by an agricultural 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 agricultural water supplier has not proceeded in a manner required by law, or if the action by the agricultural water supplier is not supported by substantial evidence.

10851. 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. This part does not exempt projects for implementation of the plan or for expanded or additional water supplies from the California Environmental Quality Act.

10852. An agricultural water supplier is not eligible for a water grant or loan awarded or administered by the state unless the supplier complies with this part.

10853. No agricultural water supplier that provides water to less than 25,000 irrigated acres, excluding recycled water, shall be required to implement the requirements of this part or Part 2.55 (commencing with Section 10608) unless sufficient funding has specifically been provided to that water supplier for these purposes.

SEC. 5. This act shall take effect only if Senate Bill 1 and Senate Bill 6 of the 2009–10 Seventh Extraordinary Session of the Legislature are enacted and become effective.

Appendix B

DWR UWMP Checklist Organized by Subject

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Table I-2 Urban Water Management Plan checklist, organized by subject

No.	UWMP requirement ^a	Calif. Water Code reference	Additional clarification	UWMP location
PLAN PREPARATION				
4	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.	10620(d)(2)		Section 1, Pg. 2-5
6	Notify, at least 60 days prior to the public hearing on the plan required by Section 10642, any city or county within which the supplier provides water that the urban water supplier will be reviewing the plan and considering amendments or changes to the plan. Any city or county receiving the notice may be consulted and provide comments.	10621(b)		Section 1, Pg. 4 and Appendix C
7	Provide supporting documentation that the UWMP or any amendments to, or changes in, have been adopted as described in Section 10640 et seq.	10621(c)		Section 1, Pg. 4 and Appendix C
54	Provide supporting documentation that the urban water management plan has been or will be provided to any city or county within which it provides water, no later than 60 days after the submission of this urban water management plan.	10635(b)		Section 1, Pg. 4 If item no. 59 is met, then item 54 is met as well.
55	Provide supporting documentation that the water supplier has encouraged active involvement of diverse social, cultural, and economic elements of the population within the service area prior to and during the preparation of the plan.	10642		Section 1, Pg. 4-5
56	Provide supporting documentation that the urban water supplier made the plan available for public inspection and held a public hearing about the plan. For public agencies, the hearing notice is to be provided pursuant to Section 6066 of the Government Code. The water supplier is to provide the time and place of the hearing to any city or county within which the supplier provides water. Privately-owned water suppliers shall provide an equivalent notice within its service area.	10642		Section 1, Pg. 4-5 and Appendix C
57	Provide supporting documentation that the plan has been adopted as prepared or modified.	10642	What is the difference between item 7 and 58	Section 1, Pg. 4
58	Provide supporting documentation as to how the water supplier plans to implement its plan.	10643		Section 1, Pg. 6

No.	UWMP requirement ^a	Calif. Water Code reference	Additional clarification	UWMP location
59	Provide supporting documentation that, in addition to submittal to DWR, the urban water supplier has submitted this UWMP to 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. This also includes amendments or changes.	10644(a)		Section 1, Pg. 4
60	Provide supporting documentation that, not later than 30 days after filing a copy of its plan with the department, the urban water supplier has or will make the plan available for public review during normal business hours	10645		Section 1, Pg. 4
SYSTEM DESCRIPTION				
8	Describe the water supplier service area.	10631(a)		Section 1, Pg. 5-7
9	Describe the climate and other demographic factors of the service area of the supplier	10631(a)		Section 1, Pg. 6-13
10	Indicate the current population of the service area	10631(a)	Provide the most recent population data possible. Use the method described in "Baseline Daily Per Capita Water Use." See Section M.	Section 1, Pg. 10-13
11	Provide population projections for 2015, 2020, 2025, and 2030, based on data from State, regional, or local service area population projections.	10631(a)	2035 and 2040 can also be provided to support consistency with Water Supply Assessments and Written Verification of Water Supply documents.	Section 1, Pg. 13
12	Describe other demographic factors affecting the supplier's water management planning.	10631(a)		Section 1, Pg. 13
SYSTEM DEMANDS				
1	Provide baseline daily per capita water use, urban water use target, interim urban water use target, and compliance daily per capita water use, along with the bases for determining those estimates, including references to supporting data.	10608.20(e)		Section 5, Pg. 1 and Appendix F
2	<i>Wholesalers:</i> Include an assessment of present and proposed future measures, programs, and policies to help achieve the water use reductions. <i>Retailers:</i> Conduct at least one public hearing that includes general discussion of the urban retail water supplier's implementation plan for complying with the Water Conservation Bill of 2009.	10608.36 10608.26(a)	Retailers and wholesalers have slightly different requirements	Section 1, Pg. 4-5 Public Hearing held on June 7, 2011

No.	UWMP requirement ^a	Calif. Water Code reference	Additional clarification	UWMP location
3	Report progress in meeting urban water use targets using the standardized form.	10608.40		Section 5, Pg. 9
25	Quantify past, current, and projected water use, identifying the uses among water use sectors, for 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, conjunctive use, and (I) agriculture.	10631(e)(1)	Consider 'past' to be 2005, present to be 2010, and projected to be 2015, 2020, 2025, and 2030. Provide numbers for each category for each of these years.	Section 6, Pg. 1 Note: Water use information from 2005 was not available and was therefore not included in the Table 6.1-1
33	Provide documentation that either the retail agency provided the wholesale agency with water use projections for at least 20 years, if the UWMP agency is a retail agency, OR, if a wholesale agency, it provided its urban retail customers with future planned and existing water source available to it from the wholesale agency during the required water-year types	10631(k)	Average year, single dry year, multiple dry years for 2015, 2020, 2025, and 2030.	Section 5, Pg. 1-8
34	Include projected water use for single-family and multifamily residential housing needed for lower income households, as identified in the housing element of any city, county, or city and county in the service area of the supplier.	10631.1(a)		Section 5, Pg. 9
SYSTEM SUPPLIES				
13	Identify and quantify the existing and planned sources of water available for 2015, 2020, 2025, and 2030.	10631(b)	The 'existing' water sources should be for the same year as the "current population" in line 10. 2035 and 2040 can also be provided.	Section 2, Pg. 7-8
14	Indicate whether groundwater is an existing or planned source of water available to the supplier. If yes, then complete 15 through 21 of the UWMP Checklist. If no, then indicate "not applicable" in lines 15 through 21 under the UWMP location column.	10631(b)	Source classifications are: surface water, groundwater, recycled water, storm water, desalinated sea water, desalinated brackish groundwater, and other.	Section 2, Pg. 7-8
15	Indicate whether a groundwater management plan been adopted by the water supplier or if there is any other specific authorization for groundwater management. Include a copy of the plan or authorization.	10631(b)(1)		Section 2, Pg. 3

No.	UWMP requirement ^a	Calif. Water Code reference	Additional clarification	UWMP location
16	Describe the groundwater basin.	10631(b)(2)		Section 2, Pg. 2-4
17	Indicate whether the groundwater basin is adjudicated? Include a copy of the court order or decree.	10631(b)(2)		Section 2, Pg. 1-3 Appendix E
18	Describe the amount of groundwater the urban water supplier has the legal right to pump under the order or decree. If the basin is not adjudicated, indicate "not applicable" in the UWMP location column.	10631(b)(2)		Section 2, Pg. 1-2
19	For groundwater basins that are not adjudicated, provide information as to whether DWR has identified the basin or basins as overdrafted or has projected that the basin will become overdrafted if present management conditions continue, in the most current official departmental bulletin that characterizes the condition of the groundwater basin, and a detailed description of the efforts being undertaken by the urban water supplier to eliminate the long-term overdraft condition. If the basin is adjudicated, indicate "not applicable" in the UWMP location column.	10631(b)(2)		Not Applicable
20	Provide a detailed description and analysis of the location, amount, and sufficiency of groundwater pumped by the urban water supplier for the past five years	10631(b)(3)		Section 1, Pg. 11 and Section 2, Pg. 4-5
21	Provide a detailed description and analysis of the amount and location of groundwater that is projected to be pumped.	10631(b)(4)	Provide projections for 2015, 2020, 2025, and 2030.	Section 2, Pg. 4-5
24	Describe the opportunities for exchanges or transfers of water on a short-term or long-term basis.	10631(d)		Section 4, Pg. 10-14
30	Include a detailed description of all water supply projects and programs that may be undertaken by the water supplier to address water supply reliability in average, single-dry, and multiple-dry years, excluding demand management programs addressed in (f)(1). Include specific projects, describe water supply impacts, and provide a timeline for each project.	10631(h)		Section 4, Pg. 22-33
31	Describe desalinated water project opportunities for long-term supply, including, but not limited to, ocean water, brackish water, and groundwater.	10631(i)		Section 4, Pg. 34-36
44	Provide information on recycled water and its potential for use as a water source in the service area of the urban water supplier. Coordinate with local water, wastewater, groundwater, and planning agencies that operate within the supplier's service area.	10633		Section 9, Pg. 1-6

No.	UWMP requirement ^a	Calif. Water Code reference	Additional clarification	UWMP location
45	Describe 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.	10633(a)		Section 9, Pg. 1-2
46	Describe the quantity of treated wastewater that meets recycled water standards, is being discharged, and is otherwise available for use in a recycled water project.	10633(b)		Section 9, Pg. 2
47	Describe the recycled water currently being used in the supplier's service area, including, but not limited to, the type, place, and quantity of use.	10633(c)		Section 9, Pg. 1-3
48	Describe and quantify 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.	10633(d)		Section 9, Pg. 4-5
49	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.	10633(e)		Section 9, Pg. 3
50	Describe the 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.	10633(f)		Section 9, Pg. 5-6
51	Provide 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.	10633(g)		Section 9, Pg. 6
WATER SHORTAGE RELIABILITY AND WATER SHORTAGE CONTINGENCY PLANNING ^b				
5	Describe water management tools and options to maximize resources and minimize the need to import water from other regions.	10620(f)		Section 7, Pg. 1-11
22	Describe the reliability of the water supply and vulnerability to seasonal or climatic shortage and provide data for (A) an average water year, (B) a single dry water year, and (C) multiple dry water years.	10631(c)(1)		Section 5, Pg. 1-8
23	For any water source that may not be available at a consistent level of use - given specific legal, environmental, water quality, or climatic factors - describe plans to supplement or replace that source with alternative sources or water demand management measures, to the extent practicable.	10631(c)(2)		Section 7, Pg. 1 -11

No.	UWMP requirement ^a	Calif. Water Code reference	Additional clarification	UWMP location
35	Provide an urban water shortage contingency analysis that specifies stages of action, including up to a 50-percent water supply reduction, and an outline of specific water supply conditions at each stage	10632(a)		Section 8, Pg. 1-4 and Appendix J
36	Provide an estimate of the minimum water supply available during each of the next three water years based on the driest three-year historic sequence for the agency's water supply.	10632(b)		Section 8, Pg. 9
37	Identify actions to be undertaken by the urban water supplier to prepare for, and implement during, a catastrophic interruption of water supplies including, but not limited to, a regional power outage, an earthquake, or other disaster.	10632(c)		Section 8, Pg. 9-10 and Appendices G-K
38	Identify additional, mandatory prohibitions against specific water use practices during water shortages, including, but not limited to, prohibiting the use of potable water for street cleaning.	10632(d)		Section 8, Pg. 10
39	Specify consumption reduction methods in the most restrictive stages. Each urban water supplier may use any type of consumption reduction methods in its water shortage contingency analysis that would reduce water use, are appropriate for its area, and have the ability to achieve a water use reduction consistent with up to a 50 percent reduction in water supply.	10632(e)		Section 8, Pg. 1-4 and 10
40	Indicated penalties or charges for excessive use, where applicable.	10632(f)		Section 8, Pg. 10
41	Provide an analysis of the impacts of each of the actions and conditions described in subdivisions (a) to (f), inclusive, on the revenues and expenditures of the urban water supplier, and proposed measures to overcome those impacts, such as the development of reserves and rate adjustments.	10632(g)		Section 8, Pg. 11
42	Provide a draft water shortage contingency resolution or ordinance.	10632(h)		Appendix K
43	Indicate a mechanism for determining actual reductions in water use pursuant to the urban water shortage contingency analysis.	10632(i)		Section 8, Pg. 10
52	Provide information, to the extent practicable, relating to the quality of existing sources of water available to the supplier over the same five-year increments, and the manner in which water quality affects water management strategies and supply reliability	10634	For years 2010, 2015, 2020, 2025, and 2030	Section 3, Pg. 1-18

No.	UWMP requirement ^a	Calif. Water Code reference	Additional clarification	UWMP location
53	Assess the water supply reliability during normal, dry, and multiple dry water years by comparing the total water supply sources available to the water supplier with the total projected water use over the next 20 years, in five-year increments, for a normal water year, a single dry water year, and multiple dry water years. Base the assessment on the information compiled under Section 10631, including available data from state, regional, or local agency population projections within the service area of the urban water supplier.	10635(a)		Section 5, Pg. 1-8
DEMAND MANAGEMENT MEASURES				
26	Describe how each water demand management measures is being implemented or scheduled for implementation. Use the list provided.	10631(f)(1)	Discuss each DMM, even if it is not currently or planned for implementation. Provide any appropriate schedules.	Section 7, Pg. 1-11
27	Describe the methods the supplier uses to evaluate the effectiveness of DMMs implemented or described in the UWMP.	10631(f)(3)		Section 7, Pg. 1-11
28	Provide an estimate, if available, of existing conservation savings on water use within the supplier's service area, and the effect of the savings on the ability to further reduce demand.	10631(f)(4)		Section 7, Pg. 1-11
29	Evaluate each water demand management measure that is not currently being implemented or scheduled for implementation. The evaluation should include economic and non-economic factors, cost-benefit analysis, available funding, and the water suppliers' legal authority to implement the work.	10631(g)	See 10631(g) for additional wording.	Section 7, Pg. 1-10
32	Include the annual reports submitted to meet the Section 6.2 requirements, if a member of the CUWCC and signer of the December 10, 2008 MOU.	10631(j)	Signers of the MOU that submit the annual reports are deemed compliant with Items 28 and 29.	Not Applicable

a The UWMP Requirement descriptions are general summaries of what is provided in the legislation. Urban water suppliers should review the exact legislative wording prior to submitting its UWMP.

b The Subject classification is provided for clarification only. It is aligned with the organization presented in Part I of this guidebook. A water supplier is free to address the UWMP Requirement anywhere with its UWMP, but is urged to provide clarification to DWR to facilitate review.

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Appendix C

Notice of Public Hearing, Resolution of Intent to Adopt Plan,
Resolution of Plan Adoption, Proof of Publication of Public
Hearing Notice and 60-day Notice of Public Hearing Letter

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Notice of Public Hearing

NOTICE IS HERBY GIVEN that the City Council of the City of Inglewood, California will hold a public hearing on **Tuesday, June 7, 2011 at the hour of 7:00 p.m.**, in the City Council Chambers, Ninth Floor, Inglewood City Hall, One Manchester Boulevard, Inglewood, California **to consider the resolution of intent to adopt the City's 2010 Urban Water Management Plan (UWMP).**

All persons interested may appear before said Council and be heard with reference to this matter.

The City of Inglewood 2010 Urban Water Management Plan is prepared in compliance with the State of California, California Water Code 10610 which is known as Urban Water Management Planning Act of 1983 (Act). The Act requires urban water suppliers' providing water to more than 3,000 customers to adopt an Urban Water Management Plan (UWMP) every 5 years before July 31st.

The primary goals of the Act are to encourage urban water suppliers to develop long range plans in an effort to ensure appropriate levels of reliability in their water services during normal, dry, and multiple dry water years. The goals also include management of urban water demands, maintaining and improving water quality and water conservation.

This notice is given by the order of the City Council of the City of Inglewood and is dated this 3rd day of May 2011.

Yvonne Horton, City Clerk
CITY OF INGLEWOOD, CALIFORNIA

If you will require special accommodations due to a disability, please contact the Office of the City Clerk at (310) 412-5280 or FAX (310) 412-5533, One Manchester Boulevard, 1st Floor, Inglewood, California 90301. All requests for accommodations must be received 48 hours prior to the day of the hearing.

“If you challenge the aforementioned public hearing in court, you may be limited to raising only those issues you or someone else raised at the public hearing described in this notice, or in written correspondence delivered to the City Council at, or prior to, the public hearing.”

In the event that the City Council meeting of June 07, 2011 is not held, or is concluded prior to this public hearing agenda item being considered, the public hearing will automatically be continued to the next regularly scheduled City Council meeting.

“Si no entiende esta noticia o si necesita mas informacion, favor de llamar a este numero (310) 412-5280.”

Date of Publication: May 19, 2011

1 RESOLUTION NO.: 11-71

2 A RESOLUTION OF THE CITY COUNCIL
3 OF THE CITY OF INGLEWOOD,
4 CALIFORNIA DECLARING ITS
5 INTENTION TO ADOPT THE 2010 URBAN
6 WATER MANAGEMENT PLAN

7 WHEREAS, the California Water Code Section 10610, known as the Urban
8 Water Management Planning Act (hereinafter referred to as the "Plan")
9 implemented in 1983, and subsequently amended, requires urban water suppliers
10 providing water for municipal purposes to more than 3,000 customers or supplying
11 more than 3,000 acre feet of water annually, to prepare and adopt a Plan every 5
12 years before December 31, in years ending in five and zero; and

13 WHEREAS, the City of Inglewood (hereinafter referred to as the "City") is an
14 urban water supplier providing water to a population of over 96,800; and

15 WHEREAS the City last updated its Plan in 2005.

16 NOW THEREFORE, THE CITY COUNCIL OF THE CITY OF
17 INGLEWOOD, CALIFORNIA, DOES HEREBY RESOLVE AND DECLARE AS
18 FOLLOWS:

19 SECTION 1. The City Council of the City of Inglewood, California does
20 hereby declare its intent to adopt the 2010 Urban Water Management Plan.

