CITY OF CERRITOS

2010 Urban Water Management Plan

June 2011

Prepared By:

PSOMAS

2010
URBAN WATER MANAGEMENT PLAN

City of Cerritos

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PSOMAS
3 Hutton Centre Drive, Suite 200
Santa Ana, CA 92707

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ACRONYMS and ABBREVIATIONS

AB	Assembly Bill
AF	Acre Feet
AFY	Acre Feet per Year
ARRA	American Recovery and Reinvestment Act of 2009
ASCE	American Society of Civil Engineers
AWWA	American Water Works Association
BMP	Best Management Practice
CALSIM	California Water Allocation and Reservoir Operations Model
CAWCD	Central Arizona Water Conservation District
CBMWD	Central Basin Municipal Water District
CCF	Hundred Cubic Feet
CDPH	California Department of Public Health
CEQA	California Environmental Quality Act
CFS	Cubic Feet Per Second
CII	Commercial, Industrial, and Institutional
CIMIS	California Irrigation Management Information System
CMP	Conservation Master Plan
CPUC	California Public Utilities Commission
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
DMM	Demand Management Measure
DOE	Department of Energy
DOF	Department of Finance
DWCV	Desert Water Agency/Coachella Valley Water District
DWR	Department of Water Resources
EOC	Emergency Operations Center
EPA	Environmental Protection Agency
ERP	Emergency Response Plan
ESA	Endangered Species Act
ESR	Engineering and Survey Report
ET	Evapotranspiration
ETo	Evapotranspiration for a standardized grass surface
ETr	Evapotranspiration for a standardized alfalfa surface
FY	Fiscal Year
GAC	Granular Activated Carbon
GIS	Geographic Information System
GPCD	Gallons Per Capita Per Day
GPF	Gallons Per Flush
GPM	Gallons Per Minute
HAA	Haloacetic Acids
HELP	High Efficiency Living Program
HET	High Efficiency Toilets
HEWM	High-Efficiency Washing Machines

ACRONYMS and ABBREVIATIONS (Cont'd)

HOPE	Helping Our People and Environment
IAWP	Interim Agricultural Water Program
ICS	Intentionally Created Surplus
IID	Imperial Irrigation District
IRP	Integrated Resources Plan
IRP	Implementation Report Process
JWPCP	Joint Water Pollution Control Plant
LACSD	Sanitation Districts of Los Angeles County
LARWQCB	Los Angeles Regional Water Quality Control Board
LBWD	Long Beach Water Department
LRP	Metropolitan Local Resources Program
MAF	Million Acre Feet
MCL	Maximum Contaminant Level
MG	Million Gallons
MGD	Million Gallons per Day or Parts per Million
MG/L	Milligrams per liter
MOU	Memorandum of Understanding
MTBE	Methyl Tertiary Butyl Ether
MWD	Metropolitan Water District of Southern California (Metropolitan)
NDMA	N-Nitrosodimethylamine
ng/L	Nanograms per Liter or Parts per Trillion
NOAA	National Oceanic and Atmospheric Administration
NPDES	National Pollutant Discharge Elimination System
OEHHA	Office of Environmental Health Hazard Assessment
PAC	Project Advisory Committee
pCi/L	picocuries per liter
PCE	Tetrachloroethylene
PG&E	Pacific Gas & Electric
PHG	Public Health Goal
PPCPs	Pharmaceutical and Personal Care Products
psi	Pounds per square inch
PSP	Proposal Solicitation Package
PVID	Palo Verde Irrigation District
QSA	Quantification Settlement Agreement
RHNA	Regional Housing Needs Assessment
RUWMP	Regional Urban Water Management Plan
RWQCB	Regional Water Quality Control Board
SB	Senate Bill
SCADA	Supervisory Control and Data Acquisition System
SCAG	Southern California Association of Government
SDCWA	San Diego County Water Authority
SDP	Seawater Desalination Program
SNWA	Southern Nevada Water Authority
SWP	State Water Project
SWRCB	State Water Resources Control Board
SWRP	Southeast Water Reliability Project

ACRONYMS and ABBREVIATIONS (Cont'd)

TAF	Thousand Acre Feet
TCE	Trichloroethylene
TDML	Total Daily Maximum Loads
TDS	Total Dissolved Solids
THM	Trihalomethane
TOC	Total Organic Carbon
Ug/L	Micrograms Per Liter
ULF	Ultra Low Flush
ULFT	Ultra Low Flush Toilet
USBR	United States Bureau of Reclamation
USGS	United States Geological Survey
UWMP	Urban Water Management Plan
VOC	Volatile Organic Compounds
WAS	Water Augmentation Study
WBMWD	West Basin Municipal Water District
WF	Water Factory
WQPP	Water Quality Protection Plan
WRCC	Western Regional Climate Center
WRD	Water Replenishment District of Southern California
WSAP	Water Supply Allocation Plan
WSDM	Water Surplus and Drought Management

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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 on or before December 31, 2010 and submittal within 30 days of the date of adoption to the Department of Water Resources (DWR); 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 of Cerritos' (City) 2010 UWMP must now be adopted on or before July 1, 2011 and submitted to 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's 2010 UWMP has been prepared in compliance with the requirements of the Act, as amended to 2010[1] (Appendix A), 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 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 Cerritos 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.

1.2.1 Plan Adoption

The 2010 UWMP Update is scheduled for adoption by resolution of the Cerritos City Council on June 23, 2011, following a public hearing. The Plan was submitted to the California DWR 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. A copy of the Plan was provided to the City of La Palma and the County of Los Angeles within 30 days of approval of the Plan. Copies of the Plan were also made available to the public within 30 days after approval of the Plan.

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, Central Basin Municipal Water District, Water Replenishment District, the Metropolitan Water District of Southern California, and all other interested parties.

1.2.2 Agency Coordination

Development of the UWMP was led by the Water Division of the City's Department of Water and Power. The Water Division coordinated with the City Planning Department and the City Clerk in development, distribution and adoption of the plan.

Over the past ten years, approximately 86.5 percent of the City's potable water supply has been pumped from the groundwater aquifer, while the 13.5 percent balance was comprised of imported supplies. In addition to the potable water, Cerritos also supplies recycled water for customers within the City as well as customers in the City of Lakewood. The imported potable water is purchased from the Central Basin Municipal Water District (CBMWD), which purchases the water from the Metropolitan Water District of Southern California (Metropolitan or MWD). The Water Replenishment District of Southern California (WRD) acts as the groundwater manager for the Central Groundwater Basin, and the Sanitation Districts of Los Angeles County (LACSD) is responsible for providing recycled water supply to the City. All of the City's water supply planning relates to the policies, rules, and regulations of these agencies. This UWMP incorporates data obtained from these agencies where appropriate.

The intent of this plan is to focus on specific issues unique to the City's water service area. While some regional UWMP issues are introduced in this plan, comprehensive regional information is presented in Metropolitan's and CBMWD's 2010 Regional UWMPs.

To assist City staff in preparation of the City's 2010 UWMP, City staff and/or consultants to the City for preparation of the UWMP attended the following workshops facilitated by DWR and Metropolitan:

Metropolitan: 2010 UWMP Workshop held on August 18, 2010 at Metropolitan Headquarters.

DWR: Various on-line webinars held on November 30, 2010, December 16, 2010, January 5, 2011 and January 12, 2011.

DWR: 2010 UWMP Workshop at the Irvine Ranch Water District, March 8, 2011.

Table 1.2-1 lists the entities that Cerritos coordinated with in the development of the City's 2010 UWMP. The County of Los Angeles was notified of the City's public hearing for consideration of adoption of the Plan at least 60 days prior to the public hearing.

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

Entities	Coordination and Public Involvement Actions					
	Participated in UWMP preparation	Used Agency Data as an Information Resource	Sent and/or Available To: Copy of Draft UWMP	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
County of Los Angeles			X		X	
CBMWD		X	X			
Metropolitan		X	X			
WRD		X	X			
LACSD		X	X			
General Public			X			

The City also utilized information from the Draft Central Basin Municipal Water District (CBMWD) 2010 Regional UWMP, the Metropolitan Water District of Southern California November 2010 Final Regional UWMP, and the *"Guidebook to Assist Urban Water Suppliers to Prepare a 2010 Urban Water Management Plan"* prepared by DWR in preparing the City of Cerritos 2010 UWMP. This UWMP details the specifics as they relate to the City and its service area and will refer to Metropolitan, CBMWD, 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

The UWMP is intended to serve as a general, flexible, and open-ended document that periodically can be updated to reflect changes in the Los Angeles region water supply trends, and water use efficiency policies. This Plan, along with 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 WATER SERVICE AREA

Cerritos is located in the southeastern portion of Los Angeles County and comprises an area of approximately nine square miles. The City also wholesales potable water to the Golden State Water Company and the City of Norwalk, and sells recycled water to the City of Lakewood; although it has no long-term obligation to do so. The City's water service area is depicted in **Figure 1.1**. This figure also shows the minor differences between the City limits and the water service area, which is important in determining the population of the water service area. Along the southeasterly boundary of the City, there are residential areas where the City serves residents in the City of La Palma and the City of City of La Palma serves City residents. There is also a small non-residential area near Pioneer Blvd. and South Street within the City where Golden State Water Company provides retail water service.

1.3.1 Climate Characteristics

The City's service area is considered a coastal area with a Mediterranean climate, characterized by typically warm, dry summers and cool winters with an average precipitation level of about 12 inches per year. The average maximum and minimum temperatures are 74.2^{o} F and 54.8^{o} F, respectively. The combination of mild climate and low rainfall make the area a popular tourist and residential destination, and challenges water agencies to provide adequate and reliable water service. Table 1.3-1 shows the temperatures and rainfall.

Figure 1.1
City of Cerritos Water Service Area

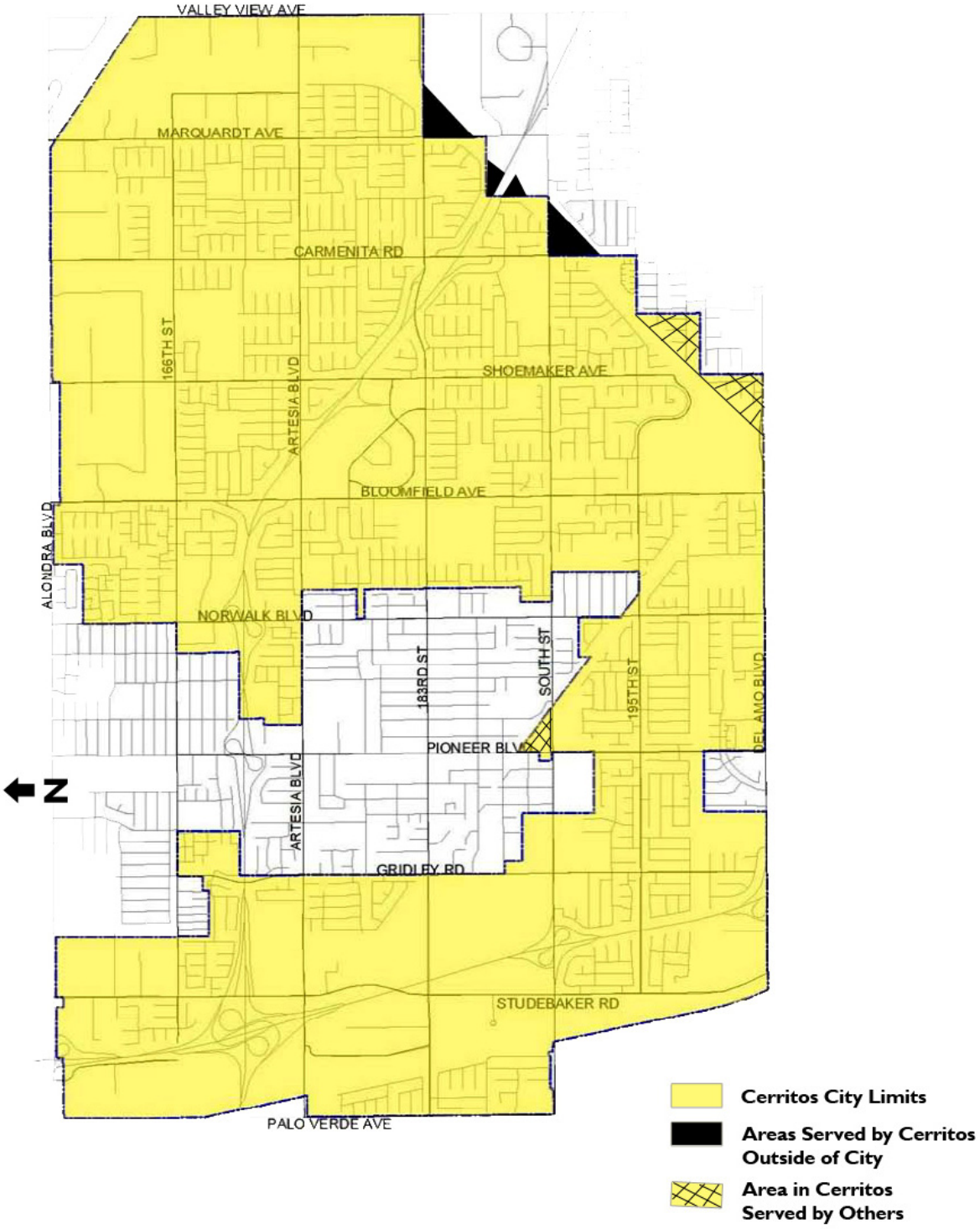

Table 1.3-1
City of Cerritos Average Temperatures and Rainfall[3]

		Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Average or Total
Temp (°F)	Max	66.9	67.2	68.4	71.6	73.5	77.0	82.3	83.9	82.3	78.0	72.2	67.0	74.2
	Min	45.6	47.3	49.7	52.3	56.8	60.3	63.8	64.8	62.8	57.9	50.5	45.4	54.8
Rainfall (inches)		2.68	2.97	1.82	0.70	0.19	0.06	0.02	0.07	0.19	0.41	1.21	1.81	12.14
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;
- 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.

[3] Data obtained from Western Regional Climate Center (WRCC), Desert Research Institute, Reno, Nevada (http://www.wrcc.dri.edu/cgi-bin/cliMAIN.pl?ca5085); WRCC program administered by the National Oceanic and Atmospheric Administration (NOAA); data extracted from monitoring Station 045085 at Long Beach, California (closest WRCC station to Cerritos with complete data) covering the period April 1, 1958 through December 31, 2010.

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 ETo whereas ET from a standardized alfalfa surface is denoted as ETr. The American Society of Civil Engineers (ASCE) recommends the use of ETos and ETrs, 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 "Kc" is used to calculate the actual evapotranspiration (ETo) 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 ETo on the CIMIS website, although there are a few notable exceptions with ETr. There are many theoretical and empirical equations around the world to estimate ETo. 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 ETo include solar radiation, relative humidity/vapor pressure, air temperature and wind speed. Therefore ETo can be estimated quite accurately using a model (a series of mathematical equations).

The monthly average ETo data shown in Table 1.3-2 has been extracted from the CIMIS Long Beach station (#174), which is the closest station to Cerritos (located in El Dorado Park Golf Course in Long Beach northwest of the intersection of 605 and 405 Freeways. This station was activated on September 22, 2000.[4]

[4] For additional information, refer to the CIMIS website at:
http://www.cimis.water.ca.gov/cimis/frontStationDetailInfo.do?stationId=174&src=info

Table 1.3-2
Average Evapotranspiration (ETo) Rates for Cerritos Area[5]

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Total
ETo (inches)	1.65	2.15	3.59	4.77	5.12	5.71	5.93	5.91	4.39	3.22	2.18	1.68	46.30

1.3.2 Demographics

Because the 2010 US Census data was not available when work commenced on this UWMP, the California Department of Finance (DOF) 2010 population estimate of 54,946 was utilized. This population was the adjusted downward by a net of 400 people who reside within the City but are provided water service by the City of La Palma. The DOF estimate represents an approximate 6.7 percent increase of the City's 2000 Census population. The Southern California Association of Governments (SCAG) has also projected 2015-2035 population data in their 2008 Gateway Cities Integrated Growth Forecast/RHNA.[6] Those projections were adjusted downward to account for the population being served by La Palma and upward to account for the Cuesta Villas senior housing project that did not appear to be included in the SCAG projection, resulting in a 2035 population of 55,905, which represents an approximate 2.5 percent increase over the current population. As noted above and depicted on Figure 1.1, the City water service area is slightly different than the City boundary and the population numbers discussed above and included in Table 1.3-3, below, have been adjusted to reflect these differences, with the exception of the 2000 Census population figure.

Because the City is built-out, it is not anticipated that any significant additional growth in population will occur over the next 25 years beyond the slight increase projected below. The area served by the City is primarily single-family residential with an estimated 3.32 people per dwelling unit.[7] The City serves 14,336 residential water service connections of which over 94 percent are single family residential with the balance being multi-family residential.[8] All but 27 of these residential connections are located within the City of Cerritos.[9]

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[5] Data based on CIMIS station #174 in Long Beach, CA, the closest station to Cerritos (http://www.cimis.water.ca.gov/cimis/monthlyEToReport.do); averages are based on the period this station has been in service, i.e., September 2000 through March 2011.

[6] Population forecast data based on 2006 SCAG projection provided by City; SCAG data is also available on their website at: http://www.scag.ca.gov/forecast/index.htm

[7] Per the U.S. Census Bureau website: http://factfinder.census.gov/servlet/ACSSAFFFacts?_event=&geo_id=16000US0612552&_geoContext=01000US%7C04000US06%7C16000US0612552&_street=&_county=cerritos&_cityTown=cerritos&_state=04000US06&_zip=&_lang=en&_sse=on&ActiveGeoDiv=&_useEV=&pctxt=fph&pgsl=160&_submenuId=factsheet_1&ds_name=null&_ci_nbr=null&qr_name=null&reg=null%3Anull&_keyword=&_industry=

[8] Per the 2010 "Public Water System Statistics" report submitted to the Department of Water Resources

[9] Per the 2005 "Public Water System Statistics" report submitted to the Department of Water Resources (the last available report showing a breakdown of connections located outside of the City)

Past and projected populations are summarized in Table 1.3-3, which depicts projections in five-year increments to the year 2035.

Table 1.3-3
City of Cerritos Water Service Area Population Projections

	2000	2010	2015	2020	2025	2030	2035
Service Area Population	51,488	54,546	54,900	54,964	55,153	55,495	55,905

Source: 2000 data from US Census Bureau; 2010 data from DOF; 2015-2035 data from SCAG, adjusted upward to include Cuesta Villas project; All figures except 2000 population adjusted downward to reflect net difference of 400 people within City but outside water service area.

1.3.3 City of Cerritos Water Utility and System Facilities

The City of Cerritos water supply comes from groundwater, imported water and recycled water. The groundwater is currently produced from three wells. In 2004 a new well, C-5 was drilled and a casing installed but it has not been equipped, to date, and once equipped, could serve as a future supplier of groundwater. Imported water is delivered through a connection from Metropolitan's system. Recycled water is produced at the Los Coyotes Reclamation Plant and pumped into a recycled water delivery system. Additional details on these facilities are provided in Sections 2 (potable) and 9 (recycled) of this UWMP.

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2 WATER SOURCES AND SUPPLIES

2.1 WATER SOURCES

The City is a member agency of Central Basin Municipal Water District (CBMWD) and retails water to its customers. CBMWD purchases imported water from Metropolitan and distributes it to its member agencies. The imported water is diverted from the Colorado River Aqueduct (CRA) and from the State Water Project (SWP), via the California Aqueduct. The City also pumps groundwater from the Central Groundwater Basin and meets nonpotable demands with recycled water. In addition to being a retailer, the City also wholesales potable water to the Golden State Water Company and the City of Norwalk. The City also provides recycled water to the City of Lakewood and Central Basin Municipal Water District.

In summary, the City has three sources of water supply:

1. Imported water from CBMWD through Metropolitan
2. Groundwater pumped from the Central Groundwater Basin
3. Recycled water

2.1.1 Metropolitan Water District of Southern California (Metropolitan)

The City purchases imported water from Metropolitan through its Metropolitan member agency, CBMWD. Metropolitan 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.

Metropolitan 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, Metropolitan has no retail customers, and distributes treated and untreated water directly to its 26 member agencies. One such member agency is CBMWD.

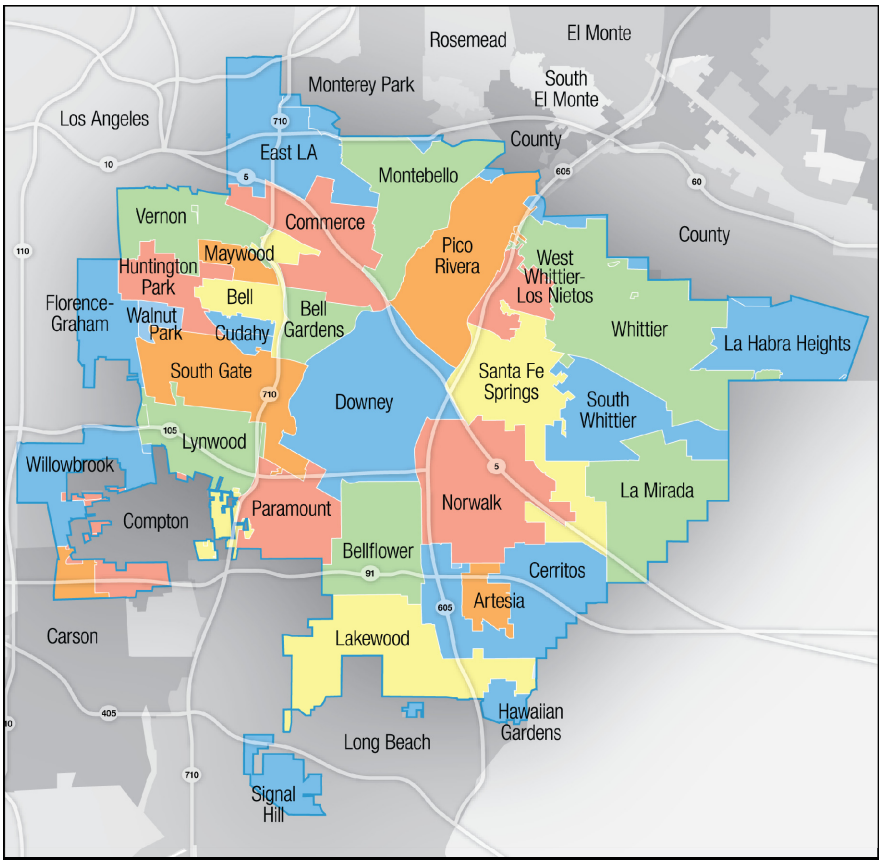
Following completion of Parker Dam and the CRA, water from the Colorado River flowed into Southern California. In the 1950's and 60's, Metropolitan participated in the construction of the California Aqueduct to provide for the importation of water from Northern California to the south. Metropolitan currently acquires water from the CRA and from northern California via the SWP to supply water to most of Southern California. As a wholesaler, Metropolitan has no retail customers, and distributes treated and untreated water directly to its 26 member agencies. One such member agency is CBMWD.

2.1.2 Central Basin Municipal Water District (CBMWD)

In 1952, CBMWD was formed to help mitigate over-pumping of groundwater resources in southeast 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 1954, CBMWD became a member agency of Metropolitan, an agency which provides the region with imported water. CBMWD is one of the largest member agencies of Metropolitan and serves more than two million people living in 24 cities in southeast Los Angeles County as well as unincorporated areas. Communities served include Artesia, Bell, Bellflower, Bell Gardens, parts of Carson, Cerritos, Commerce, Compton, Cudahy, Downey, Hawaiian Gardens, Huntington Park, La Habra Heights, Lakewood, La Mirada, Lynwood, Maywood, Montebello, Monterey Park, Norwalk, Paramount, Pico Rivera, Santa Fe Springs, Signal Hill, South Gate, Vernon, and Whittier. CBMWD also serves unincorporated areas of Los Angeles County such as East Los Angeles and South Whittier. CBMWD's service area is depicted in Figure 2.1[10]

Figure 2.1
CBMWD Service Area



[10] CBMWD Service area map and description available at: http://www.centralbasin.org/serviceArea.html

2.1.3 Water Replenishment District of Southern California (WRD)

In 1959, the State Legislature enacted the Water Replenishment Act enabling the formation of 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 in south Los Angeles County covering a 420-square mile service area. The users of the groundwater basin pump approximately 250,000 acre-feet (AF) of groundwater per year.[11] 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 populations 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 basins. The final judgments became effective on October 1, 1966 (Central Basin) and August 18, 1961 (West Coast 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.

2.1.4 Sanitation Districts of Los Angeles County (LACSD)

The City of Cerritos lies within the LACSD 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.[12] 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.[13]

The City purchases recycled water from the LACSD Los Coyotes Water Reclamation Plant for distribution within its service area.[14] More detailed information related to recycled water is discussed in Section 9 of this UWMP.

2.2 WATER SUPPLY

While the City's water supply is currently groundwater, imported water, and recycled water, the City meets most of its retail water demand with groundwater. The City purchases imported water from CBMWD to meet the balance of its demand, which includes supplying potable water to the Golden State Water Company and City of Norwalk. In calendar year 2009, imported water purchased from Metropolitan through CBMWD represented only 4.14 percent of the City's total potable water supplies, while

[11] WRD website: http://www.wrd.org/about/about-water-replenishment-district.php
[12] LACSD website: http://www.lacsd.org/civica/filebank/blobdload.asp?BlobID=2542
[13] LACSD website: http://www.lacsd.org/info/water_reuse/refy0708/default.asp
[14] Per City of Cerritos website: http://www.cerritos.us/RESIDENTS/utilities_water/water_use/recycled_water_system.php

groundwater accounted for 95.86 percent of that supply.[15] In the most recent fiscal year, FY 2010, imported water made up only 3.0 percent of the City's total potable water supplies with groundwater comprising 97.0 percent. While these percentages vary from year-to-year, historically, the majority of the City's water comes from groundwater.

Available current and projected water supplies in acre-feet per year (AFY) for Cerritos are shown in Table 2.2-1. While these are realistic projections, it is currently economically favorable for the City to utilize as much groundwater as possible. With that in mind, the City will endeavor to continue to negotiate for as much additional groundwater rights as possible in the future to ensure the most economic and reliable source of water to its customer base.

Table 2.2-1
City of Cerritos Current and Projected Water Supplies in AFY

Water Supply Sources	2010	2015	2020	2025	2030	2035
Imported Water (total)	290	2,720	3,140	3,600	3,540	3,530
Groundwater	9,310	8,680	8,680	8,680	8,680	8,680
Recycled	1,870	2,050	2,050	2,050	2,050	2,050
Total Supply (Potable + Recycled)	**11,470**	**13,450**	**13,870**	**14,330**	**14,270**	**14,260**

Note: 2010 data are actual demands for 2009/10 fiscal year (drought water allocation year); all other years are projected normal year supply totals from Table 5.2-1.

2.2.1 Imported Water

As previously noted, in the past couple of years only three to four percent of the City's potable water supply came from imported water wholesaled by CBMWD through Metropolitan. However, over the previous ten fiscal years, imported water averaged 13.5 percent of the total potable supply, which is more representative of the long term average. The City maintains one imported water connection to Metropolitan's system located in the area of South Street and Palo Verde. This connection has a capacity of 30 cubic feet per second (cfs).

2.2.2 Groundwater

Extensive pumping from the Central Groundwater Basin (Basin) in the past has led to critical overdraft and seawater intrusion. In 1966, the Los Angeles Superior Court adjudicated groundwater pumping rights. Although the City was not an original party included in the Judgment, the City has since acquired water rights in the Basin from other party members in the amount of 4,680 AF.

[15] Per City of Cerritos 2009 Annual Water Quality Report available at: http://www.cerritos.us/RESIDENTS/_pdfs/water_quality_report_2009.pdf

WRD tracks the amount of groundwater production (pumping) that occurs annually in the Central and West Coast groundwater basins to identify trends that may impact groundwater resources. 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, which are captured in the regional spreading grounds.

Central Groundwater Basin (Basin)

The Basin occupies a large portion of the southeastern part of the Coastal Plain of Los Angeles County and has a total storage capacity of 13,800,000 AF. On the north, the Basin is bounded by the La Brea high, and on the northeast and east, the Basin is bounded by emergent less permeable Tertiary rocks of the Elysian, Repetto, Merced and Puente Hills. The southeast boundary between the Basin and Orange County Groundwater Basin roughly follows Coyote Creek. The southwest boundary is formed by the Newport Inglewood fault system and the associated folded rocks of the Newport Inglewood uplift. The Los Angeles and San Gabriel Rivers drain inland basins and pass across the surface of the basin on their way to the Pacific Ocean.[16]

Water bearing formations include Holocene and Pleistocene age sediments at depths that range from 1,000 feet to 2,200 feet. The Basin is divided into two forebays and two pressure areas; the Los Angeles forebay, the Montebello forebay, the Whittier pressure area, and the Basin pressure area. Both forebays have unconfined groundwater conditions and relatively interconnected aquifers that extend up to 1,600 feet deep to provide recharge to the aquifer system. The Basin pressure area is the largest of the four divisions and contains many aquifers of permeable sands and gravels separated by semi-permeable to impermeable sandy clay to clay and extends 2,200 feet below the surface. Historically, groundwater flow in the Basin has been from recharge areas in the northeastern part of the sub-basin, toward the Pacific Ocean on the southwest.[17]

Figure 2.2 depicts the locations of both the Central and West Coast Basins.[18]

Adjudication

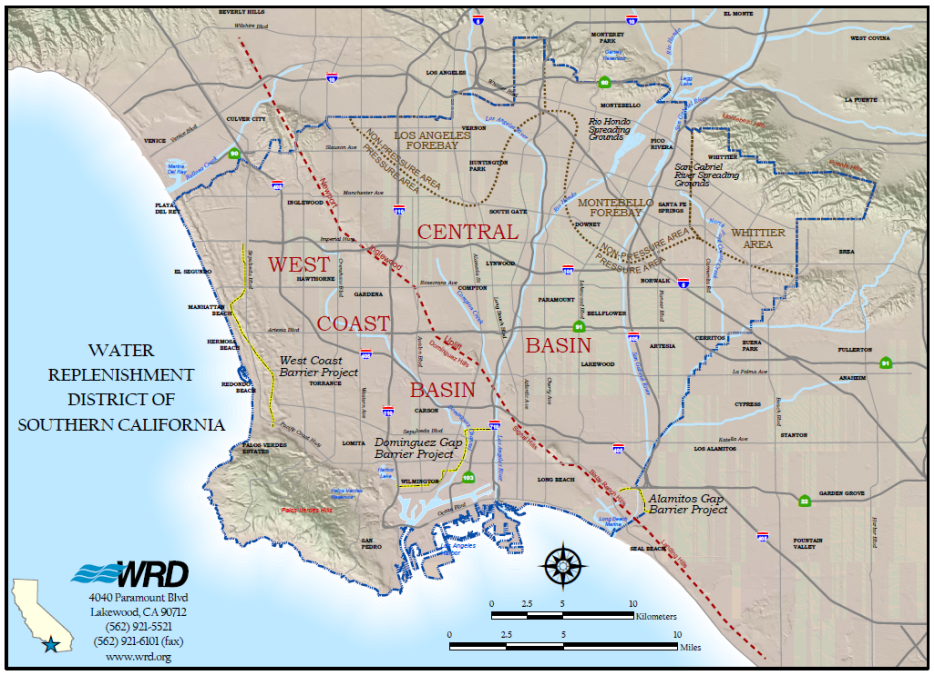
Groundwater in the Basin was adjudicated (Judgment) to protect the underground water supply. Prior to adjudication, annual pumping rates throughout the Basin reached levels as high as 292,000 AF. In the early 1960's, the Superior Court, County of Los Angeles limited the amount of pumping that could occur because the groundwater levels were declining causing the seawater to intrude into the coastal aquifers. The Basin adjudicated rights were set at 271,650 AFY. The Judgment, however, set a lower Allowed Pumping Allocation of 217,367 AFY.[19] The adjudicated pumping amounts were set higher than

[16] DWR, California's Groundwater Bulletin 118, 2004
[17] California Department of Water Resources (DWR) 1961, Planned Utilization of the Groundwater Basins of the Coastal Plain of Los Angeles County, Bulletin No. 104
[18] The map can be found on WRD's website at: http://www.wrd.org/DistrictMap.pdf
[19] Information extracted from WRD 2010 Engineering Survey and Report available at: http://www.wrd.org/engineering/reports/May11_2010_ESR_Final_Report.pdf

the natural replenishment of groundwater, hence the annual overdrafts. A copy of the order adopted by the court describing the legal right to pump groundwater (Judgment) is included in Appendix D. The order adopted by the court, however, does not include the City as an original participant. Since the order was adopted, the City has purchased additional rights from others and now owns 4,680.03 AFY of groundwater rights. Groundwater production in the Basin is regulated by DWR, acting as Watermaster, and by WRD.

Groundwater production in the Central Basin has been fairly consistent over the past five years, ranging from 191,030 AF to 206,260 AF and averaging 197,712 AFY during that period.[20] The amount of water that member agencies are allowed to pump is set annually, but the values remain fairly constant. The City's adjudicated pumping rights for 2009/10 were 4,680.03 AFY. The Judgment also allows water users to carryover any unused water rights up to 20% of their water right as well as extract up to 10% beyond their allowable pumping rights within a given year.[21] In 2009/10, the City had 2,290.74 AF in carryover rights from 2008/09. Frequently, the City pumps in excess of its adjudicated water rights due to its ability to lease water rights from other purveyors. In 2009/10 the City leased 5,800 AF from other entities resulting in a total allowable pumping right of 12,770.77 AF.[22]

Figure 2.2
West Coast Basin and Central Basin Location Map



[20] Ibid.
[21] Ibid.
[22] DWR, Watermaster Service in the Central Basin Los Angeles County July 1, 2009 – June 30, 2010, October 2010 available at: http://www.water.ca.gov/watermaster/sd_documents/central_basin_2010/centralbasinwatermasterreport2010.pdf

Groundwater Production and Overdraft

In 2010, groundwater supply met approximately 68 percent of the water supply demand for agencies within the CBMWD.[23] During the water year 2009/10, total basin production for all agencies was approximately 205,960 AF.[24] 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 continually monitors groundwater level trends. WRD does not produce a groundwater management report since the Central Basin and West Coast Basin are adjudicated basins and are exempt from the AB3030 plans; therefore no such report can be appended to this Plan. However, they do prepare an annual Engineering Survey Report. WRD's annual Engineering Survey and Report discusses groundwater levels within the basins and estimates water levels fell up to 15 feet in the Central Basin while levels in the West Coast Basin remained generally flat. WRD estimates that the annual overdraft for 2009/10 for both basins was 95,800 AF with an overall loss in groundwater storage of 51,500 AF (after accounting for replenishment water). The 30-year average annual overdraft for both basins is 105,385 AF.[25] The accumulated overdraft of the basins fluctuates depending on demands and availability of replenishment water. The accumulated overdraft was determined to be 749,700 AF for both basins in 2009/10.[26]

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, Metropolitan, and LACSD 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 Metropolitan in wells along the West Coast Barrier Project (between

[23] Central Basin Municipal Water District, Draft 2010 UWMP, March 2010, available at: http://www.centralbasin.org/press_releases/Draft-2010-Urban-Water-Management-Plan.pdf
[24] Ibid.
[25] Ibid.
[26] WRD of Southern California 2010 Engineering Survey Report

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 Cerritos Groundwater Wells

Groundwater is currently produced from three deep operating wells that vary in depth from 765 feet to 1,000 feet, with production varying from 2,000 gallons per minute (gpm) to 3,800 gpm, with an existing total system capacity of approximately 9,600 gpm as shown in Table 2.2-2. The City's future system capacity is anticipated to be 11,850 once Well C-5 is equipped and brought on line in the future. All wells are located within the City of Cerritos accessing the Central Groundwater Basin (precise locations not divulged for security purposes).

Table 2.2-2
Active and Planned Wells

Well No.	Depth (feet)	Design Flow (gpm)	Status
C-1	765	2,000	Active
C-2	1,000	3,800	Active
C-4	1,000	3,800	Active
Existing Total Capacity		**9,600**	
C-5[1]	1,230	2,250	Planned
Future Total Capacity		**11,850**	

[1] Well C-5, was recently drilled and will be equipped in the coming years. Although it was designed for 3,500 gpm, it is currently planned to be pumped at only 2,250 gpm.

Table 2.2-3 summarizes the amount of groundwater pumped by the City for the years 2005 through 2010.

Table 2.2-3
Amount of Groundwater Pumped in AFY (Rounded to the Nearest 10 AF)

Basin	2005	2006	2007	2008	2009	2010
Central Groundwater Basin	10,430	12,030	11,810	11,420	10,020	9,310

Note: The period shown is fiscal years. For example, the total groundwater pumped in 2010 is from July 1, 2009 to June 30, 2010. Data provided by City.

Table 2.2-4 shows the amount of water that is projected to be pumped from the Basin in the next 25 years. The amount of groundwater pumped from the Basin is limited by the City's adjudicated water rights, currently 4,680 AFY. The City anticipates continuing to lease approximately 4,000 AFY from others; therefore, the projected amount of groundwater pumping is anticipated to be 8,680 AFY. The new well, C-5, once equipped will assist the City in pumping additional groundwater.

Table 2.2-4
Amount of Groundwater Projected to be Pumped in AFY

Basin	2015	2020	2025	2030	2035
Central Groundwater Basin	8,680	8,680	8,680	8,680	8,680

2.2.3 Recycled Water

As the City transitioned from an agricultural to urban community, it became apparent that potable water should not be relied upon as a reliable source of supply for irrigation. The City, working closely with the LACSD, implemented the first use of recycled water at the City's nine-hole golf course. The use of recycled water within the City has since expanded to include over 250 customers. Recycled water is purchased from the Los Coyotes Water Reclamation Plant located west of the 605 Freeway and north of the 91 freeway, adjacent to the City's Iron-wood Nine Golf Course. In addition to serving customers within its service area, the City also sells recycled water to the City of Lakewood. The City's use of recycled water augments valuable groundwater and imported water within the area. Detailed information related to recycled water is included in Section 9.

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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. 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 and as in years past, the water delivered to the City's customers, including the agencies within its wholesale zone, meets the standards required by the state and federal regulatory agencies.[27] As mentioned earlier, the City's source of water is from imported water supplies, groundwater and recycled water.

3.1.1 Imported Water

The City receives imported water from CBMWD 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 Metropolitan's 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"; however, the City's supply comes mainly from the Robert B. Diemer Filtration Plant in Yorba Linda.

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.[28] Metropolitan 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, Metropolitan monitors and samples substances that are not regulated but have captured scientific and/or public interest. Metropolitan has tested for chemicals such as perchlorate, methyl tertiary butyl ether (MTBE), and chromium VI among others.

[27] The City's 2010 Annual Water Quality Report is available at: http://www.cerritos.us/RESIDENTS/_pdfs/water_quality_report_2010.pdf

[28] 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

Metropolitan's October 2010 Integrated Water Resources Plan (IRP) Update[29], notes that water quality is intrinsically tied to supply reliability. Additionally, Metropolitan'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."[30]

The major water quality concerns Metropolitan 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 Metropolitan sources of supply, averaging 630 milligram per liter (mg/L) since 1976.[31] 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, Metropolitan blends SWP water with Colorado River water to reduce the salinity in the water delivered to its customers. Metropolitan's board has adopted a salinity objective of 500 mg/L for blended imported water as defined in Metropolitan's Salinity Management Action Plan. Metropolitan 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

[29] 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

[30] 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

[31] 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. Metropolitan 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 (µg/L) in May 1998. Since 2002, levels have remained less than 6 µg/L and have typically been less than 2 µg/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 µg/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 contaminant[32]

In addition to the Lake Havasu site, Metropolitan also routinely monitors perchlorate at 34 locations within its system. Monitoring data from these locations reflect non-detectable levels (below 2 µg/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 Metropolitan'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 Metropolitan, 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 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

[32] Ibid., page 4-8

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, Metropolitan 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. Metropolitan 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. Metropolitan 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, Metropolitan 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, Metropolitan 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. Metropolitan water supplies have historically had low levels of arsenic and have therefore not required treatment to comply with this standard. However, some of Metropolitan'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, Metropolitan has restricted the use of such groundwater programs, thereby limiting the introduction of arsenic into the SWP. Metropolitan 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)).[33]

In all cases, arsenic levels detected in Metropolitan'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, arsenic levels in Metropolitan'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.

[33] 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.

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). Metropolitan 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 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 Metropolitan 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.

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.

Metropolitan 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. Metropolitan's 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.

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 Metropolitan 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.

Metropolitan 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 ranged from non-detect (< 0.002 µg/L) to 0.014 µg/L.

Metropolitan 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, Metropolitan 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. Metropolitan 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 Metropolitan 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.

Imported Water Quality Programs

Metropolitan 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 Metropolitan's water sources were completed in 2005 and 2006[34]. 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. Metropolitan 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 – Metropolitan 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 – Metropolitan 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 times of lesser water quality, thus providing better overall water quality through dilution of SWP water deliveries.
- Water Supply Security – In 2001, Metropolitan 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 (Metropolitan 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.

3.1.2 Groundwater

Both CBMWD and WRD actively monitor the Basin for water quality issues. CBMWD assists purveyors in its service area in meeting drinking water standards through its *Cooperative Basin-Wide Title 22 Groundwater Quality Program*. The program includes

[34] 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*.

wellhead testing, reservoir sample collecting, water quality testing, and reporting services.[35]

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 points[36]. 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)[37] 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.

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 below[38].

Total Dissolved Solids (TDS)

TDS measures the total mineralization of water and is a good indicator or 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.

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[35] Per CBMWD's April 2011 Draft 2010 UWMP, page 5-1, available at this site:http://www.centralbasin.org/press_releases/Draft-2010-Urban-Water-Management-Plan.pdf results obtained from this program are reported annually by WRD.

[36] 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

[37] 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

[38] Ibid. http://www.wrd.org/engineering/pdf/08_09%20RGWMR%20Final.pdf;

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.

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.

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.

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.

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.

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.

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.

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.

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.

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.

Groundwater Water Quality Programs

CBMWD 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 Metropolitan's imported water as well as water quality concerns associated with Basin groundwater supplies. The same water quality concerns of Metropolitan, CBMWD, 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 Metropolitan, CBMWD, and WRD as described earlier.

4 WATER RELIABILITY PLANNING

4.1 RELIABILITY OF WATER SUPPLIES

This section provides a description of the efforts of METROPOLITAN, CBMWD, WRD, and the City of Cerritos 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 Metropolitan and delivered by CBMWD. 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. The following sections will discuss these agencies as well as the RWQCB, 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.

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

4.1.1 Regional Agencies and Water Reliability

Metropolitan Water District of Southern California (Metropolitan)

Metropolitan 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.

Metropolitan 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, Metropolitan has no retail customers, and distributes treated and untreated water directly to its 26 member agencies. One such member agency is the Central Basin Municipal Water District (CBMWD), of which the City of Cerritos is a member agency.

Through a series of Integrated Resources Plans initiated in 1996 and most recently updated in 2010, Metropolitan 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, Metropolitan 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.

Metropolitan provides imported water supplies to the City through the City's Metropolitan member agency, CBMWD. Metropolitan 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 CBMWD 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 Metropolitan are the largest Contractors with DWR for SWP water.[39]

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.[40]

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 Cerritos overlies the Central Groundwater Basin (Basin) and can utilize the Basin to smooth out seasonal peaks, its imported water reliability is enhanced.

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

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

For some member agencies, Metropolitan supplies all the water used within their service area, while others obtain varying amounts of water from Metropolitan to supplement

[39] 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 .

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

local supplies. Metropolitan has provided between 45 and 60 percent of the municipal, industrial and agricultural water used in its service area.[41]

Historical water demands in the Metropolitan 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.[42] For the Los Angeles County service area, according to Metropolitan, demands are projected to decrease approximately 3.2 percent between 2010 and 2035.[43] Table 4.1-1 shows the historic and projected total retail water demands for Metropolitan'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.[44]

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

Actual			Interpolated	Projected				
1995	2000	2005	2010	2015	2020	2025	2030	2035
1,558,000	1,739,000	1,643,000	1,762,000	1,704,000	1,664,000	1,676,000	1,694,000	1,705,000

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 Metropolitan's original source of water after the agency's establishment in 1928. Metropolitan 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 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.

[41] Metropolitan Water District of Southern California, Regional 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
[42] Ibid., Table A.1-5
[43] Ibid., Table A.1-5
[44] Ibid., Table A.1-5

The Colorado River Aqueduct, which is owned and operated by Metropolitan, 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 Metropolitan's member agencies, subject to availability of Colorado River water for delivery to Metropolitan 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, Metropolitan 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, Metropolitan holds the fifth priority right to 662,000 acre-feet of water, which is in excess of California's basic apportionment.

Until 2002, Metropolitan 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, Metropolitan could divert over 1.2 million acre-feet in any year, but since that time, Metropolitan'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 2010[45].

Metropolitan 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 Metropolitan 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 Metropolitan by 85,000 acre-feet and, by prior agreement, to the Coachella Valley Water District (CVWD) by 20,000 acre-feet.[46]

In 1992, Metropolitan 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. Pursuant to this agreement, CAWCD created 80,909 acre-feet of long-term storage credits that may be recovered by CAWCD for Metropolitan. Metropolitan, 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

[45] Ibid., Table A.2-1
[46] Ibid, Page A.3-4

recovered. Metropolitan 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 Metropolitan under its Colorado River water delivery contract.

In April 2008, Metropolitan'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, Metropolitan 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.

Metropolitan 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 Metropolitan 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.[47]

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 Metropolitan, 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, Metropolitan 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 Metropolitan's service area and storage programs.

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

[47] Ibid, page A.3-7

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 Metropolitan's member agencies' ability to plan for future growth and supply. On an annual basis, each of the 29 SWP contractors, including Metropolitan, request an amount of SWP water based on their anticipated yearly demand. In most cases, Metropolitan's requested supply is equivalent to its full Table A Amount,[48] 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 Metropolitan 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 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.

[48] 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.

Table 4.1-2
SWP Deliveries to Metropolitan (AF)[49]

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	1,529,200	80%

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 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.

[49] 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 2011, March 2011, and April 2011, increasing the allocation to 50%, 60%, 70% and 80%, respectively. Metropolitan's full Table A amount is 1,911,500 AFY

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 Metropolitan.

Based on DWR estimates of SWP deliveries under the Interim Remedial Order, and assuming an equal division of curtailments between the SWP and CVP,[50] Metropolitan has met firm demands in calendar years 2008, 2009 and 2010. However, Metropolitan 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, Metropolitan 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, Metropolitan 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 Metropolitan. If necessary, mandatory water allocations could be imposed in the future to cause further reductions in water use and reduce drawdown from water storage reserves. Metropolitan's member agencies and retail water suppliers in Metropolitan's service area

[50] 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.

also have the ability to implement water conservation and allocation programs, and many of the retail suppliers in Metropolitan'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 Metropolitan'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 Metropolitan's service area and accomplishing the reliability goal set by Metropolitan's Board of Directors.

Metropolitan 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 Metropolitan's 2010 Regional UWMP:

- *Semitropic Storage Program*: Metropolitan 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 Metropolitan can store in and subsequently expect to receive from the programs depends upon hydrologic conditions, any regulatory requirements restricting Metropolitan'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 Metropolitan. During wet years, Metropolitan 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 Metropolitan'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 Metropolitan's previously stored water to Metropolitan by direct groundwater pump-in return and the exchange of State Water Project entitlement water.
- *Arvin-Edison Storage Program*: Metropolitan 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 Metropolitan can expect to store in and subsequently receive from the programs depends upon hydrologic conditions and any regulatory requirements restricting Metropolitan's ability to export water for storage. The storage program is estimated to deliver 75 TAF. During wet years, Metropolitan 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 Metropolitan'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 Metropolitan's previously stored water to Metropolitan 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 Metropolitan 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 Metropolitan's

previously stored water to Metropolitan 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*: Metropolitan 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 Metropolitan has secured water transfer supplies as a resource to fill anticipated supply shortfalls needed to meet Metropolitan's service area demands.
    - In 2003, Metropolitan 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 Metropolitan'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, Metropolitan purchased approximately 125 TAF of water for delivery to the California Aqueduct.
    - In 2005, Metropolitan, 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 Metropolitan's share was 113 TAF. Metropolitan 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, Metropolitan and the other State Water Contractors did not exercise these options.
    - In 2008, Metropolitan in partnership with seven other State Water Contractors, secured approximately 40 TAF of water from willing sellers in the Sacramento Valley, of which Metropolitan's share was approximately 27 TAF.
    - In 2009, Metropolitan in partnership with eight other buyers and 21 sellers participated in a statewide Drought Water Bank, which secured approximately 74 TAF, of which Metropolitan's share was approximately 37 TAF.

Metropolitan'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, Metropolitan 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, Metropolitan also manages or participates in the following existing SWP programs located outside of its service area:

- *Sacramento Valley Water Management Agreement (Phase 8 Settlement)*: Metropolitan 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*: Metropolitan 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:* Metropolitan 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 Metropolitan with additional options for managing SWP deliveries to maximize yield from the project.
- *Yuba Dry-year Water Purchase Program*: In December 2007, Metropolitan entered into an agreement with DWR providing for Metropolitan'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, Metropolitan 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 Metropolitan and DWCV. While Metropolitan 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, Metropolitan is able to recall the SWP transfer water in years in which Metropolitan determines it needs the water to meet its water management goals. The main benefit of the agreement is to reduce Metropolitan's SWP fixed costs in wetter years when there are more than sufficient supplies to meet Metropolitan's water management goals, while at the same time preserving its dry-year SWP supply.

- *DWCV Advance Delivery Program*: Under this program, Metropolitan 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 Metropolitan's exchange obligations, Metropolitan is able to receive DWCV's available SWP supplies in years in which Metropolitan's supplies are insufficient without having to deliver an equivalent amount of Colorado River water.
- *DWCV Other SWP Deliveries*: Since 2008, Metropolitan 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, Metropolitan has taken a number of actions to secure a reliable water source for its member agencies. Metropolitan 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.[51] Additional actions taken by Metropolitan during the first half of 2008 include the adoption of a $1.9 billion spending plan, increased rates and charges,[52] and the funding of a new reservoir to benefit Colorado River supply capabilities.[53] Metropolitan'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 efforts.[54]

Metropolitan 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:

[51] Metropolitan Water District Press Release dated February 12, 2008.
[52] Metropolitan Water District Board Meeting, March 11, 2008, and Press Release of same date, regarding spending plan and adoption of rates and charges.
[53] Metropolitan Water District Board Meeting, April 8, 2008, and Press Release of same date, regarding new reservoir.
[54] 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. Metropolitan 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 Metropolitan'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, Metropolitan 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 Metropolitan's service area with a contractual yield of more than 115,000 AF during dry conditions. Metropolitan has allocated $52.4 million to these programs to date. Metropolitan also has about 63,000 AF in local supplemental storage through agreements with several member agencies.

In-Basin Surface Water Storage

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

Central Basin Municipal Water District (CBMWD)

Although the reliability of CBMWD's water supply relies heavily on Metropolitan, CBMWD has also invested in recycled water to help improve its overall system reliability. Utilizing recycled water helps CBMWD reduce its vulnerability to extended drought or emergency shortage events.

CBMWD also continues to actively support conjunctive use programs for the Central Groundwater Basin.[55] Since the early days of groundwater basin adjudication, it has been recognized that a groundwater storage program, utilizing available surface water supplies, would offer tremendous advantages for all pumpers in the Central Basin region. Storing water for later use is the key to ensure reliability for any city or water agency.

Conjunctive Use Storage can be defined as the coordinated management of surface and groundwater supplies to increase the yield of both supplies and enhance water supply reliability in an economic and environmentally responsible manner. The benefits of a Conjunctive Use Storage program include:

- Improving operational flexibility for groundwater production;
- Increasing the yield of the basin;
- Maximizing More efficient use of surplus surface water during wet years;
- Financial benefits to groundwater users;
- Better distribution of water resources; and
- Increased overall reliability.