21 SECTION 2. That the hour of 7:00 p.m. on Tuesday, June 7, 2011, in
22 the Council Chambers of City Hall, Inglewood, California, is hereby fixed as the
23 time and place when and where all persons interested in or objecting to the
24 proposed 2010 Urban Water Management Plan may appear before the City Council
25 and offer evidence in relation thereto. However, in the event the City Council
26 meeting of June 7, 2011, is not held, the aforementioned public hearing for
27 interested persons to object to the proposed 2010 Urban Water Management Plan
28 shall be automatically rescheduled to occur at the next regularly scheduled City

1 Council meeting at the same hour and location.

2 SECTION 3 The City Clerk, pursuant to *California Water Code*
3 *Section 10642*, is hereby directed to cause notice of the passage of this
4 Resolution to be published in accordance with *California Government Code*
5 *Sections 6060 and 6066*.

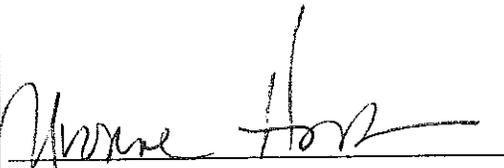
6 BE IT FURTHER RESOLVED, that the City Clerk shall certify to the
7 adoption of this resolution and the same shall be in full force and effect immediately
8 upon adoption.

9 Passed, approved, and adopted this 24th day of May, 2011.

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James T. Butts, Jr.,
Mayor

ATTEST:


Yvonne Horton,
City Clerk

STATE OF CALIFORNIA)
COUNTY OF LOS ANGELES) SS.
CITY OF INGLEWOOD)

I, YVONNE HORTON, City Clerk of the City of Inglewood, California do hereby certify that the whole number of members of the CITY COUNCIL of said city is five; that the foregoing resolution, being Resolution No. 11-71 is the full, true and correct original of Resolution No. 11-71 of the said City of Inglewood, California entitled;

A RESOLUTION OF THE CITY COUNCIL OF THE CITY OF INGLEWOOD, CALIFORNIA, DECLARING ITS INTENTION TO ADOPT THE 2010 URBAN WATER MANAGEMENT PLAN

which was duly passed and adopted by the said City Council, approved and signed by the Mayor of said city, and attested by the City Clerk of said City, all at a special meeting of said Council held on the 24th day of May, 2011, and that the same was so passed and adopted by the following vote:

Ayes: Council Members Morales, Franklin, Stevens and Mayor Butts Jr.

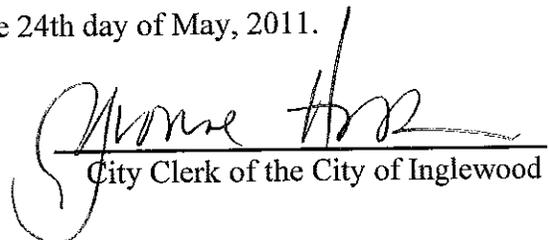
Noes: None.

Absent: Council Members Dunlap.

Not Voting: None.

WITNESS my hand and the seal of said City the 24th day of May, 2011.

(SEAL)

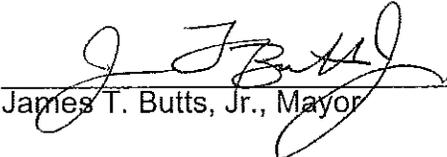

City Clerk of the City of Inglewood

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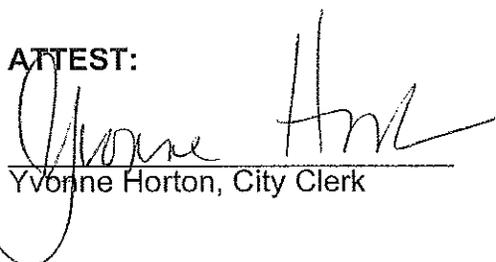
SECTION 6. As part of its long-range planning activities, City is making every effort to ensure that sufficient levels of reliable water service exist to meet the needs of its various categories of costumers during normal, dry and multiple dry water years.

BE IT FURTHER RESOLVED that the City Clerk shall certify to the adoption of this resolution and the same shall be in full force and effect immediately upon adoption.

Passed, approved and adopted this 7th day of June, 2011.



James T. Butts, Jr., Mayor

ATTEST:


Yvonne Horton, City Clerk

N:\JALEWIS\Resolutions(Public Works) - Adopt Urban Water Plan 2010.wpd

STATE OF CALIFORNIA)
COUNTY OF LOS ANGELES) SS.
CITY OF INGLEWOOD)

I, YVONNE HORTON, City Clerk of the City of Inglewood, California do hereby certify that the whole number of members of the CITY COUNCIL of said city is five; that the foregoing resolution, being Resolution No. 11-74 is the full, true and correct original of Resolution No. 11-74 of the said City of Inglewood, California entitled;

A RESOLUTION OF THE CITY COUNCIL OF THE CITY OF INGLEWOOD, CALIFORNIA, MAKING FINDINGS AND OVERRULING PROTESTS AND OBJECTIONS TO ITS INTENT TO ADOPT THE 2010 URBAN WATER MANAGEMENT PLAN

which was duly passed and adopted by the said City Council, approved and signed by the Mayor of said city, and attested by the City Clerk of said City, all at a special meeting of said Council held on the 24th day of May, 2011, and that the same was so passed and adopted by the following vote:

Ayes: Council Members Morales, Dunlap, Stevens, Franklin, and Mayor Butts Jr.

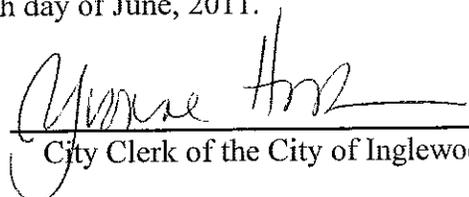
Noes: None.

Absent: None.

Not Voting: None.

WITNESS my hand and the seal of said City the 7th day of June, 2011.

(SEAL)



City Clerk of the City of Inglewood

RECEIVED
CITY CLERK
CITY OF INGLEWOOD

PROOF OF PUBLICATION
(2015.5 C.C.)

2011 JUN -2 PM 2:51

This space is for the county Clerk's
Stamp

Notice of Public Hearing

STATE OF CALIFORNIA
County of Los Angeles

I am a citizen of the United States and a resident of the County aforesaid; I am over the age of eighteen years, and not a party to or interested in the above-entitled matter.

I am the principal clerk of the printer of the California Crusader News, a newspaper of general circulation, printed and published Weekly in the County of Los Angeles and which newspaper has been so adjudged a newspaper of general circulation by the Superior Court of the County of Los Angeles, State of California, under the Case Number BS75313 date of September 30, 1998

That the notice, of which the annexed is a printed copy (set in type not smaller than nonpareil), has been published in each regular and entire issue of said newspaper and not in any supplement thereof following dates, to wit:

Date Pub: 5/12/11

I certify (or declare) under penalty of perjury that the foregoing is true and correct.

Dated at Hawthorne, California

This 12 day of May 2011

Signature *Paula L. McCune*
CALIFORNIA CRUSADER NEWS
11633 Hawthorne Blvd., Suite 211
Hawthorne, California 90250
Telephone (310) 673-5555 / (310) 679-2288
legal8

NOTICE IS HERBY GIVEN that the City Council of the City of Inglewood, California will hold a public hearing on Tuesday, June 7, 2011 at the hour of 7:00 p.m., in the City Council Chambers, Ninth Floor, Inglewood City Hall, One Manchester Boulevard, Inglewood, California to consider the resolution of intent to adopt the City's 2010 Urban Water Management Plan (UWMP).

All persons interested may appear before said Council and be heard with reference to this matter.

The City of Inglewood 2010 Urban Water Management Plan is prepared in compliance with the State of California, California Water Code 10610 which is known as Urban Water Management Planning Act of 1983 (Act). The Act requires urban water suppliers providing water to more than 3,000 customers to adopt an Urban Water Management Plan (UWMP) every 5 years before July 31st.

The primary goals of the Act are to encourage urban water suppliers to develop long range plans in an effort to ensure appropriate levels of reliability in their water services during normal, dry, and multiple dry water years. The goals also include management of urban water demands, maintaining and improving water quality and water conservation.

This notice is given by the order of the City Council of the City of Inglewood and is dated this 3rd day of May 2011.

Yvonne Horton, City Clerk
CITY OF INGLEWOOD, CALIFORNIA

If you will require special accommodations due to a disability, please contact the Office of the City Clerk at (310) 412-5280 or FAX (310) 412-5533, One Manchester Boulevard, 1st Floor, Inglewood, California 90301. All requests for accommodations must be received 48 hours prior to the day of the hearing.

"If you challenge the aforementioned public hearing in court, you may be limited to raising only those issues you or someone else raised at the public hearing described in this notice, or in written correspondence delivered to the City Council at, or prior to, the public hearing."

In the event that the City Council meeting of June 07, 2011 is not held, or is concluded prior to this public hearing agenda item being considered, the public hearing will automatically be continued to the next regularly scheduled City Council meeting.

"Si no entiende esta noticia o si necesita mas informacion, favor de llamar a este numero (310) 412-5280."

Date of Publication: May 19, 2011

PUB:5/12/2011
NPH-1
CCN



CITY OF INGLEWOOD

Public Works Department

Inglewood



2009

GLEN W. C. KAU, P.E.
Public Works Director

May 16, 2011

Russ Bryden
Program Manager
Integrated Regional Water Management Plan
Los Angeles County Department of Public Works
900 S. Fremont Avenue
Alhambra, Ca. 91803

Dear Mr. Bryden:

This is to clarify that the public hearing for the City of Inglewood 2010 Urban Water Management Plan (UWMP) will be held at 7:00 PM, on Tuesday, June 7, 2011 at the City Hall, One W Manchester Blvd., Inglewood, CA 90301. In the event that the City Council does not meet on June 7, 2011, or this public hearing agenda is not considered, or the public hearing will be extended to the next City council meeting, it will automatically be continued on the next scheduled City Council meeting.

Notice of Preparation City of Inglewood 2010 Urban Water Management Plan

The City of Inglewood is currently preparing the 2010 Urban Water Management Plan (2010 UWMP) for its service area as required by the Urban Water Management Planning Act in the California Water Code section 10610. The final draft of the 2010 UWMP will be available for review on the City's website at www.cityofinglewood.org and will be sent to your agency at the end of May 2011.

The final draft will include all information that is required under the Act and will meet all of the requirements in the 2011 Guidebook issued by the California Department of Water Resources. The public hearing will be held at the City of Inglewood Council meeting on June 7, 2011. Adoption of the 2010 UWMP will be on June 14, 2011. Hard copies and CD of the adopted 2010 UWMP will be sent to your office.

If you have any concerns, please contact Boytrese Osias, Senior Engineer, City of Inglewood Public Works Department at (310) 412 – 5333.

Sincerely,

Glen W.C. Kau
Glen W.C. Kau, P.E.
Director of Public Works



CITY OF INGLEWOOD

Public Works Department

Inglewood



2009

GLEN W. C. KAU, P.E.
Public Works Director

May 16, 2011

Dean C. Logan
County Clerk
Los Angeles County Registrar – Recorder
12400 Imperial Highway
Norwalk, Ca. 90650

Dear Mr. Logan:

This is to clarify that the public hearing for the City of Inglewood 2010 Urban Water Management Plan (UWMP) will be held at 7:00 PM, on Tuesday, June 7, 2011 at the City Hall, One W Manchester Blvd., Inglewood, CA 90301. In the event that the City Council does not meet on June 7, 2011, or this public hearing agenda is not considered, or the public hearing will be extended to the next City council meeting, it will automatically be continued on the next scheduled City Council meeting.

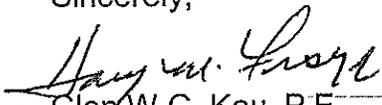
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If you have any concerns, please contact Boytrese Osias, Senior Engineer, City of Inglewood Public Works Department at (310) 412 – 5333.

Sincerely,


Glen W.C. Kau, P.E.
Director of Public Works



CITY OF INGLEWOOD

Public Works Department



GLEN W. C. KAU, P.E.
Public Works Director

May 16, 2011

Mr. William T. Fujioka
Chief Executive Officer
County of Los Angeles
500 W. Temple St.
Los Angeles, Ca. 90012

RE: Clarification of Public Hearing Dates

Dear Mr. Fujioka:

This is to clarify that the public hearing for the City of Inglewood 2010 Urban Water Management Plan (UWMP) will be held at 7:00 PM, on Tuesday, June 7, 2011 at the City Hall, One W Manchester Blvd., Inglewood, CA 90301. In the event that the City Council does not meet on June 7, 2011, or this public hearing agenda is not considered, or the public hearing will be extended to the next City council meeting, it will automatically be continued on the next scheduled City Council meeting.

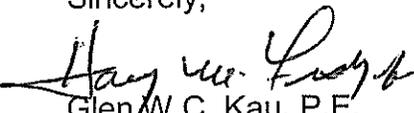
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If you have any concerns, please contact Boytrese Osias, Senior Engineer, City of Inglewood Public Works Department at (310) 412 – 5333.

Sincerely,


Glen W.C. Kau, P.E.
Director of Public Works



CITY OF INGLEWOOD

Public Works Department



GLEN W. C. KAU, P.E.
Public Works Director

April 5, 2011

Russ Bryden
Program Manager
Integrated Regional Water Management Plan
Los Angeles County Department of Public Works
900 S. Fremont Avenue
Alhambra, Ca. 91803

Dear Mr. Bryden:

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If you have any concerns, please contact Boytrese Osias, Senior Engineer, City of Inglewood Public Works Department at (310) 412 – 5333.

Sincerely,

Glen W.C. Kau, P.E.
Director of Public Works



CITY OF INGLEWOOD

Public Works Department



GLEN W. C. KAU, P.E.
Public Works Director

April 5, 2011

Dean C. Logan
County Clerk
Los Angeles County Registrar – Recorder
12400 Imperial Highway
Norwalk, Ca. 90650

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If you have any concerns, please contact Boytrese Osias, Senior Engineer, City of Inglewood Public Works Department at (310) 412 – 5333.

Sincerely,

Glen W.C. Kau, P.E.
Director of Public Works



CITY OF INGLEWOOD

Public Works Department



GLEN W. C. KAU, P.E.
Public Works Director

April 6, 2011

Mr. William T. Fujioka
Chief Executive Officer
County of Los Angeles
500 W. Temple St.
Los Angeles, Ca. 90012

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Sincerely,

Glen W.C. Kau, P.E.
Director of Public Works

Appendix D

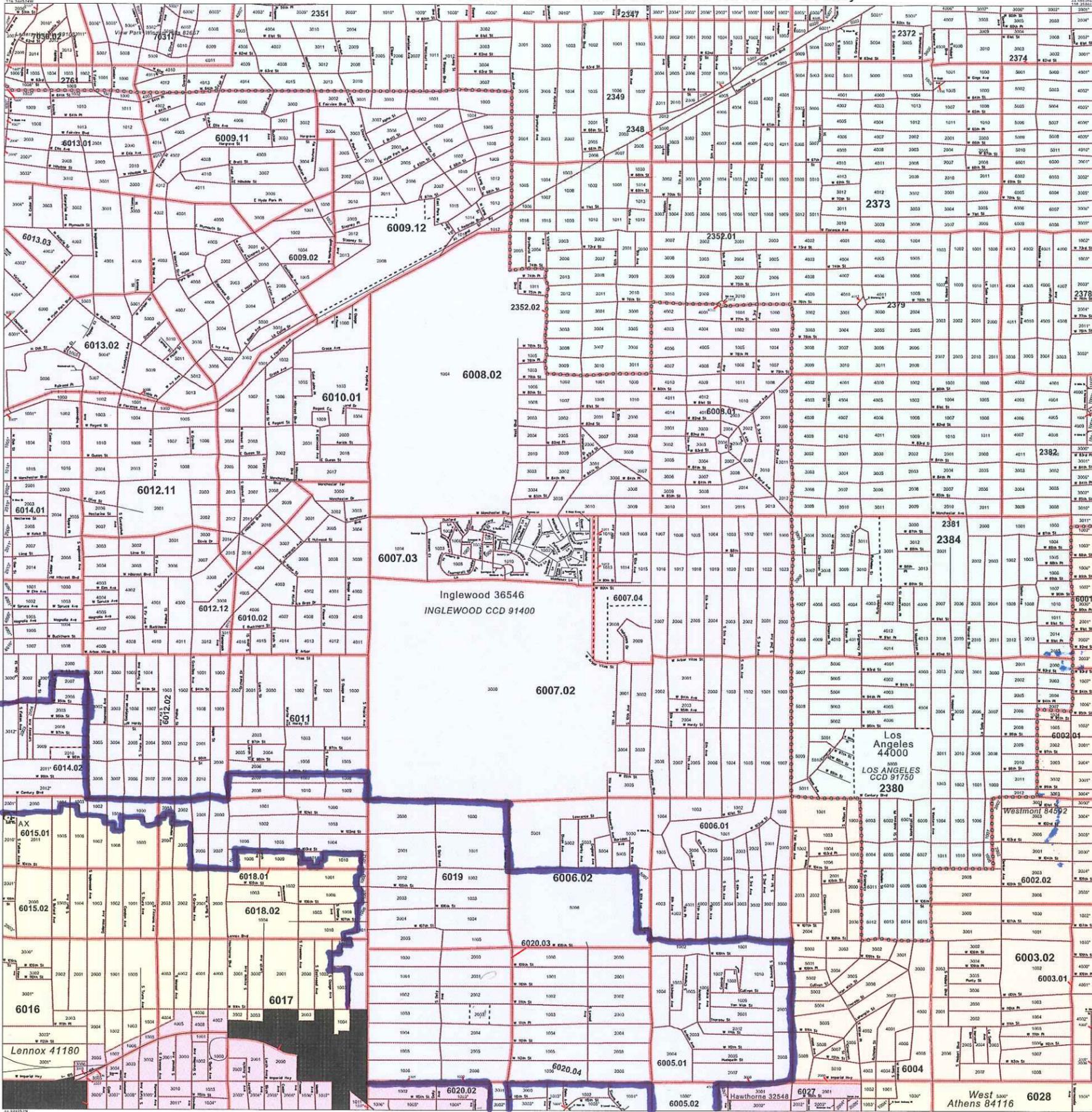
Census 2000 Summary File (SF-1) 100-Percent Data

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Polulation Within City of Inglewood Served by Golden State Water Company

Golden State Water Co.		
Tract #	Block #	Population
6005.01	1000	101
6005.01	1001	107
6005.01	1002	153
6005.01	1003	108
6005.01	1004	291
6005.01	1005	151
6005.01	1006	140
6005.01	1007	111
6005.01	1008	51
6005.01	1009	112
6005.01	1010	10
6005.01	2000	97
6005.01	2001	108
6005.01	2002	157
6005.01	2003	194
6005.01	2004	72
6005.01	2005	171
6005.01	2006	95
6005.01	2007	396
6005.02	1000	0
6005.02	3001	0
6005.02	3002	57
6005.02	3005	80
6005.02	3006	69
6005.02	3008	65
6005.02	3009	0
6006.02	5006	261
6011	1007	218
6011	1008	179
6011	1009	64
6011	1010	144
6011	2007	184
6011	2008	0
6014.02	2003	110
6014.02	2004	97
6014.02	2005	150
6014.02	2006	75
6014.02	2007	137
6014.02	2008	184
6014.02	2009	186
6014.02	2010	98
6014.02	2011	421
6014.02	2012	272
6014.02	3002	23
6014.02	3003	0
6014.02	3004	0
6014.02	3005	0
6014.02	3006	0
6014.02	3007	0
6014.02	3008	0

CENSUS 2000 BLOCK MAP: LOS ANGELES County



LEGEND

SYMBOL NAME STYLE

- INTERNATIONAL
- AIR (FEDERAL)
- Trust Land / Home Land
- OTSA / TDSA / ANVSA
- AMERICAN INDIAN TRIBAL SUBDIVISION
- AIR (State)
- SDAISA
- ANRC
- STATE (or statistically equivalent entity)
- COUNTY (or statistically equivalent entity)
- MINOR CIVIL DIV. / CCD¹
- Consolidated City
- Place within Subject Entity
- Incorporated Place / CDP¹
- Place outside of Subject Entity
- Incorporated Place / CDP¹
- Corporate Offset Boundary
- Census Tract

FEATURES

- Highway
- Stream/Channel
- Secondary Road
- International Boundary
- County Boundary
- City Boundary
- Out Area

Abbreviation Reference: AIR - American Indian Reservation; OTSA - Oklahoma Tribal Statistical Area; TDSA - Tribal Designated Statistical Area; ANVSA - American Indian Navajo Statistical Area; SDAISA - Santa Fe Indian Reservation; ANRC - American Indian Reservation; CCD - Census Designated Place; CDP - Consolidated City; CDP - Census Designated Place; CCD - Census Designated Place.

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Polulation Within City of Inglewood Served by Golden State Water Company

Golden State Water Co.		
Tract #	Block #	Population
6014.02	3009	0
6014.02	3010	19
6014.02	3011	194
6014.02	3012	257
6015.01	1000	54
6015.01	1001	64
6015.01	1002	85
6015.01	1003	180
6015.01	1004	0
6015.01	2000	1
6015.01	2001	8
6017	1000	500
6018.01	1000	257
6018.01	1001	69
6018.01	1002	360
6018.01	1003	250
6018.01	1004	444
6018.01	1005	197
6018.01	1006	127
6018.01	1007	0
6018.01	1011	0
6018.01	1012	21
6018.01	2000	50
6018.01	2001	196
6018.01	2002	113
6018.01	2003	0
6018.01	2006	233
6018.01	2007	106
6018.02	1000	35
6018.02	1007	5
6018.02	1008	98
6018.02	1011	23
6019	1000	0
6019	1001	1,585
6019	1002	472
6019	1003	418
6019	1004	405
6019	1005	375
6019	2000	135
6019	2001	1,335
6019	2002	369
6019	2003	356
6019	2004	354
6019	2005	511
6020.02	1000	0
6020.02	1001	8
6020.03	1000	363
6020.03	1001	430
6020.03	1002	389
6020.03	1003	389

Polulation Within City of Inglewood Served by Golden State Water Company

Golden State Water Co.		
Tract #	Block #	Population
6020.03	1004	318
6020.03	1005	497
6020.03	1006	357
6020.03	2000	339
6020.03	2001	440
6020.03	2002	305
6020.03	2003	183
6020.03	2004	363
6020.03	2005	337
6020.03	2006	276
6020.04	1000	400
6020.04	1001	372
6020.04	1002	304
6020.04	1003	361
6020.04	1004	325
6020.04	1005	397
6020.04	1006	200
6020.04	2000	307
6020.04	2001	235
6020.04	2002	193
6020.04	2003	236
6020.04	2004	206
6020.04	2005	236
6020.04	2006	172
6027	3000	1
6027	4000	0
SUM=		24,899

Polulation Within City of Inglewood Served by Cal-American Water Company

Cal-American Water Co.		
Tract #	Block #	Population
7030.02	4007	234
7030.02	4008	84
SUM=		318

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Appendix E

West Coast Basin Judgment

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West Coast Basin Judgment

California Water Service Company, et al. vs. City of Compton, et al.

INTRODUCTION

The above - entitled matter came on regularly for further trial before the Honorable George Francis, Judge of the Superior Court of the State of California, assigned by the Chairman of the Judicial Council to sit in this case on Friday the 21st day of July, 1961. Thereupon plaintiffs filed a dismissal of the action as to certain defendants named in the Complaint and in the Amended Complaint herein who are not mentioned or referred to in Paragraph III of this Judgment, and the further trial of the action proceeded in respect to the remaining parties.

The objections to the Report of Referee and to all supplemental Reports thereto, having been considered upon exceptions thereto filed with the Clerk of the Court in the manner of and within the time allowed by law, were overruled.

Oral and documentary evidence was introduced, and the matter was submitted to the Court for decision. Findings of Fact, Conclusions of Law and Judgment herein have heretofore been signed and filed.

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 under said Judgment is currently assigned to the HONORABLE JULIUS M. TITLE.

The motion of defendant herein, DOMINGUEZ WATER CORPORATION, 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 48 of the above-entitled Court on March 21, 1980, at 1:30 o'clock P.M., before said HONORABLE JULIUS M. TITLE. Defendant, DOMINGUEZ WATER CORPORATION, was represented by its attorneys, Helm, Budinger & Lemieux, and Ralph B. Helm. Various other parties were represented by counsel of record appearing on the Clerk's records. Hearing thereon was concluded on that date. The within "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, it 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 as amended to date.

NOW, THEREFORE, IT IS HEREBY ORDERED, ADJUDGED AND DECREED AS FOLLOWS:

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 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 referred to are 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. Basin, West Coast Basin and West Basin, as these terms are interchangeably used herein, mean the ground water basin underlying the area described in Paragraph I hereof.
2. A fiscal year, as that term is used herein, is a twelve month period beginning July 1 and ending June 30.
3. A water purveyor, as that term is used in Paragraph XII hereof, 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 Metropolitan Water District of Southern California, through West Basin Municipal Water District, 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.

4. A water year, as that term is used herein, is a twelve month period beginning October 1 and ending September 30, until it is changed to a "fiscal year," as provided in Paragraph XVI hereof.

III. Declaration of Rights - Water Rights Adjudicated.

Certain of the parties to this action have no right to extract water from the Basin. The name of each of said parties is listed below with a zero following his name, and the absence of such right in said parties is hereby established and declared. Certain of the parties to this action and/or their successors in interest (through September 30, 1978) are the owners of rights to extract water from the Basin, which rights are of the same legal force and effect and without priority with reference to each other, and the amount of such rights, stated in acre-feet per year, hereinafter referred to as "Adjudicated Rights" is listed below following such parties' names, and the rights of the last-mentioned parties are hereby declared and established accordingly. Provided, however, that the Adjudicated Rights so declared and established shall be subject to the condition that the water, 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 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.

IV. Adjudicated Rights Transferable.

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 the Watermaster herein.

Rights adjudicated herein which are temporarily transferred, licensed or leased shall be considered the production from the Basin on behalf of such transferee, licensee or lessee which next follows his production of released exchange pool water, if any.

V. Physical Solution - Carry-over, Excess Production and Drought Carry-over.

1. *Carry-over.* In order to add flexibility to the operation of this Judgment and to assist in a physical solution to meet the water requirements in the West Basin, each of the parties to this action who is adjudged in Paragraph III hereof to have an Adjudicated Right and who, during a water year, does not extract from the Basin all of such party's Adjudicated Right, is permitted to carry over from such water year the right to extract from the Basin in the next succeeding water year an amount of water equivalent to the excess of his Adjudicated Right over his extraction during said water year not to exceed, however, 10% of such party's Adjudicated Right or two acre-feet, whichever is the larger.
2. *Excess Production.* In order to meet possible emergencies, each of the parties to this action who is adjudged in paragraph III hereof to have an Adjudicated Right is permitted to extract from the Basin in any water year for beneficial use an amount in excess of each such party's Adjudicated Right not to exceed 2 acre-feet or ten per cent (10%) of such party's Adjudicated Rights, whichever is the larger, and in addition thereto, such greater amount as may be approved by the Court. If such greater amount is recommended by the Watermaster, such order of Court may be made *ex parte*. Each such party so extracting water in excess of his Adjudicated Rights shall be required to reduce his extractions below his Adjudicated Rights by an equivalent amount in the water 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 his extractions by the amount of the excess theretofore extracted by such party. If such extension of time is recommended by the Watermaster, such order of Court may be granted *ex parte*.

3. *Drought Carry-over*. 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 herein (including any successor in interest) can "carry-over" until utilized, any Adjudicated Right (including any authorized carry-over rights from prior years) unexercised during said water years.

VI. Physical Solution - Exchange Pool Provisions.

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 water year, each party having supplemental water available to him through then existing facilities, other than water which any such party has the right to extract hereunder, shall file with the Watermaster 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 water 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 him.
 - (a) *Basis of Offer to Exchange Pool - Redetermination of Offer by Watermaster*. 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 Watermaster, who may take into consideration the prior use by such party for earlier water years and all other factors indicating the amount of such total required use and the availability of replacement water.
 - (b) *Voluntary Offer to Exchange Pool*. Any party filing an offer to release water under the mandatory provisions of this Paragraph 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 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 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 water year.
2. *Price of Water Offered to Exchange Pool*. Each offer to release water under the foregoing subparagraph [1 (a) and 1 (b)] shall be the price per acre-foot declared and determined at the time of the filing of such offer by the releasing party; provided:
 - (a) *Replacement Cost*. That such price per acre-foot shall not exceed the price which 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) *Maximum Price*. 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 the Metropolitan Water District of Southern California to West Basin Municipal Water District plus

the additional amount per acre-foot charged by the latter to municipalities and public utilities for water received from said Metropolitan Water District.

3. *Price Dispute - Objection - Watermaster Determination Court Determination.* In the event of a dispute as to any price at which is offered for release, any party affected thereby may, within thirty (30) days thereafter, by an objection in writing, refer the matter to the Watermaster for determination. Within thirty (30) days after such objection is filed the Watermaster shall consider said objection and shall make his finding as to the price at which said water should be offered for release and notify all interested parties thereof. Any party in compliance to these Exchange Pool Provisions may file with the Court, within thirty (30) days thereafter, any objection to such finding or determination of the Watermaster 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 each of the interested parties. The Court may affirm, modify, amend or overrule such finding or determination of the Watermaster. Pending such determination if the water so offered has been allocated, the party making the offer shall be paid the price declared in his offer, subject to appropriate adjustment upon final determination. The costs of such determination shall be apportioned or assessed by the Watermaster in his discretion between or to the parties to such dispute, and the Watermaster 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 Watermaster funds sufficient to pay the cost of such determination, subject to final adjustment and review by the Court as provided in this Paragraph.
4. *Request for Water From Exchange Pool.* Not less than sixty (60) days prior to the beginning of each water year any party whose estimated required use of water during the ensuing water year exceeds the sum of the quantity of water which such party has the right under this Judgment to extract from the Basin and the quantity available to him through then existing facilities, may file with the Watermaster a request for the release of water in the amount that his said estimated use exceeds his 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 Watermaster. Within thirty (30) days thereafter the Watermaster shall advise, in writing, those requesting water of the estimated price thereof. Any party desiring to amend his request by reducing the amount requested may do so after the service of such notice. Prior to the first day of each water year the Watermaster shall determine if sufficient water has been offered to satisfy all requests. If he determines that sufficient water has not been offered he shall reduce such requests pro rata in the proportion that each request bears to the total of all requests. Thereupon, not later than said first day of each water year, he 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, he 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 therefor.
5. *Allocation of Exchange Pool Water by Watermaster.* In allocating water which has been offered for release to the Exchange Pool under subparagraph 1 hereof, the Watermaster shall first allocate that water required to be offered for release and which is offered at the lowest price pursuant to subparagraph 2 hereof, 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 subparagraph 4 hereof, he 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 subparagraph 1 hereof and not accepted in the Exchange Pool and not allocated therefrom 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.

Each party requesting the release of water for his use and to whom released water is allocated from the Exchange Pool may thereafter, subject to all of the provisions of this 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 water year for which the allocation is made.

6. *Exchange Pool Water Pumped Before Pumper's Own Right.* From and after the first day of each water 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 him shall have been taken, and no such party shall be deemed to have extracted from the Basin any water under his 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.
7. *Price and Payment for Water Released for Exchange Pool.* All parties allocated water under subparagraph 4 hereof 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.

Each party shall pay to the Watermaster, in five equal monthly installments during the applicable water year, an amount equal to the quantity of water allocated to him multiplied by said uniform price. The Watermaster 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 water year involved, and payment therefor shall be made to the Watermaster 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 1% per month until paid. Such delinquent payment, including penalty, may be enforced against any party delinquent in payment by execution or by suit commenced by the Watermaster or by any party hereto for the benefit of the Watermaster.

Promptly upon receipt of such payment, the Watermaster 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 Central and West Basin Water Replenishment District, During Periods of Emergency.

Central and West Basin Water Replenishment District, a public corporation of the State of California, (Division 18, commencing with Section 60,000 of the Water Code), hereinafter "Replenishment District", overlies West Basin and engages in activities of replenishing the ground waters thereof.

During an actual or threatened temporary shortage of the imported water supply to West Basin, Replenishment District 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 agreements with such parties (to a maximum of 10,000 acre feet), under the terms and conditions hereinafter set forth.

- a. Notwithstanding any other provision of this Judgment, parties (including successors in interest) who are water purveyors, as hereinabove defined, are authorized to enter into agreements with

Replenishment District under which such water purveyors may exceed their Adjudicated Rights for a particular water year when the following conditions are met:

1. Replenishment District is in receipt of a resolution of the Board of Directors of The Metropolitan Water District of Southern California ("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 area, which will be alleviated in part by overpumping from West Basin.
 2. The Board of Directors of both Replenishment District and West Basin Municipal Water District (WBMWD), by resolutions, concur in the resolution of MWD's Board of Directors and each determine that the temporary overproduction in West Basin will not adversely affect the integrity of the Basin or the sea water barrier maintained along the Coast of West Basin.
 3. In said resolution, Replenishment District'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 the current designees of the parties, filed and served in accordance with Paragraph IX of this Judgment. Said notice shall be mailed at least ten (10) days before said scheduled hearing date.
 4. At said public hearing, parties (including successors in interest) shall be given full opportunity to be heard, and at the conclusion thereof the Board of Directors of Replenishment District by resolution decides to proceed with agreements under this Paragraph VII.
- b. All such agreements shall be subject to the following requirements, and such reasonable others as Replenishment District's Board of Directors shall require:
1. They 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. They shall be offered to all water purveyors, excepting those which Replenishment District'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 Basin wherein groundwater levels are at an elevation where over-pumping is, under all the circumstances, then undesirable.
 3. The maximum terms for the agreements shall be four months, all of which said 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 Judgment.
 4. They shall contain provisions that the water purveyor executing the agreement pay to the Replenishment District a price, in addition to the applicable replenishment assessment, determined on the following formula: The price per acre foot of WBMWD's treated domestic and municipal water for the water 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 Replenishment District's Board of Directors; and (b) the rate of the replenishment assessment of Replenishment District for the same fiscal year. If the term of the agreement is for a period which will be partially in one fiscal year and partially in another, and a change in either or both the price per acre foot of WBMWD's treated domestic and municipal water and rate of the replenishment assessment of Replenishment District is scheduled, the price formula shall be 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 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 agreement are the last water pumped in the fiscal year, and shall be payable as the agreement shall provide.