Central Basin envisions the development of a Conjunctive Use Storage Program as part of a larger Water Management Program to bring groundwater levels up to appropriate levels thereby improving the condition of the basin. This is part of CBMWD's core responsibility to ensure a reliable supply of water for its service area and to protect the Central Groundwater Basin. In 2011, Central Basin began its environmental review process (California Environmental Quality Act or CEQA) to develop a groundwater storage program with the general public invited to provide input. Over the next year, that program will be defined through a series of public meetings. CBMWD expects to roll out its Groundwater Storage Plan in early 2012.

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.[56] WRD meets this requirement by participating in numerous projects and programs directly related to the

[55] Information on CBMWD's support of conjunctive use programs has been extracted from the District's March 2011 Draft 2010 UWMP available at: http://www.centralbasin.org/press_releases/Draft-2010-Urban-Water-Management-Plan.pdf

[56] 2010 WRD Engineering Survey and Report, Updated May 11, 2010.

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

Regional Water Quality Control Board – Los Angeles Region 4

Background

The State Water Resources Control Board (SWRCB) and the nine Regional Water Quality Control Boards (RWQCB or Regional Board) are responsible for the protection and, where possible, the enhancement of the quality of California's waters. The 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 Plan[57] 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 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 TMDLs.[58]

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

[57] 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

[58] 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

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 Cerritos lies entirely within the San Gabriel River 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

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

Metropolitan Water District Supplies and Demands

As previously noted, the City of Cerritos obtains its imported water from CBMWD, its Metropolitan member agency. As a part of its Integrated Water Resources Plan Implementation Report process (IRP)[59], and more recently in its November 2010 Regional Urban Water Management Plan (RUWMP), Metropolitan 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 Metropolitan's supply.

[59] 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.

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

Based on Metropolitan's 2010 RUWMP and 2010 IRP, Tables 4.2-1 and 4.2-2 herein summarize Metropolitan'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 Metropolitan's 2010 RUWMP for a description of these programs under development, but they include only programs Metropolitan 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 Metropolitan and also include Metropolitan'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.

Table 4.2-1
Metropolitan'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 Metropolitan's 2010 RUWMP, adopted by the Board on November 9, 2010 (Tables 2-9 and 2-11).

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

Table 4.2-2
Metropolitan'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 Metropolitan's November 2010 RUWMP, adopted by the Board on November 9, 2010, (Tables 2-10 and 2-11).

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

4.3 VULNERABILITY OF SUPPLY FOR SEASONAL OR CLIMATIC SHORTAGE

As noted in Section 1, the City of Cerritos is situated in a semi-arid environment. The area must therefore depend on imported water supplies to some extent because 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 four periods of severe drought: 1928-34, 1976-77, 1987-91 and 2008-2010. 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 source of water for the SWP. Southern California sustained few adverse impacts from the 1976-77 drought, due in large part to the availability of Colorado River water and groundwater stored in the basin. Flows in the Colorado River are also impacted by climatic changes.

As a result, the City may be 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 Metropolitan Water Surplus and Drought Management (WSDM) Plan and Water Supply Allocation Plan, along with implementation of the appropriate stage of the City'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

4.4.1 City of Cerritos Projects

The City continually reviews practices that will provide its customers with adequate and reliable supplies. Trained staff ensures the water is safe and the supply will meet present and future needs in an environmentally and economically responsible manner. The City coordinates its long-term and water shortage planning with CBMWD and WRD. The reliability of the City's water supply is dependent on the reliability of both groundwater and imported water supplies, managed by WRD and Metropolitan, respectively.

The City projects that water demands within its service area could remain relatively constant over the next 20 years due to minimal growth combined with water use efficiency measures and the use of recycled water. Water use efficiency measures described in Section 7 and recycled water use described in Section 9 of this Plan have the potential to reduce overall demand on potable water. Any new water supply sources will be to replace or upgrade insufficient wells or add new wells rather than to support population growth and new development. The projects that have been identified to improve the City's water supply reliability and enhance the operations of the City's facilities include the following:

- Rehabilitation of Well C-2 – This well will be rehabilitated during in 2012.

- NPDES Projects – The City has an ongoing program involving implementation of construction projects related to the National Pollutant Discharge Elimination System (NPDES) Municipal Storm Water Permit.

- Structural Upgrades to the City's Three Reservoirs – An evaluation will be conducted to determine the possible need to upgrade these reservoirs. The investigation and implementation of these improvements will be scheduled, if warranted, during the 2011 to 2015 period.

- SCADA System Upgrades – The Supervisory Control and Data Acquisition (SCADA) system monitors critical components of the City's water system and allows staff to make necessary changes 24 hours a day. This upgrade will be implemented during the 2011 to 2015 period.

- Equipping Well No. C-5 – The City recently drilled a new potable well, C-5, with a 2,200 gpm capacity. The City plans on equipping Well C-5 during the 2011 to 2015 period and using it help meet peak summer demands and will also allow the City to lease additional groundwater rights from the Basin thus reducing the demand on imported water. Table 4.4-1 summarizes the capacity of the new Well C-5 during normal, single-dry, and multiple-dry years, once placed into operation.

Table 4.4-1
City of Cerritos Future Water Supply Projects (AFY)

Project Name	Normal-year	Single Dry-year	Multiple-Dry Years		
			Year 1	Year 2	Year 3
Well C-5	3,550	3,550	3,550	3,550	3,550

Note: Well C-5 will add capacity to the City; however, the City is limited to its adjudicated water rights and therefore the well is not necessarily new water unless the City acquires groundwater rights from others in the Basin.

4.4.2 Regional Agency Projects

Since the City purchases imported water through Metropolitan's member agency CBMWD, the projects implemented by Metropolitan and CBMWD to secure their water supplies have a direct effect on the City. In addition, WRD's planned projects and programs for groundwater will also impact the City.

Metropolitan Water District of Southern California (Metropolitan)

Metropolitan 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 Metropolitan'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

Metropolitan'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

Metropolitan 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 Metropolitan's service area. Recycled uses include irrigation, commercial and industrial, seawater intrusion barriers, and groundwater recharge applications. Metropolitan 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.

Metropolitan recognizes the importance of member agencies developing local supplies and has implemented several programs to provide financial assistance. Metropolitan'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 Metropolitan's service area. Additional information on the SDP program is included later in this section.

Regional Groundwater Conjunctive Use Target

Other programs within Metropolitan, 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. Metropolitan has also developed a number of local programs to increase storage in the groundwater basins. The programs include:

- *North Las Posas*: In 1995, Metropolitan and Calleguas Municipal Water District developed facilities for groundwater storage and extraction from the North Las Posas Basin. Metropolitan 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 Metropolitan 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, Metropolitan 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*: Metropolitan 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 Metropolitan 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
- DWCV SWP Table A Transfer
- DWCV Advance Delivery Program
- DWCV Other SWP Deliveries

Colorado River Aqueduct (CRA) Target

Metropolitan also receives imported water from the CRA. Metropolitan, 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 Metropolitan meet their target goal of 1.2 MAF per year from the CRA. The following information on these programs has been extracted from the Metropolitan's 2010 Regional UWMP:

- *Imperial Irrigation District / Metropolitan Water District Conservation Program:* Under a 1988 agreement, Metropolitan 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, Metropolitan 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 Metropolitan 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, Metropolitan'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 Metropolitan. This program provides up to 133 TAF of water available to Metropolitan 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 Metropolitan. In March 2009, Metropolitan 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 Metropolitan 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 Metropolitan, 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 Metropolitan when there is space available in the CRA to receive the water. Metropolitan has received 70 TAF through 2009. SNWA may call on Metropolitan to reduce its Colorado River water order to return this water no earlier than 2019, unless Metropolitan agrees otherwise.
- *Lower Colorado Water Supply Project*: In March 2007, Metropolitan, the City of Needles, and the USBR executed a Lower Colorado Water Supply Project contract. Under the contract, Metropolitan 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 Metropolitan 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, Metropolitan received 2.3 TAF from this project.

- *Lake Mead Storage Program*: In May 2006, Metropolitan 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 Metropolitan 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, Metropolitan created 44.8 TAF of "Intentionally Created Surplus" (ICS) water. In December 2007, Metropolitan 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. Metropolitan 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, Metropolitan 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 Metropolitan 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 Metropolitan as System Efficiency ICS. As of January 1, 2010, Metropolitan had 66 TAF of System Efficiency ICS water in Lake Mead.

  In 2009, Metropolitan 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. Metropolitan'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 Metropolitan 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, Metropolitan may pursue this program and develop storage capacity of about 400 TAF.

CVP/SWP Storage and Transfers Target

Metropolitan 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

Metropolitan'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.[60]

Central Basin Municipal Water District (CBMWD)

CBMWD's 2010/2011 fiscal year budget identifies several improvement projects aimed at improving overall system reliability of the District's recycled water system. These improvements, which will benefit the entire region, include the following projects and programs:[61]

[60] Metropolitan's 2010 Regional UWMP, Table 3-3
[61] Information presented here was extracted from CBMWD's 2010/11 FY Budget which is available at: http://www.centralbasin.org/publications/Budget2010-2011.pdf

- *Southeast Water Reliability Project (SWRP)* – CBMWD has begun the construction of SWRP pipeline, which will deliver recycled water from District's Rio Hondo pump station. This project will complete a looped system that will greatly enhance the Central Basin's operational reliability and flexibility. Irrigation and industry will use the recycled water provided by SWRP and eventually conserve up to 4 billion gallons of potable water annually.
- *Pico Rivera-Mines Avenue Project* – The Pico Rivera-Mines Project involves construction and connection of a 12-inch diameter recycled water pipeline in the City of Pico Rivera and through unincorporated areas of Los Angeles County. The project will serve recycled water to the northern portion of the Pico Rivera. The pipeline will connect to the District's existing recycled water system on Mines Avenue and extend along Mines under the I-605 Freeway, across the San Gabriel River. The project will serve multiple irrigation sites in Pico Rivera.
- *Caltrans Pipeline Relocation* – A portion of Central Basin's existing recycled water distribution system will require relocation due to Caltrans' proposed widening of Interstate 5 Freeway.
- *E. Thornton Ibbetson and Esteban E. Torres Water Recycling Systems* – The expansion of these two major water recycling systems is continuing through the construction of new recycled water laterals. In future years, many new laterals will be constructed, which will branch off of the SWRP and serve several new customers. Minor improvements to existing facilities including pipelines, pump stations, reservoirs, and other facilities will also be made on an as-needed basis to enhance the safety, reliability, and efficiency of the system.
- *Miscellaneous Retrofits and Laterals* – CBMWD is also continuing to identify additional potential recycled water customers. Customer retrofit costs have been estimated and used to evaluate the economic viability of each site. Potential customers have been prioritized based on cost effectiveness, difficulty of retrofit, customer interest, institutional issues, and other factors.
- *Recycled Water Master Plan Update* – This update will improve overall system operation.
- *Water Quality Protection Plan* – In addition to the previously referenced capital projects, CBMWD developed and continues to support the Water Quality Protection Plan (WQPP). The WQPP was developed to protect the Central Groundwater Basin from the migration of volatile organic compounds (VOC's) through the Whittier Narrows. The WQPP takes groundwater contaminated with VOC's and treats it to meet drinking water standards using granular activated carbon (GAC). The impaired groundwater is extracted through two wells in the City of Pico Rivera. The water is pumped to the GAC treatment facility located on the City of Whittier's site next to CBMWD's Rio Hondo Pump Station in the City of Pico Rivera. The treated water is sold to the Cities of Pico Rivera, Whittier, and Santa Fe Springs.

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 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.

4.5 EXCHANGE OR TRANSFER OPPORTUNITIES

In addition to the 4,680 AF of groundwater rights the City owns, it often enters into lease agreements with other pumpers for additional groundwater supplies. These leases are on a short-term basis and the City takes advantage of them if they are made available. Outside of groundwater leases, the City has not entered into any agreements for the

transfer or exchange of water. However, Metropolitan 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 Metropolitan

As noted in its 2010 Regional UWMP, Metropolitan 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. Metropolitan'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.

Metropolitan has encouraged the development of seawater desalination projects since it created the Seawater Desalination Program (SDP) in 2001. Metropolitan 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 Metropolitan'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.

Metropolitan 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.

Metropolitan 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 website[62], 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.

[62] DWR's desalination website can be accessed at this link: http://www.water.ca.gov/desalination/

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 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.[63]

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.

[63] 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 COMAPARISON 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 SBX7-7 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 (Cerritos 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 Cerritos' baseline water usage and 2015 and 2020 per capita water conservation targets can be found in Appendix E, a Technical Memorandum dated March 29, 2011, entitled "*20x2020 Baseline Calculation & Water Use Target Method Selection*."

As noted in Appendix E, 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 13-year data from 1997-2010) = 131.4 gpcd
- Minimum Baseline Average (based on 5-year data from 2004-2008) = 128.9 gpcd
- 2015 Water Conservation Target = 127.0 gpcd
- 2020 Water Conservation Target = 122.5 gpcd

Method 3 is the most favorable for the City and 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 Cerritos
Projected Water Supply and Demand
Normal Water Year
(AFY – All projections rounded to nearest 10 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]	2,720	3,140	3,600	3,540	3,530
Local (Groundwater) [3]	8,680	8,680	8,680	8,680	8,680
Potable Water Supply Total	**11,400**	**11,820**	**12,280**	**12,220**	**12,210**
Recycled Water [4]	2,050	2,050	2,050	2,050	2,050
Total City Water Supply	**13,450**	**13,870**	**14,330**	**14,270**	**14,260**
Demand					
Imported [2]	1,340	1,350	1,390	1,450	1,530
Local (Groundwater) [3]	8,680	8,680	8,680	8,680	8,680
Potable Water Demand Total [5]	**10,020**	**10,030**	**10,070**	**10,130**	**10,210**
Recycled Water [4]	2,050	2,050	2,050	2,050	2,050
Total City Water Demand	**12,070**	**12,080**	**12,120**	**12,180**	**12,260**
2020 Per Capita (GPCD) [6]	129.6	129.6	-	-	-
% of 2010 Normal Year Demand (11,929 AF)	101.2	101.3	101.6	102.1	102.8
Supply/Demand Difference (Surplus)	**1,380**	**1,790**	**2,210**	**2,090**	**2,000**
Difference as a % of Supply	**10.3**	**12.9**	**15.4**	**14.6**	**14.0**
Difference as a % of Demand	**11.4**	**14.8**	**18.2**	**17.2**	**16.3**

[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 the sum of City of Cerritos adjudicated water rights of 4,680 AFY and estimated lease of 4,000 AFY in all future years. 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 minus Recycled Water divided by Projected Population (from Table 1.3-3)

Table 5.2-2
City of Cerritos
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]	3,200	4,280	4,520	4,230	4,110
Local (Groundwater) [3]	8,680	8,680	8,680	8,680	8,680
Total Potable Water Supply	**11,880**	**12,960**	**13,200**	**12,910**	**12,790**
Recycled Water [4]	2,210	2,290	2,270	2,250	2,250
Total City Water Supply	**14,090**	**15,250**	**15,470**	**15,160**	**15,040**
Normal Year City Water Supply [5]	13,450	13,870	14,330	14,270	14,260
Single Dry Supply as a % of Normal Year	104.8	109.9	108.0	106.2	105.5
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]	2,160	2,540	2,480	2,470	2,560
Local (Groundwater) [3]	8,680	8,680	8,680	8,680	8,680
Total Potable Water Demand [7]	**10,840**	**11,220**	**11,160**	**11,150**	**11,240**
Recycled Water [4]	2,210	2,290	2,270	2,250	2,250
Total City Water Demand	**13,050**	**13,510**	**13,430**	**13,400**	**13,490**
Normal Year City Water Demand [5]	12,070	12,080	12,120	12,180	12,260
% of Normal Year Demand	108.1	111.8	110.8	110.0	110.0
% of 2010 Normal Year Demand (11,929 AF)	109.4	113.3	112.6	112.3	113.1
Supply/Demand Difference (Surplus)	**1,040**	**1,740**	**2,040**	**1,760**	**1,550**
Difference as a % of Supply	**7.4**	**11.4**	**13.2**	**11.6**	**10.3**
Difference as a % of Demand	**8.0**	**12.9**	**15.2**	**13.1**	**11.5**

[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 the sum of City of Cerritos adjudicated water rights of 4,680 AFY and estimated lease of 4,000 AFY in all future years. 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 Cerritos
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]	2,240	2,360	2,880	2,930	2,950
Local (Groundwater) [4]	8,680	8,680	8,680	8,680	8,680
Total Potable Water Supply	**10,920**	**11,040**	**11,560**	**11,610**	**11,630**
Recycled Water [5]	2,030	2,040	2,270	2,290	2,290
Total City Water Supply	**12,950**	**13,080**	**13,830**	**13,900**	**13,920**
Normal Year City Water Supply [6]	12,950	13,080	13,200	13,330	13,450
% of Normal Year	100.0	100.0	104.8	104.3	103.5
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]	1,240	1,270	2,430	2,470	2,490
Local (Groundwater) [4]	8,680	8,680	8,680	8,680	8,680
Total Potable Water Demand [8]	**9,920**	**9,950**	**11,110**	**11,150**	**11,170**
Recycled Water [5]	2,030	2,040	2,270	2,290	2,290
Total City Water Demand	**11,950**	**11,990**	**13,380**	**13,440**	**13,460**
Normal Year Potable Water Demand [9]	9,920	9,950	9,970	10,000	10,020
Normal Year Recycled Water Demand [9]	2,030	2,040	2,040	2,050	2,050
Normal Year City Water Demand [9]	11,960	11,990	12,010	12,040	12,070
% of 2010 Normal Year Demand (11,929 AF)	100.2	100.5	112.2	112.7	112.8
Supply/Demand Difference (Surplus)	**1,000**	**1,090**	**450**	**460**	**460**
Difference as a % of Supply	**7.7**	**8.3**	**3.3**	**3.3**	**3.3**
Difference as a % of Demand	**8.4**	**9.1**	**3.4**	**3.4**	**3.4**

[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 the sum of City of Cerritos adjudicated water rights of 4,680 AFY and estimated lease of 4,000 AFY in all future years. 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: 9,901 AF, Recycled: 2,028 AF, City: 11,929) and 2015 Normal Year Demand (from Table 5.2-1)

Table 5.2-4
City of Cerritos
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]	2,800	2,890	3,620	3,620	3,620
Local (Groundwater) [3]	8,680	8,680	8,680	8,680	8,680
Total Potable Water Supply	**11,480**	**11,570**	**12,300**	**12,300**	**12,300**
Recycled Water [4]	2,050	2,050	2,320	2,320	2,320
Total City Water Supply	**13,530**	**13,620**	**14,620**	**14,620**	**14,620**
Normal Year City Water Supply [5]	13,530	13,620	13,700	13,790	13,870
% of Normal Year	100.0	100.0	106.7	106.0	105.4
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]	1,340	1,340	2,670	2,670	2,670
Local (Groundwater) [3]	8,680	8,680	8,680	8,680	8,680
Total Potable Water Demand [7]	**10,020**	**10,020**	**11,350**	**11,350**	**11,350**
Recycled Water [4]	2,050	2,050	2,320	2,320	2,320
Total City Water Demand	**12,070**	**12,070**	**13,670**	**13,670**	**13,670**
Normal Year Potable Water Demand [8]	10,020	10,020	10,030	10,030	10,030
Normal Year Recycled Water Demand [8]	2,050	2,050	2,050	2,050	2,050
Normal Year City Water Demand [8]	12,070	12,070	12,080	12,080	12,080
% of 2010 Normal Year Demand (11,929 AF)	101.2	101.2	114.6	114.6	114.6
Supply/Demand Difference (Surplus)	**1,460**	**1,550**	**950**	**950**	**950**
Difference as a % of Supply	**10.8**	**11.4**	**6.5**	**6.5**	**6.5**
Difference as a % of Demand	**12.1**	**12.8**	**6.9**	**6.9**	**6.9**

[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 the sum of City of Cerritos adjudicated water rights of 4,680 AFY and estimated lease of 4,000 AFY in all future years. Groundwater Supply is estimated to equal Demand.

[4] Demand: 2016-2017 = Interpolated between 2015 Demand and 2020 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 Cerritos
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]	3,230	3,320	4,100	4,120	4,130
Local (Groundwater) [3]	8,680	8,680	8,680	8,680	8,680
Total Potable Water Supply	**11,910**	**12,000**	**12,780**	**12,800**	**12,810**
Recycled Water [4]	2,050	2,050	2,360	2,360	2,360
Total City Water Supply	**13,960**	**14,050**	**15,140**	**15,160**	**15,170**
Normal Year City Water Supply [5]	13,960	14,050	14,150	14,240	14,330
% of Normal Year	100.0	100.0	107.0	106.5	105.9
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]	1,360	1,370	2,880	2,890	2,900
Local (Groundwater) [3]	8,680	8,680	8,680	8,680	8,680
Total Potable Water Demand [7]	**10,040**	**10,050**	**11,560**	**11,570**	**11,580**
Recycled Water [4]	2,050	2,050	2,360	2,360	2,360
Total City Water Demand	**12,090**	**12,100**	**13,920**	**13,930**	**13,940**
Normal Year Potable Water Demand [8]	10,040	10,050	10,050	10,060	10,070
Normal Year Recycled Water Demand [8]	2,050	2,050	2,050	2,050	2,050
Normal Year City Water Demand [8]	12,090	12,100	12,100	12,110	12,120
% of 2010 Normal Year Demand (11,929 AF)	101.3	101.4	116.7	116.8	116.9
Supply/Demand Difference (Surplus)	**1,870**	**1,950**	**1,220**	**1,230**	**1,230**
Difference as a % of Supply	**13.4**	**13.9**	**8.1**	**8.1**	**8.1**
Difference as a % of Demand	**15.5**	**16.1**	**8.8**	**8.8**	**8.8**

[1] From Table 4.2-2, Row K

[2] Supply: 2021-2022 = Interpolated between 2020 Supply and 2025 Supply (from Table 5.2-1); 2023-2025 = (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 the sum of City of Cerritos adjudicated water rights of 4,680 AFY and estimated lease of 4,000 AFY in all future years. 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 Cerritos
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]	3,590	3,580	3,930	3,940	3,960
Local (Groundwater) [3]	8,680	8,680	8,680	8,680	8,680
Total Potable Water Supply	**12,270**	**12,260**	**12,610**	**12,620**	**12,640**
Recycled Water [4]	2,050	2,050	2,340	2,340	2,340
Total City Water Supply	**14,320**	**14,310**	**14,950**	**14,960**	**14,980**
Normal Year City Water Supply [5]	14,320	14,310	14,290	14,280	14,270
% of Normal Year	100.0	100.0	104.6	104.8	105.0
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]	1,400	1,410	2,860	2,870	2,880
Local (Groundwater) [3]	8,680	8,680	8,680	8,680	8,680
Total Potable Water Demand [7]	**10,080**	**10,090**	**11,540**	**11,550**	**11,560**
Recycled Water [4]	2,050	2,050	2,340	2,340	2,340
Total City Water Demand	**12,130**	**12,140**	**13,880**	**13,890**	**13,900**
Normal Year Potable Water Demand [8]	10,080	10,090	10,110	10,120	10,130
Normal Year Recycled Water Demand [8]	2,050	2,050	2,050	2,050	2,050
Normal Year City Water Demand [8]	12,130	12,140	12,160	12,170	12,180
% of 2010 Normal Year Demand (11,929 AF)	101.7	101.8	116.4	116.4	116.5
Supply/Demand Difference (Surplus)	**2,190**	**2,170**	**1,070**	**1,070**	**1,080**
Difference as a % of Supply	**15.3**	**15.2**	**7.2**	**7.2**	**7.2**
Difference as a % of Demand	**18.1**	**17.9**	**7.7**	**7.7**	**7.8**

[1] From Table 4.2-2, Row K

[2] Supply: 2026-2027 = Interpolated between 2025 Supply and 2030 Supply (from Table 5.2-1); 2028-2030 = (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 the sum of City of Cerritos adjudicated water rights of 4,680 AFY and estimated lease of 4,000 AFY in all future years. 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 Cerritos
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]	3,540	3,540	3,860	3,870	3,900
Local (Groundwater) [3]	8,680	8,680	8,680	8,680	8,680
Total Potable Water Supply	**12,220**	**12,220**	**12,540**	**12,550**	**12,580**
Recycled Water [4]	2,050	2,050	2,340	2,340	2,340
Total City Water Supply	**14,270**	**14,270**	**14,880**	**14,890**	**14,920**
Normal Year City Water Supply [5]	14,270	14,270	14,260	14,260	14,260
% of Normal Year	100.0	100.0	104.3	104.4	104.6
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]	1,470	1,480	2,920	2,930	2,950
Local (Groundwater) [3]	8,680	8,680	8,680	8,680	8,680
Total Potable Water Demand [7]	**10,150**	**10,160**	**11,600**	**11,610**	**11,630**
Recycled Water [4]	2,050	2,050	2,340	2,340	2,340
Total City Water Demand	**12,200**	**12,210**	**13,940**	**13,950**	**13,970**
Normal Year Potable Water Demand [8]	10,150	10,160	10,180	10,190	10,210
Normal Year Recycled Water Demand [8]	2,050	2,050	2,050	2,050	2,050
Normal Year City Water Demand [8]	12,200	12,210	12,230	12,240	12,260
% of 2010 Normal Year Demand (11,929 AF)	102.3	102.4	116.9	116.9	117.1
Supply/Demand Difference (Surplus)	**2,070**	**2,060**	**940**	**940**	**950**
Difference as a % of Supply	**14.5**	**14.4**	**6.3**	**6.3**	**6.4**
Difference as a % of Demand	**17.0**	**16.9**	**6.7**	**6.7**	**6.8**

[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 the sum of City of Cerritos adjudicated water rights of 4,680 AFY and estimated lease of 4,000 AFY in all future years. 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). Recycled 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 10631.1[64] 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 50079.5[65] of the Health and Safety Code, as identified in the housing element of the City.

Since the City's water service area is almost identical to the City limits, we will use the City's share of the regional housing needs for this section. The City of Cerritos' fair share for affordable housing units under the 2006-2014 Regional Housing Needs Assessment (RHNA) requirements includes 79 very low income households and 56 low income households.[66] Therefore, the very low and low income dwelling units total to 135 by 2014, which are the lower income housing units subject to the new Water Code requirements described in the first paragraph of this section. According to the Redevelopment Agency, none of these current low income housing unit requirements have been constructed to date. The Cuesta Villas project, which is specifically included in the population and demand increase projections in this UWMP to be constructed in the 2010 to 2015 time period, is projected to include 40 of these low and very low income households, leaving a requirement of 95 units, not specifically projected by the City or included specifically in these water demand projections. However, the total population increase projected between 2010 and 2015 from Table 1.3-3 is 354, would be enough to account for the total requirement of 135 units at a persons per dwelling unit of 2.62, which is slightly less than the current City average persons per dwelling unit. However, there is surplus water supply available as shown in Section 5 to more than meet the additional demand from the remainder of this low income housing requirement, if it is every actually constructed.