5. They shall contain provisions that: (a) All of such agreements (but not less than all) shall be subject to termination by Replenishment District if, in the Judgment of Replenishment District'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 Replenishment District's Board of Directors finds that adverse hydrologic circumstances have developed as a result of over-extractions by any water purveyor or purveyors which have executed said agreements, or for any other reason that Replenishment District's Board of Directors finds good and sufficient.
- c. Other matters applicable to such agreements and over-pumping thereunder are as follows, and to the extent they would affect obligations of the Replenishment District they shall be anticipated in said agreements:
1. The quantity of over-pumping permitted shall be additional to that which the water purveyor could otherwise over-pump under this Judgment.
 2. The total quantity of permitted overpumping under all said agreements during said four months shall not exceed ten thousand (10,000) 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.
 3. Only one four month period may be utilized by Replenishment District in entering into such agreements, as to any one emergency or continuation thereof declared by MWD's Board of Directors under sub-paragraph 6 (a) hereof.
 4. The *ex parte* provisions of this Judgment may be utilized in lieu of the authority contained herein (which *ex parte* provisions are not limited as to time, nature or relief, or terms of any agreements), but neither Replenishment District nor any other party shall utilize both as to any one such emergency or continuation thereof.
 5. If any party claims that it is being damaged or threatened with damage by the over-extractions by any party to such an agreement, the Watermaster or any party hereto may seek appropriate action of the Court for termination of any such agreement upon notice of hearing given by the party complaining, to the party to said agreement, to the Replenishment District, and to all parties who have filed a request herein for such special notice. Any such termination shall not affect the obligation of the terminated party to

make payments under the agreement for over-extractions which previously occurred thereunder.

6. Replenishment District shall maintain separate accounting and a separate fund of the proceeds from payments made pursuant to agreements entered into under this Paragraph VII. Said fund shall be utilized solely for purposes of replenishment and the replacement of waters in West Basin. Replenishment District shall, as soon as practicable, cause replenishment in West Basin by the amounts to be overproduced pursuant to this Paragraph VII, whether through spreading, injection, or in-lieu agreements.
7. Over-extractions made pursuant to the said agreements shall not be subject to the "make up" provisions of this Judgment, as amended, provided, that if any party fails to make payments as required by the agreement, Watermaster may require such "make up" under Paragraph V hereof.
8. Water Purveyor under any such agreement may, and is encouraged to, enter into appropriate arrangements with customers who have water rights in West Basin under or pursuant to this Judgment, whereby the Water Purveyor will be assisted in meeting the objectives of the agreement.
9. Nothing in this Paragraph VII limits the exercise of the reserved and continuing jurisdiction of the court as provided in Paragraph XIV hereof.

VIII. Injunction.

On and after the date hereof, 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 provided in Paragraphs V, VI, and VII hereof.

IX. Order of Pumping Credit.

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:

1. Exchange Pool production (Paragraph VI).
2. Leased or licensed production (Paragraph IV).
3. Normal carry-over (Paragraph V, 1).
4. Adjudicated Right (Paragraph III).
5. Drought carry-over (Paragraph V, 3).
6. Emergency Production under Agreement with Replenishment District (Paragraph VII).

X. Loss of Decreed Rights.

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.

No taking of water under Paragraphs 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 his 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 his 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 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 his successor in interest, or to the public generally, or to any party thereof, otherwise than as provided herein.

XI. Watermaster Appointment.

The Watermaster shall be the Department of Water Resources of the Resources Agency of the State of California, to serve at the pleasure of the Court, and said Watermaster shall administer and enforce the provisions of this Judgment and the instructions and subsequent orders of this Court, and shall have the powers and duties hereinafter set forth. If any such provisions, instructions or orders of the Court shall have been disobeyed or disregarded, said Watermaster is hereby empowered and directed to report to the Court such fact and the circumstances connected therewith and leading thereto.

XII. Watermaster - Powers and Duties.

In order to assist the Court in the administration and enforcement of the provisions of this Judgment and to keep the Court fully advised in the premises, the Watermaster shall have the following duties in addition to those provided for elsewhere herein:

1. *Parties to Measure and Record Static Water Level of Each Well.* The Watermaster may require each party, at such party's own expense, to measure and record not more often than once a month, the elevation of the static water level in such of his wells in the Basin as are specified by the Watermaster.
2. *Parties to Install Meters on Wells and Record Production Therefrom.* The Watermaster may require any party hereto owning any facilities for pumping or otherwise extracting water from the Basin, at such party's own expense, to install and at all times maintain in good working order, mechanical measuring devices, approved by the Watermaster, and keep records of water production, as required by the Watermaster, through the use of such devices. However, if in the opinion of the Watermaster such mechanical devices are not practicable or feasible, the Watermaster may require such party to submit estimates of his water production, together with such information and data as is used by such party in making such estimate. Upon the failure of any party to install such device or devices on or before the date the Watermaster shall fix for such installation, or to provide the Watermaster with estimates of water production and information on which such estimates are based, the Watermaster may give the Court and the party notice of such failure for proper action in the premises.
3. *Watermaster to Assemble Records and Data and Evaluate Same.* The Watermaster shall collect and assemble the records and other data required of the parties hereto, and evaluate such records and other data. Such records and other data shall be open to inspection by any party hereto or his representative during normal business hours.
4. *Watermaster's Annual Budget.* The Watermaster shall prepare a tentative budget for each water year, stating the estimated expense for administering the provisions of this Judgment. The Watermaster shall mail a copy of said tentative budget to the designee of each of the parties hereto having an Adjudicated Right, at least sixty (60) days before the beginning of each water year. If any such party has any objection to said tentative budget or any suggestions with respect

thereto, he shall present the same in writing to the Watermaster within fifteen (15) days after service of said tentative budget upon him. If no objections are received, the tentative budget shall become the final budget. If objections to said tentative budget are received, the Watermaster shall, within then (10) days thereafter, consider such objections, prepare a final budget, and mail a copy thereof to each such party's designee, together with a statement of the amount assessed to each such party, computed as provided in subparagraph 5 of this Paragraph XII. Any such party whose objections to said tentative budget are denied in whole or in part by the Watermaster may, within fifteen (15) days after the service of the final budget upon him, make written objection thereto by filing his objection with the Court after first mailing a copy of such objection to each party's designee, and shall bring such objection on for hearing before the Court at such time as the Court may direct. If objection to such budget be filed with the Court as herein provided, then the said budget and any and all assessments made as herein provided may be adjusted by the Court following said hearing.

5. *Watermaster's Fees as Parties' Costs.* The fees compensation or other expenses of the Watermaster hereunder shall be borne by the parties hereto having Adjudicated Rights in the proportion that each such party's Adjudicated Right bears to the total Adjudicated Rights of all such parties, and the Court or Watermaster shall assess such costs to each such party accordingly.

Payment thereof, whether or not subject to adjustment by the Court as provided in this Paragraph XII, shall be made by each such party, on or prior to the beginning of the water year to which said final budget and statement of assessed costs is applicable. If such payment by any party is not made on or before said date, the Watermaster 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 any order hereinafter made by the Court, or by other proceedings by the Watermaster or by any party hereto on the Watermaster's behalf.

All such payments and penalties received by the Watermaster shall be expended by him for the administration of this Judgment. Any money remaining at the end of any water year shall be available for such use in the following water year.

6. *Watermaster's Annual Report.* The Watermaster shall prepare an annual report within ninety (90) days after the end of each water year covering the work of the Watermaster during the preceding water year and a statement of his receipts and expenditures.
7. *Watermaster Report to Contain All Basin Production.* The Watermaster shall report separately, in said annual report, all water extractions in the Basin, including that by producers who have no "Adjudicated Right."
8. *Watermaster Rules and Regulations.* The Watermaster may prescribe such reasonable Rules and Regulations as will assist him in the performance of his duties hereunder.
9. *Other Watermaster Duties.* The Watermaster shall perform such other duties as directed by the Court and as may be otherwise provided by law.

XIII. Objection to Watermaster Determination - Notice Thereof and Hearing Thereon.

Any party hereto having an Adjudicated Right who has objection to any determination or finding made by the Watermaster, other than as provided in Paragraphs VI and XII hereof, may make such objection in writing to the Watermaster within thirty (30) days after the date the Watermaster gives written notice of the making of such determination or finding, and within thirty (30) days thereafter the Watermaster

shall consider said objection and shall amend or affirm such finding or determination and shall give notice thereof to all parties hereto having Adjudicated Rights. Any such party may file with the Court within thirty (30) days from the date of said notice any objection to such final finding or determination of the Watermaster 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 each of the parties hereto having an Adjudicated Right. The Court may affirm, modify, amend or overrule any such finding or determination of the Watermaster.

XIV. 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 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.

XV. Judgment Modifications and Further Orders of Court.

The Court further reserves jurisdiction so that at any time, and from time to 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 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.

XVI. Subsequent Change From Water Year to Fiscal Year.

"Water year" as used in Paragraphs V, VI, VII and XII hereof shall, beginning with the first "fiscal year" (July 1 - June 30) commencing at least four months after this "Amended Judgment" becomes final, and thereafter, mean the "fiscal year". Since this changeover will provide a transitional accounting period of nine months, October 1 - June 30, notwithstanding the findings and determinations in the annual Watermaster Report for the last preceding water year, the Adjudicated Right of each of the parties hereto permitted to be extracted from the West Basin for said transitional accounting period shall be on the basis of three-quarters of each said party's otherwise Adjudicated Right. The Watermaster herein shall convert the times of his duties hereunder, including the rendition of a nine month report for the said transitional accounting period (October 1 - June 30), to coincide with the changeover from the water year to the fiscal year hereunder.

XVII. Designees of Parties for Future Notice and Service.

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.

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 his 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.

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.

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 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.

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 notice, paper or process addressed to, "Parties to the West 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 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.

XVIII. 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 water from the Basin may seek to become a party to this Judgment, through a Stipulation In Intervention entered into with the Watermaster. Watermaster 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 Judgment and entitled to the rights and privileges accorded under the physical solution imposed herein.

XIX. Judgment Binding on Successors.

Subject to the specific provisions hereinbefore contained, this Judgment and all provisions thereof are applicable to, binding upon and inure to the benefit of 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.

XX. Effect of Amended Judgment on Orders Heretofore Made and Entered Herein.

This Amended Judgment shall not abrogate the rights of any additional carry-over of unused Adjudicated Rights of the parties herein, as may exist pursuant to the orders herein filed June 2, 1977, and September 29, 1977.

ORDER AMENDING JUDGMENT
(Filed with County Clerk on March 8, 1989)

GOOD CAUSE APPEARING upon the duly-noticed Motion of West Basin Municipal Water District:

IT IS HEREBY ORDERED THAT THE JUDGMENT HEREIN BE AMENDED AS FOLLOWS:

“NON-CONSUMPTIVE PRACTICES

1. Any party herein may petition 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. If the petition is granted as set forth in this part, the petitioner may extract the groundwater covered by the petition without the production counting against the petitioner's production rights.
2. If the Watermaster determines that there is a problem of groundwater contamination which the proposed project will remedy or ameliorate, an operator may make extractions of groundwater to remedy or ameliorate that problem if the water is not applied to beneficial surface use, its extractions are made in compliance with terms and conditions established by the Watermaster, and the Watermaster has determined either of the following:
 - a. The groundwater to be extracted is unusable and cannot be economically blended for use with other water.
 - b. The proposed program involves extraction of usable water in the same quantity as will be returned to the underground without degradation of quality.
3. The Watermaster may provide those terms and conditions the Watermaster deems appropriate, including, but not limited to, restrictions on the quantity of extractions to be so exempted, limitations on time, periodic reviews, requirement of submission of test results from a Watermaster-approved laboratory, and any other relevant terms or conditions.
4. The Watermaster shall conduct a public hearing on the petition and all parties herein and their representatives shall have an opportunity to be heard concerning the same.
5. The Watermaster shall, in its discretion, grant or deny the petition and fix a reasonable annual administrative fee to be paid to the Watermaster by the permittee. Within fifteen (15) days after the rendition of its decision, the Watermaster shall give written notice thereof to the designees of all parties herein.
6. After a noticed, public hearing, the Watermaster may, on the motion of any party herein or on its own motion, interrupt or stop a project for non-compliance with the terms of its permit or rescind or modify the terms of a permit to protect the integrity of the Basin of the Judgment herein. An order to interrupt or stop a project or to rescind or modify the terms of a permit shall apply to groundwater extractions occurring more than 10 days after the date of the order. The permit holder and the designees of all parties herein shall be given two weeks written notice of any hearing to consider interrupting or stopping a permitted project or the rescission or modification of the terms of a permit. Notice will be deemed given when mailed by first-class mail or when personally delivered.
7. The Watermaster'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 (30) days of the notice thereof and upon thirty (30) days notice to the designees of all parties herein.

8. The Watermaster shall monitor and periodically inspect the project for compliance with the terms and conditions of the permit hereunder.

9. No party shall recover costs from any other party herein.”

IT IS FURTHER ORDERED that the amendment to the judgment approved by the court on March 22, 1984 (“former amendment”) is hereby repealed, provided, all permits issued by the Watermaster under the former amendment shall be deemed under the instant amendment.

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Appendix F

Technical Memorandum on Calculation of SBX7-7 Baseline 2020
Targets for Water Conservation Per Capita Use &
Development/Demand Projections

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TECHNICAL MEMORANDUM

To: Boytrese Osias

From: Harvey Gobas

Date: April 18, 2011

Subject: 20x2020 Baseline Calculation & Water Use Target Method Selection

According to the Department of Water Resources (DWR), a water supplier must define a continuous 10 or 15 year base period (baseline) for water use ending no earlier than December 31, 2004 and no later than December 31, 2010 that will be used to develop their per capita water use target for the year 2020 and an interim target for 2015. A water supplier who met at least 10 percent of its 2008 measured retail water demand through recycled water may use a 15-year baseline period; otherwise a supplier must use a 10-year baseline. The City of Inglewood met 6.6 percent of its total 2008 water demand through recycled water and, as a result, must use a 10-year baseline.

Table 1 shows the imported, pumped and recycled water use within the City water service area as well as the gross water use for purposes of determining the per capita consumption. The table also includes population of the water service area and per capita water use from fiscal years (FY) 1996 through FY 2010. Since water use has been trending downward recently even with increasing population, per capita use has been dropping. The most advantageous period for the City to use is the one generating the highest per capita use, making subsequent conservation easier to achieve. Therefore, the 10-year period from FY 1996 thru FY 2005 was determined to be the most advantageous and was used to calculate a baseline per capita water use average of 115.4 GPCD as shown in *Table 1*.

Table 1
City of Inglewood Base Daily Per Capita Use

FISCAL YEAR	Imported Water¹ (AFY)	Pumped Water² (AFY)	Recycled Water³ (AFY)	Gross Water Use⁴ (AFY)	Gross Water Use (gal/day)	Water Service Area Population⁵	Annual /Capita Use (GPCD)
1996	10,120	2,603	243	12,479	11,139,685	85,756	129.9
1997	7,332	5,114	708	11,738	10,478,529	85,723	122.2
1998	7,467	4,315	516	11,265	10,055,987	86,009	116.9
1999	5,360	6,229	545	11,045	9,859,240	86,464	114.0
2000	5,805	6,284	706	11,384	10,161,940	87,363	116.3
2001	6,449	5,484	622	11,310	10,096,667	88,335	114.3
2002	5,578	6,126	707	10,998	9,817,632	89,446	109.8
2003	6,735	4,893	577	11,050	9,864,186	90,595	108.9
2004	6,912	5,149	638	11,423	10,196,745	90,973	112.1
2005	6,290	5,462	595	11,157	9,959,578	91,049	109.4
2006	7,282	4,378	939	10,721	9,570,083	91,309	104.8
2007	8,571	3,551	873	11,249	10,042,053	91,624	109.6
2008	7,788	3,721	758	10,751	9,597,149	91,577	104.8
2009	7,115	3,695	968	9,842	8,786,139	91,900	95.6
2010	6,551	3,623	683	9,490	8,471,370	92,386	91.7
Baseline (Average FY 1996-2005)							115.4
Minimum Baseline (Average FY 2004-2008)							108.1

[1] Imported Water is water purchased from MWD through WBMWD.

[2] Pumped Water is water pumped from the City's four wells.

[3] Recycled Water is water purchased from the West Basin Municipal Water District's Water Reclamation Plant.

[4] Gross Water Use = Imported + Pumped - Recycled

[5] Adjusted to exclude population served by Golden State Water Co. and Cal-American Water Co., refer to Section 1.3

A water supplier must set a 2020 water use target and a 2015 interim target using one of the following four methods as defined further in Section 10608.20 of Senate Bill No. 7 (SB7x7):

- Method 1: Eighty percent of the water supplier's baseline per capita water use
- Method 2: Per capita daily water use estimated using the sum of performance standards applied to indoor residential use; landscape area water use; and commercial, industrial, and institutional uses

- Method 3: Ninety-five percent of the applicable state hydrologic region target as stated in the State's April 30, 2009, draft 20x2020 Water Conservations Plan
- Method 4: A BMP Option based on standards that are consistent with the California Urban Water Conservation Council's (CUWCC) best management practices (BMPs).