5.4 WATER USE REDUCTION PLAN

As demonstrated from the historical water usage data presented in Appendix E, 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 five of the past six years (2005-2007 and 2009-2010) and has met its 2020 target for four of the past six years (2005-2006 and 2009- 2010). Even if you ignore the past two drought years (2009 and 2010) and assume the three non-drought years of 2005-2007 were more representative (when baseline per capita usage averaged 123.2 gpcd), it appears that achieving the 2015 and 2020 water conservation per capita demands of 127.0 and 122.5, respectively, are well within reach. Table 5.2-1 shows a projected per capita use of 129.6 gpd when the projected potable demand, including unaccounted-for water, minus the projected recycled water use, is divided by the projected population from Table 1.3-2 for 2020. This equates to a total

[64] 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

[65] 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

[66] City of Cerritos Redevelopment Agency Five Year Implementation Plan, 2009/10 through 2013/14.

water volume of 390,244 gpd or 437 AFY that would need to be saved by 2020 to meet the SBX7-7 conservation target.

The City plans to meet its SBX7-7 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.

Because the City is so close to meeting the goal, water usage should be monitored along with population growth annually and if additional conservation does not seem to be approaching the interim 2015 target, some of the methods above can be implemented to bring the per capita consumption into alignment with the interim and 2020 goals. The most cost effective method could be converting additional landscape irrigation from potable to recycled water use as this not only reduces the potable demand but results in a credit as recycled water is subtracted from potable water to obtain the numerator in the SBX7-7 per capita calculation. Therefore, every acre-foot of irrigation demand converted to recycled water equates to two acre-feet of net water demand reduction towards determining the per capita consumption.

6 WATER USE PROVISIONS

6.1 PAST, CURRENT AND PROJECTED WATER CONNECTIONS BY SECTOR

Table 6.1-1 shows the current and projected number of water service customers by sector from 2010 through 2035.

Table 6.1-1
Number of Water Service Connections by Sector

City Billing Class	2005	2010	2015	2020	2025	2030	2035
Single Family Residential [1]	13,502	13,477	13,578	13,596	13,650	13,748	13,865
Multi-Family Residential [2]	863	859	1,106	1,106	1,106	1,106	1,106
Commercial / Institutional [3]	779	752	755	755	755	755	755
Industrial [4]	0	0	0	0	0	0	0
Landscape Irrigation [4]	583	592	592	592	592	592	592
Other [4]	4	1	1	1	1	1	1
Agricultural [4]	1	1	1	1	1	1	1
Recycled [5]	242	252	255	255	255	255	255
Total Connections	**15,974**	**15,934**	**16,288**	**16,306**	**16,360**	**16,458**	**16,575**

Note: 2005 and 2010 data obtained from annual Public Water Statistics Reports submitted by City to DWR for those calendar years

[1] Assumed SCAG population projections will be single family residential and have a 3.498 persons per household factor (from 2010 DOF Estimates)

[2] Cuesta Villas Senior Housing Development will have 247 units, assumed one connection per dwelling unit

[3] Cuesta Villas senior center will have an assumed 5,000 SF area of community serving area per connection

[4] Assumed no additional connections will be constructed

[5] Assumed 3 new connections for Cuesta Villas Senior Center Development

6.2 PAST, CURRENT AND PROJECTED WATER USE BY SECTOR

Table 6.2-1 shows past, current and projected water use by sector between 2010 and 2035. Water usage figures for 2005 and 2010 are based on actual data. The projections shown for 2015 through 2035 reflect a minimal increase based a slight growth in population per Table 1.3-2.

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.
- Hydrant testing to monitor the level of fire protection available is performed by the local fire authority throughout the City. The City Utilities Division performs hydrant flushing to eliminate settled sediment and ensure better water quality. Hydrant testing is not metered as it is a fairly insignificant amount. Hydrant flushing is metered so does not attribute to unaccounted-for water.

- Water used 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.

Actual unaccounted-for water in 2005 and 2010 was 1,444 AF and 734 AF, respectively or approximately 9.2 percent and 3.2 percent of total water produced. The unaccounted-for water over the past seven years has averaged 3.0 percent. This percentage has been used to estimate unaccounted-for water for the years 2015 through 2035.

Table 6.2-1
Past, Current and Projected Water Use by Sector in AF

City Billing Class	2005	2010	2015	2020	2025	2030	2035
Single-Family Residential	5,523	5,011	5,962	5,974	6,008	6,071	6,146
Multi-Family Residential	497	539	679	679	679	679	679
Commercial / Institutional	1,992	1,958	2,308	2,308	2,308	2,308	2,308
Industrial	0	0	0	0	0	0	0
Landscape Irrigation (Potable) [1]	189	501	590	590	590	590	590
Other	88	0	0	0	0	0	0
Agriculture Irrigation	18	19	23	23	23	23	23
Subtotal Potable Water Use	**8,307**	**8,028**	**9,562**	**9,573**	**9,608**	**9,670**	**9,745**
Unaccounted for System Losses [2]	821	312	458	458	460	463	467
Total Potable Water Use	**9,128**	**8,340**	**10,019**	**10,032**	**10,068**	**10,133**	**10,212**
Recycled Water	2,799	1,257	2,046	2,046	2,046	2,046	2,046
Total Cerritos Water Usage	**11,927**	**9,597**	**12,066**	**12,078**	**12,114**	**12,180**	**12,258**

Source: 2005 and 2010 data obtained from annual Public Water System Statistics Reports submitted by City to DWR; 2005 and 2010 data is for fiscal years; projections for all future years are estimated based on minimal projected increase in City population as noted in Section 1 of this UWMP and on Cuesta Villas Senior Housing Development

[1] Landscape Irrigation usage reported in annual Public Water Systems Statistics Reports modified not to include recycled water

[2] 2010 unaccounted for losses are based on actual data; all other years based on an estimated average loss of 3.0% (i.e., the average percentage loss over the past seven fiscal years)

7 WATER DEMAND MANAGEMENT MEASURES

7.1 INTRODUCTION

The City recognizes water use efficiency as an integral component of current and future water strategy for the service area. Demand management measures (DMM) refer to policies, programs, rules, regulation and ordinances, and the use of devices, equipment and facilities that, over the long term; have been generally justified and accepted by the industry as providing the means to achieve a "reliable" reduction in water demand. This means providing education, tools, and incentives to help the homeowner, apartment owner and business owner reduce the amount of water used on their property. Demand management is as important to ensuring water supply reliability as is providing a new water supply. The City has aggressively pursued conservation in an effort to reduce demand and stretch existing water supplies.

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. 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

While the City of Cerritos is not signatory to the Memorandum of Understanding (MOU) regarding Urban Water Conservation in California with the CUWCC, the City's wholesaler, CBMWD, is signatory. The City has and continues to work toward

compliance with all of the urban water conservation DMMs. CBMWD has made state-mandated DMMs the cornerstone of its conservation programs and a key element in the overall water resource management strategy for the region.

CBMWD implements many of the DMMs on behalf of its member agencies, including the City of Cerritos. The City also coordinates its activities with established conservation organizations and programs. The principal agencies funding the programs are Metropolitan, CBMWD and WBMWD.

7.2 DETERMINATION OF DMM IMPLEMENTATION

As noted, the City has continued to work with CBMWD towards implementing the 14 cost-effective DMMs, which are incorporated in regional water agencies rate surcharges. These 14 DMMs include technologies and methodologies that have been sufficiently documented in multiple demonstration projects that result in more efficient water use and conservation. The City's 2005 UWMP did not indicate what level of BMP activity would occur between the years 2005 and 2010. Therefore, the following section generally describes the level of BMP implementation by the City and/or by CBMWD on behalf of the City. Water savings incurred from the implementation of these DMMs relate directly to additional available water for beneficial use within the CBMWD service area, including the City of Cerritos.

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

   Residential surveys have been conducted in the City's service area on an informal basis by customer request through a high water bill complaint or meter reading that indicated higher than normal usage. When such a request is made, City staff reviews (re-reads) past billing records for the account in question and compares them with the current bill. If it appears that a significant recent increase has occurred, City staff first looks for signs of a possible leak. They also question the customer about possible internal plumbing problems (leaking faucets, running toilets, etc.) and make recommendations to reduce landscape irrigation where appropriate. Since this program is informal and responsive, no data on quantities of surveys is currently available. The City has implemented this program on an ongoing basis for several years, and as a result, there is not a definite initiation date for when this program began. The program will continue to be incorporated into the City's regular operations.

   CBMWD provides support to the water retailers to carry out water surveys. Metropolitan currently provides funding for residential survey devices, and if requested, CBMWD will act as the liaison to Metropolitan and provide retailers with funding available through Metropolitan. It is anticipated that CBMWD will review the market strategy for promoting residential water use surveys within its Conservation Master Plan.

Based on the CUWCC's savings rates, set forth in its BMP Costs & Savings Study (December 2003), savings from untargeted intensive home surveys results in an average of 21 gpd per household (both single family and multi-family) total savings for future projections. Table 7.2-1 shows the City's historical and projected (through 2015) residential survey activity.

Table 7.2-1
DMM 1 – Single Family and Multi-Family Survey Program Implementation Schedule

City of Cerritos	Historical (2009-2010)	Projected (2011-2015)
Number of Re-reads/year	350	375
Number of High Bill Complaints/year	50	60
Expenditures/year ($)	$10,000	$11,000

The City will measure the effectiveness of water survey programs through analyzing the number of high bill complaints and number of water bill re-reads distributed and the difference in water consumption for the families after the surveys are conducted. The program will continue on an ongoing basis through 2010 and beyond.

2. DMM 2 – Residential Plumbing Retrofits

Through CBMWD, the City has participated in past years in the distribution of showerheads, aerators, and toilet tank leak detection tablets at community events, including local fairs and during Water Awareness Month. At these events, the City also emphasizes water use surveys and ultra-low flush toilet replacement programs (refer to DMM 1 and 14). In the mid-1990s, the City offered free water conservation kits with low flow showerheads. The City will distribute conservation kits during the 2011/12 fiscal year.

Over the past few years, CBMWD has also distributed thousands of high efficiency toilets (HET) throughout its service area including areas within the City.[67]

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

The City's surveillance of its water system to detect leaks is an on-going operation. The City recognizes the urgency of repairing leaks and responds to any leak in an expedient manner. The City's water system is relatively new, as the main distribution line was completed in the late 1960s and the residential distribution lines were completed in the late 1970s and early 1980s. The system is designed to operate with approximately 80 pounds of pressure, and includes

[67] Per CBMWD Draft 2010 UWMP, March 2011 available at: http://www.centralbasin.org/press_releases/Draft-2010-Urban-Water-Management-Plan.pdf

steel lines coated with cement. As a result, the system rarely experiences leaks. However, should a leak occur, the City's Supervisory Control and Data Acquisition System (SCADA) would immediately alert City staff.

The City's SCADA system monitors all pumping stations and the Metropolitan connection. The SCADA system allows the City to monitor the water system 24 hours a day. If situations where the water supply is disrupted (via leak, break, etc.) occur, a SCADA alarm will notify City operators within ten minutes. This immediate response system allows City staff to respond within 30 minutes. In 2010, the City only had one main break, which shows both the reliability of the City's relatively new water system and the accuracy of the City's SCADA monitoring system. Recently, there have been very few distribution line breaks in the City's system, and therefore, the amount of time and expenditures dedicated to leak detection has been limited and not significant enough for the City to maintain detailed records of the few breaks that have occurred.

In 1996, CBMWD and WBMWD partnered with the USBR and hired a consultant to develop and provide a Water Audit and Leak Detection Program (Program). The Program was offered to 40 water purveyors. Of the 40, only 10 participated in the audit, and of the 10, only three agencies found their unaccounted-for water to be above 10 percent.

The effectiveness of these conservation measures has been proven to be very effective, given the reliable use of the SCADA system and the limited number of line breaks. The CUWCC has established a standard rate of water savings based on the repair of a distribution line: a 1-inch crack in a distribution main at 100 psi can leak 57 gallons per minute. Cost and savings depend on the age of infrastructure for the water system. Since the City's system is relatively new, costs and savings are minimal. Should line breaks become more regular, the staff will look into developing a regular system water audits, leak detection, and repair.

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

The City requires meters for all new water connections and bills by volume of use. All water service connections, with the exception of dedicated fire services, are metered. The City has retrofitted all existing unmetered connections to be metered. The City bills its customers according to meter consumption. Meter calibration and periodic replacement insures that customers are paying for all of the water they consume, and therefore encourages conservation. Metering allows the City to conserve a total of 20-30 percent of the water demand overall, and up to 40 percent savings during peak demand periods, as estimated by the CUWCC's BMP Costs and Savings Study (December 2003). The measure of effectiveness will include a comparison of water use before and after meter calibration.

5. DMM 5 – Large Landscape Conservation Programs and Incentives

The City's large landscape conservation program is based on its recycled water supply, which was the first to be implemented in Southern California during the mid-1980s. Recycled water accounts for ninety percent of the water supply used for irrigating the City's center medians, parkways, and side medians; schools; and cemeteries. The City converts approximately 3-5 services per year to the recycled water system. The use of recycled water for landscape irrigation throughout the City's service area provides significant savings of water demand. Table 7.2-2 shows the amount of water saved through the use of recycled water for large landscape irrigation over the past six years. The City also provides recycled water to the CBMWD, which in turn implements large landscape conservation programs that benefit the City's service area.

Table 7.2-2
DMM 5 – Large Landscape Conservation Program Water Savings

Water Savings	2004/05	2005/06	2006/07	2007/08	2008/09	2009/10
Recycled Water (AFY)	1,708	1,731	2,188	2,164	1,500	1,871

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

The City promotes use of High-Efficiency Washing Machines (HEWM) through consumer education and manufacturer incentives, which are offered by CBMWD. CBMWD currently offers a $50 per machine rebate, while Metropolitan and the Southern California Gas Company offer additional rebates of $85 and $35, respectively. CBMWD estimates the 3,150 participants in this program in their service area will save 492 AF over the 12 year life of an HEWM.[68]

The HEWM Program has exceeded all expectations and continues to be one of CBMWD's more successful programs. When HEWM's first hit the market, they were quite expensive. But market demand has helped to drive the price down. The new HEWM's cost more than regular inefficient models, but by providing the previously noted cumulative rebates of up to $170, consumers have an incentive to purchase the new HEWM's. In addition to saving water, the HEWM's also have other benefits – they use up to 60 percent less energy and 50 percent less detergent. Consumer acceptance has been very positive.

7. DMM 7 – Public Information Programs

The City recognizes the continued need for a public information program to maintain and increase the public's awareness of water and the need to use it wisely. The City promotes water conservation and other resource efficiencies in

[68] Per the CBMWD Conservation Master Plan, June 2006, Appendix B, Tables 1 and 3, available at: http://www.centralbasin.org/press_releases/CentralBasinConservationMasterPlanfinal416.pdf

coordination with CBMWD, WBMWD, American Water Works Association (AWWA), the National Association of Water Companies and the California Association of Water Companies.

In addition, CBMWD operates a strong outreach program to disseminate public information about CBMWD and its mission, programs and events. In addition to offering speakers on various water conservation topics, the District also maintains a strong link with the local news media through press releases on important subjects and periodic meetings with newspaper editorial boards.

The method to measure effectiveness of implementing this DMM for the City will include quantifying the number of participants in the public programs, as well the number of public announcements/brochures distributed throughout the service area. An increase in participation and distribution of materials will indicate heightened public water conservation awareness and may correlate with decrease water demand.

8. DMM 8 – School Education Programs

The City participates in CBMWD's school education programs. The City anticipates active participation in the future and plans call for expanding the program with the ABC School District and CBMWD to create a partnership for conducting more frequent school presentations. CBMWD promotes educational programs about water conservation to elementary through high school students.

CBMWD currently offers the following programs within its service area as well as the City of Cerritos:[69]

- *Water Squad Investigations (Grades 4 to 12)* – Launched in September 2006, Water Squad Investigations is a collaborative environmental education program that joins Central Basin, the Los Angeles County Sanitation Districts and LA County's Whittler Narrows Center to provide students with a fun-filled day of water awareness. From September 2005 through June 2010, 5,835 students have participated in Water Squad program.
- *Water Wanderings (Grades 4 to 5)* – Water Wanderings is a collaborative classroom visitation program between Central Basin and the S.E.A. Lab in Redondo Beach, a program of the Los Angeles Conservation Corps. This collaborative hands-on classroom program takes fourth and fifth graders on a two and a half hour journey through California's water. From September 2005 through June 2010, 26,670 students have participated in Water Wanderings Program.
- *Think Watershed (Grades 4 to 6)* – Think Watershed educates students about the San Gabriel River Watershed's impact on our coastal waters and inspires

[69] Per CBMWD Draft 2010 UWMP, March 2011 available at: http://www.centralbasin.org/press_releases/Draft-2010-Urban-Water-Management-Plan.pdf

them to become stewards of the environment. Students participate in hands-on activities to see how human behavior affects the quality of air, water, and habitat, as well as plant, animal and human life. From September 2008 through June 2010, over 5,000 students have participated in the Think Watershed Program.

- *Think Earth! It's Magic (Grades K - 5)* – This is a collaborative program between Central Basin and the Think Earth Environmental Education Foundation that uses an award-winning curriculum and magic shows to teach elementary school students about their environment. From September 2005 through June 2010, 37,800 students have participated in Think Earth! It's Magic.
- *Think Water! It's Magic (After School Program for Grades K to 5)* – This is an environmental education program for students in extended daycare/after school programs. This innovative program features an energetic *Think Water! It's Magic* assembly led by an eco-magician that students will remember for many years. From September 2008 through June 2010, over 6,000 students have participated in Think Water! It's Magic.
- *"Water Is Life" Poster Contest (Grades 4 to 8)* – This is a collaborative arts program between Central Basin and Metropolitan. Celebrated every May, Water Awareness Month encourages wise water use, conservation, recycling, and water education. Students in grades 4 through 8, are encouraged to depict on posters, various water uses and/or wise water use at home or school, in industry or business, in the environment, in agriculture, or in recreation. CBMWD then selects a grand-prize winner who is awarded a fully-loaded laptop computer and receives a special recognition at District headquarters. The grand-prize winner's poster is then submitted to Metropolitan to be included in calendars, and featured on water bottles, screen savers, mouse pads, etc. From September 2005 through June 2010, over 80,000 students have had an opportunity to participate in the "Water Is Life" Poster Contest.
- *Waterlogged (Grades 9 to 12)* – This is a collaborative high school visitation program between CBMWD and the Roundhouse Marine Studies Lab and Aquarium, an oceanographic teaching station. Through specimen di-sections, examples of current aquatic/marine science research, and practical hands-on activities, students will learn more about the scientific method, habitats and inhabitants of the Pacific Ocean, and the overall effect of unintended human impacts on the aquatic/marine environment. From September 2007 through June 2010, 15,925 students have participated in Waterlogged.
- *Sewer Science (Grades 9 to 12)* – This is an award-winning, hands-on laboratory program that teaches high school students in CBMWD's service area about wastewater treatment. From September 2005 through June 2010, 8,875 students have participated in Sewer Science.
- *Conservation Connection: Water & Energy in Southern California (Grades 5 to 8)* – The goal of this planned curriculum is to get students actively involved

in their homes and at school in conserving water and energy. Within the program, students have the opportunity to survey their family's water and energy use and survey water and energy use at their school.

- *Water for the City: Southern California Urban Water Cycle (Grades 4 to 8)* – This planned program is a partnership between CBMWD, Los Angeles County Sanitation District, WRD, Metropolitan, Los Angeles County Office of Education, and the Center for Global Environmental Education at Hamline University. This interactive, multi-media water education curriculum has lessons for upper elementary through middle school students, as well as a teacher's guide. Lessons and animation elements will cover the following topics: Watershed Awareness, Where Southern California gets its water, Surface and Ground Water, Water Storage and Delivery, A Raindrop's Journey, Water Recycling, Water Conservation, Water Planning, Dams and Reservoirs, Point and Non-Point Pollution, and an interactive Urban Water Cycle game that will address water supply and management issues.

Table 7-2.3 summarizes the number of overall students who have participated in the above noted programs over the past five years.

Table 7.2-3
DMM 8 – Students Participating in CBMWD School Programs

Grade Level	2005/06	2006/07	2007/08	2008/09	2009/10	Total
K – 3	3,360	3,100	6,460	8,828	6,140	27,888
4 – 6	6,040	9,520	11,163	14,499	13,825	55,047
7 – 8	500	0	105	105	0	710
9 – 12	905	1,925	4,900	9,265	8,015	25,010
Total	**10,805**	**14,545**	**22,628**	**32,697**	**27,980**	**108,655**

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

CBMWD, in partnership with Metropolitan, participates in Metropolitan's region-wide CII rebate program. CBMWD helps promote these rebates to the businesses, schools and facilities throughout its service area. Rebates are offered for high efficiency toilets for both existing and new construction ($50), ultra-low and waterless urinals for both existing and new construction ($200), large rotary nozzles ($7 per set), weather based irrigation controllers or central computer irrigation controllers ($25/station), rotating nozzles for pop-up spray heads ($3/nozzle), and water brooms ($110). The City participates in all of these CBMWD CII Rebate Programs.

Table 7.2-4 provides historic and projected number of CII rebates and/or replacements to occur within the City's service area and the associated water savings through 2015.

Table 7.2-4
DMM 9 – CII Rebate Program

CII Rebates	Historic 2005-2010	Projected 2011-2015
# of HET	401	300
# Ultra Low or Zero Water Urinal	0	0
# Large Rotary Nozzles	0	0
# of Irrigation Controllers	0	0
# of Rotating Nozzles or Pop-Up Spray Heads	0	0
# of Water Brooms	1	1
Estimated Total Water Savings (AFY)	20.21	15.16

HET and ultra-low or waterless urinals each result in a savings of 0.05 AFY, large rotary spray nozzles save 0.17 AFY, irrigation controllers conserve 1.90 AFY, rotating nozzles or pop-up spray heads are estimated to conserve 0.01 AFY and the water brooms save 0.16 AFY.[70]

To measure the effectiveness of this DMM, the City will perform a water savings analysis by calculating the total number of rebates distributed and the estimated water savings for each. The total of this calculation will show the amount of water saved and should be reflected in the overall water use before and after implementation of the DMM.

10. DMM 10 – Wholesale Agency Assistance Program

The City is not a wholesale agency. However, the programs provided by CBMWD are in partnership with and benefit the retail water agencies located within the 24 cities served by CBMWD.

Among the 14 BMPs CBMWD provides assistance for are:

- BMP 3 - System Audits
- BMP 5 - Landscape Programs
- BMP 6 - Washing Machines

[70] All savings estimates except rotating nozzles per the CBMWD Conservation Master Plan, June 2006; rotating nozzle conservation is an independent estimate; Conservation Master Plan available at: http://www.centralbasin.org/press_releases/CentralBasinConservationMasterPlanfinal416.pdf

- BMP 7 - Public Information
- BMP 8 - School Education
- BMP 9 - CII Rebates
- BMP 10 - Wholesaler Incentives
- BMP 12 - Water Conservation Coordinator
- BMP 14 - ULFT Replacement

Since 2003, CBMWD has acquired almost $6 million from Federal, State and local grant funding sources for program development and implementation. Furthermore, CBMWD markets, designs and implements a majority of the BMPs within its service area. CBMWD has also invested heavily in conservation programs that help increase water supply reliability for the region. CBMWD plans on expanding its conservation programs and the support it provides to cities and water retailers in their conservation program efforts.

Some of the many grants CBMWD has obtained in recent years include:[71]

- *Metropolitan Grant (Innovative Conservation Program Grant) - 200 HET Direct Install* – CBMWD successfully completed a Metropolitan Innovative Conservation Grant Program, installing 200 HETs in multi-family homes and commercial facilities. The total budget for this grant was $43,800.
- *Metropolitan Grant (Innovative Conservation Program Grant) - Bell Gardens: California Friendly City – A Model for Inner City Transformation* – In 2006, CBMWD was awarded $102,250 to transform the City of Bell Gardens into the first California Friendly City in the State of California through the installation of water saving devices and systems throughout the City's public facilities. These included high-efficiency toilets, urinals, synthetic turf at the public soccer field, water-brooms, native plants and a weather-based irrigation system.
- *Metropolitan (Enhanced Conservation Program Grant) - Landscape High Efficiency Living Program (HELP)* – In 2008, CBMWD was awarded a Metropolitan Enhanced Conservation Program Grant in the amount of $90,000 to provide HELP Landscape Workshops to local residents to teach the benefits of utilizing an MP Rotator irrigation device and planting low water-use plants. The use of MP Rotators alone can save 4.16 to 16.8 gallons of water per minute.
- *DWR Grant (Prop 5*0) - High Efficiency Living Program (HELP) 10,000 HET Direct Install – In 2007, CBMWD was awarded a DWR grant in the amount of $1,563,900. The grant program provides funding to market, purchase and install 10,000 HETs in multi-family residential units throughout the service

[71] Information extracted from CBMWD's March 2011 Draft 2010 UWMP

area. The water savings for this program will reach 242 acre-feet annually for 25 years.

- *DWR Grant (Prop 50) - Conservation Outreach Targeting Multicultural Communities* – In 2007, CBMWD was awarded a DWR grant program in the amount of $100,000 to provide cities and water retailers with conservation outreach training and tools. The funding provides for website design, research services and bill-stuffer templates to be used by the District's water retailers. The purpose of the program is to promote water conservation within the multicultural and multilingual communities prevalent in the service area.
- *DWR Grant (Prop 50) - Urban City Makeover Program* – Through the DWR Prop 50 Urban City Makeover Program, grant funding in the amount of $113,746 will provide nine disadvantaged cities with a number of water-saving resources. These include: high efficiency toilets (HETs), Waterfree urinals, native plants, weather-based irrigation controllers and water brooms. The participating cities are: Bell Gardens, Commerce, Cudahy, Hawaiian Gardens, Huntington Park, Lynwood, Maywood, Paramount, and South Gate.
- *DWR Grant (Prop 50) - Helping Our People and Environment (HOPE) 3,000 HET Direct Install* – Since 2009, CBMWD has administered the "Helping Our People and Environment" (HOPE) grant program on behalf of the City of Maywood. This Prop 50 grant program provides funding to install 3,000 High-Efficiency Toilets (HETs) in residences throughout the city of Maywood.
- *DWR Grant (Prop 50) - Zero Water Consumption Urinal Retrofit Program 2,600 Urinal Retrofit Program* – In 2003, CBMWD secured a DWR grant entitled Zero Water Consumption Urinal Retrofit Program in the amount of $780,000. The program provided no cost installations of 2,600 water-free urinals to qualified commercial, industrial, and institutional buildings located within the Central Basin service area.
- *DWR Grant (Prop 50) - Commercial Landscape Wireless Valve End Use Management Research Project* – The Commercial Landscape Wireless Valve End Use Management Research Project awarded to CBMWD by DWR in the amount of $302,052, involves the implementation of wireless valve evapotranspiration (ET) controllers in non-residential sites. The research goal is to enhance water management and water efficiency at the local regional, and statewide levels.
- *DWR Grant (Prop 50) - Large Landscape Water Conservation, Runoff Reduction and Educational Program* – The Large Landscape Water Conservation Runoff Reduction and Educational Program provides $900,000 in funding for the implementation of a water management program using weather-based irrigation controllers and wireless technologies to significantly reduce the amount of runoff from large landscapes, street medians, and residential properties. Included in the grant funding are five large community demonstration gardens. CBMWD will partner with local public agencies such

as cities and school Districts to create Demonstration Gardens that enrich the environmental awareness of the community and promote the benefits of water efficient gardens.

- *U.S. D.O.E. (Energy Efficiency Conservation Block) Water and Energy Emergency End Use Demand Management Measures Grant* – The Water and Energy Emergency End Use Demand Management Measures Grant in the amount of $2,000,000 was awarded to CBMWD under the United States Department of Energy Recovery Act - Energy Efficiency and Conservation Block Grant Program. Under this program, funding will be provided to purchase and install a series of wireless (ET) controllers in residential and commercial settings that utilize radio commands for periodic pressure and management adjustments. A second element of the grant addresses water and energy demand management in recycled pipelines.

11. DMM 11 – Conservation Pricing

The City implements a rate structure that includes a uniform charge of $19.30 for 10 units (hundred cubic feet) and $1.41 for each additional unit on a two month billing cycle (for a typical residential meter).

In 2003, CBMWD passed-through Metropolitan's two-tiered rate structure to its member agencies to develop a reasonable budget for the Tier 1 annual maximum limit for imported water. Through voluntary purchase agreements, these customers will pay a higher price (Tier 2) for purchases that exceed their Tier 1 allotment. In an effort with other agencies, CBMWD helps prevent member agencies, including the City, from exceeding their Tier 1 allocation limits by conservation, education, and the development of recycled water use. As a member agency, the City supports CBMWD's two-tiered rate structure.

12. DMM 12 – Conservation Coordinator

The City conservation activities are provided through the CBMWD Conservation Coordinator. The CBMWD Conservation Coordinator investigates Federal, State, and local funding to develop new programs throughout CBMWD's service area, benefiting the City's service area through program implementation.

13. DMM 13 – Water Waste Prohibition

The City of Cerritos enforces water waste prohibition, as described in section 13.04.100 of the City's Municipal Code. The Code prohibits wasting of water by stating that "no person, firm or corporation shall waste, cause, permit or allow to be wasted, any water in any cooling system, ornamental fountain, or other device of any kind whatsoever, nor shall such person fail, refuse or neglect to recirculate the water through such cooling system, ornamental fountain or other device; provided, further that no person shall cause, permit or allow any

water furnished through the facilities of the water system, as herein defined, to be wasted in any manner whatsoever." In addition, drawing water from fire hydrants, tampering or removing of meters, tapping of mains (Ordinance No. 165, Section 10, 1966), or turning water on (after water has been turned off by City staff) are all limited through various prohibitions.

14. DMM 14 – Residential ULFT Replacement Program

The City and its customers have participated in the Metropolitan and CBMWD Ultra-Low Flush Toilet (ULFT) Replacement Program. CBMWD's ULFT program includes free one-day toilet distributions and rebates based on available funding. Since 2005, CBMWD has completed the installation of over 5,000 HETs into single family, multi-family, CII facilities throughout its service area. Over this same period, the City has distributed an average of 131 ULFT rebates per year, with a water savings of 0.05 AFY per ULFT rebate.

Table 7.2-5 shows historic and projected ULFT rebates in the City's service area.

Table 7.2-5
DMM 14 – City Historical and Projected Residential ULFT Rebates

Item	2005	2006	2007	2008	2009	2010
# of Single Family Rebates	285	250	28	106	0	0
# of Multi-Family Rebates	8	5	105	0	0	0
Water Savings (AFY)	14.7	12.8	6.7	5.3	0	0

The method of effectiveness for the ULFT Program will include an analysis of water savings based on decreases in water demand as a result of the device implementation.

7.3 WATER USE EFFICIENCY EFFECTIVENESS

CBMWD adapts and applies the Metropolitan-Main Model, which forecasts water demands on both a regional basis and at the retail level to produce an estimate of future water demand, the identification of potential benefits, and costs associated with implementation of the DMMs. The conservation potential by each retail water agency is used to develop DMM implementation plans using a "least cost approach" to develop a "most cost effective" package of DMM programs customized for each retail agency. A Conservation Savings Model estimates the potential water conservation from implementation of the DMMs. Once the potential water savings are quantified, programs can be developed to target potential savings.

Quantifiable DMM programs include ULFT and low-flow showerhead retrofits, water audits and conservation pricing. Programs and activities that are not quantifiable, but known to save water, include public information, school education, conservation coordinator, water waste prohibitions, and metering with commodity rates.

Water use efficiency is an integral part of water supply planning and operations. The City works to improve the understanding of costs and benefits of conservation so that investment decisions are efficient and effective at meeting program goals. As a cooperative member of California's conservation community, the City supports CBMWD's significant contributions to the development and coordination of water use efficiency activities for its member agencies and the region.

Many of the DMMs have been implemented based upon the MOU schedule, others are being implemented, and all DMMs will continue on an ongoing basis. The City will continue to work cooperatively with CBMWD to implement cost-effective DMMs. Schedules for implementation were shown in the discussion of individual DMMs, as applicable.

In 2006, CBMWD adopted a Conservation Master Plan (CMP) to expand long-term water-saving efforts and introduce new, regionally tailored programs. A few of the new programs outlined in the CMP, such as the introduction of a patented wireless valve irrigation system, and a Laundromat retrofit program, have already enhanced the water and energy-saving opportunities for local business owners.

During its first three years of implementation, the CMP enabled the District to achieve over 6,000 acre-feet in water savings, exceeding its original conservation goal by 167 percent. CBMWD is currently planning to update its CMP during the coming year.

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 multiyear 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. In addition to climate, other factors that can cause water supply shortages are earthquakes, chemical spills, and energy outages at treatment and pumping facilities. The City has included the probability of catastrophic outages in its reliability planning.

8.2 URBAN WATER SHORTAGE CONTINGENCY PLAN

City of Cerritos Water Shortage Response

In response to the extended drought of the early 1990s, Cerritos implemented a water conservation program to reduce water demands within the City. The "Emergency Water Conservation Plan" was adopted as Resolution No 91-6 to (Appendix F) implement a two-phased approach to reduce water use to meet an anticipated shortage in water supply. In the event of a water shortage, the City Council will implement the appropriate water conservation phase by resolution.

Stages of Action

During water shortages, the City has the ability to meet its demands by applying the appropriate phase of the Emergency Water Conservation Plan. The City council reserves the right to declare additional consumption reduction methods to be implemented in the event a water reduction of up to 50 percent is necessary within the City's system in order to meet a conservative target. The City of Cerritos' City Council will implement the provisions of the Emergency Water Conservation Plan, following a public hearing, upon determination that the projected water shortage and the appropriate measures should be implemented. The following provides details of each phase of the plan.

Phase I – The following actions will be deemed improper water use:

1. Washing of walkways, driveways, or parking areas with a hose.
2. Using water to clean, fill, or maintain levels in decorative fountains unless a recycling system is used.
3. Serving drinking water to any customer in a restaurant or other public place where food is served, sold, or offered for sale unless expressly requested by the customer.
4. Failing to repair all water leaks as soon as possible.

5. Watering or irrigating lawns, turf, or landscape areas beyond saturation causing runoff.
6. Allowing a hose to run continuously while washing vehicles.
7. Allowing sprinklers to direct water to areas other than landscape causing runoff.

Phase II – Includes measures listed under Phase I, as well as the following:

1. Bi-monthly, each 5/8" x 3/4" or 1" water meter shall be billed at a base consumption of 30 units, under the current water rate structure. All billing units of water used over the 30-unit base consumption will be billed at one and one half times the quantity rate in existence in the current rate structure.
2. Bi-monthly, each 1-1/2" water meter shall be billed at a base consumption of 119 units under the current water rate structure.
3. Bi-monthly, each 2" water meter shall be billed at a base consumption of 277 units under the current water rate structure.
4. Bi-monthly, each 3" water meter shall be billed at a base consumption of 511 units under the current water rate structure.
5. Bi-monthly, each 4" water meter shall be billed at a base consumption of 1,080 units under the current water arte structure.

Under each of the conditions listed above, if the bimonthly usage exceeds the 30-unit base consumption, a comparison to the previous year's water consumption during a similar bimonthly period will be made. The customer will be allowed ninety percent (90%) of the previous year's use. Any water used in excess of the greater of the following, will be billed at one and one half times the quantity rate in existence under the current rate structure: a) The base consumption for a 1-1/2", 2", 3", or 4" meter as applicable, or b) Ninety percent (90%) of the previous year's use comparison. As a member of agency of CBMWD, the City will also follow emergency consumption reduction methods imposed by Metropolitan through its Water Surplus and Drought Management Plan (WSDM) and its Water Supply Allocation Plan (WSAP), both of which are discussed in further detail later in this section.

The City shall determine the extent of the conservation required through implementation and/or termination of particular water conservation phases to better plan for and supply water to its customers, including consumption reductions of up to 50 percent. Table 8.2-1 shows the use reduction stages as a guideline for recommending the appropriate conservation stage and water conservation target.

Table 8.2-1
Water Use Reduction Stages

% Shortage Condition	Water Conservation Stage	Type of Use Reduction Program
Up to 10%	Phase I & II	Voluntary/ Mandatory
10% to 15%	Phase III	Mandatory
15% to 50%	Phase IV	Mandatory

Metropolitan Water Surplus and Drought Management Plan (WSDM)

In 1999, Metropolitan in conjunction with its member agencies developed the WSDM Plan.[72] This plan addresses both surplus and shortage contingencies.

The WSDM Plan guides management of regional water supplies to achieve the reliability goals of Southern California's Integrated Resources Plan (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 Metropolitan 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 Metropolitan'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:

[72] 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

- **Surplus:** Metropolitan can meet full-service and interruptible program demands, and it can deliver water to local and regional storage.
- **Shortage:** Metropolitan can meet full-service demands and partially meet or fully meet interruptible demands, using stored water or water transfers as necessary.
- **Severe Shortage:** Metropolitan can meet full-service demands only by using stored water, transfers, and possibly calling for extraordinary conservation. In a Severe Shortage, Metropolitan may have to curtail Interim Agricultural Water Program (IAWP) deliveries in accordance with IAWP.
- **Extreme Shortage:** Metropolitan 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, Metropolitan 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 Metropolitan's existing and expected resource mix. This sequencing may change as the resource mix evolves.

WSDM Plan Shortage Actions by Shortage Stage

When Metropolitan 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** – Metropolitan may make withdrawals from Diamond Valley Lake.
- **Shortage Stage 2** – Metropolitan will continue Shortage Stage 1 actions and may draw from out-of-region groundwater storage.
- **Shortage Stage 3** – Metropolitan 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** – Metropolitan 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** – Metropolitan will continue Shortage Stage 4 actions. Metropolitan'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, Metropolitan'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** – Metropolitan 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** – Metropolitan 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," Metropolitan 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.

Metropolitan's Water Supply Allocation Plan (WSAP)[73]

Metropolitan adopted its Water Supply Allocation Plan 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.

Metropolitan 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

[73] 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 agency's November 2010 RUWMP at: http://www.mwdh2o.com/mwdh2o/pages/yourwater/RUWMP/RUWMP_2010.pdf

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 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 Metropolitan'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 Metropolitan'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 8.2-2 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 8.2-2
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 Cerritos service 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

Metropolitan has projected a reliable supply of water during all multiple dry years through 2035. Consequently, Metropolitan does not anticipate any problems in meeting the City's demands during multiple dry years occurring over the next three years. With that in mind, the information presented below has been extracted from Table 5.2-3.

Table 8.3-1
3-Year Estimated Water Supply Based on Driest 3-Year Historic Sequence in AFY

Water Sources	2011	2012	2013	2011	2012	2013
Supply	**Normal Years**			**Dry Years**		
Imported [2] [3]	2,240	2,360	2,480	2,820	2,860	2,880
Local (Groundwater) [4]	8,680	8,680	8,680	8,680	8,680	8,680
Recycled Water [5]	2,030	2,040	2,040	2,260	2,270	2,270
Total City Water Supply	**12,950**	**13,080**	**13,200**	**13,760**	**13,810**	**13,830**

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

8.3.1 Catastrophic Supply Interruption Plan – Water Shortage Emergency Response

A water shortage emergency could result from a drought or a catastrophic event such as an earthquake, transmission facility failure, regional power outage, flooding, supply contamination from chemical spills, or other adverse conditions.

Cerritos recognizes that in the event of an emergency, such as an earthquake, the integrity of the water system can be breached causing disruptions in water supply. Because of the possibility of emergencies from both man-made and natural causes, water utility emergency planning is of utmost importance. The City Department of Water and Power, Water Division has an Emergency Response Plan (ERP), which will be implemented in the event of emergencies or other catastrophic events. The ERP sets forth emergency procedures and operations for the various water system components of each water program which can be affected in an emergency, such as power, personnel, materials and supplies, communications, equipment and structures. Given the confidentiality of the ERP, no additional details regarding that plan can be provided in this UWMP.

8.3.2 Prohibitions, Penalties, and Consumption Reduction Methods

The City implements measures to curtail water consumption during times of supply shortages. On February 22, 1991 the City adopted Resolution No. 91-6 (Appendix F)

establishing an ordinance to prohibit specific actions to reduce consumption during water supply shortages. Resolution 91-6 sets forth the following prohibited measures for Phase I and Phase II of the Emergency Water Conservation Plan:

1. Washing of walkways, driveways, or parking areas with a hose.
2. Using water to clean, fill, or maintain levels in decorative fountains unless a recycling system is used.
3. Serving drinking water to any customer in a restaurant or other public place where food is served, sold, or offered for sale unless expressly requested by the customer.
4. Failing to repair all water leaks as soon as possible.
5. Watering or irrigation lawns, turf, or landscape areas beyond saturation causing runoff.
6. Allowing a hose to run continuously while washing vehicles.
7. Allowing sprinklers to direct water to areas other than landscape causing runoff.

Penalties will be imposed on customers who perform the prohibited actions. For each occurrence of improper water use, the City shall send to the customer a notice of improper water use specifying the section of the Resolution No 91-6 that applies. Failure to comply will result in the following penalties:

Phase I

1. *First Violation*: The City shall issue a written notice of the improper water use to the customer.
2. *Second Violation*: For a second violation during any one water shortage emergency, the City shall impose a $25 penalty, payable with the next subsequent water bill.
3. *Third and Subsequent Violations*: For a third and each subsequent violation during any one water shortage emergency, the City shall install a flow restricting device of one (1) gallon per minute capacity for services up to one and one-half (1-1/2) inch size, and comparatively sized for larger services, on the service of the customer at the premises at which the violation occurred for a period of not less than forty-eight (48) hours. The City shall charge the customer the reasonable costs incurred for installing and for restoration of normal service. The charge shall be paid before normal service can be restored.
4. Failure to pay penalties will result in discontinuation of water service until all previous penalties are paid in full. In addition, a reactivation fee will be imposed.

Phase II

1. A flow restricting device may be installed for a period of three (3) months in the water service of any customer whose bill shows an excess rate for three (3) consecutive months. The charge shall be as established for Phase I.

8.3.3 Revenue and Expenditure Impacts and Measures to Overcome Those Impacts

The City of Cerritos has a Water Fund, which is maintained as a separate enterprise from the City's General Fund. The Water Fund serves as an emergency source of funds in the event of an extreme water shortage. Should an extreme shortage be declared and a large reduction in water sales occur for an extended period of time, the City would re-examine its water rate structure and monitor projected expenditures. If needed, the City would consider increases in rates to overcome revenue lost.

8.4 WATER SHORTAGE CONTINGENCY ORDINANCE

On February 22, 1991, the City adopted Ordinance No. 703 (Appendix G) to implement several measures aimed at curtailing water consumption during times of supply shortages. The Ordinance enforces specific stages of actions to be implemented, as set forth in Resolution No. 91-6, during a declared water shortage, as well as prohibited actions, and penalties for violations of the Ordinance. A resolution will be utilized to implement a specific stage of the Emergency Water Conservation Plan. A draft resolution is included in Appendix H.

8.4.1 Mechanisms to Determine Reductions in Water Use

In normal water supply conditions, production figures are recorded daily and are incorporated into the water production report. During rationing conditions, water shortages will continue to be closely monitored on a daily or hourly basis depending on the severity of the drought. Production data from the Metropolitan connections and wells can be retrieved on an hourly basis. This will allow City staff to determine the effects of a reduction on water production within the system.

During a disaster shortage, production figures will be monitored on an ongoing basis. The City's SCADA system will warn of any critical conditions instantly. Once a shortage stage is implemented, actual reductions in water supply will be determined based on the SCADA system, which will allow monitoring on a daily basis. Reports will be provided on a daily basis to the City's Water Superintendent.

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. This is considered a reliable and drought-proof water source and could greatly reduce the areas' and the City'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 region'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 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 and industrial processes. The current distribution system developed by the City allows the supply of recycled water to some of its water customers. This helps to alleviate increased demands on current sources of potable water.

Since 1978, the City has been purchasing recycled water from LACSD for the irrigation of the City's Iron-Wood Nine Golf Course. In 1988, the City constructed a 15,000 gpm pump station at LACSD's Los Coyotes Water Reclamation Plant to directly provide recycled water throughout the City. The Reclamation Plant produces approximately 37 MGD of tertiary-treated effluent and is located in the City of Cerritos. In 1990, the City expanded its recycled water system with over 25 miles of recycled water pipelines to provide additional recycled water to users throughout Cerritos. That expansion also serves two additional connections for the City of Lakewood with recycled water. Although Cerritos has been actively engaged in recycled water planning, the City does not currently have a recycled water master plan.

9.3 WASTEWATER COLLECTION AND TREATMENT

The City does not provide wastewater services within its service area, but instead relies on the LACSD to collect, treat, and dispose of wastewater. LACSD operates one wastewater treatment plant and six water reclamation plants in the Los Angeles Basin. The City's wastewater collection system consists of approximately 110 miles of pipeline ranging from 8-inches to 15-inches in diameter.

Because of a gravity flow system, wastewater from the City's service area is conveyed to the LACSD's Long Beach Water Reclamation Plant. The Long Beach Water Reclamation Plant provides primary, secondary, and tertiary treatment for 25 MG of

wastewater per day.[74] Any wastewater not reclaimed at the Long Beach Water Reclamation Plant plus the by-products of treatment are conveyed to the Joint Water Pollution Control Plant (JWPCP) also operated by LACSD. The JWPCP provides advanced primary and partial secondary treatment for 400 MGD of wastewater prior to ocean disposal.[75] The treated wastewater is discharge through a network of outfalls that extend two miles off the Palos Verdes Peninsula discharging at an approximate depth of 200 feet.

Municipal wastewater is generated in the City's service area from a combination of residential, commercial, and industrial sources. The quantities of wastewater generated are generally proportional to the population and the water used in the service area. It is estimated that customers within the City's service area generate wastewater based on 60 to 70 percent of potable water demand. Table 9.3-1 shows estimated wastewater generated within the City's service area through 2035. All wastewater generated from the City's service area is treated to recycled water standards at LACSD's Long Beach Water Reclamation Plant although it is not reused within the City's service area.

Table 9.3-1
Wastewater Collection within the City's Service Area

	2010	2015	2020	2025	2030	2035
Potable Water Demand (AFY)	9,052	10,020	10,030	10,070	10,130	10,210
Wastewater Flow (AFY)	5,884	6,513	6,520	6,546	6,584	6,637

Note: Potable water demands are from Table 5.1-1. Wastewater collected is assumed to equal 65% of the potable water demand. Potable water demand excludes demand of Golden State Water and Norwalk Water systems.

9.4 CITY OF CERRITOS RECYCLED WATER PLANNING

The City irrigates more than 200 acres of City-owned property, including most parks, parkways and medians with recycled water. In addition to City-owned property, the recycled water is also used for landscape irrigation at schools, a community college, a county park, a cemetery, freeway landscaping and privately owned landscaped areas, such as the Cerritos Towne Center and commercial nurseries.

The City's recycled water sales in 2009/2010 totaled 1,871 AF within the City and approximately 450 AF to the City of Lakewood. The City of Lakewood has explored the possibility of expanding its recycled water system, but does not have the funding to proceed with those plans at this time. Lakewood's Draft 2010 UWMP therefore projects a recycled water demand of 450 AFY for all years between 2015 and 2035.[76]

[74] Per LACSD website, http://www.lacsd.org/about/wastewater_facilities/joint_outfall_system_water_reclamation_plants/long_beach.asp
[75] Ibid.
[76] Per Lakewood's Draft 2010 UWMP dated March 21, 2011, available at:

Because Cerritos has been successful in encouraging large landscape water users, public authorities and others to consider using recycled water, the City's recycled water system is essentially built-out. As a result, the City anticipates the future demands for recycled water to be relatively consistent with past demands. Recycled water demands may increase slightly in the future with the connection of a few commercial buildings for landscape irrigation and common area irrigation at the Cuesta Villas project.

The current and projected uses of recycled water within the City's service area are summarized in Table 9.4-1. The City has approximately 240 connections to the recycled water system. Because of the large number of connections, City connections are combined into major categories in Table 9.4-1. All recycled water is treated to tertiary levels and used to meet landscape irrigation demands.

Table 9.4-1
City of Cerritos Recycled Water
Customers Current and Projected in AFY

Current Users	2010	2015	2020	2025	2030	2035
City of Cerritos Recycled Water Users						
City Parks	502	550	550	550	550	550
LA Regional County Park	140	150	150	150	150	150
Parkways/Medians	148	160	160	160	160	160
Cal Trans Areas Maintained by City	28	30	30	30	30	30
Cal Trans Freeways	166	190	190	190	190	190
ABC Unified School District	396	430	430	430	430	430
ADP Accounts	204	230	230	230	230	230
Private Accounts	287	310	310	310	310	310
City of Cerritos Recycled Water Use	**1,871**	**2,050**	**2,050**	**2,050**	**2,050**	**2,050**
City of Lakewood Recycled Water Use[1]	442	450	450	450	450	450
Total Current Recycled Water Use	**2,313**	**2,500**	**2,500**	**2,500**	**2,500**	**2,500**

[1] The City of Lakewood maintains 41 irrigation connections. (City of Lakewood Draft 2010 UWMP)

9.4.1 2005 Projection Comparison to 2010 Actual Recycled Water Use

Table 9.4-2 compares the 2005 projections of recycled water use with the actual recycled water use in 2010 within the City's service area. The City's 2005 UWMP projected 1,850 AF of recycled water usage in 2010. The actual usage in 2010 was 1,871 AF, which is within one percent of the projected amount.

http://www.lakewoodcity.org/civica/filebank/blobdload.asp?BlobID=3794

Table 9.4-2
City 2005 Projections for 2010 Recycled Water Use
Compared to 2010 Actual Use in AFY

Type of Use	2005 Projection for 2010	2010 Actual Use
Total	1,850	1,871

It should also be noted that the City of Lakewood estimated in 2005 that its 2009/10 recycled water demand would be 450 AF. Actual City of Lakewood use in 2009/10 was 442 AF, which is within two percent of the estimated amount.

9.4.2 Potential Additional Uses of Recycled Water

Currently the only identified potential additional uses of recycled water within the City include a few commercial buildings and the Cuesta Villas project. The irrigation demands at these locations are not known at this time. Future recycled water demands are not anticipated to increase because the large users of non-potable water supplies are already connected to the City's recycled water system.

9.4.3 Encouraging and Optimizing Recycled Water Use

The City has prepared and adopted a recycled water ordinance, Ordinance No. 621. This ordinance has been incorporated into the City's Municipal Code under Chapter 13.04 (Appendix I). This chapter provides information related to establishing and maintaining recycled water service with the City. The City is committed to encouraging recycled water use by providing financial incentives. Financial incentives include wholesaling recycled water at a rate lower than potable water and setting aside funds within the budget each year to assist customers in converting their potable water connection to a recycled water system connection. The City's recycled water rate is set at 46 percent of the potable water rate to encourage recycled water use.

The City's recycled water system has been in operation for over 15 years and there is little opportunity for the system to expand and for new users to connect to the system. Although Cerritos will continue to encourage recycled water use within its service area, the City does not anticipate an increase in recycled water demands. With the recycled water system built-out, the City does not have an optimization plan. However, the City recognizes the importance of optimizing recycled water within the region. Because the implementation of recycled water projects involves a substantial upfront capital investment for planning studies, environmental impact reports, engineering design, and construction, the City supports the establishment of funding sources for these types of projects. Funding sources through federal, state and regional programs currently provide significant financial incentives for local agencies to develop and make use of recycled water. Current potential funding sources include the USBR, California Water Bond Propositions 50 and 84, and Metropolitan's LRP. These funding opportunities may be sought by the City or possibly more appropriately by regional agencies. The City will continue to support seeking funding for regional water recycling projects and programs.

APPENDICES

Appendix A

Urban Water Management Planning Act of 1983
as Amended to 2010

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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.