Calculation of Minimum Targets

If the average base daily per capita water use is greater than 100 GPCD for a defined 5-year baseline period, the legislation's minimum water use reduction requirement must also be met as set in Section 10608.22 of Senate Bill No. 7 SB7x7.

Per SB7x7, the minimum water use reduction baseline period must end no earlier than December 31, 2007 and no later than December 31, 2010 and the minimum reduction shall be no less than 5 percent of this 5-year base daily per capita water use. A minimum water use reduction baseline period between FY 2004 through 2008 was selected to calculate the 5-year minimum water use reduction target. As shown in *Table 1*, the minimum baseline water use averages 108.1 GPCD. The minimum per capita water use target for 2020 must therefore be 102.7 GPCD (95% of 108.1).

Calculation of Targets Using Methods 1 – 4

Method 1: Using a baseline per capita average of 115.4 GPCD (shown in Table 1) the City of Inglewood 2020 target would be 92.3 GPCD (80% of 115.4). Since the target water use for Method 1 is less than the one found using the legislation's minimum requirement criteria (108.1), no further adjustments to this water use target would be required, if this method is selected.

Method 2: The City of Inglewood does not currently maintain records of lot size, irrigated landscaped area for each parcel, reference evapotranspiration for each parcel, etc. to split its residential, commercial, industrial, or institutional uses into inside and outside (landscape irrigation) uses. The use of Method 2 to calculate conservation targets is therefore not feasible.

Method 3: The City of Inglewood falls within the South Coast Hydrologic Region (Hydrologic Region 4). According to the State's April 30, 2009 draft 20x2020 Water Conservation Plan, the 2020 Target for Hydrologic Region 4 is 149 GPCD. Using Method 3, the City of Inglewood's 2020 water use target would be 141.6 GPCD (95% of 149). Since the target water use generated by Method 3 is greater than the one found using the minimum requirement, the water target level needs to be reduced to the minimum target of 102.7 GPCD for 2020, if this method is selected.

Method 4: DWR recently released this method and a calculator for agencies wishing to use this BMP-based method. A default indoor residential water savings of 15 GPCD was

assumed and the City of Inglewood's 2005 Urban Water Management Plan was referenced to obtain the Commercial, Industrial and Institutional (CII) water use consumption (3,168 AF). Using the midpoint of the baseline period (year 2000) and DWR's "SBX7-7 Provisional Method 4 Target Calculator" resulted in a 2020 water use target of 94.3 GPCD.

Conclusion

The discussion and calculations above are summarized in *Table 2*.

Table 2
City of Inglewood
Water Use Target Summary (GPCD)

Method	2020
1	92.3
2	Not Applicable
3	102.7
4	94.3

As shown in *Table 2*, Method 3 results in the most favorable water use target level for the City of Inglewood, with the minimum 5-year water use reduction governing. The 2015 interim target would then be 109.1 GPCD (mid-point between baseline of 115.4 and 2020 target of 102.7). It should be noted that the City has met this 2020 target the past two years and the 2015 target the last three years. However, FY 2010 was a water allocation year and 2009 was well publicized to water customers in Southern California as a drought condition. Therefore, demands for these two years should not be considered normal. If gross water use returns to the average of the three years prior to the past two (FY 2006-2008) of 9.74 million gallons per day (10,907 AFY), which could be assumed to be a normal year demand, using the current water service area population of 92,386, the per capita use calculates to 105.4 gallons. Therefore, there would still be some additional conservation and/or new recycled water conversion needed to reach the 2020 target, assuming existing population and normal year demands.

**City of Inglewood
Potable Water Demand Projections**

	2010	2015	2020	2025	2030	2035
SCAG 2008 (Excluding Hollywood Park Population)						
Service Area Population Increase	0	601	663	726	730	735
Per Capita Factor (gpcd) ^[1]	115	115	115	115	115	115
Population Demand (gpd)	0	68,914	76,064	83,261	83,802	84,347
SCAG 2008 WATER DEMAND (gpd)	0	68,914	76,064	83,261	83,802	84,347
HOLLYWOOD PARK REDEVELOPMENT PROJECT - POTABLE WATER						
Residential (DU) ^[2]	0	2,995	0	0	0	0
Residential Factor (gpd/DU) ^[3]	192	192	192	192	192	192
Residential Sub-total (gpd)	0	575,040	0	0	0	0
Retail (SF)	0	620,000	0	0	0	0
Retail Factor (gpd/KSF) ^[4]	205	205	205	205	205	205
Retail Sub-total (gpd)	0	127,100	0	0	0	0
Office/Commercial (SF)	0	75,000	0	0	0	0
Office/Commercial Factor (gpd/KSF) ^[5]	60	60	60	60	60	60
Office/Commercial Sub-total (gpd)	0	4,500	0	0	0	0
Hotel (Rooms)	0	300	0	0	0	0
Hotel Demand Factor (gpd/room) ^[6]	125	125	125	125	125	125
Hotel Sub-total (gpd)	0	37,500	0	0	0	0
Community Serving (SF)	0	10,000	0	0	0	0
Community Serving Factor (gpd/KSF) ^[7]	220	220	220	220	220	220
Community Serving Sub-total (gpd)	0	2,200	0	0	0	0
Casino (SF)	0	120,000	0	0	0	0
Casino Factor (gpd/SF) ^[8]	0.04	0.04	0.04	0.04	0.04	0.04
Casino Sub-total (gpd)	0	4,628	0	0	0	0
Civic Uses (AC)	0	4	0	0	0	0
Civic Uses Factor (gpd/AC) ^[8]	1,680	1,680	1,680	1,680	1,680	1,680
Civic Uses Sub-total (gpd)	0	6,720	0	0	0	0
Race Track Infield Lakes (AC)	0	4	0	0	0	0
Race Track Infield Lakes Factor (gpd/AC)	1,540	1,540	1,540	1,540	1,540	1,540
Race Track Infield Lakes Sub-total (gpd)	0	6,160	0	0	0	0
PROPOSED POTABLE WATER DEMAND (gpd)	0	763,848	0	0	0	0
EXISTING HOLLYWOOD PARK DEMAND (gpd) ^[9]	321,330					
CITY OF INGLEWOOD WATER DEMAND (gpd)	10,154,094	10,665,527	10,741,591	10,824,852	10,908,654	10,993,001
Unaccounted for Water ^[10]	346,520	363,974	366,569	369,411	372,271	375,149
TOTAL CITY OF INGLEWOOD WATER DEMAND (gpd)	10,507,574	11,029,501	11,108,160	11,194,263	11,280,925	11,368,150
TOTAL CITY OF INGLEWOOD WATER DEMAND (AFY) ^[11]	11,763	12,355	12,444	12,540	12,637	12,735

[1] Based on actual average 2006-2008 Citywide Service Area Demand, excluding recycled water

[2] Product types will include single family, townhomes, stacked flats, condominium buildings and residential units over retail in the mixed-use area.

[3] From page 6 in Appendix F-6: Hollywood Park Redevelopment Project WSA in the Final EIR and Technical Appendices dated May 8, 2009

[4] Averaged Commercial - Community (220 gal/ksf/day) and Commercial - Regional (190 gal/ksf/day) in Table 3-1 in the 2003 IRWD Water Resources Master Plan (accepted water industry standard)

[5] Commercial - General Office (60 gal/ksf/day) in Table 3-1 in the 2003 IRWD Water Resources Master Plan (accepted water industry standard)

[6] Anaheim Resort Specific Plan WSA dated November 2009 (accepted water industry standard)

[7] Commercial - Community (220 gal/ksf/day) in Table 3-1 in the 2003 IRWD Water Resources Master Plan (accepted water industry standard)

[8] From page 7 in Appendix F-6: Hollywood Park Redevelopment Project WSA in the Final EIR and Technical Appendices dated May 8, 2009

[9] From page 18 in Appendix F-6: Hollywood Park Redevelopment Project WSA in the Final EIR and Technical Appendices dated May 8, 2009, 359.96 AFY (being replaced)

[10] 2010 = Normal Year Unaccounted Water; Future unaccounted water is expected to equal 3.3% of the total demands based on the average loss percentage over the last three calendar years

[11] City of Inglewood 2010 Potable Water Demand is equal to the Average Use of 11,763 AF for FY 2006-2008, not including Recycled Water

**City of Inglewood
Recycled Water Demand Projections**

	2010	2015	2020	2025	2030	2035
HOLLYWOOD PARK REDEVELOPMENT PROJECT - RECYCLED WATER						
Parks (AC)	0	22	0	0	0	0
Parks Factor (gpd/AC) ^[1]	3,445	3,445	3,445	3,445	3,445	3,445
Parks Sub-total (gpd)	0	74,825	0	0	0	0
Public Streets (AC)	0	10	0	0	0	0
Public Streets Factor (gpd/AC) ^[1]	3,445	3,445	3,445	3,445	3,445	3,445
Public Streets Sub-total (gpd)	0	34,209	0	0	0	0
Open Space/Recreation (AC)	0	25	0	0	0	0
Open Space/Recreation Factor (gpd/AC) ^[1]	3,445	3,445	3,445	3,445	3,445	3,445
Open Space/Recreation Sub-total (gpd)	0	86,125	0	0	0	0
PROPOSED RECYCLED WATER DEMAND (gpd)	0	195,159	0	0	0	0
EXISTING HOLLYWOOD PARK RECYCLED WATER DEMAND (gpd) ^[2]	16,238					
CITY OF INGLEWOOD WATER RECYCLED DEMAND (gpd) ^[3]	764,135	943,057	943,057	943,057	943,057	943,057
Unaccounted for Water ^[4]	0	0	0	0	0	0
TOTAL CITY OF INGLEWOOD RECYCLED WATER DEMAND (gpd)	764,135	943,057	943,057	943,057	943,057	943,057
TOTAL CITY OF INGLEWOOD RECYCLED WATER DEMAND (AFY) ^[5]	856	1,056	1,056	1,056	1,056	1,056

[1] From page 7 in Appendix F-6: Hollywood Park Redevelopment Project WSA in the Final EIR and Technical Appendices dated May 8, 2009

[2] From page 22 in Appendix F-6: Hollywood Park Redevelopment Project WSA in the Final EIR and Technical Appendices dated May 8, 2009, 18.19 AFY (being replaced)

[3] Includes Hollywood Park Recycled Water Demand

[4] Recycled Water Demand is assumed to be equal to Recycled Water Supply (not master metered)

[5] City of Inglewood 2010 Recycled Water Demand is equal to the Average Use of 856 AF for FY 2006-2008

Appendix G

Ordinance No. 90-45 - *“An Ordinance of the City of Inglewood, California Encouraging Water Conservation Among the City’s Water Users”*

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RESOLUTION NO. 90-45

A RESOLUTION OF THE CITY OF INGLEWOOD,
CALIFORNIA REQUESTING AND ENCOURAGING WATER
CONSERVATION PRACTICES BY ALL WATER USERS

WHEREAS, California is in the fourth conservative year
of below-normal precipitation; and

WHEREAS, precipitation for the current water year has
been substantially below normal in the watersheds of the imported
supplies serving Southern California; and

WHEREAS, precipitaton in Southern California has also
been below average and water levels in many local groundwater
basins have declined over the last few years; and

WHEREAS, there is a need to reduce total demands on all
water supply entities within the Metropolitan Water District of
Southern California service area by 10 percent in 1990 as
compared to 1989, to reduce the potential for shortages for this
year and even more severe shortages next year.

NOW, THEREFORE, BE IT RESOLVED, that the CITY COUNCIL
declares that a water shortage exists and requests and encourages
all water users to reduce water usage by at least 10 percent, as
compared to 1989, to assist in the mitigation of the effects of
this drought during 1990 and to maintain as much as possible the
conserved water in storage in the West Coast Basin against the
possibility of even more severe shortages in 1991.

The following activities are hereby discouraged during
this period of voluntary conservation:

1. Hosing off walkways, driveways, parking areas, and
other hard surfaces;
2. Washing of vehicles without use of a hose end
shut-off; bucket washes are encouraged;
3. Cleaning, filling, or refilling non-recirculating
decorative fountains;

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4. Watering lawns, landscape areas, parks and school grounds, between 7:00 a.m. and 7:00 p.m.

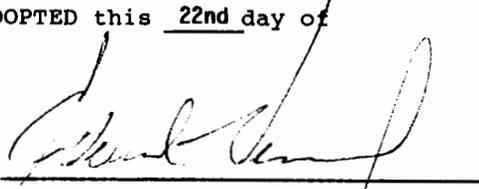
5. Serving of water in restaurants unless requested; and

The City Council encourages the installation of water efficient plumbing fixtures and the use of drought-tolerant landscaping whenever possible.

BE IT FURTHER RESOLVED, that the Public Services Department shall assist water users in reducing water usage by disseminating information on water conservation techniques including: customer conservation practices, low-flow toilets and the use of reclaimed water.

BE IT FURTHER RESOLVED, that the City Clerk shall certify the adoption of this resolution and same shall be in full force and effect immediately upon adoption.

PASSED, APPROVED AND ADOPTED this 22nd day of May, 1990.



MAYOR OF THE CITY OF INGLEWOOD,
CALIFORNIA

ATTEST:



CITY CLERK
(Seal)

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STATE OF CALIFORNIA)
COUNTY OF LOS ANGELES) SS.
CITY OF INGLEWOOD)

I, HERMANITA V. HARRIS, City Clerk of the City of Inglewood, California, do hereby certify that the whole number of members of the City Council of said City is five; that the foregoing resolution, being Resolution No. 90-45, was passed and adopted by said City Council, approved and signed by the Mayor of said City and attested by the City Clerk of said City, all at a regular meeting of the said Council held on the 22nd day of May, 1990, and that the same was so passed and adopted by the following vote:

Ayes: Councilmen Tabor, Scardenzan, Fernandez, Hardeman
and Mayor Vincent;
Noes: None;
Absent: None;
Not Voting: None.

(SEAL)

Hermanita V. Harris
City Clerk of the City of Inglewood,
California

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Appendix H

Ordinance No. 91-6 entitled “An Ordinance of the City of Inglewood, California Declaring a Water Shortage and Adopting Mandatory Water Conservation Practices”

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AN ORDINANCE OF THE CITY OF INGLEWOOD,
CALIFORNIA DECLARING A WATER SHORTAGE AND
ADOPTING MANDATORY WATER CONSERVATION
PRACTICES

THE CITY COUNCIL OF THE CITY OF INGLEWOOD DOES HEREBY
ORDAIN AS FOLLOWS:

Section 1. Article 7, Sections 5-110 through 5-112 is
hereby added to the Inglewood Municipal Code to read as follows:

"Article 7. WATER CONSERVATION

Section 5-110. Use Restrictions.

It shall be unlawful for any person to violate the
following restrictions concerning the use of water:

(a) With respect to irrigation practices:

(1) Except as provided below, lawn watering and
landscape irrigation with potable water is
permitted only between the hours of 4:00 p.m. and
10:00 a.m. Parks, school grounds and recreational
fields may be irrigated with potable water on any
day.

(2) Irrigation with reclaimed water is permitted
on any day.

(3) Watering is permitted at any time if a hand-
held hose equipped with a positive shut-off nozzle
is used a hand-held faucet-filled bucket of five
(5) gallons or less is used, or a drip irrigation
system is used.

(b) With respect to exterior washing practices:

(1) Washing of buildings, facilities, equipment,
autos, trucks, trailers, boats, airplanes and other
types of mobile equipment is prohibited except
where a held-hand hose equipped with a positive

shut-off nozzles for quick rinses is used.

Whenever possible, such as when washing vehicles, a bucket wash is encouraged.

(2) Washing is permitted at any time on the immediate premises of a commercial car wash.

(3) Washings are exempted from these regulations where the health, safety and welfare of the public is contingent upon frequent vehicle or other facility or equipment cleaning, such as garbage trucks and vehicles used to transport food and perishables.

(4) Water shall not be used to wash down sidewalks, driveways, parking areas, tennis courts, patios or other paved areas except to alleviate immediate fire, sanitation or health hazards.

(c) With respect to other uses:

(1) Water from fire hydrants shall be used only for fire fighting and public welfare activities.

(2) Flushing of water mains will not be permitted except as necessary to protect the public health.

(3) Restaurants shall not serve water to their customers unless specifically requested.

(d) Leaks must be repaired as soon as discovered and shall not be allowed to continue for more than 48 hours.

Section 5-111. Penalties.

Violation of this Ordinance shall be an infraction.

Section 5-112. Authorization of Nonsworn Employees of City to Issue Notice of Water Use Violation.

The following employees shall have the authority to

issue water use citations:

(1) Employees of the Parks and Code Enforcement Department assigned to enforcement functions."

Section 2. The City Clerk shall certify to the passage and adoption of this Ordinance and to its approval by the City Council and shall cause the same to be published in accordance with the City Charter; and thirty (30) days from the final passage and adoption, this Ordinance shall be in full force and effect.

Passed, approved and adopted this 5th day of March, 1991.