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Appendix B

DWR Checklist Form

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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. 4-6
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. 5 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
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. 6-7
9	Describe the climate and other demographic factors of the service area of the supplier	10631(a)		Section 1, Pg. 6-10
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. 10-11
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. 11
12	Describe other demographic factors affecting the supplier's water management planning.	10631(a)		Section 1, Pg. 10-11
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 E
2	*Wholesalers:* Include an assessment of present and proposed future measures, programs, and policies to help achieve the water use reductions. *Retailers:* 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 23, 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. 9-10
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. 1-2
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. 3-9
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. 4-9
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. 7
16	Describe the groundwater basin.	10631(b)(2)		Section 2, Pg. 5
17	Indicate whether the groundwater basin is adjudicated? Include a copy of the court order or decree.	10631(b)(2)		Section 2, Pg. 5-6 Appendix D

No.	UWMP requirement [a]	Calif. Water Code reference	Additional clarification	UWMP location
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. 5-6
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 2, Pg. 8
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. 9
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. 23-33
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. 1-4
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

No.	UWMP requirement [a]	Calif. Water Code reference	Additional clarification	UWMP location
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. 2-3
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
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. 3-4
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. 4 and Appendix I
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. 4 and Appendix I
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 1-14
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 4, Pg. 23 and 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 4, Pg. 23-33 and Section 7, Pg 1 -14
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. 1-3 and Appendix F

No.	UWMP requirement [a]	Calif. Water Code reference	Additional clarification	UWMP location
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. 8
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. 8
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. 8-10 and Appendix F
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
40	Indicated penalties or charges for excessive use, where applicable.	10632(f)		Section 8, Pg. 8-10
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. 10
42	Provide a draft water shortage contingency resolution or ordinance.	10632(h)		Appendix F-H
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. 1-16

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 1-14
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. 1-14
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. 13-14
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 1-14
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.

Appendix C

Notice of Public Hearing and Resolution of Plan Adoption

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PROOF OF PUBLICATION

(2015.5 C.C.P.)

Los Cerritos Community Newspaper Group

13017 Artesia Blvd., Cerritos CA 90703, Suite D-136

(562) 407-3873

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 Los Cerritos Community News, a newspaper of general circulation, printed and published one time each week in the County of Los Angeles, and which newspaper has been adjudged a newspaper of general circulation by the Superior Court of the County of Los Angeles, State of California, under the date of September 9, 1996, in Case Number V5005861 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 on the following dates, to wit:

6/10/11

I certify (or declare) under penalty of perjury that the foregoing is true and correct.

DATED AT CERRITOS, CALIFORNIA,

THIS 10TH DAY OF JUNE, 2011.

Signature_____

Brian Hews

Los Cerritos Community News
13047 Artesia Blvd. Suite C-102, Cerritos, CA 90703
562-407-3873

LCCN FORM 82180 PROOf

County Clerk's Filing Stamp

Proof of Publication of

CITY OF CERRITOS
NOTICE OF PUBLIC HEARING

NOTICE IS HEREBY GIVEN that the City Council of the City of Cerritos will hold a public hearing on Thursday, June 23, 2011 at 7:00 p.m. on the following matter:

A RESOLUTION OF THE CITY COUNCIL OF THE CITY OF CERRITOS ADOPTING THE 2010 URBAN WATER MANAGEMENT PLAN PURSUANT TO CALIFORNIA WATER CODE 10610 TO 10657

This City Council hearing will be held in the Council Chambers of the Cerritos City Hall, 18125 Bloomfield Avenue, Bloomfield Avenue at 183rd Street, Cerritos, California.

THOSE DESIRING TO testify in favor or in opposition to the project will be given an opportunity to do so at the public hearing.

Should you have any questions, please call Charles Emig, Water Superintendent, at (562) 916-1223. Copies of the report are available for inspection at the City Clerks Office, City of Cerritos, 18125 Bloomfield Avenue, Cerritos, CA 90703, 8:00 a.m. to 5:00 p.m.

Dated: June 10 and June 17, 2011

/s/Vida Barone
Vida Barone, Interim City Clerk

Published at Los Cerritos Community Newspaper 6/10 and 6/17/11

PROOF OF PUBLICATION

(2015.5 C.C.P.)

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13017 Artesia Blvd., Cerritos CA 90703, Suite D-136

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STATE OF CALIFORNIA,

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6/17/11

I certify (or declare) under penalty of perjury that the foregoing is true and correct.

DATED AT CERRITOS, CALIFORNIA,

THIS 17TH DAY OF JUNE, 2011.

Signature_____

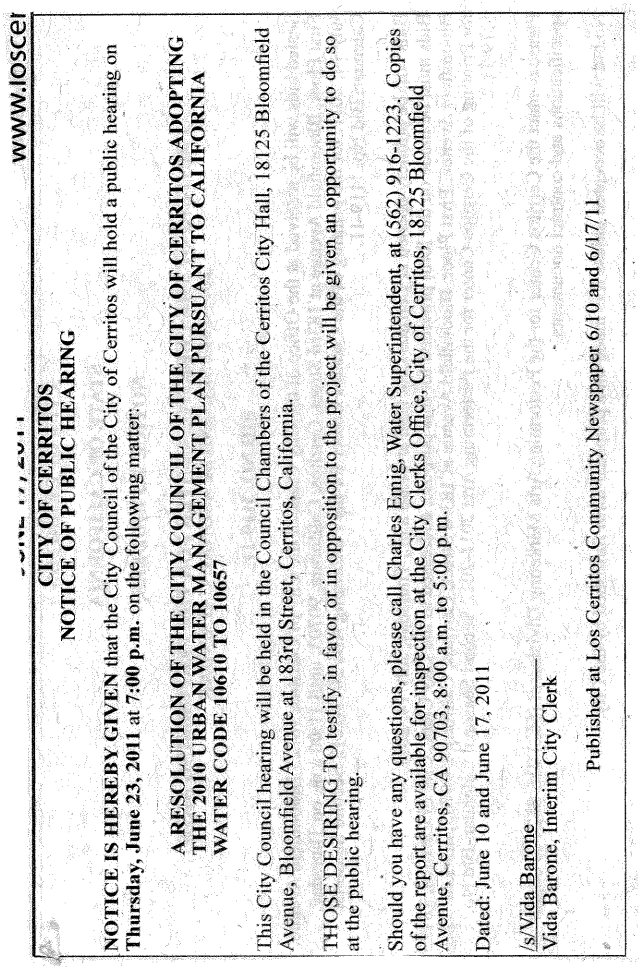
Brian Hews

Los Cerritos Community News
13047 Artesia Blvd. Suite C-102, Cerritos, CA 90703
562-407-3873

LCCN FORM 82180 PROOf

County Clerk's Filing Stamp

Proof of Publication of



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CITY OF CERRITOS
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Dated: June 10 and June 17, 2011

/s/Vida Barone
Vida Barone, Interim City Clerk

Published at Los Cerritos Community Newspaper 6/10 and 6/17/11

CITY OF CERRITOS

RESOLUTION NO. 2011-22

A RESOLUTION OF THE CITY COUNCIL OF THE CITY OF CERRITOS ADOPTING THE 2010 URBAN WATER MANAGEMENT PLAN PURSUANT TO CALIFORNIA WATER CODE 10610 TO 10657

WHEREAS, Government Code Sections 10610 through 10657 requires the development of an Urban Water Management Plan for a water supplier serving 3,000 customers or more; and

WHEREAS, the City of Cerritos provides water service to over 15,000 customers; and

WHEREAS, the City of Cerritos has completed an update to its 2010 Urban Water Management Plan (2010 Plan) pursuant to the requirements of the Urban Water Management Planning Act of 1983; and

WHEREAS, the 2010 Plan is a general information document and complements other regional water planning documents, including the Central Basin Municipal Water District and Metropolitan Water District of Southern California 2010 Regional Urban Water Management Plans; and

WHEREAS, the purpose of the 2010 Plan is to provide a local perspective and analysis of the current and alternative water demand, supplies and conservation activities of the City; and

WHEREAS, the 2010 Plan also addressed the effects and measures of coping with short-term and chronic water shortages within the City boundaries; and

WHEREAS, the 2010 Plan will be periodically updated, no less than every five years in the years ending in zero and five, to reflect changes in water supply trends and conservation policies within the boundaries of the City.

NOW THEREFORE, BE IT HEREBY RESOLVED that the City Council of the City of Cerritos does hereby approve the 2010 Urban Water Management Plan.

PASSED, APPROVED AND ADOPTED this 23rd day of June, 2011.

Carol K. Chen, Mayor

ATTEST:

Vida Barone, Interim City Clerk

STATE OF CALIFORNIA)
COUNTY OF LOS ANGELES) ss.
CITY OF CERRITOS)

I, Vida Barone, Interim City Clerk of the City of Cerritos, California, DO HEREBY CERTIFY that the foregoing Resolution No. 2011-22 was duly adopted by the City Council of the City of Cerritos at a Regular Meeting held on the 23rd day of June, 2011, and that it was so adopted as follows:

AYES:	Councilmembers –	Barrows, Cho, Edwards, Chen, Pulido
NOES:	Councilmembers –	None.
ABSENT:	Councilmembers –	None.
ABSTAIN:	Councilmembers –	None.

DATED: June 23, 2011

Brenda Cabrera, Assistant

Vida Barone, Interim City Clerk

Appendix D

Central Groundwater Basin Judgment

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LAGERLOF, SENECAL, DRESCHER & SWIFT
301 North Lake Avenue, 10th Floor
Pasadena, California 91101
(818) 793-9400 or (213) 385-4345

SUPERIOR COURT OF THE STATE OF CALIFORNIA

FOR THE COUNTY OF LOS ANGELES

CENTRAL AND WEST BASIN WATER REPLENISHMENT DISTRICT, etc., Plaintiff, v. CHARLES E. ADAMS, et al., Defendants.	No. 786,656 SECOND AMENDED JUDGMENT (Declaring and establishing water rights in Central Basin and enjoining extractions therefrom in excess of specified quantities.)
CITY OF LAKEWOOD, a municipal corporation, Cross-Complainant, v. CHARLES E. ADAMS, et al., Cross-Defendants.	

The above-entitled matter duly and regularly came on for trial in Department 73 of the above-entitled Court (having been transferred thereto from Department 75 by order of the presiding Judge), before the Honorable Edmund M. Moor, specially assigned Judge, on May 17, 1965, at 10:00 a.m. Plaintiff was represented by its attorneys BEWLEY, KNOOP, LASSLEBEN & WHELAN,

MARTIN E. WHELAN, JR., and EDWIN H. VAIL, JR., and cross-complainant was represented by its attorney JOHN S. TODD. Various defendants and cross-defendants were also represented at the trial. Evidence both oral and documentary was introduced. The trial continued from day to day on May 17, 18, 19, 20, 21 and 24, 1965, at which time it was continued by order of Court for further trial on August 25, 1965, at 10:00 a.m. in Department 73 of the above-entitled Court; whereupon, having then been transferred to Department 74, trial was resumed in Department 74 on August 25, 1965, and then continued to August 27, 1965 at 10:00 a.m. in the same Department. On the latter date, trial was concluded and the matter submitted. Findings of fact and conclusions of law 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 for this action is currently assigned to HON. FLORENCE T. PICKARD. Motion of Plaintiff herein for further amendments to the judgment, notice thereof and of the hearing thereon having been duly and regularly given to all parties, came on for hearing in Department 38 of the above-entitled court on MAY 6, 1991 at 8:45 a.m. before said HONORABLE PICKARD. Plaintiff was represented by its attorneys LAGERLOF, SENECAL, DRESCHER & SWIFT, by William F. Kruse. Various defendants were represented by counsel of record appearing on the Clerk's records. Hearing thereon was concluded on that date. The within "Second Amended Judgment" incorporates amendments and orders heretofore made to the extent presently operable and

amendments pursuant to said last mentioned motion. To the extent this Amended Judgment is a restatement of the judgment as heretofore amended, it is for convenience in incorporating all matters in one document, is not a readjudication of such matters and is not intended to reopen any such matters. As used hereinafter the word "judgment" shall include the original judgment as amended to date. In connection with the following judgment, the following terms, words, phrases and clauses are used by the Court with the following meanings:

"Administrative Year" means the water year until operation under the judgment is converted to a fiscal year pursuant to Paragraph 4, Part I, p. 53 hereof, whereupon it shall mean a fiscal year, including the initial 'short fiscal year' therein provided.

"Allowed Pumping Allocation" is that quantity in acre feet which the Court adjudges to be the maximum quantity which a party should be allowed to extract annually from Central Basin as set forth in Part I hereof, which constitutes 80% of such party's Total Water Right.

"Allowed Pumping Allocation for a particular Administrative year" and "Allowed Pumping Allocation in the following Administrative year" and similar clauses, mean the Allowed Pumping Allocation as increased in a particular Administrative year by any authorized carryovers pursuant to Part III, Subpart A of this judgment and as reduced by reason of any over-extractions in a previous Administrative year.

"Artificial Replenishment" is the replenishment of Central Basin achieved through the spreading of imported or reclaimed

water for percolation thereof into Central Basin by a governmental agency.

"Base Water Right" is the highest continuous extractions of water by a party from Central Basin for a beneficial use in any period of five consecutive years after the commencement of overdraft in Central Basin and prior to the commencement of this action, as to which there has been no cessation of use by that party during any subsequent period of five consecutive years. As employed in the above definition, the words "extractions of water by a party" and "cessation of use by that party" include such extractions and cessations by any predecessor or predecessors in interest.

"Calendar Year" is the twelve month period commencing January 1 of each year and ending December 31 of each year.

"Central Basin" is the underground water basin or reservoir underlying Central Basin Area, the exterior boundaries of which Central Basin are the same as the exterior boundaries of Central Basin Area.

"Central Basin Area" is the territory described in Appendix "1" to this judgment, and is a segment of the territory comprising Plaintiff District.

"Declared water emergency" shall mean a period commencing with the adoption of a resolution of the Board of Directors of the Central and West Basin Water Replenishment District declaring that conditions within the Central Basin relating to natural and imported supplies of water are such that, without implementation of the water emergency provisions of this Judgment, the water resources of the Central Basin risk degradation. In making such

declaration, the Board of Directors shall consider any information and requests provided by water producers, purveyors and other affected entities and may, for that purpose, hold a public hearing in advance of such declaration. A Declared Water Emergency shall extend for one (1) year following such resolution, unless sooner ended by similar resolution.

"Extraction", "extractions", "extracting", "extracted", and other variations of the same noun and verb, mean pumping, taking, diverting or withdrawing ground water by any manner or means whatsoever from Central Basin.

"Fiscal Year" is the twelve (12) month period July 1 through June 30 following.

"Imported Water" means water brought into Central Basin Area from a non-tributary source by a party and any predecessors in interest, either through purchase directly from The Metropolitan Water District of Southern California or by direct purchase from a member agency thereof, and additionally as to the Department of Water and Power of the City of Los Angeles, water brought into Central Basin Area by that party by means of the Owens River Aqueduct.

"Imported Water Use Credit" is the annual amount, computed on a calendar year basis, of imported water which any party and any predecessors in interest, who have timely made the required filings under Water Code Section 1005.1, have imported into Central Basin Area in any calendar year and subsequent to July 9, 1951, for beneficial use therein, but not exceeding the amount by which that party and any predecessors in interest reduces his or their extractions of ground water from Central Basin in that

calendar year from the level of his or their extractions in the preceding calendar year, or in any prior calendar year not earlier than the calendar year 1950, whichever is the greater.

"Natural Replenishment" means and includes all processes other than "Artificial Replenishment" by which water may become a part of the ground water supply of Central Basin.

"Natural Safe Yield" is the maximum quantity of ground water, not in excess of the long term average annual quantity of Natural Replenishment, which may be extracted annually from Central Basin without eventual depletion thereof or without otherwise causing eventual permanent damage to Central Basin as a source of ground water for beneficial use, said maximum quantity being determined without reference to Artificial Replenishment.

"Overdraft" is that condition of a ground water basin resulting from extractions in any given annual period or periods in excess of the long term average annual quantity of Natural Replenishment, or in excess of that quantity which may be extracted annually without otherwise causing eventual permanent damage to the basin.

"Party" means a party to this action. Whenever the term "party" is used in connection with a quantitative water right, or any quantitative right, privilege or obligation, or in connection with the assessment for the budget of the Watermaster, it shall be deemed to refer collectively to those parties to whom are attributed a Total Water Right in Part I of this judgment.

"Person" or "persons" include individuals, partnerships, associations, governmental agencies and corporations, and any and all types of entities.

"Total Water Right" is the quantity arrived at in the same manner as in the computation of "Base Water Right", but including as if extracted in any particular year the Imported Water Use Credit, if any, to which a particular party may be entitled.

"Water" includes only non-saline water, which is that having less than 1,000 parts of chlorides to 1,000,000 parts of water.

"Water Year" is the 12-month period commencing October 1 of each year and ending September 30th of the following year.

In those instances where any of the above-defined words, terms, phrases or clauses are utilized in the definition of any of the other above-defined words, terms, phrases and clauses, such use is with the same meaning as is above set forth.

NOW THEREFORE, IT IS ORDERED, DECLARED, ADJUDGED AND DECREED WITH RESPECT TO THE ACTION AND CROSS-ACTION AS FOLLOWS:

I. DECLARATION AND DETERMINATION OF WATER RIGHTS OF PARTIES; RESTRICTION ON THE EXERCISE THEREOF.[1]

1. Determination of Rights of Parties.

(a) Each party, except defendants, The City of Los Angeles and Department of Water and Power of the City of Los Angeles, whose name is hereinafter set forth in the tabulation at the conclusion of Subpart 3 of Part 1, and after whose name there

[1]Headings in the judgment are for purposes of reference and the language of said headings do not constitute, other than for such purpose, a portion of this judgment.

appears under the column "Total Water Right" a figure other than "0", was the owner of and had the right to extract annually groundwater from Central Basin for beneficial use in the quantity set forth after that party's name under said column "Total Water Right" pursuant to the Judgment as originally entered herein. Attached hereto as Appendix "2" and by this reference made a part hereof as though fully set forth are the water rights of parties and successors in interest as they existed as of the close of the water year ending September 30, 1978 in accordance with the Watermaster Reports on file with this Court and the records of the Plaintiff. This tabulation does not take into account additions or subtractions from any Allowed Pumping Allocation of a producer for the 1978-79 water year, nor other adjustments not representing change in fee title to water rights, such as leases of water rights, nor does it include the names of lessees of landowners where the lessees are exercising the water rights. The exercise of all water rights is subject, however, to the provisions of this Judgment as hereinafter contained. All of said rights are of the same legal force and effect and are without priority with reference to each other. Each party whose name is hereinafter set forth in the tabulation set forth in Appendix "2" of this judgment, and after whose name there appears under the column "Total Water Right" the figure "0" owns no rights to extract any ground water from Central Basin, and has no right to extract any ground water from Central Basin.

(b) Defendant The City of Los Angeles is the owner of the right to extract fifteen thousand (15,000) acre feet per annum of ground water from Central Basin. Defendant Department

of Water and Power of the City of Los Angeles has no right to extract ground water from Central Basin except insofar as it has the right, power, duty or obligation on behalf of defendant The City of Los Angeles to exercise the water rights in Central Basin of defendant The City of Los Angeles. The exercise of said rights are subject, however, to the provisions of this judgment hereafter contained, including but not limited to, sharing with other parties in any subsequent decreases or increases in the quantity of extractions permitted from Central Basin, pursuant to continuing jurisdiction of the Court, on the basis that fifteen thousand (15,000) acre feet bears to the Allowed Pumping Allocations of the other parties.

(c) No party to this action is the owner of or has any right to extract ground water from Central Basin except as herein affirmatively determined.

2. Parties Enjoined as Regards Quantities of Extractions.

(a) Each party, other than The State of California and The City of Los Angeles and Department of Water and Power of The City of Los Angeles, is enjoined and restrained in any Administrative year commencing after the date this judgment becomes final from extracting from Central Basin any quantity of Water greater than the party's Allowed Pumping Allocation as hereinafter set forth next to the name of the party in the tabulation appearing in Appendix 2 at the end of this Judgment, subject to further provisions of this judgment. Subject to such further provisions, the officials, agents and employees of The State of California are enjoined and restrained in any such Administrative year from extracting from Central Basin collectively any quantity of water

greater than the Allowed Pumping Allocation of The State of California as hereinafter set forth next to the name of that party in the same tabulation. Each party adjudged and declared above not to be the owner of and not to have the right to extract ground water from Central Basin is enjoined and restrained in any Administrative year commencing after the date this judgment becomes final from extracting any ground water from Central Basin, except as may be hereinafter permitted to any such party under the Exchange Pool provisions of this judgment.

(b) Defendant The City of Los Angeles is enjoined and restrained in any Administrative year commencing after the date this judgment becomes final from extracting from Central Basin any quantity of water greater than fifteen thousand (15,000) acre feet, subject to further provisions of this judgment, including but not limited to, sharing with other parties in any subsequent decreases or increases in the quantity of extractions permitted from Central Basin by parties, pursuant to continuing jurisdiction of the Court, on the basis that fifteen thousand (15,000) acre feet bears to the Allowed Pumping Allocations of the other parties. Defendant Department of Water and Power of The City of Los Angeles is enjoined and restrained in any Administrative year commencing after the date this judgment becomes final from extracting from Central Basin any quantity of water other than such as it may extract on behalf of defendant The City of Los Angeles, and which extractions, along with any extractions by said City, shall not exceed that quantity permitted by this judgment to that City in any Administrative year. Whenever in this judgment the term "Allowed Pumping

Allocation" appears, it shall be deemed to mean as to defendant The City of Los Angeles the quantity of fifteen thousand (15,000) acre feet.

Name [2]	Total Water Right	Allowed Pumping Allocation
J. P. Abbott, Inc.	21	17
Charles E. Adams (Corty Van Dyke, tenant) (see additional listing below for Charles E. Adams)	8	6
Charles E. Adams and Rhoda E. Adams	5	4
Juan Aguayo and Salome Y. Aguayo	1	1
Aguiar Dairy, Inc.	33	26
Airfloor Company of California, Inc.	1	1
J. N. Albers and Nellie Albers	98	78
Jake J. Alewyn and Mrs. Jake J. Alewyn aka Normalie May Alewyn (see listing under name of Victor E. Gamboni)		
Tom Alger and Hilda Alger	9	7
Clarence M. Alvis and Doris M. Alvis	0	0
American Brake Shoe Company	52	42

[2]Parties and Rights as originally adjudicated

Name	Total Water Right	Allowed Pumping Allocation
American Pipe and Construction Co.	188	150
Anaconda American Brass Company	0	0
Gerrit Anker (see listing under name of Agnes De Vries		
Archdiocese of Los Angeles Education & Welfare Corporation	8	6
George W. Armstrong and Ruth H. Armstrong (Armstrong Poultry Ranch, tenant)	28	22
Artesia Cemetery District	30	24
Artesia Milling Company (see listing under name of Dick Zuidervaart)		
Artesia School District	51	41
Arthur Land Co., Inc.	13	10
Charles Arzouman and Neuart Arzouman	1	1
Associated Southern Investment Company (William R. Morris, George V. Gutierrez and Mrs. Socorro Gutierrez, tenants and licensees)	16	13
The Atchison, Topeka and Santa Fe Railway Co.	124	99
Atkinson Brick Company	11	9
Arthur Atsma (see listing under name of Andrew De Voss)		
B.F.S. Mutual Water Company	183	146
Henry Baar (see listing under name of Steve Stefani, Sr.)		
Vernon E. Bacon (see listing under name of Southern California Edison Company)		

Name	Total Water Right	Allowed Pumping Allocation
Adolph Bader and Gesine Bader (Fred Bader, tenant)	14	11
K. R. Bailey and Virginia R. Bailey	1	1
Dave Bajema (see listing under name of Peter Dotinga)		
Donald L. Baker and Patsy Ruth Baker	5	4
Allen Bakker	0	0
Sam Bangma and Ida Bangma	17	14
Bank of America National Trust and Savings Association, as Trustee of Trust created by Will of Tony V. Freitas, Deceased (Frank A. Gonsalves, tenant)	29	23
Emma Barbaria, as to undivided 1/2 interest; John Barbaria, Jr. and Lorraine Barbaria as to undivided 1/4 interest; and Frank Barbaria as to undivided 1/4 interest (John Barbaria & Sons Dairy, tenant)	27	22
Antonio B. Barcellos and Manuel B. Barcellos	12	10
John Barcelos and Guilhermina Barcelos	16	13
Sam Bartsma and Birdie Bartsma	34	27
Bateson's School of Horticulture, Inc. (see listing under name of John Brown Schools of California, Inc.)		
Bechard Mutual Water Corporation	4	4
Beck Tract Water Company, Inc.	29	23
Iver F. Becklund	1	1
Margaret E. Becklund	1	1
P. T. Beeghly (International Carbonic, Inc., tenant)	1	1
Doutzen Bekendam and Hank Bekendam	0	0
John Bekendam	0	0
Tillie Bekendam	0	0

Name	Total Water Right	Allowed Pumping Allocation
Bell Trailer City (see listing under name of Bennett E. Simmons)	1	1
E. F. Bellenbaum and Marie P. Bellenbaum	32	26
Bellflower Christian School	243	194
Bellflower Home Garden Water Company	111	89
Bellflower Unified School District	2,109	1,687
Bellflower Water Company	11	9
Belmont Water Association	0	0
Tony Beltman	0	0
Berlu Water Company, Inc.	32	26
Jack R. Bettencourt and Bella Bettencourt	151	121
Bigby Townsite Water Co.		
Siegfried Binggeli and Trina L. Binggeli (see listing under name of Paul H. Lussman, Jr.)	0	0
Fred H. Bixby Ranch Company		
Delbert G. Black and Lennie O. Black as to undivided one-half; and Harley Lee, as to undivided one-half	40	32
Bloomfield School District	11	9
Adrian Boer and Julia Boer	5	4
Gerard Boere and Rosalyn Boer		
Henry Boer and Annie Boer (William Offinga & Son, including Sidney Offinga, tenants as to 33 acre feet of water right and 26 acre feet of allowed pumping allocation)	34 30	27 24
John Boere, Jr. and Mary J. Boere	30	24
John Boere, Sr. and Edna Boere (John Boere, Jr., tenant)	30	24
John Boere, Jr. (see also listing under name of Leonard A. Grenier)		

Name	Total Water Right	Allowed Pumping Allocation
Frank Boersma and Angie Boersma	31	25
Gerrit Boersma and Jennie Boersma (George Boersma, tenant)	8	6
Jack Boersma	0	0
Sam Boersma and Berdina Boersma	42	34
Jan Bokma (see listing under name of August Vandenberg)		
Jacob Bollema	0	0
James C. Boogerd (see listing under name of Jake Van Leeuwen, Jr.)		
Bernard William Bootsma, Carrie Agnes Van Dam and Gladys Marie Romberg	12	10
Michel Bordato and Anna M. Bordato (Charlie Vander Kooi, tenant)	12	10
John Borges and Mary Borges, aka Mrs. John Borges (Manuel B. Ourique, tenant)	14	11
Mary Borges, widow of Manuel Borges (Manuel Borges, Jr., tenant)	7	6
Gerrit Bos and Margaret Bos	88	70
Jacob J. Bosma (see listing under name of Sieger Vierstra)		
Peter Bothof	6	5
William Bothof and Antonette Bothof	7	6
Frank Bouma and Myron D. Kolstad	3	3
Ted Bouma and Jeanette Bouma	21	17
Sam Bouman (Arie C. Van Leeuwen, tenant)	8	6
John Brown Schools of California, Inc. (Bateson's School of Horticulture, Inc., tenant)	2	2
M. J. Brown, Jr. and Margaret Brown	0	0
Adrian Bulk and Alice Bulk	20	16

Name	Total Water Right	Allowed Pumping Allocation
Duke Buma and Martha Buma	8	6
Miles A. Burson and Rose Burson	7	6
Calavar Corporation (see listing under name of H R M Land Company)		
California Cotton Oil Corporation	101	81
California Portland Cement Company	0	0
California Rendering Company, Ltd.	149	119
California Water and Telephone Company	2,584	2,067
California Water Service Company (Base Water Right - 13,477)	14, 717	11,774
Candlewood Country Club	184	147
V. Capovilla and Mary Capovilla	0	0
Carmenita School District	9	7
Carson Estate Company	139	111
Paul Carver	0	0
Catalin Corporation of America	13	10
Center City Water Co.	86	69
Central Manufacturing District, Inc. (Louis Guglielmana and Richard Wigboly, tenants)	825	660
Century Center Mutual Water Association	317	254
Century City Mutual Water Company, Ltd.	62	50
Cerritos Junior College District	119	95
Cerritos Park Mutual Water Company	77	62
Challenge Cream & Butter Association	146	117
Chansall Mutual Water Company	101	81
Maynard W. Chapin, as Executor of the Estate of Hugh L. Chapin, deceased	36	29

Name	Total Water Right	Allowed Pumping Allocation
Cherryvale Water Users' Association	14	11
Shigeru Chikami and Jack Chikami doing business as Chikami Bros. Farming (see also listing under name of Southern California Edison Company)	10	8
John Christoffels and Effie Christoffels	14	11
Citrus Grove Heights Water Company	277	222
City Farms Mutual Water Company No. 1	37	30
City Farms Mutual Water Company No. 2	15	12
City of Artesia	30	24
City of Bellflower	60	48
City of Compton	6,511	5,209
City of Downey	5,713	4,570
City of Huntington Park	4,788	3,830
City of Inglewood (Base Water Right - 629)	1,118	894
City of Lakewood	10,631	8,505
City of Long Beach (Base Water Right - 29,876)	33,538	26,830
City of Los Angeles (see paragraph 2 above of this Part I for water rights and restrictions on the exercise thereof of said defendant. See also such reference with respect to Department of Water and Power of the City of Los Angeles.)		
City of Lynwood	6,238	4,990
City of Montebello	260	208
City of Norwalk	613	490
City of Santa Fe Springs	505	404
City of Signal Hill	1,675	1,340

Name	Total Water Right	Allowed Pumping Allocation
City of South Gate	9,942	7,954
City of Vernon	9,008	7,206
City of Whittier	776	621
Allan Clanton and Ina Clanton	80	64
Claretian Jr. Seminary (see listing under name of Dominguez Seminary)		
Dr. Russell B. Clark (see listing under name of Research Building Corporation)		
Jacob Cloo and Grace Cloo	16	13
Clougherty Packing Company	80	64
Coast Packing Company	426	341
Coast Water Company	588	470
Joe A. Coelho, Jr. and Isabel Coelho	5	4
J. H. Coito, Jr.	0	0
John H. Coito and Guilhermina Coito (Zylstra Bros., a partnership consisting of Lammert Zylstra and William Zylstra, tenant)	17	14
J. E. Collinsworth	15	12
Compton Union High School District	48	38
Conservative Water Company (Base Water Right - 4,101)	133	3,306
Container Corporation of America	323	1,058
Nicholas C. Contoas and P. Basil Lambros (Vehicle Maintenance & Painting Corporation, tenant)	1	1
Continental Can Company, Inc.	946	757
Contractors Asphalt Products Company, Inc.	16	13
R. M. Contreras	8	6

Name	Total Water Right	Allowed Pumping Allocation
Copp Equipment Company, Inc. and Humphries Investments Incorporated	7	6
Mary Cordeiro and First Western Bank & Trust Company, as Trustee pursuant to last will and testament of Tony Cordeiro, deceased	46	37
Corporation of the Presiding Bishop of the Church of Jesus Christ of Latter Day Saints (Ray Mitchell, tenant)	39	31
Harry Lee Cotton and Doris L. Cotton	5	4
County of Los Angeles	737	590
County Water Company	280	224
Cowlitz Amusements, Inc. (La Mirada Drive-In Theater, tenant)	4	4
Pete Coy	28	22
Crest Holding Corporation	20	16
Katherine M. Culbertson	2	2
Orlyn L. Culp and Garnetle Culp	21	17
Everett Curry and Marguerite Curry	2	2
D. V. Dairy (see listing under name of Frank C. Leal)		
Dairymen's Fertilizer Co-op, Inc.	1	1
Noble G. Daniels (see listing under name of Harold Marcroft)		
John A. Davis	0	0
Henry De Bie, Jr. and Jessie De Bie	17	14
Clifford S. Deeth	0	0
Ernest De Groot and Dorothy De Groot	81	65
Pete de Groot	15	12
Pier De Groot and Fay De Groot	21	17

Name	Total Water Right	Allowed Pumping Allocation
Martin De Hoog and Adriana De Hoog	12	10
Edward De Jager and Alice De Jager	37	30
Cornelius De Jong and Grace De Jong	13	10
Jake De Jong and Lena De Jong (Frank A. Gonsalves, tenant as to 8 acre-feet of water right)	21	17
William De Kriek (see listing under name of Gerrit Van Dam)		
Del Amo Dairy (see listing under name of Ed Haakma)		
Del Amo Estate Company	0	0
Joe De Marco and Concetta De Marco	1	1
Louis F. De Martini (see listing under name of Southern California Edison Company)		
Mary A. De Mello	16	13
John Den Hollander (see listing under name of James Dykstra)		
Department of Water and Power of The City of Los Angeles, by reason of charter provisions, has the management and control of water rights owned by the City of Los Angeles (see listing under name of City of Los Angeles)		
Ruth E. Dever (Orange County Nursery, Inc., tenant)	0	0
Andrew De Voss and Alice De Voss (Arthur De Voss and Arthur Atsma, tenants)	36	29
Agnes De Vries (Gerrit Anker, tenant)	16	13
Dick De Vries and Theresa De Vries	10	8
Gerrit De Vries and Claziena De Vries	18	14
Gerrit Deyager and Dena Deyager	0	0

Name	Total Water Right	Allowed Pumping Allocation
Lloyd W. Dinkelspiel, Jr. (see listing under name of Florence Hellman Ehrman)		
District VII, Division of Highways of the State of California Department of Public Works (see listing under name of State of California)		
Dominguez Estate Company	0	0
Dominguez Seminary and Claretian Jr. Seminary	111	89
Dominguez Water Corporation	8,012	6,410
Peter Dotinga and Tena Dotinga (Dave Bajema, tenant)	9	7
Robert L. Dougherty	0	0
Downey Cemetery District	21	17
Downey Fertilizer Co. (see listing under name of Downey Land Company)		
Downey Land Company (Downey Fertilizer Co., tenant)	101	81
Downey Valley Water Company	87	70
Jim Drost	0	0
James Dykstra and Dora Dykstra (John Den Hollander, tenant)	6	5
John Dykstra and Wilma Dykstra	52	42
Cor Dyt and Andy Dyt	6	5
Eagle Picher Company	141	113
Gail H. Eagleton	67	54
Florence Hellman Ehrman; I. W. Hellman, Jr.; Frederick J. Hellman; Marco F. Hellman; Clarence E. Heller; Alfred Heller, Elizabeth Heller; Clarence E. Heller, Elinor R. Heller and Wells Fargo Bank, as co-executors of the Estate of Edward H. Heller, deceased; Lloyd W. Dinkelspiel, Jr., William H.		

Name	Total Water Right	Allowed Pumping Allocation
Green and Wells Fargo Bank, as co-executors of the Estate of Lloyd W. Dinkelspiel, deceased; Wells Fargo Bank, as Trustee under the trust created by the Will of Florence H. Dinkelspiel, deceased. (Union Oil Company of California, Lessee as to 190 acre-feet of right and as to 152 acre-feet of allowed pumping allocation)	555	444
El Rancho Unified School District	69	55
Berton Elson (see listing under name of D. P. Winslow)		
John H. Emoto and Shizuko Emoto	0	0
Addie L. Enfield (see listing under name of James L. Stamps)		
John W. England and Consuello England (see listing under name of Jenkins Realty Mutual Water Co.)		
Emma Engler (Morris Weiss, tenant)	10	8
Anthony F. Escobar and Eva M. Escobar (Henry Kampen, tenant)	14	11
Excelsior Union High School District	381	305
Kenneth A. Farris and Wanda Farris	1	1
Federal Ice and Cold Storage Company	92	74
Fred Fekkes (see listing under name of Steve Stefani, Sr.)		
Julius Felsenthal and Mrs. Julius Felsenthal, aka Marga Felsenthal	1	1
Tony Fernandes (see listing under name of U. Stewart Jones)		
Joe C. Ferreira and Carolina Ferreira (Joe C. Ferreira and Joe C. Ferreira, Jr., operators of well facility)	37	30

Name	Total Water Right	Allowed Pumping Allocation
Mary A. Ferreira (Joe Lucas, tenant) (see also listing under name of Jack Gonsalves)	1	1
John Feuz, Jr.	0	0
Fibreboard Paper Products Corporation	1,521	1,217
Abe Fien	0	0
Alfred Fikse, Jr. and Aggie Fikse	2	2
Henry Fikse and Jennie Fikse	4	4
Filtrol Corporation	570	456
The Firestone Tire & Rubber Co.	1,536	1,229
First Western Bank & Trust Co. (see listing under name of Mary Cordeiro)		
Clare Fisher	0	0
Elizabeth Flesch, James Flesch, Margaret Flesch, Theodore Flesch, Ernest D. Roth and Eva Roth, doing business as Norwalk Mobile Lodge	18	14
The Flintkote Company	2,567	2,054
Ford Motor Company	11	9
Robert G. Foreman (see listing under name of Lakewood Pipe Co.)		
Guiseppi Franciosi and Alice Franciosi	2	2
Tony V. Freitas (see listing under name of Bank of America, etc.)		
S. Fujita	0	0
Jun Fukushima (see listing under name of Chige Kawaguchi)		
Paul Fultheim and Helga Fultheim	5	4
Fumi Garden Farms, Inc. (see listing under name of Southern California Edison Company and also under name of George Yamamoto)		

Name	Total Water Right	Allowed Pumping Allocation
Gabby Louise, Inc. (Arthur Gilbert & Associates, tenant)	58	46
Victor E. Gamboni and Barbara H. Gamboni (Jake J. Alewyn and Mrs. Jake J. Alewyn also known as Normalie May Alewyn, tenants as to 13 acre feet of water right and 10 acre feet of allowed pumping allocation)	27	22
Nick Gandolfo and Palmera Gandolfo	5	4
Freddie A. Garrett and Vivian Marie Garrett	6	5
Martha Gatz	15	12
General Dynamics Corporation	675	540
General Telephone Company of California	2	2
Alfred Giacomi and Jennie Giacomi	58	46
Arthur Gilbert & Associates (see listing under name of Gabby Louise Inc.)		
Mary Godinho	0	0
Pauline Godinho (Joe C. Godinho and John C. Godinho, Jr., doing business as Godinho Bros. Dairy, tenants)	31	25
Harry N. Goedhart, Henry Otto Goedhart, Hilbrand John Goedhart, John Goedhart, Otto Goedhart, Jr., Peter Goedhart, and Helen Goedhart Van Eik (Paramount Farms, tenant)	21	17
Reimer Goedhart	12	10
Golden Wool Company	223	178
Albert S. Gonsalves and Caroline D. Gonsalves	10	8
Frank A. Gonsalves (see listing under name of Bank of America National Trust and Savings Association, etc.; and also under name of Jake De Jong)		

Name	Total Water Right	Allowed Pumping Allocation
Jack Gonsalves, Joe Lucas, Pete Koopmans, Manuel M. Souza, Sr., Manuel M. Souza, Jr., Frank M. Souza, Louie J. Souza, and Mary A. Ferreira	55	44
Jack Gonsalves and Mary Gonsalves	31	25
Joaquin Gonsalves and Elvira Gonsalves	27	22
Joe A. Gonsalves and Virginia Gonsalves	12	10
The B. F. Goodrich Company	519	415
The Goodyear Tire & Rubber Company	1,141	913
Eric Gorden and Hilde Gorden	2	2
Fern Ethyl Gordon as to an undivided 1/2 interest; Fay G. Tawzer and Lawrence R. Tawzer, as to an undivided 1/2 interest	17	14
Huntley L. Gordon (appearing by and through United California Bank, as Conservator of the Estate of Huntley L. Gordon)	41	33
Robert E. Gordon	5	4
Joe Gorzeman and Elsie Gorzeman	13	10
Florence M. Graham	7	6
Marie Granger	0	0
Great Western Malting Company	448	358
William H. Green (see listing under name of Florence Hellman Ehrman)		
Greene-Howard Petroleum Corporation (see listing under name of Hathaway Company)		
John H. Gremmius and Henry W. Gremmius dba Henry and John Gremmius	0	0
Leonard A. Grenier and Marie Louise Grenier (John Boere, Jr., tenant)	10	8
Florence Guerrero	2	2

Name	Total Water Right	Allowed Pumping Allocation
Louis Guglielmana (see listing under name of Central Manufacturing District, Inc.)		
George V. Gutierrez and Mrs. Socorro Gutierrez (see listing under name of Associated Southern Investment Company)		
Salvatore Gutierrez (see listing under name of Southern California Edison Company)		
H. J. S. Mutual Water Co.	63	50
H R M Land company (Harron, Rickard & McCone Company of Southern California and Calavar Corporation, tenants)	3	3
Gerrit Haagsma and Mary Haagsma	10	8
Ed Haakma and Sjana Haakma (Del Amo Dairy, tenant; Ed Haakma and Pete Vander Kooi, being partners of said Del Amo Dairy)	28	22
Verney Haas and Adelyne Haas	4	4
William H. Hadley and Grace Hadley	4	4
Henry C. Haflinger and Emily Haflinger	10	8
Clarence Theodore Halburg	3	3
Fred Hambarian	2	2
Henry Hamstra and Nelly Hamstra	33	26
Raymond Hansen and Mary Hansen	12	10
Earl Haringa; Evert Veenendaal and Gertrude Veenendaal	22	18
Antoine Harismendy and Claire Harismendy	0	0
Harron, Rickard & McCone Company of Southern California (see listing under name of H R M Land Company)		
Jack D. Hastings	0	0
Kameko Hatanaka	9	7

Name	Total Water Right	Allowed Pumping Allocation
Kazuo Hatanaka (Minoru Yoshijima, tenant)	10	8
Masakazu Hatanaka, Isao Hatanaka, and Kenichi Hatanaka	5	4
Mrs. Motoye Hatanaka	0	0
Hathaway Company, Richard F. Hathaway, Julian I. Hathaway, and J. Elwood Hathaway (Greene-Howard Petroleum Corporation, tenant utilizing less than 1 acre foot per year)	70	56
Clarence E. Heller; Alfred Heller; Elizabeth Heller; Clarence E. Heller; Elinor R. Heller, as co-executors of the Estate of Edward H. Heller, deceased (see listing under name of Florence Hellman Ehrman)		
I. W. Hellman, Jr.; Frederick J. Hellman; Marco F. Hellman (see listing under name of Florence Hellman Ehrman)		
Ralph Hicks	0	0
Alfred V. Highstreet and Evada V. Highstreet	10	8
John Highstreet and Eileen M. Highstreet	9	7
Bob Hilarides and Maaike Hilarides (Frank Hilarides, tenant)	51	41
John Hilarides and Maria Hilarides	26	21
Hajime Hirashima (see listing under name of Masaru Uyeda)		
Willis G. Hix	1	1
Henry H. Hoffman and Apolonia Hoffman	12	10
Dick Hofstra	0	0
Andrew V. Hohn and Mary G. Hohn	1	1
Kyle R. Holmes and Grace Ellen Holmes	20	16
Home Water Company	35	28

Name	Total Water Right	Allowed Pumping Allocation
Manuel L. Homen	17	14
Mrs. Paul Y. Homer (see listing under name of Mrs. Paul Y. Homer (King).)		
Cornelis Hoogland and Alice Hoogland	15	12
Art Hop, Jr.	0	0
Art Hop, Sr. and Johanna Hop (G. A. Van Beek, tenant)	5	4
Andrew Hop, Jr. and Muriel Hop	33	26
Theodore R. Houseman and Leona M. Houseman	14	11
Humphries Investments Incorporated (see listing under name of Copp Equipment Company, Inc.)		
Albert Huyg and Marie Huyg	22	18
Hygenic Dairy Farms, Inc.	0	0
Pete W. Idsinga and Annie Idsinga	13	10
Miss Alice M. Imbert	1	1
Industrial Asphalt of California, Inc.	116	93
Inglewood Park Cemetery Association	285	228
International Carbonic, Inc. (see listing under name of P. T. Beeghly)		
Jugora Ishii and Mumeno Ishii (Ishii Brothers, tenant)	10	8
Robert J. Jamison and Betty Jamison	7	6
Jenkins Realty Mutual Water Co. (Clyde H. Jenkins, Minnie R. Jenkins, Mary Wilcox, Ruby F. Marchbank, Robert B. Marchbank, John W. England, and Consuello England, shareholders	10	8
John-Wade Co.	1	1
Henry S. Jones and Madelynne Jones	1	1

Name	Total Water Right	Allowed Pumping Allocation
U. Stewart Jones and Dorothy E. Jones (Tony Fernandes, tenant)	1	1
Harold Jongsma and Mary N. Jongsma	65	52
W. P. Jordan (see listing under name of Henry Van Ruiten)		
Dave Jorritsma and Elizabeth Jorritsma	27	22
Christine Joseph (see listing under name of Helen Wolfsberger)		
Junior Water Co., Inc.	737	590
Kal Kan Foods, Inc.	120	96
Kalico, Inc.	4	4
Hagop Kalustian (11 acre feet of total water right attributable to well located at 6629 South Street, Lakewood and reported to plaintiff under Producer No. 3925. 2 acre feet of total water right attributable to portion of property not sold to State of California formerly served by well located at 10755 Artesia Blvd., Artesia, the production of which well was reported to plaintiff under Producer No. 4030)	13	10
Fritz Kampen and Clare Kampen	14	11
William Kamstra and Bertha Kamstra	35	28
Henry Kampen (see listing under name of Anthony Escobar)		
L. Kauffman Company, Inc. (see listing under name of Lorraine K. Meyberg)		
Chige Kawaguchi and Masao Kawaguchi (Jun Fukushima, tenant)	4	4
King Kelley Marmalade Co. (see listing under name of Roberta M. Magnusson)		
Mrs. Paul Y. Homer (King)	17	14
Jacob R. Kimm and Bonnie Kimm	36	29

Name	Total Water Right	Allowed Pumping Allocation
Mrs. Oraan Kinne (Nicholaas J. Moons, tenant)	11	9
Morris P. Kirk & Son, Inc.	77	62
Jake Knevelbaard and Anna Knevelbaard	50	40
Willie Knevelbaard and Joreen Knevelbaard	1	1
Simon Knorringa	12	10
John Koetsier, Jr.	0	0
Myron D. Kolstad (see listing under name of Frank Bouma)		
Yoshio Kono and Barbara Kono (see listing under name of George Mimaki)		
Louis Koolhaas	13	10
Simon Koolhaas and Sophie Grace Koolhaas	9	7
Pete Koopmans (see listing under name of Jack Gonsalves)		
Nick P. Koot (see listing under name of Mary Myrndahl)		
Kotake, Inc. (Masao Kotake, Seigo Kotake, William Kotake, dba Kotake Bros., tenants)	83	66
Masao Kotake	0	0
Walter G. Kruse and Mrs. Walter G. Kruse, aka Vera M. Kruse	11	9
Laguna-Maywood Mutual Water Company No. 1	1,604	1,283
La Habra Heights Mutual Water Company	3,044	2,435
La Hacienda Water Company	46	37
Lakewood Pipe Co., a partnership composed of Robert G. Foreman, Frank W. Tybus and June E. Tybus (Lakewood Pipe Service Co., tenant)	12	10

Name	Total Water Right	Allowed Pumping Allocation
P. Basil Lambros (see listing under name of Nicholas C. Conteas)		
La Mirada Drive-in Theater (see listing under name of Cowlitz Amusements, Inc.)		
La Mirada Water Company	0	0
Calvin E. Langston and Edith Langston	1	1
S. M. Lanting and Alice Lanting	15	12
Henry Lautenbach and Nellie H. Lautenbach	16	13
Norman Lautrup, as Executor of the Estate of Nels Lautrup, deceased; and Minnie Margaret Lautrup	30	24
Frank C. Leal and Lois L. Leal (D. V. Dairy, tenant)	15	12
Eugene O. LeChasseur and Lillian P. LeChasseur (R. A. LeChasseur, tenant)	2	2
Lee Deane Products, Inc.	0	0
Harley Lee (see listing under name of Delbert G. Black)		
Le Fiell Manufacturing Company	0	0
Armand Lescoulie (see listing under name of Southern California Edison Company)		
Liberty Vegetable Oil Company	14	11
Little Lake Cemetery District	17	14
Little Lake School District	0	0
Loma Floral Company (see listing under name of George Mimaki)		
Melvin L. Long and Stella M. Long	2	2
Nick J. Loogman (see listing under name of William Smoorenburg)		
Frank Lorenz (see listing under name of Ralph Oosten)		

Name	Total Water Right	Allowed Pumping Allocation
Los Angeles County Waterworks District No. 1 (Base Water Right 22)	113	90
Los Angeles County Waterworks District No. 10	842	674
Los Angeles County Waterworks District No. 16	412	330
Los Angeles Paper Box and Board Mills	321	257
Los Angeles Union Stockyards Company	0	0
Los Nietos Tract 6192 Water Co.	49	39
Alden Lourenco (see listing under name of A. C. Pinheiro)		
Lowell Joint School District	0	0
Joe Lucas (see listings under names of Mary A. Ferreira and Jack Gonsalves)		
Luer Packing Co. (see listing under name of Sam Perricone)		
Jake J. Luetto (Orange County Nursery, Inc., tenant)	13	10
Lunday-Thagard Oil Co.	265	212
Joe Luond (Frieda Roethlisberger, tenant as to portion of rights)	7	6
John Luscher and Frieda Luscher	13	10
Paul H. Lussman, Jr. and Ann Lussman, Siegfried Binggeli and Trina L. Binggeli (Paul's Dairy, tenant)	8	6
Lynwood Gardens Mutual Water Company	205	164
Lynwood Park Mutual Water Company	278	222
Jerome D. Mack and Joyce Mack (see listing under name of D. S. Moss)		
Roberta M. Magnusson (King Kelly Marmalade Co., tenant)	15	12
Anthony Mancebo	0	0

Name	Total Water Right	Allowed Pumping Allocation
Robert B. Marchbank and Ruby F. Marchbank (see listing under name of Jenkins Realty Mutual Water Co.)		
Harold Marcroft and Marjorie Marcroft (Noble G. Daniels, tenant)	7	6
Floyd G. Marcusson (see listing under name of Sykes Realty Co.)		
Walter Marlowe and Edna Marlowe	1	1
Marshburn, Inc. (see listing under name of Mel, Inc.)		
The Martin Bros. Container & Timber Products Corp.	7	6
Mary Martin	35	28
Antonio Mathias and Mary Mathias	16	13
Mausoleum Park, Inc. and Sun Holding Corporation	4	4
Maywood Mutual Water Company No. 1	926	741
Maywood Mutual Water company No. 2	1,007	806
Maywood Mutual Water Company No. 3	1,407	1,126
Mel, Inc. (Marshburn, Inc., tenant)	67	54
G. Mellano	12	10
Wilbur Mellema and Mary Mellema (see listing under name of Elmo D. Murphy)		
Wilbur Mellema (see listing under name of Morris Weiss)		
Memorial Parks, Inc.	42	34
Lyman B. Merrick and Gladys L. Merrick	17	24
Metropolitan State Hospital of the State of California Department of Mental Hygiene (see listing under name of State of California)		
F. N. Metzger	0	0

Name	Total Water Right	Allowed Pumping Allocation
Lorraine K. Meyberg (L. Kauffman Company, Inc., tenant)	81	65
Midland Park Water trust	71	57
Midway Gardens Mutual Association	59	47
Harry C. Miersma and Dorothy L. Miersma	12	10
Henry Miersma and Susan M. Miersma	7	6
Willis L. Miller	0	0
George Mimaki, Mitsuko Mimaki, Yoshio Kono and Barbara Kono (Loma Floral Company, tenant)	2	2
Ray Mitchell (see listing under name of Corporation of the Presiding Bishop of the Church of Jesus Christ of Latter Day Saints; and also listing under name of Frank Ruggieri)		
Fumiko Mitsuuchi, aka Mary Mitsuuchi (Z. Van Spanje, tenant as to one acre foot)	14	11
Yoneichi Miyasaki	0	0
Glenn Miyoshi, Yosaku Miyoshi, Masayo Miyoshi, Haruo Miyoshi, and Masaru Miyoshi, dba Miyoshi Bros.	10	8
Jean Mocho and Michel Plaa	11	9
Modern Imperial Company	71	57
Montebello Land and Water Company	1,990	1,592
Monterey Acres Mutual Water Company	128	102
Nicholaas J. Moons (see listing under name of Mrs. Oraan Kinne)		
Alexander Moore and Betty L. Moore	16	13
Neal Moore	0	0
Alyce Mooschekian	0	0
Reuben Mooschekian	15	12