[Handwritten Signature]
MAYOR OF THE CITY OF INGLEWOOD,
CALIFORNIA

ATTEST:

[Handwritten Signature]
CITY CLERK

(Seal)

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Appendix I

Ordinance No. 93-20 entitled “An Ordinance of the City of Inglewood, California, Amending the Inglewood Municipal Code, Chapter 5, Article 7, Water Conservation Practices, to Provide for Water Efficiency in the Landscape”

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ORDINANCE NO. 93-20

AN ORDINANCE OF THE CITY OF INGLEWOOD,
CALIFORNIA, AMENDING THE INGLEWOOD
MUNICIPAL CODE, CHAPTER 5, ARTICLE 7,
WATER CONSERVATION PRACTICES, TO PROVIDE
FOR WATER EFFICIENCY IN THE LANDSCAPE.

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4 WHEREAS, the State Legislature has found that the limited supply of state waters
5 is subject to ever increasing demands; and

6 WHEREAS, the health of the State of California's economy depends on adequate
7 supplies of water; and,
8

9 WHEREAS, it is the policy of the State of California and the City of Inglewood to
10 promote the conservation and efficient use of water; and,

11 WHEREAS, landscapes are essential to the quality of life in the State of California
12 and the City of Inglewood by providing open space, recreation areas, cleaner air and
13 water, protection from erosion, fire protection, and replacement of ecosystems displaced
14 by development; and,
15

16 WHEREAS, landscape design, installation and maintenance can and should be water
17 efficient; and,

18 WHEREAS, the State of California, in 1990, added Chapter 10.8, "Water
19 Conservation In the Landscape Act" (Act), to the California Government Code; and,
20

21 WHEREAS, the State legislature by this Act required that each City which has not
22 adopted a water efficient landscape ordinance by January 1, 1993 shall enforce the
23 provisions of the State's model ordinance pursuant to subdivision (a) of Section 65594
24 of the Government Code; and,

25 WHEREAS, consistent with these legislative findings and the Act, this Ordinance has
26 been developed with the purpose of superceding the State's model landscaping
27 ordinance; and,
28

29 WHEREAS, Chapter 5, Article 7, Water Conservation, of the Inglewood Municipal
30 Code was adopted by the City Council to restrict the use of water in a wasteful manner;
31 and,
32

WHEREAS, Chapter 5 of the Inglewood Municipal Code contains requirements for

1 the conservation of water and Chapter 12 of the Inglewood Municipal Code contains
2 policies and procedures for the review and approval of new construction in the form of
3 design guidelines.

4 NOW, THEREFORE, THE CITY COUNCIL OF THE CITY OF INGLEWOOD,
5 CALIFORNIA, DOES HEREBY ORDAIN AS FOLLOWS:

6 **SECTION 1.** Chapter 5, Article 7, Section 5-110 of the Inglewood
7 Municipal Code is hereby amended to read as follows:

8 **"Article 7. WATER CONSERVATION**

9 **Section 5-110. Use Restrictions.**

10 It shall be unlawful for any person to violate the following restrictions
11 concerning the use of water:

12 (a) With respect to irrigation practices:

- 13 (1) Except as provided below, lawn watering and landscape irrigation
14 with potable water is permitted only between the hours of 4:00 p.m.
15 and 10:00 a.m.
- 16 (2) Irrigation with reclaimed water is permitted on any day in
17 accordance with the water efficient landscape criteria of Sections 5-
18 111 through 5-118.
- 19 (3) Watering is permitted at any time if a hand-held hose equipped with
20 a positive shut-off nozzle is used, a hand-held faucet-filled bucket of
21 five (5) gallons or less is used, or with a water-efficient landscape
22 system in accordance with Sections 5-111 through 5-118."
23

24 **SECTION 2.** Chapter 5, Article 7, Sections 5-111 through 5-112 are hereby amended to
25 read as follows:

26 **"Section 5-111. Definitions.**

27 The words used in this ordinance have the meaning set forth below:

- 28 (a) **"Anti-drain valve"** or **"check valve"** means a valve located under a sprinkler
29 head to hold water in the system so it minimizes drainage from the lower
30 elevation sprinkler heads.
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- (b) **"Application rate"** means the depth of water applied to a given area, usually measured in inches per hour.
- (c) **"Applied water"** means the portion of water supplied by the irrigation system to the landscape.
- (d) **"Automatic controller"** means the mechanical or solid state timer, capable of operating valve stations to set the days and length of time of a water application.
- (e) **"Backflow prevention device"** means a safety device used to prevent pollution or contamination of the water supply due to the reverse flow of water from the irrigation system.
- (f) **"Conversion factor (0.62)"** means a number that converts the maximum applied water allowance from acre-inches per acre per year to gallons per square foot per year. The conversion factor is calculated as follows:
$$(325,829 \text{ gallons}/43,560 \text{ square feet})/12 \text{ inches} = (0.62)$$

325,829 gallons = one acre foot
43,560 square feet = one acre
12 inches = one foot

To convert gallons per year to 100-cubic feet per year, another common billing unit for water, divide gallons per year by 748 (748 gallons = 100 cubic feet).
- (g) **"Director"** means the Director of Public Services or the Community Development and Housing Director who are authorized to issue required water improvement or development permits.
- (h) **"Ecological restoration project"** means a project where the site is intentionally altered to establish a defined, indigenous, historic ecosystem.
- (i) **"Effective precipitation"** or **"usable rainfall"** means the portion of total precipitation that is used by the plants. Precipitation is not a reliable source of water, but can contribute to some degree toward the water needs of the landscape.

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- (j) **"Emitter"** means a drip irrigation fitting that delivers water slowly from the system to the soil.
- (k) **"Established landscape"** means the point at which plants in the landscape have developed roots into the soil adjacent to the root ball.
- (l) **"Establishment period"** means the first year after installing the plant in the landscape.
- (m) **"Estimated Applied Water Use"** means the portion of the Estimated Total Water Use that is derived from applied water. The Estimated Applied Water Use shall not exceed the Maximum Applied Water Allowance. Estimated Applied Water Use may be the sum of the water used on system components recommended through the irrigation schedule, as referenced in Section 5.113.
- (n) **"Estimated Total Water Use"** means the annual total amount of water estimated to be needed to keep the plants in the landscaped area healthy. It is based upon such factors as the local evapotranspiration rate, the size of the landscaped area, the types of plants, and the efficiency of the irrigation system.
- (o) **"ET adjustment factor"** means a factor of 0.8 that, when applied to reference evapotranspiration, adjusts for plant factors and irrigation efficiency, two major influences upon the amount of water that needs to be applied to the landscape.

A combined plant mix with a site-wide average of 0.5 is the basis of the plant factor portion of this calculation. The irrigation efficiency for purposes of the ET Adjustment Factor is 0.625.

Therefore, the ET Adjustment Factor is $(0.8) = (0.5/0.625)$.
- (p) **"Evapotranspiration"** means the quantity of water evaporated from adjacent soil surfaces and transpired by plants during a specific time.
- (q) **"Flow rate"** means the rate at which water flows through pipes and valves (gallons per minute or cubic feet per second).

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- (r) **"Hydrozone"** means a portion of the landscaped area having plants with similar water needs that are served by a valve or set of valves with the same schedule. A hydrozone may be irrigated or non-irrigated. For example, a naturalized area planted with native vegetation that will not need supplemental irrigation once established is a non-irrigated hydrozone. A hydropalette is a term applied to a selection of plants used within a hydrozone.
- (s) **"Infiltration rate"** means the rate of water entry into the soil expressed as a depth of water per unit of time (inches per hour).
- (t) **"Irrigation efficiency"** means the measurement of the amount of water beneficially used divided by the amount of water applied. Irrigation efficiency is derived from measurements and estimates of irrigation system characteristics and management practices. The minimum irrigation efficiency for purposes of this ordinance is 0.625. Greater irrigation efficiency can be expected from well designed and maintained systems.
- (u) **"Landscape irrigation audit"** means a process to perform site inspections, evaluate irrigation systems, and develop efficient irrigation schedules.
- (v) **"Landscaped area"** means the entire parcel less the building footprint, driveways, non-irrigated portions or parking lots, hardscapes such as decks and patios, and other non-porous areas. Water features are included in the calculation of the landscaped area. Areas dedicated to edible plants, such as orchards or vegetable gardens are not included.
- (w) **"Lateral line"** means the water delivery pipeline that supplies water to the emitters or sprinklers from the valve.
- (x) **"Main line"** means the pressurized pipeline that delivers water from the water source to the valve or outlet.
- (y) **"Maximum Applied Water Allowance"** means, for design purposes, the upper limit of annual applied water for the established landscaped area as specified in Section 5.113. It is based upon the area's reference

evapotranspiration, the ET Adjustment Factor, and the size of the landscaped area. The Estimated Applied Water Use shall not exceed the Maximum Applied Water Allowance.

- (z) **"Mined and reclamation projects"** means any surface mining operation with a reclamation plan approved in accordance with the Surface Mining and Reclamation Act of 1975.
- (aa) **"Mulch"** means any material such as leaves, bark, straw or other materials left loose and applied to the soil surface to reduce evaporation.
- (bb) **"Operating pressure"** means the pressure at which a system of sprinklers is designed to operate, usually indicated at the base of a sprinkler.
- (cc) **"Overspray"** means the water which is delivered beyond the landscaped area, wetting pavements, walks, structures, or other non-landscaped areas.
- (dd) **"Plant factor"** means a factor that when multiplied by reference evapotranspiration, estimates the amount of water used by plants. For purposes of this ordinance, the average plant factor of low water using plants ranges from 0 to 0.3; for average water using plants, the range is 0.4 to 0.6; and for high water using plants it is 0.7 to 1.0.
- (ee) **"Rain sensing device"** means a system which automatically shuts off the irrigation system when it rains.
- (ff) **"Record drawing"** or **"as-builts"** means a set of reproducible drawings which show significant changes in the work made during construction and which are usually based on drawings marked up in the field and other data furnished by the contractor.
- (gg) **"Recreational area"** means an area of active play or recreation such as sports field, school yard, picnic grounds, or other areas with intense foot traffic.
- (hh) **"Recycled water", "reclaimed water", or "treated sewage effluent water"** means treated or recycled waste water of a quality suitable for nonpotable uses such as landscape irrigation and not intended for human consumption.

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- (ii) **"Reference evapotranspiration"** or **"ETo"** means a standard measure of environmental parameters which affect the water use of plants. ETo is given in inches per day, month or year. ETo is an estimate of the evapotranspiration of a large field of four to seven-inch tall, cool-season grass that is well watered. Reference evapotranspiration is used as the basis of determining the Maximum Applied Water Allowance so that regional differences in climate can be accommodated.
- (jj) **"Rehabilitated landscape"** means any relandscaping project that requires a permit.
- (kk) **"Run-off"** means water which is not absorbed by the soil or landscape to which it is applied, and flows from the area. For example, run-off may result from water that is applied at too great a rate (application rate exceeds infiltration rate) or when there is a severe slope.
- (ll) **"Soil moisture sensing device"** means a device that measures the amount of water in the soil.
- (mm) **"Soil texture"** means the classification of soil based on the percentage of sand, silt, and clay in the soil.
- (nn) **"Sprinkler head"** means a device which sprays water through a nozzle.
- (oo) **"Static water pressure"** means the pipeline or municipal water supply pressure when water is not flowing.
- (pp) **"Station"** means an area served by one valve or by a set of valves that operate simultaneously.
- (qq) **"Turf"** means a surface layer of earth containing mowed grass with its roots. Annual bluegrass, Kentucky bluegrass, Perennial ryegrass, Red fescue, and Tall fescue are cool-season grasses. Bermudagrass, Kikuyugrass, Seashore paspalum, St. Augustine grass, Zoysia grass, and Buffalo grass are warm season grasses.
- (rr) **"Valve"** means a device used to control the flow of water in the irrigation system.

(ss) "Water conservation concept statement" means a one-page checklist and a narrative summary of the project. A sample shall be referenced in the Design Guidelines of Chapter 12.

Section 5-112. Water Efficiency in the Landscape

The purpose of this section is the promotion of the value and benefits of landscapes while recognizing the need to invest water and other resources as efficiently as possible; the establishment of a structure for designing, installing, and maintaining water efficient landscapes in new projects; and the establishment of provisions for water management practices and water waste prevention for established landscapes.

(a) Provisions of this section shall be applicable, except as provided in Section 5-112.(b), to:

- (1) all new and rehabilitated landscaping for public agency projects and private development projects that require a permit; and
- (2) contractor or developer-installed landscaping in residential projects.
- (3) New and rehabilitated projects subject to this section shall conform to the provisions in Sections 5-111 through 5-118.

(b) This section shall not apply to:

- (1) homeowner-provided landscaping at single-family and multi-family projects of four (4) or fewer units if the landscaping is in accordance with the water-efficient landscape design guidelines contained in the Site Plan Review procedures of Chapter 12 of the Inglewood Municipal Code.
- (2) any project with a landscaped area less than 2,500 square feet only if developed or rehabilitated in accordance with the water-efficient landscape design guidelines in Chapter 12, Site Plan Review Procedures.
- (3) cemeteries;
- (4) registered historical sites;
- (5) ecological restoration projects that do not require a permanent

irrigation system;

1 (6) mined-land reclamation projects that do not require a permanent
2 irrigation system;

3 (7) public lands except to the extent feasible of incorporating water
4 efficient maintenance practices on a routine basis or a reclaimed
5 water source is used as prescribed by Section 5.113.

6 (8) new subdivisions of up to 10 units if a model home or a
7 demonstration garden is established in compliance with the adopted
8 design guidelines of Chapter 12, Site Plan Review Procedures.

9 (9) planted areas of up to 5,000 square feet where site design and
10 conditions permit a separate water meter to be installed and the
11 planted areas are designed, installed, and maintained in accordance
12 with the design guidelines of Chapter 12, Site Plan Review
13 Procedures.

14 (10) exemptions granted by the Director authorized to issue the required
15 permit to any of the design and improvement standards of this
16 Chapter. Such exemptions may be granted if the Director finds that
17 the proposed design or improvement is in substantial compliance
18 with the purpose and intent of this Chapter."
19

20
21 **SECTION 3.** Article 7, Sections 5-113 through 5-118 are hereby added as follows:

22 **"Section 5.113 Landscape Plan - Required**

23
24 Landscape plans shall be prepared in accordance with the standards set forth
25 herein and with any guidelines developed to implement the provisions of this
26 Chapter. Such plans shall be submitted and approved prior to the issuance of
27 building permits to comply with the requirements of this Chapter.

28 **Section 5.113.1 Landscape Plan - Application**

29
30 Prior to the issuance of a building permit, a Landscape Plan Application shall be
31 submitted and reviewed in accordance with this Chapter, and those procedures
32 found in Chapter 12, Site Plan Review. Applications for Landscape Plan approval

1 shall be filed by the owner of the affected property or the owner's agent, or by a
2 public entity to which the provisions of this Chapter apply, on a form furnished
3 by the Director of Community Development and Housing.

4 **Section 5.113.2 Landscape Plan - Approval**

5 No Landscape Plan Application shall be approved unless the Director of
6 Community Development and Housing finds that the plan compliments the design
7 of the project; is consistent with the provisions of this chapter and applicable
8 landscape guidelines; is compatible with adjacent existing or future public
9 landscaped areas, and with the elevations and appearances of existing structures
10 located upon lots within the immediate vicinity of the lot which is the subject of
11 the application.

12 **Section 5.113.3 Landscape Plan - Content**

13 Each landscape plan shall consist of the elements described in this section and in
14 accordance with applicable guidelines including, but not limited to the following:

- 15 (a) Water Conservation Concept Statement. Each landscape plan shall include
16 a Concept Statement which serves as a checklist to verify that the elements
17 of the landscape plan have been completed. It shall include a brief
18 summary of the project. This statement shall include calculations of the
19 project's:
20
21 (1) Maximum Applied Water Allowance.
22 (2) Estimated Applied Water Use.
23
24 (b) Portions of landscaped areas in public and private projects such as parks,
25 playgrounds, sports fields, golf courses, or school yards where turf provides
26 a playing surface or serves other recreational purposes may require water
27 in addition to the Maximum Applied Water Allowance. A statement shall be
28 included with the landscape design plan, designating areas to be used for
29 such purposes and specifying any needed amount of additional water above
30 the Maximum Applied Water Allowance.
31
32 (c) Planting Plan. The planting plan shall identify location, spacing, numbers,

and container sizes of all plant materials including common and botanical names, drawn on project base sheets in a clear and legible fashion in accordance with the guidelines established to implement the provisions of this Chapter.

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- (d) Irrigation Plan. The irrigation plan shall identify all components of the irrigation system drawn on project base sheets in a clear and legible fashion in accordance with the guidelines established to implement the provisions of this Chapter.
 - (e) Annual Irrigation Schedule. The annual irrigation schedule shall be prepared with a minimum four-season water schedule, for both the plant establishment period and established landscape. The irrigation schedule shall include run time and frequency of irrigation for each station.
 - (f) Recycled Water. The installation of recycled water irrigation systems (dual distribution systems) shall be required to allow for the current and future use of recycled water, unless an exemption has been granted as described in the following section:
 - (1) Irrigation systems shall make use of recycled water unless a written exemption has been granted by the local water agency, stating that recycled water meeting all health standards is not available and will not be available in the foreseeable future.
 - (2) The recycled water irrigation systems shall be designed and operated in accordance with all local and state codes.
 - (g) Soils test. The landscape plan shall include a report of soils test which includes information on soil infiltration rate, soil texture, and agricultural suitability. No soil test shall be required if the soil type can be determined by reference to resources available to the Director and the soil is amended as required by the Director; provided, however, a soils test shall be required if substantial amounts of soil are imported to the property.

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Section 5.114. Water Features

Decorative water features such as pools, ponds, and waterfalls used in landscaped areas shall incorporate recycling of water, and shall be designed and operated to minimize water loss.

Section 5.115. Water Meters

Each landscape irrigation system shall be metered for water use, separately from domestic and other non-landscape uses except for single family homes or any project with a landscaped area of less than 5,000 square feet.

Section 5.116. Landscape Maintenance

The property owner shall permanently and continuously maintain all landscaping and irrigation in a neat, clean and healthy condition, including removal of weeds and litter, proper pruning, mowing of lawns, fertilizing, and watering; and replacement of diseased and/or dead plants and malfunctioning or missing irrigation system components.

Section 5.116.1 Landscape Irrigation Audit Schedules

A schedule of landscape irrigation audits, for all non-exempt projects, satisfying the following conditions shall be submitted to the Director as part of the Landscape Documentation Package.

- (a) At a minimum, audits shall be in accordance with the State of California Landscape Water Management program as described in the "Landscape Irrigation Auditor Handbook", which is hereby incorporated by this reference. (Landscape Irrigation Auditor Handbook, June 1990, version 5.5 [formerly Master Auditor Training].)
- (b) The schedule shall provide for landscape irrigation audits to be conducted by certified landscape irrigation auditors at least once every five years.
- (c) Audits shall be reviewed by the City Water Services Division and maintained by the Planning Division.

Section 5.116.2 Certification

- (a) Upon completing the installation of the landscaping and the irrigation

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system, an irrigation audit shall be conducted by a certified landscape irrigation auditor prior to the final field observation. (See "Landscape Irrigation Auditor Handbook" referenced in Section 5.116.1.)

- (b) A licensed landscape architect or contractor, certified irrigation designer, or other licensed or certified professional in a related field shall conduct a final field observation. The certificate shall specifically indicate that plants were installed as specified, that the irrigation system was installed as designed, and that an irrigation audit has been performed, along with a list of any observed deficiencies.
- (c) Certification shall be accomplished by a completed Certificate of Substantial Completion to be delivered to the Planning Division, to the retail water supplier, and to the Owner of Record. A sample of this form, which shall be provided by the City, is contained in the Guidelines for Water Efficient Landscapes of Chapter 12.
- (d) Failure to comply with the above provisions shall be grounds for the Director to withhold final approval of the project or utility service in accordance with the authorized administrative policies and procedures of the City of Inglewood.

Section 5.116.3 Public Education

- (a) Information shall be maintained about designing, installing, and maintaining water efficient landscapes in the Main Library and in the Planning Division of the Community Development and Housing Department.
- (b) Model Homes. At least one model home that is landscaped in each project consisting of 10 or more homes shall demonstrate via signs and information the principles of water efficient landscape described in the Guidelines for Water Efficient Landscapes in Chapter 12.
 - (1) Signs shall be used to identify the model as an example of a water efficient landscape and featuring elements such as hydrozones,

irrigation equipment and others which contribute to the overall water efficiency.

- (2) Information shall be made available to prospective residents about designing, installing and maintaining water efficient landscapes.

Section 5-116.4 PROVISIONS FOR EXISTING LANDSCAPES

Water Management. All existing landscaped areas to which the City provides water that are one acre or more, including golf courses, green belts, common areas, multi-family housing, schools, businesses, parks, cemeteries, and publicly owned landscapes shall have a landscape irrigation audit at least every five years. At a minimum the audit shall be in accordance with the California Landscape Water Management program as described in the "Landscape Irrigation Auditor Handbook", which is hereby incorporated by this reference. (See "Landscape Irrigation Auditor Handbook", Department of Water Resources, Water Conservation Office, June 1990, version 5.5.)

- (1) If the project's water bills indicate that water consumption is less than or equal to the Maximum Applied Water Allowance for that project site, an audit shall not be required. Reports and declarations of compliance shall be reviewed by the Water Services Division.
- (2) Recognition of projects that stay within the Maximum Applied Water Allowance is encouraged.

Section 5.117. Penalties

Violation of the provisions of this article shall be considered an infraction.

Section 5.117.1 Authority to Issue Notice of Violation

The Department of Parks and Code Enforcement shall have the duties of investigation and enforcement of this Article and shall have the authority to issue citations for Water-Efficient Landscape violations.

Section 5.118. (RESERVED)."

...

SECTION 4. Section 1-18.1 of the Inglewood Municipal Code is hereby amended to add Section 5-117.

SECTION 5. Adoption and implementation of this Ordinance is exempt from the provisions of the California Environmental Quality Act pursuant to Sections 15307 and 15308 of the Public Resources Code, as a Class 7 and Class 8 Categorical Exemption.

SECTION 6. The City Clerk shall certify to the passage and adoption of this Ordinance and to its approval by the City Council and shall cause the same to be published in accordance with the City Charter; and thirty days from the final passage and adoption, this Ordinance shall be in full force and effect.

Passed, approved and adopted this 20th day of July 1993.

EDWARD VINCENT

Mayor of the City of Inglewood

ATTEST

HERMANITA V. HARRIS

City Clerk

(SEAL)

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Appendix J

Resolution No. 03-13 entitled “*Resolution of the City Council of the City of Inglewood, California. To Require Recycled Water to be Used for Purposes Permitted by Regulatory Agencies*”

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1 been created. A 4-year re-inspection is also conducted at these sites jointly by the City
2 staff and a representative of the Los Angeles County Department of Health Services.
3 These inspections are required by law in order to ensure that no cross-connections are
4 created and recycled water is not used for purposes other than as originally
5 contemplated; and

6 **WHEREAS**, actions such as these help to reduce our region's dependence
7 upon expensive and limited imported water supplies and will help Inglewood to
8 withstand future drought situations; and

9 **WHEREAS**, the cost of potable water is rising as well as its operating and
10 maintenance costs and the cost of potable water is substantially more than the cost of
11 recycled water.

12 //

13 **NOW, THEREFORE, THE CITY COUNCIL OF THE CITY OF**
14 **INGLEWOOD, DOES HEREBY FIND, DETERMINE AND RESOLVE AS FOLLOWS:**

15 **SECTION 1:** It is declared to be the policy of the City to extend and enhance
16 local water supplies by using recycled water where feasible, appropriate and acceptable
17 to all regulatory agencies for the purpose of landscape irrigation, in new commercial
18 buildings for toilet and urinal flushing, construction water, industrial process water or
19 other uses permitted by the regulatory agencies.

20 **SECTION 2:** The City's Public Works Director or designee and the WBMWD
21 shall determine whether it is feasible to furnish the customer with recycled water. Each
22 such usage of recycled water shall, in addition, be subject to the availability of facilities
23 and the feasibility of making such facilities available now and in the future.

24 **SECTION 3:** If the use of recycled water is determined to be feasible at a site,
25 and the facilities are available, the water customer shall make application for recycled
26 water with the City as well as on-site accommodations to meet the regulations
27 governing recycled water to coincide with timely delivery of recycled water.

28 **SECTION 4:** If the criteria stated in Section 3 are met, and the water customer
29 does not comply with this resolution, the City, at its option, may pass along any fines,
30 fees or surcharges levied on the City by WBMWD as specified in WBMWD's Resolution
31 of Rates for Recycled Water (adopted annually).

32 **SECTION 5:** The City Clerk shall certify to the adoption of this resolution.

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PASSED, APPROVED AND ADOPTED by the City Council of the City of
Inglewood at its regular meeting held on the 11th day of February, 2003,
in the City of Inglewood.

ROOSEVELT F. DORN

MAYOR OF THE CITY OF INGLEWOOD, CALIFORNIA

ATTEST:

Yvonne Horton
CITY CLERK

(PubWks-Reso-Recycled Water-EE-ebh 01/30/03 ver 900)

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Appendix K

Draft Ordinance No. 10-03 – “An Ordinance of the City of Inglewood, California, Adding an Article 17 to Chapter 10 (Public Works) to Establish a Water Conservation and Water Supply Shortage Program”

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1 United States, make the region highly susceptible to water supply reliability issues;
2 and,

3 WHEREAS, careful water management that includes active water
4 conservation measures not only in times of drought, but at all times, is essential to
5 ensure a reliable minimum supply of water to meet current and future water supply
6 needs; and,

7 WHEREAS, Article X, Section 2 of the California Constitution declares that
8 the general welfare requires that water resources be put to beneficial use, waste or
9 unreasonable use or unreasonable method of use of water be prevented, and
10 conservation of water be fully exercised with a view to the reasonable and beneficial
11 use thereof; and,

12 WHEREAS, Article XI, Section 7 of the California Constitution declares that
13 a city or county may make and enforce within its limits all local, police, sanitary,
14 and other ordinances and regulations not in conflict with general laws; and

15 WHEREAS, Sections 350 through 359 of the California Water Code
16 authorizes water suppliers to adopt and enforce a comprehensive water
17 conservation program to reduce water consumption and conserve supplies; and,

18 WHEREAS, The adoption and enforcement of a water conservation and
19 supply shortage program is necessary to manage the City of Inglewood's potable
20 water supply in the short and long-term and to avoid or minimize the effects of
21 drought and shortage within the City of Inglewood. Such a program is essential to
22 ensure a reliable and sustainable minimum supply of water for the public health,
23 safety and welfare; and

24 WHEREAS, it is the policy of the State of California and the City of
25 Inglewood to require and enforce water conservation and efficient use of water. The
26 State of California and the City of Inglewood is committed to enhancing drought
27 response and drought preparedness and to protect the State's economy and its
28 environment.

1 WHEREAS, the City Council now wishes to up-date its water conservation
2 regulations.

3 NOW, THEREFORE, THE CITY COUNCIL OF THE CITY OF
4 INGLEWOOD, CALIFORNIA, DOES HEREBY ORDAIN AS FOLLOWS:

5 SECTION 1

6 A newly created Article 17 (Water Conservation and Water Supply Program)
7 of Chapter 10 (Public Works) is hereby added to the Inglewood Municipal Code to
8 read as follows:

9 Article 17. WATER CONSERVATION AND WATER SUPPLY
10 SHORTAGE PROGRAM

11	Section 10-204	Title
12	Section 10-205	Purpose and Intent
13	Section 10-206	Application
14	Section 10-207	Definitions
15	Section 10-208	Permanent Water Conservation Requirements
16	Section 10-209	Determination & Notification of Water Supply Shortage
17	Section 10-210	Level of Water Shortage
18	Section 10-211	Hardship Waiver
19	Section 10-212	Penalties and Violations
20	Section 10-213	Notice and Hearings
21	Section 10-214	Authority to Issue Violations and Enforce the Code
22	Section 10-204.	Title

23 This Article shall be entitled the "City of Inglewood Water Conservation and
24 Water Supply Shortage Program" and shall be known as such throughout this Code.

25 Section 10-205. Purpose and Intent:

26 (1) The purpose of this chapter is to establish a water conservation and
27 supply shortage program that will reduce water consumption within the City of
28 Inglewood through conservation, enable effective water supply planning, assure

1 reasonable and beneficial use of water, prevent waste of water, and maximize the
2 efficient use of water within the City of Inglewood to avoid and minimize the effect
3 and hardship of water shortage to the greatest extent possible.

4 (2) This chapter establishes permanent water conservation standards
5 intended to alter behavior related to water use efficiency at all times and further
6 establishes three levels of water supply shortage response actions to be
7 implemented during times of declared water shortage or declared water shortage
8 emergency, with increasing restrictions on water use in response to worsening
9 drought or emergency conditions and decreasing supplies.

10 Section 10-206 Application

11 (1) The provisions of this section apply to any person in the use of any
12 potable water provided by the City of Inglewood.

13 (2) The provisions of this section do not apply to uses of water necessary to
14 protect public health and safety or for essential government services, such as police,
15 fire and other similar emergency services.

16 (3) ~~The provisions of this section do not apply to the use of recycled water,~~
17 ~~with the exception of the following:~~

18 (a) ~~Except as provided below, lawn watering and landscape irrigation with~~
19 ~~potable water is permitted only between the hours of four p.m. and ten a.m.~~

20 (b) ~~Irrigation with reclaimed water is permitted on any day in accordance~~
21 ~~with the water-efficient landscape criteria of Sections 5-111 through 5-118.~~

22 (c) ~~Watering is permitted at any time if a hand-held hose equipped with a~~
23 ~~positive shut-off nozzle is used, a hand-held faucet-filled bucket of five gallons~~
24 ~~or less is used, or with a water-efficient landscape system in accordance with~~
25 ~~this Article.~~

26 (3) The provisions of this chapter do not apply to the use of water by
27 commercial nurseries and commercial growers to sustain plants, trees,
28 shrubs, crops or other vegetation intended for commercial sale.

1 (4) This chapter is intended solely to further the conservation of water. It
2 is not intended to implement any provision of Federal, State, or Local Statutes,
3 Ordinances, or Regulations relating to protection of water quality or control of
4 drainage or runoff. Refer to the local jurisdiction or Regional Water Quality Control
5 Board for information on any stormwater ordinances and storm water management
6 plans.

7 (5) In addition to the provision of this Chapter additional water
8 conservation measures shall be undertaken by the City pursuant to the Lanscape
9 Water Efficiency Plan administered by the Planning and Building Department.

10 Section 10-207 Definitions

11 The words used in this article have the meaning set forth below:

12 “Billing unit” means the unit of water used to apply water rates for purposes
13 of calculating water charges for a persons water usage and defines as 1 billing unit
14 = 748 gallons.

15 “Local agency” means a city or county, including a charter city or charter
16 county, that is responsible for adopting and implementing the ordinance. The local
17 agency is also responsible for the enforcement of this article, including but not
18 limited to, approval of a permit and plan check or design review of a project.

19 “Local water purveyor” means any entity, including a public agency, city,
20 county, or private water company that provides retail water service.

21 “Person” means any natural person or persons, corporation, public or private
22 entity, governmental agency or institution, including all agencies and departments
23 of City of Inglewood, or any other user of water provided by the City or local water
24 purveyor.

25 “Potable water” means water which is suitable for drinking.

26 “Precipitation rate” means the rate of application of water measured in
27 inches per hour.

28

1 “Recycled water”, “reclaimed water”, or “treated sewage effluent water”
2 means treated or recycled waste water of a quality suitable for non-potable uses
3 such as landscape irrigation and water features. This water is ~~and~~ not intended for
4 human consumption.

5 “Runoff” means water which is not absorbed by the soil or landscape to which
6 it is applied and flows from the landscape area. For example, runoff may result from
7 water that is applied at too great a rate (application rate exceeds infiltration rate)
8 or when there is a severe slope.

9 “Single pass cooling systems” means equipment where water is circulated
10 only once to cool equipment before being disposed.

11 Section 10-208. Permanent Water Conservation Requirements

12 The following water conservation requirements are effective at all times and
13 are permanent. Violations of this section will be considered waste and an
14 unreasonable use of water.

15 (1) Limits on Watering Hours: Watering or irrigating of lawn, landscape
16 or other vegetated area with potable water is prohibited between the hours of 10:00
17 a.m. and 4:00 p.m. Pacific Standard Time on any day, except by use of a hand-held
18 bucket or similar container, a hand-held hose equipped with a positive self-closing
19 water shut-off nozzle or device, or for very short periods of time for the express
20 purpose of adjusting or repairing an irrigation system.

21 ~~(1) — Except as provided below, lawn watering and landscape irrigation with~~
22 ~~potable water is permitted only between the hours of four p.m. and ten a.m.~~

23 ~~(2) — Irrigation with reclaimed water is permitted on any day in accordance~~
24 ~~with the water-efficient landscape criteria of Sections 5-111 through 5-118. —~~

25 ~~(3) — Watering is permitted at any time if a hand-held hose equipped with a~~
26 ~~positive shut-off nozzle is used, a hand-held faucet-filled bucket of five gallons or~~
27 ~~less is used, or with a water-efficient landscape system in accordance with Sections~~
28 ~~5-111 through 5-118.~~

1 (2) Limit on Watering Duration: Watering or irrigating of lawn, landscape
2 or other vegetated area with potable water using a landscape irrigation system or a
3 watering device that is not continuously attended is limited to no more than fifteen
4 (15) minutes watering per day per station. This subsection does not apply to
5 landscape irrigation systems that exclusively use very low-flow drip type irrigation
6 systems when no emitter produces more than two (2) gallons of water per hour and
7 weather based controllers or stream rotor sprinklers that meet a 70% efficiency
8 standard.

9 (3) No Excessive Water Flow or Runoff: Watering or irrigating of any
10 lawn, landscape or other vegetated area in a manner that causes or allows excessive
11 water flow or runoff onto an adjoining sidewalk, driveway, street, alley, gutter or
12 ditch is prohibited.

13 (4) No Washing Down Hard or Paved Surfaces: Washing down hard or
14 paved surfaces, including but not limited to sidewalks, walkways, driveways,
15 parking areas, tennis courts, patios or alleys, is prohibited except when necessary to
16 alleviate safety or sanitary hazards, and then only by use of a hand-held bucket or
17 similar container, a hand-held hose equipped with a positive self-closing water shut-
18 off device, a low-volume, high-pressure cleaning machine equipped to recycle any
19 water used, or a low-volume high-pressure water broom.

20 (5) Obligation to Fix Leaks, Breaks or Malfunctions: Excessive use, loss
21 or escape of water through breaks, leaks or other malfunctions in the water user's
22 plumbing or distribution system for any period of time after such escape of water
23 should have reasonably been discovered and corrected and in no event more than
24 seven (7) days of receiving notice from the City of Inglewood, is prohibited.

25 (6) Re-circulating Water Required for Water Fountains and Decorative
26 Water Features: Operating a water fountain or other decorative water feature that
27 does not use re-circulated water is prohibited.

28

1 (7) Limits on Washing Vehicles: Using water to wash or clean a vehicle,
2 including but not limited to any automobile, truck, van, bus, motorcycle, boat or
3 trailer, whether motorized or not is prohibited, except by use of a hand-held bucket
4 or similar container or a hand-held hose equipped with a positive self-closing water
5 shut-off nozzle or device. This subsection does not apply to any commercial car
6 washing facility.

7 (8) Drinking Water Served Upon Request Only: Eating or drinking
8 establishments, including but not limited to a restaurant, hotel, cafe, cafeteria, bar,
9 or other public place where food or drinks are sold, served, or offered for sale, are
10 prohibited from providing drinking water to any person unless expressly requested.

11 (9) Commercial Lodging Establishments Must Provide Guests Option to
12 Decline Daily Linen Services: Hotels, motels and other commercial lodging
13 establishments must provide customers the option of not having towels and linen
14 laundered daily. Commercial lodging establishments must prominently display
15 notice of this option in each bathroom using clear and easily understood
16 language.

17 (10) No Installation of Single Pass Cooling Systems: Installation of single
18 pass cooling systems is prohibited in buildings requesting new water service.

19 (11) No Installation of Non-re-circulating in Commercial Car Wash and
20 Laundry Systems: Installation of non-re-circulating water systems is prohibited in
21 new commercial conveyor car wash and new commercial laundry systems.

22 (12) Restaurants Required to Use Water Conserving Dish Wash Spray
23 Valves: Food preparation establishments, such as restaurants or cafes, are
24 prohibited from using non-water conserving dish wash spray valves.

25 (13) Commercial Car Wash Systems: Effective on May 1, 2010, all
26 commercial conveyor car wash systems must have installed operational re-
27 circulating water systems, or must have secured a waiver of this requirement from
28 the City of Inglewood.

1 **Section 10-209. Determination & Notification of Water Supply Shortage**

2 Declaration and Notification of Water Supply Shortage: The existence of
3 Level 1, Level 2 or Level 3 Water Supply Shortage conditions may be declared by
4 resolution of the City of Inglewood adopted at a regular or special public meeting
5 held in accordance Sections 350-359 of the California Water Code. The mandatory
6 conservation requirements applicable to Level 1, Level 2 or Level 3 conditions will
7 take effect on the tenth day after the date the shortage level is declared. Within
8 five (5) days following the declaration of the shortage level, the City of Inglewood
9 must publish a copy of the resolution in a newspaper used for publication of official
10 notices. If the City of Inglewood activates a water allocation process, it must
11 provide notice of the activation by including it in the regular billing statement or by
12 any other mailing to the address to which the City of Inglewood customarily mails
13 the billing statement for fees or charges for on-going water service. A water
14 allocation will be effective on the fifth day following the date of mailing or at such
15 later date as specified in the notice.

16 **Section 10-210. Level of Water Shortage:**

17 (1) **Level 1 Water Supply Shortage**

18 (a) A Level 1 Water Supply Shortage exists when the City of Inglewood
19 determines, in its sole discretion, that due to drought or other water supply
20 conditions, a water supply shortage or threatened shortage exists and a consumer
21 demand reduction is necessary to make more efficient use of water and
22 appropriately respond to existing water conditions. Upon the declaration by the
23 City of Inglewood of a Level 1 Water Supply Shortage condition, the City of
24 Inglewood will implement the mandatory Level 1 conservation measures identified
25 in this section.

26 (b) Additional Water Conservation Measures: In addition to the
27 prohibited uses of water identified in Section 10-208, the following water
28 conservation requirements apply during a declared Level 1 Water Supply Shortage:

1 (i) Limits on Watering Days: Watering or irrigating of lawn, landscape or
2 other vegetated area with potable water is limited to three days per week on
3 a schedule established and posted by the City of Inglewood. During the
4 months of November through March, watering or irrigating of lawn,
5 landscape or other vegetated area with potable water is limited to no more
6 than one day per week on a schedule established and posted by the City of
7 Inglewood. This provision does not apply to landscape irrigation zones that
8 exclusively use very low flow drip type irrigation systems when no emitter
9 produces more than two (2) gallons of water per hour. This provision also
10 does not apply to watering or irrigating by use of a hand-held bucket or
11 similar container, a hand-held hose equipped with a positive self-closing
12 water shut-off nozzle or device, or for very short periods of time for the
13 express purpose of adjusting or repairing an irrigation system.

14 (ii) Obligation to Fix Leaks, Breaks or Malfunctions: All leaks, breaks, or
15 other malfunctions in the water user's plumbing or distribution system must
16 be repaired within seventy-two (72) hours of notification by the City of
17 Inglewood unless other arrangements are made with the City of Inglewood.

19 **(2) Level 2 Water Supply Shortage**

20 (a) A Level 2 Water Supply Shortage exists when the City of Inglewood
21 determines, in its sole discretion, that due to drought or other water supply
22 conditions, a water supply shortage or threatened shortage exists and a consumer
23 demand reduction is necessary to make more efficient use of water and
24 appropriately respond to existing water conditions. Upon the declaration by the
25 City of Inglewood of a Level 2 Water Supply Shortage condition, the City of
26 Inglewood will implement the mandatory Level 2 conservation measures identified
27 in this section.

1 (b) Additional Conservation Measures: In addition to the prohibited uses
2 of water identified in Section 10-208 and 10-210(1), the following additional water
3 conservation requirements apply during a declared Level 2 Water Supply Shortage:

4 (i) Watering Days: Watering or irrigating of lawn, landscape or other
5 vegetated area with potable water is limited to two days per week on a
6 schedule established and posted by the City of Inglewood. During the months
7 of November through March, watering or irrigating of lawn, landscape or
8 other vegetated area with potable water is limited to no more than one day
9 per week on a schedule established and posted by the City of Inglewood. This
10 provision does not apply to landscape irrigation zones that exclusively use
11 very low flow drip type irrigation systems when no emitter produces more
12 than two (2) gallons of water per hour. This provision also does not apply to
13 watering or irrigating by use of a hand-held bucket or similar container, a
14 hand-held hose equipped with a positive self-closing water shut-off nozzle or
15 device, or for very short periods of time for the express purpose of adjusting
16 or repairing an irrigation system.

17 (ii) Obligation to Fix Leaks, Breaks or Malfunctions: All leaks, breaks, or
18 other malfunctions in the water user's plumbing or distribution system must
19 be repaired within forty-eight (48) hours of notification by the City of
20 Inglewood unless other arrangements are made with the City of Inglewood.

22 (iii) Limits on filling Ornamental Lakes or Ponds: Filling or re-filling
23 ornamental lakes ponds is prohibited, except to the extent needed to sustain
24 aquatic life, provided that such animals are of significant value and have
25 been actively managed within the water feature prior to declaration of a
26 supply shortage level under this ordinance.

1 (iv) Limits on Washing Vehicles: Using water to wash or clean a vehicle,
2 including but not limited to, any automobile, truck, van, bus, motorcycle, boat
3 or trailer, whether motorized or not, is prohibited except by use of a hand-
4 held bucket or similar container, a hand-held hose equipped with a positive
5 self-closing water shut-off nozzle or device, by high pressure/low volume wash
6 systems, or at a commercial car washing facility that utilizes a re-circulating
7 water system to capture or reuse water.

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9
10 (v) Limits on Filling Residential Swimming Pools & Spas: Re-filling of
11 more than one foot and initial filling of residential swimming pools or outdoor
12 spas with potable water is prohibited.

13 (3) **Level 3 Water Supply Shortage – Emergency Condition**

14 (a) A Level 3 Water Supply Shortage condition is also referred to as an
15 “Emergency” condition. A Level 3 condition exists when the City of Inglewood
16 declares a water shortage emergency and notifies its residents and businesses that
17 a significant reduction in consumer demand is necessary to maintain sufficient
18 water supplies for public health and safety. Upon the declaration of a Level 3
19 Water Supply Shortage condition, the City of Inglewood will implement the
20 mandatory Level 3 conservation measures identified in this section.

21 (b) Additional Conservation Measures: In addition to the prohibited uses
22 of water identified in Sections 10-208, 10-210(1) and 10-210(2), Level 1 and 2 Water
23 Supply Shortages, the following water conservation requirements apply during a
24 declared Level 3 Water Supply Shortage Emergency:

25 (i) No Watering or Irrigating: Watering or irrigating of lawn,
26 landscape or other vegetated area with potable water is prohibited. This
27 restriction does not apply to the following categories of use, unless the City of
28

1 Inglewood has determined that recycled water is available and may be
2 applied to the use:

3 * Maintenance of vegetation, including trees and shrubs, that are
4 watered using a hand-held bucket or similar container, hand-
5 held hose equipped with a positive self-closing water shut-off
6 nozzle or device;

7 * Maintenance of existing landscape necessary for fire protection;

8 * Maintenance of existing landscape for soil erosion control;

9 * Maintenance of plant materials identified to be rare or essential
10 to the well-being of protected species;

11 * Maintenance of landscape within active public parks and
12 playing fields, day care centers, golf course greens, and school
13 grounds, provided that such irrigation does not exceed two (2)
14 days per week according to the schedule and time restrictions
15 established in this Article;

16 * Actively irrigated environmental mitigation projects.

17 (ii) Obligation to Fix Leaks, Breaks or Malfunctions: All leaks,
18 breaks, or other malfunctions in the water user's plumbing or
19 distribution system must be repaired within twenty four (24) hours of
20 notification by the City of Inglewood unless other arrangements are
21 made with the City of Inglewood.

22 (iii) No New Potable Water Service: Upon declaration of a Level 3
23 Water Supply Shortage Emergency condition, no new potable
24 water service will be provided, no new temporary meters or
25 permanent meters will be provided, and no statements of
26 immediate ability to serve or provide potable water service (such
27 as, will-serve letters, certificates, or letters of availability) will
28 be issued, except under the following circumstances:

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- A valid, unexpired building permit has been issued for the project; or
- The project is necessary to protect the public health, safety, and welfare; or
- The applicant provides substantial evidence of an enforceable commitment that water demands for the project will be offset prior to the provision of a new water meter(s) to the satisfaction of the City of Inglewood.

This provision does not preclude the resetting or turn-on of meters to provide continuation of water service or the restoration of service that has been interrupted for a period of one year or less.

(iv) Discontinue Service: The City of Inglewood, in its sole discretion, may discontinue service to consumers who willfully violate provisions of this section.

(v) No New Annexations: Upon the declaration of a Level 3 Water Supply Shortage condition, the City of Inglewood will suspend consideration of annexations to its service area. This subsection does not apply to boundary corrections and annexations that will not result in any increased use of water.

Section 10-211. Hardship Waiver.

(1) Undue and Disproportionate Hardship: If due to unique circumstances, a specific requirement of this chapter would result in undue hardship to a person 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 users, then the person may apply for a waiver to the requirements as provided in this section.

1 (2) Written Finding: The waiver may be granted or conditionally granted
2 only upon a written finding of the existence of facts demonstrating an undue
3 hardship to a person using water or to property upon which water is used, that is
4 disproportionate to the impacts to water users generally or to similar property or
5 classes of water use due to specific and unique circumstances of the user or the
6 user's property.

7 (a) Application: Application for a waiver must be on a form prescribed by
8 the City of Inglewood and accompanied by a non-refundable processing fee in
9 an amount set by City of Inglewood resolution.

10 (b) Supporting Documentation: The application must be accompanied by
11 photographs, maps, drawings, and other information, including a written
12 statement of the applicant.

13 (c) Required Findings for Waiver: An application for a waiver will be
14 denied unless the Director of Public Works or his designee finds, based on the
15 information provided in the application, supporting documents, or such
16 additional information as may be requested, and on water use information for
17 the property as shown by the records of the City of Inglewood or its Agent, all
18 of the following:

19 i. That the waiver does not constitute a grant of special privilege
20 inconsistent with the limitations upon other residents and
21 businesses;

22 ii. That because of special circumstances applicable to the property
23 or its use, the strict application of this chapter would have a
24 disproportionate impact on the property or use that exceeds the
25 impacts to residents and businesses generally;

26 iii. That the authorizing of such waiver will not be of substantial
27 detriment to adjacent properties, and will not materially affect
28 the ability of the City of Inglewood to effectuate the purpose of

1 this chapter and will not be detrimental to the public interest.

2 and

- 3 iv. That the condition or situation of the subject property or the
4 intended use of the property for which the waiver is sought is
5 not common, recurrent or general in nature.

6
7 (d) Approval Authority: The Director of Public Works or his designee must
8 act upon any completed application no later than ten (10) days after
9 submittal and may approve, conditionally approve, or deny the waiver. The
10 applicant requesting the waiver must be promptly notified in writing of any
11 action taken. Unless specified otherwise at the time a waiver is approved,
12 the waiver will apply too the subject property during the period of the
13 mandatory water supply shortage condition. The decision of the Director of
14 Public Works or his designee shall be final.

15 **Section 10-212 Penalties and Violations**

16 (1) Misdemeanor: Any violation of this chapter may be prosecuted as a
17 misdemeanor ~~infraction~~ punishable by imprisonment in the county jail for not more
18 than thirty (30) days, or by a fine not exceeding one thousand dollars (\$1,000), or by
19 both.

20 (2) Penalties: Penalties for failure to comply with any provisions of the
21 ordinance are as follows:

22 (a) First Violation: The City of Inglewood will issue a written warning
23 and deliver a copy of this ordinance by mail.

24 (b) Second Violation: A second violation within the preceding twelve (12)
25 calendar months is punishable by a fine not to exceed one hundred dollars
26 (\$100).

1 (c) Third Violation: A third violation within the preceding twelve (12)
2 calendar months is punishable by a fine not to exceed two hundred and fifty
3 (\$250).

4 (d) Fourth and Subsequent Violations: A fourth and any subsequent
5 violation is punishable by a fine not to exceed five hundred (\$500).

6 i. Water Flow Restrictor: In addition to any fines, the City of
7 Inglewood may install a water flow restrictor device of
8 approximately one gallon per minute capacity for services up to
9 one and one-half inch size and comparatively sized restrictors
10 for larger services after written notice of intent to install a flow
11 restrictor for a minimum of forty eight (48) hours.

12 (d) Discontinuing Service: In addition to any fines and the installation of
13 a water flow restrictor, the City of Inglewood may disconnect a customer's
14 water service for willful violations of mandatory restrictions in this chapter.

15 (3) Cost of Flow Restrictor and Disconnecting Service: A person or entity
16 that violates this ordinance is responsible for payment of the City of Inglewood's
17 charges for installing and/or removing any flow restricting device and for
18 disconnecting and/or reconnecting service per the City of Inglewood's schedule of
19 charges then in effect. The charge for installing and/or removing any flow
20 restricting device must be paid to the City of Inglewood before the device is
21 removed. Nonpayment will be subject to the same remedies as nonpayment of basic
22 water rates.

23 (4) Separate Offenses: Each day that a violation of this ordinance occurs
24 is a separate offense.

25 Section 10-213 Notice and Hearing

26 (1) The City of Inglewood will issue a Notice of Violation by mail or
27 personal delivery at least ten (10) days before taking enforcement action. Such
28 notice must describe the violation and the date by which corrective action must be

1 taken. A customer may appeal the Notice of Violation by filing a written notice of
2 appeal with the Director of Pubic Works no later than the close of business on the
3 day before the date scheduled for enforcement action. Any Notice of Violation not
4 timely appealed will be final. Upon receipt of a timely appeal, a hearing on the
5 appeal will be scheduled before the Director of Public Works or his designee within
6 twenty-one (21) calendar days, and the City of Inglewood will mail written notice of
7 the hearing date to the customer at least ten (10) days before the date of the
8 hearing.

9 (2) Pending receipt of a written appeal or pending a hearing pursuant to
10 an appeal, the City of Inglewood may take appropriate steps to prevent the
11 unauthorized use of water as appropriate to the nature and extent of the violations
12 and the current declared water Level condition.

13 **Section 10-214 Authority to Issue Violation and Enforce the Code**

14 The ~~Recreation, Parks and Community Services Department~~ ~~Public Works~~
15 Department and Code Enforcement Department shall have the duties of
16 investigation and enforcement of this article. They both shall have the authority to
17 issue citations for water conservation and water efficient landscape violations, and
18 disconnect/reconnect services upon findings.

19 (Ord. 93-20 7-20-93)

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SECTION 2. The City Clerk shall certify to the passage and adoption of this ordinance and to its approval by the City Council and shall cause the same to be published in accordance with the City Charter; and thirty days from the final passage and adoption, this ordinance shall be in full force and effect.

Passed, approved and adopted this 16th day of March, 2010.

MAYOR PRO TEMPORE

ATTEST:

YVONNE HORTON
CITY CLERK

CITY OF INGLEWOOD

One Manchester Boulevard
Inglewood, CA 90301