Name	Total Water Right	Allowed Pumping Allocation
William R. Morris (see also listing under name of Associated Southern Investment Company)	1	1
D. S. Moss, Lillian Moss, Jerome D. Mack, and Joyce Mack	5	4
Mountain View Dairies, Inc.	68	54
Kiyoshi Murakawa and Shizuko Murakawa	0	0
Daisaku Murata, Fui Murata, Hatsuye Murata, Kenji Murata, Setsuko Murata, and Takeo Murata	15	12
Kenji Murata (see listing under name of Southern California Edison Company)		
Elmo D. Murphy and Evelene B. Murphy (Morris Weiss, Bessie Weiss, Wilbur Mellema, and Mary Mellema, tenants)	23	18
Murphy Ranch Mutual water company	576	461
Etta Murr	3	3
R. B. Murray and Gladys J. Murray	0	0
Tony G. Mussachia and Anna M. Mussachia	10	8
Mary Myrndahl (Nick P. Koot, tenant)	11	9
Sam Nakamura and Tokiko Nakamura	2	2
Leo Nauta (see listing under name of John Osinga)		
Pete Nauta (see listing under name of Jacob Vandenberg)		
Fred C. Nelles School for Boys of the State of California Department of the Youth Authority (see listing under name of State of California)		
Otelia Nelson and Robert Nelson (Shelter Superior Dairy, tenant)	14	11
Simon S. Niekerk and Rose Niekerk (Niekerk Hay Company, tenant)	3	3

Name	Total Water Right	Allowed Pumping Allocation
Norris-Thermador Corporation	172	138
North Gate Gardens Water Co.	60	48
Norwalk-La Mirada City School District	360	288
Norwalk Mobile Lodge (see listing under name of Elizabeth Flesch)		
Mabel E. Nottingham (Leslie Nottingham, tenant)	25	20
William Offinga & Son, including Sidney Offinga (see listing under name of Henry Boer)		
Olive Lawn Memorial Park, Inc.	14	11
John Oord	0	0
Marinus Oosten and Anthonia Oosten	16	13
Ralph Oosten and Caroline Oosten (Frank Lorenz, tenant as to 13 acre feet of water right and 10 acre feet of allowed pumping allocation)	51	41
Orange County Nursery, Inc. (see also: listing under name of Ruth E. Dever; listing under name of Jake J. Luetto; and listing under name of Mary Ravera)	16	13
Orchard Dale County Water District (Base Water Right - 1,382)	1,384	1,107
Orchard Park Water Club, Inc.	50	40
Oriental Foods, Inc.	34	27
Orla Company (John D. Westra, tenant)	7	6
Viva Ormonde (see listing under name of Hank Van Dam)		
Pablo Oropeza and Aurelia G. Oropeza (Pablo Oropeza, Jr., tenant) (see also listing under name of Tarr and McComb Oil Company, Ltd.)		
John Osinga (Leo Nauta, tenant)	6	5

Name	Total Water Right	Allowed Pumping Allocation
Manuel B. Ourique (see listing under name of John Borges)		
Owl Constructors	20	16
Pacific Electric Railway Company (Gerrit Van Leeuwen of 15405 Shoemaker Road, Norwalk, tenant as to 11 acre feet of right and 9 acre feet of allowed pumping allocation)	15	12
Packers Mutual Water Company	43	34
Edward G. Paddison and Grace M. Paddison	17	14
Paramount Farms (see listing under name of Harry N. Goedhart)		
Paramount County Water District	2,967	2,374
Paramount Unified School District	58	46
Park Water Company	24,592	19,674
W. J. Parsonson	0	0
Rudolph Pasma and Frances C. Pasma	10	8
Paul's Dairy (see listing under name of Paul H. Lussman, Jr.)		
Mrs. La Verne Payton	1	1
Peerless Land & Water Co., Inc.	1,232	986
J. C. Pereira, Jr. and Ezaura Pereira	34	27
Sam Perricone and Louis Romoff (Luer Packing Co., tenant)	107	86
Peterson Manufacturing Co., Inc.	73	58
Phelps Dodge Copper Products Corporation	390	312
Pico County Water District	3,741	2.993
Piedmont Heights Water Club	7	6
Lucille C. Pimental (Richard Pimental and Pimental Dairy, tenants)	16	13

Name	Total Water Right	Allowed Pumping Allocation
Joe Pine (see listing under name of A. C. Pinheiro)		
A. C. Pinheiro and Mary M. Pinheiro (Alden Lourenco, tenant as to 9 acre feet of water right and 7 acre feet of allowed pumping right; and Joe Pine, tenant as to 13 acre feet of water right and 10 acre feet of allowed pumping right)	128	102
Fred Pinto and Mary Pinto	5	4
Frank Pires (see listing under name of Frank Simas)		
Tony C. Pires and Laura C. Pires	31	25
Michel Plaa (see listing under name of Jean Mocho)		
Donald R. Plunkett	53	42
Pomering Tract Water Association	32	26
Clarence Pool	24	19
Garret Porte and Cecelia Porte	35	28
Veronica Postma	16	13
C. H. Powell	1	1
Powerine Oil Company	784	627
John Preem	0	0
Ralph Pylman and Ida Pylman	13	10
Quality Meat Packing Company	38	30
Ralphs Grocery Company	0	0
Arthur D. Ramsey and James A. Ramsey	5	4
Rancho Santa Gertrudes Mutual Water System	48	38
Mary Ravera (Orange County Nursery, Inc., tenant	39	31

Name	Total Water Right	Allowed Pumping Allocation
Zelma Ravera	2	2
Rawlins Investment Corporation (Rockview Milk Farms, Inc., tenant)	66	53
Hal Rees	0	0
Reeves Tract Water Company	36	29
Clarence Reinalda	0	0
Reliance Dairy Farms	122	98
Research Building Corporation (Dr. Russell B. Clark, tenant)	11	9
Richfield Oil Corporation	71	57
Richland Farm Water Company	216	173
George Rietkerk and Cornelia Rietkerk	7	6
Rio Hondo Country Club (see listing under name of James L. Stamps)		
Erasmo Rios (see listing under name of Esther Salcido)		
Jesus Rios (see listing under name of Esther Salcido)		
Frank J. Rocha, Jr. and Elsie M. Rocha	13	10
Rockview Milk Farms, Inc. (see listing under name of Rawlins Investment Corporation)		
John Rodrigues, Emily S. Rodrigues, and John Rodrigues, Jr. (see also below)	5	4
John Rodrigues and John Rodrigues Jr.	1	1
Frieda Roethlisberger (see listing under name of Joe Luond)		
Patricia L. Davis Rogers, aka Patricia L. Davis	2	2
The Roman Catholic Archbishop of Los Angeles, a corporation sole	426	341

Name	Total Water Right	Allowed Pumping Allocation
Gladys Marie Romberg (see listing under name of Bernard William Bootsma)		
Alois M. Rombout	0	0
Louis Romoff (see listing under name of Sam Perricone)		
Elvira C. Rosales	3	3
Frank J. Ross	2	2
Ernest D. Roth and Eva Roth (see listing under name of Elizabeth Flesch)		
Ed Roukema	0	0
Herbert N. Royden	31	25
Ruchti Brothers	31	25
Frank Ruggieri and Vada Ruggieri (see additional listing below)	1	1
Frank Ruggieri and Vada Ruggieri; David Seldeen and Fay Seldeen (Ray Mitchell, tenant)	23	18
Thomas S. Ryan and Dorothy J. Ryan	19	15
Sam Rypkema and Tena Rypkema	8	6
St. John Bosco School	53	42
James H. Saito and Yoshino Saito	2	2
Esther Salcido and Jesus Rios (Erasmo Rios, tenant)	3	3
San Gabriel Valley Water Company	6,828	5,462
Joe Santana and Palmira Santana	10	8
Sasaki Bros. Ranch, Inc.	32	26
Sativa L. A. County Water District	592	474
Ben Schilder, Jr. and Anna Schilder	28	22
Carl Schmid and Olga Schmid	18	14

Name	Total Water Right	Allowed Pumping Allocation
Mrs. A. Schuur	0	0
John Schuurman and Isabel Schuurman (James Sieperda, tenant)	15	12
David Seldeen and Fay Seldeen (see listing under name of Frank Ruggieri)		
Maurice I. Sessler	8	6
Chris Shaffer and Celia I. Shaffer	8	6
Shayman & Wharram, a partnership, consisting of John W. Shayman and Francis O. Wharram	2	2
Shell Oil Company (see listing under name of Margaret F. Slusher)		
Shelter Superior Dairy (see listing under name of Otelia Nelson)		
Tadao Shiba and Harume Shiba, Susumu Shiba, and Mitsuko Shiba	7	6
Yahiko Shiozaki and Kiyoko Shiozaki; Ken Shiozaki and Grace Shiozaki	6	5
Shore-Plotkin Enterprises, Inc. (Shore-Calnevar, Inc., tenant)	0	0
J. E. Siemon	15	12
James Sieperda (see listing under name of John Schuurman)		
Sierra Restaurant Corporation	0	0
Frank Simas and Mabel Simas (Frank Pires, tenant)	11	9
Bennett E. Simmons and Alice Lorraine Simmons, George K. Simmons and Doris June Simmons (Bell Trailer City, tenant)	41	33
Margaret F. Slusher (Shell Oil Company, tenant)	7	6
Lester W. Smith and Donald E. Smith (Lester W. Smith Dairy, tenant)	20	16

Name	Total Water Right	Allowed Pumping Allocation
Wirt Smith	14	11
William Smoorenburg and Nick J. Loogman (Smoorenburg & Loogman, a partnership of William Smoorenburg and Nick J. Loogman, operating well facility)	21	17
Leo Snozzi and Sylvia Snozzi	52	42
Socony Mobil Oil Company, Inc.	172	138
Somerset Mutual Water Company	2,744	2,195
South Montebello Irrigation District	1,238	990
Southern California Edison Company (Vernon Bacon; Chikami Bros. Farming, consisting of Jack Chikami and Shigeru Chikami; Louis F. De Martini; Armand Lescoulie; C. D. Webster; Kenji Murata; Glenn F. Spiller and Jean H. Spiller; George Yamamoto and Alice Yamamoto, conducting business as Fumi Garden Farms, Inc.; and Salvatore Gutierrez, tenants and licenses)	816	653
Southern California Water Company	18,937	15,150
Southern Service Company, Ltd.	81	65
Henrietta Southfield	4	4
John Southfield	0	0
Southwest Water Company	2,895	2,316
Manuel M. Souza, Sr.; Manuel M. Souza, Jr.; Frank M. Souza and Louie J. Souza (see listing under name of Jack Gonsalves)		
Nelson Souza and Mary Souza	12	10
Glenn F. Spiller and Jean H. Spiller (see also listing under name of Southern California Edison company)	24	19
Farah Sprague	3	3

Name	Total Water Right	Allowed Pumping Allocation
Herman F. Staat and Charlotte H. Staat	2	2
James L. Stamps, as to an undivided 80% interest; Addie L. Enfield, as to an undivided 20% interest (Rio Hondo Country Club, tenant)	443	354
Standard Oil Company of California	118	94
J. F. Standley and Myrtle M. Standley	1	1
Star Dust Lands, Inc.	85	68
State of California (included herein are water rights of Fred C. Nelles School for Boys of the State of California Department of the Youth Authority; Metropolitan State Hospital of the State of California Department of Mental Hygiene; and District VII, Division of Highways of the State of California Department of Public Works)	757	606
Stauffer Chemical Company	181	145
John Steele and Clara D. Steele	4	4
Steve Stefani, Jr.	0	0
Steve Stefani, Sr., and Dora Stefani (Henry Baar and Fred Fekkes, tenants)	38	30
Andrew Stellingwerf	0	0
Henry Stellingwerf and Jeanette Stellingwerf	14	11
Henry Sterk and Betty S. Sterk	114	91
V. C. Stiefel	3	3
Sophia J. Stockmal and John F. Stockmal	3	3
William Thomas Stover and Gertrude D. Stover	3	3
Louis Struikman and Alice Struikman (Louis Struikman and Pete Struikman dba Louis Struikman and Son, tenants as to 43 acre feet of water right and 34 acre feet of allowed pumping allocation; and Sidney		

Name	Total Water Right	Allowed Pumping Allocation
Van Dyke, tenant as to 10 acre feet of water right and 8 acre feet of allowed pumping allocation) (see also below)	53	42
Louis Struikman and Peter Struikman	3	3
Cornelius Struikmans and Ida Struikmans	9	7
Henry Struikmans and Nellie Struikmans	13	10
Henry Struikmans, Jr.	0	0
Suburban Mutual Water Co.	0	0
Suburban Water Systems	3,666	2,933
Kazuo Sumida	2	2
Sun Coast Development Company	0	0
Sun Holding Corporation (see listing under name of Mausoleum Park, Inc.)		
Sunnyside Mausoleum Company	60	48
Sunset Cemetery Association	26	21
E. A. Sutton and Ramona Sutton	39	31
Swift & Company	2,047	1,638
Roy Sybrandy and Anne Sybrandy	29	23
Sykes Realty Co., Floyd G. Marcusson and Albert C. Sykes	2	2
Andy Sytsma and Dorothy Sytsma (Albert Sytsma and Robert Sytsma, doing business as Sytsma Bros., tenants)	20	16
Tarr and McComb Oil Company, Ltd. (Pablo Oropeza, tenant)	86	69
Roy Tashima and Shigeo Tashima	1	1
Fay G. Tawzer and Lawrence R. Tawzer (see listing under name of Fern Ethyl Gordon)		
Dorothy Taylor	0	0
Quentin D. Taylor	0	0

Name	Total Water Right	Allowed Pumping Allocation
Carl Teixeira and Evelyn Teixeira	11	9
George S. Teixeira and Laura L. Teixeira	17	14
Harm Te Velde and Zwaantina Te Velde	253	202
Theo Hamm Brewing Co.	150	120
Thirty-Three Forty-Five East Forty-Fifth Street, Inc.	17	14
O. T. Thompson and Drusilla Thompson	20	16
Tract Number One Hundred and Eighty Water Company	1,526	1,221
Tract 349 Mutual Water Company	529	423
Fred Troost and Annie Troost	53	42
Frank W. Tybus and June E. Tybus (see listing under name of Lakewood Pipe Co.)		
Uehling Water Company, Inc.	846	677
Union Development Co., Inc.	12	10
Union Oil Company of California (see listing under name of Florence Hellman Ehrman)		
Union Pacific Railroad Company	656	525
Union Packing Company	100	80
United California Bank (see listing under name of Huntley L. Gordon)		
United Dairymen's Association	1	1
United States Gypsum Company	1,581	1,265
United States Rubber Company	820	656
United States Steel Corporation	176	141
Masaru Uyeda, Hajime Hirashima, and Tadashi Uyeda	12	10
G. A. Van Beek (see listing under name of Art Hop, Sr.)		

Name	Total Water Right	Allowed Pumping Allocation
Bas Van Dam (see listing under name of Gertrude Van Dam)		
Carrie Agnes Van Dam (see listing under name of Bernard William Bootsma)		
Cornelius A. Van Dam and Florence Van Dam	24	19
Dick Van Dam, Jr.	0	0
Gerrit Van Dam and Grace Van Dam (William De Kriek, tenant)	13	10
Gertrude Van Dam (Bas Van Dam, tenant as to 29 acre feet of water right and 23 acre feet of allowed pumping right; and Henry Van Dam, tenant as to 19 acre feet of water right and 15 acre feet of allowed pumping right)	48	38
Hank Van Dam and Jessie Van Dam (Viva Ormonde, tenant)	22	18
Henry Van Dam (see listing under name of Gertrude Van Dam)		
Jacob Vandenberg and Anna Vandenberg (Pete Nauta, tenant)	8	6
August Vandenburg, Ben W. Vandenburg, and Andrew W. Vandenburg (Jan Bokma, tenant)	6	5
John Van Den Raadt	4	4
M. Vander Dussen and Aletta C. Vander Dussen	12	10
Sybrand Vander Dussen and Johanna Vander Dussen	23	18
Helen Goedhart Van Eik (see listing under name of Harry N. Goedhart)		
Cornelius Vander Eyk, aka Case Vander Eyk, and Nelly Vander Eyk, aka Nellie Vander Eyk	7	6
George Van Der Ham and Alice Van Der Ham	10	8

Name	Total Water Right	Allowed Pumping Allocation
Huibert Vander Ham and Henrietta Vander Ham	33	26
Joe Vanderham and Cornelia Vanderham	13	10
John Vanderham and Nell M. Vanderham	20	16
Charlie Vander Kooi and Lena Mae Vander Kooi (see also listing under name of Michel Bordato)	13	10
Pete Vander Kooi (see listing under name of Ed Haakma)		
Bert Vander Laan and Stella Vander Laan	10	8
Matt Vander Sys and Johanna Vander Sys	13	10
Bill Vander Vegt and Henny Vander Vegt	18	14
George Vander Vegt and Houjke Vander Vegt	12	10
Harry J. Vander Wall and Marian E. Vander Wall	12	10
Bert Vande Vegte and Lillian Vande Vegte	1	1
Anthony Van Diest	0	0
Jennie Van Diest, as to undivided 1/3 interest; Ernest Van Diest and Rena Van Diest, as to undivided 1/3 interest; and Cornelius Van Diest and Anna Van Diest, as to undivided 1/3 interest. (Van Diest Dairy, tenant)	20	16
Katrena Van Diest and/or Margaret Van Diest	92	74
Henry W. Van Dyk (see listing under name of Henrietta Veenendaal)		
Wiechert Van Dyk and Jennie Van Dyk	13	10
Corty Van Dyke (see listing under name of Charles E. Adams)		
Sidney Van Dyke (see listing under name of Louis Struickman)		

Name	Total Water Right	Allowed Pumping Allocation
William Van Foeken	0	0
Jake Van Haaster and Gerarda Van Haaster	0	0
Arie C. Van Leeuwen (see listing under name of Sam Bouman)		
Gerrit Van Leeuwen of 15405 Shoemaker Road, Norwalk (see listing under name of Pacific Electric Railway Company)		
Henry Van Leeuwen and Caroline P. Van Leeuwen; Gerrit Van Leeuwen of 5948 Lorelei Street, Bellflower, and Ellen Van Leeuwen	1	1
Jake Van Leeuwen, Jr. and Cornelia J. Van Leeuwen (James C. Boogerd and Jake Van Leeuwen, Jr. dba Van Leeuwen & Boogerd, tenants)	9	7
Anthony R. Van Loon (see listing under name of Henry Van Ruiten)		
John Van Nierop and Lily E. Van Nierop	0	0
Henry Van Ruiten and Mary A. Van Ruiten, as to undivided 1/2 interest; and Jake Van Ruiten and Jacoba Van Ruiten, as to undivided 1/2 interest (W. P. Jordan, Anthony R. Van Loon, and Jules Wesselink, tenants)	88	70
Pete Van Ruiten and Mary Van Ruiten (for purposes of clarification, this Mary Van Ruiten is also known as Mrs. Pete Van Ruiten and is not the same individual as sued herein as Mary A. Van Ruiten, who is also known as Mrs. Henry G. Van Ruiten)	38	30
Z. Van Spanje (see listing under name of Fumiko Mitsuuchi)		
Evert Veenendaal and Gertrude Veenendaal (see listing under name of Earl Haringa)		
Henrietta Veenendaal (Henry W. Van Dyk, tenant)	10	8

Name	Total Water Right	Allowed Pumping Allocation
Henry Veenendaal and Henrietta Veenendaal	8	6
Joe H. Veenendaal and Margie Veenendaal	34	27
John Veenendaal	0	0
Vehicle Maintenance & Painting Corporation (see listing under name of Nicholas C. Conteas)		
Salvador Velasco	16	13
Mike Veldhuis	0	0
Albert Veldhuizen and Helen Veldhuizen	23	18
Jack Verbree	0	0
Mrs. Klaasje Verburg (Leon Verburg to extent of interest under contract to purchase)	12	10
John C. Verhoeven and Sadie Verhoeven	25	20
Joseph C. Vierra and Caroline Vierra (Joseph C. Vierra and William J. Vierra, doing business as Vierra & Vierra, tenants)	13	10
Sieger Vierstra and Nellie G. Vierstra (Jacob J. Bosma, tenant)	12	10
Virginia Country Club of Long Beach	340	272
Roy Visbeek	0	0
Louis Visser	9	7
Vista Hill Psychiatric Foundation	39	31
Louie Von Ah	0	0
Walnut Irrigation District	154	123
Walnut Park Mutual Water Co.	1,245	996
C. D. Webster (see also listing under name of Southern California Edison Company)	1	1

Name	Total Water Right	Allowed Pumping Allocation
Morris Weiss and Bessie Weiss (Wilbur Mellema, tenant) (also see listings under names of Elmo D. Murphy and Emma Engler)	20	16
Wells Fargo Bank as Executor of Estate of Edward H. Heller, Deceased, and as Executor of Estate of Lloyd W. Dinkelspiel, Deceased, and as Trustee under Trust created by the Will of Florence H. Dinkelspiel, Deceased (see listing under name of Florence Hellman Ehrman)		
Jules Wesselink (see listing under name of Henry Van Ruiten)		
West Gateway Mutual Water Co.	105	84
Henry Westra and Hilda Westra	40	32
John D. Westra (see listing under name of Orla Company)		
Francis O. Wharram (see listing under name of Shayman & Wharram)		
Whittier Union High School District	125	100
Arend Z. Wier	14	11
H. Wiersema, aka Harm Wiersema and Pearl Wiersema	16	13
William Wiersma and Elbra Wiersma	7	6
Richard Wigboly (see listing under name of Central Manufacturing District, Inc.)		
Mary Wilcox (see listing under name of Jenkins Realty Mutual Water Co.)		
Ralph P. Williams and Mary Williams	14	11
Wilshire Oil Company of California	1,795	1,436
Melvin L. Wilson and Marie Wilson	1	1
D. P. Winslow and Dorothy C. Winslow (Berton Elson, tenant)	15	12

Name	Total Water Right	Allowed Pumping Allocation
Helene K. Winters	1	1
Fred E. Wiseman and Grayce Anna Wiseman	2	2
Helen Wolfsberger and Christine Joseph	2	2
Volney Womack	0	0
Cho Shee Woo (Hong Woo and Ngorn Seung Woo, as agents of property for Cho Shee Woo)	20	16
Gerrit Wybenga and Rena Wybenga	10	8
George Yamamoto and Alice Yamamoto, also known as Fumi Yamamoto (Fumi Garden Farms, Inc., tenant) (see also listing under name of Southern California Edison Company)	17	14
Paul N. Yokota and Miyo Yokota	4	4
Minoru Yoshijima (see listing under name of Kazuo Hatanaka)		
Frank Yoshioka	0	0
Maxine Young	3	3
Mrs. A. Zandvliet also known as Anna A. Zandvliet	8	6
Arnold Zeilstra and Nellie Zeilstra	6	5
George Zivelonghi and Antonio Zivelonghi	121	97
Dick Zuidervaart and Janna Zuidervaart (Artesia Milling Company, tenant)	1	1
Andy Zylstra	0	0
Zylstra Bros. a partnership consisting of Lammert Zylstra and William Zylstra (see listing under name of John H. Coito)		
John Zylstra and Leonard J. Zylstra, doing business as The Zylstra Dairy	22	18
Leonard Zylstra (not the same person as Leonard J. Zylstra	0	0

4. Transition in Administrative Year - Application. "Year" and "Administrative Year" as used throughout this judgment shall mean the water year; provided that with the first fiscal year (July 1 - June 30) commencing at least four months after the "Amended Judgment" became final, and thereafter, said words shall mean the fiscal year. Since this will provide a transitional Administrative year of nine months, October 1 - June 30, ("short year" hereafter), notwithstanding the finding and determinations in the annual Watermaster report for the then last preceding water year, the Allowed Pumping Allocations of the parties and the quantity which Defendant City of Los Angeles is annually permitted to extract from Central Basin for said short year shall be based on three-quarters of the otherwise allowable quantity. During said short year, because of hardships that might otherwise result, any overextractions by a party shall be deemed pursuant to paragraph 2, Subpart B of Part III of this judgment (p. 61), and it shall be deemed that the Watermaster has made the determination of unreasonable hardship to which reference is therein made.

II. APPOINTMENT OF WATERMASTER; WATERMASTER ADMINISTRATION PROVISIONS. Department of Water Resources of the State of California is hereby appointed Watermaster, for an indefinite term, but subject to removal by the Court, to administer this judgment and shall have the following powers, duties and responsibilities:

1. Duties, Powers and Responsibilities of Watermaster. 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, powers and responsibilities in addition to those before or hereafter provided in this judgment:

(a) Watermaster May Require Reports, Information and Records. To require of parties the furnishing of such reports, information and records as may be reasonably necessary to determine compliance or lack of compliance by any party with the provisions of this judgment.

(b) Requirement of Measuring Devices. To require all parties or any reasonable classification of parties owning or operating any facilities for the extraction of ground water from Central Basin to install and maintain at all times in good working order at such party's own expense, appropriate measuring devices at such times and as often as may be reasonable under the circumstances and to calibrate or test such devices.

(c) Inspections by Watermaster. To make inspections of ground water production facilities and measuring devices at such times and as often as may be reasonable under the circumstances and to calibrate or test such devices.

(d) Annual Report. The Watermaster shall prepare, file with the Court and mail to each of the parties on or before the 15th day of the fourth month following the end of the preceding Administrative year, an annual report for such year, the scope of which shall include but not be limited to the following:

1. Ground Water Extractions
2. Exchange Pool Operation
3. Use of Imported Water

4. Violations of Judgment and Corrective Action Taken

5. Change of Ownership of Total Water Rights

6. Watermaster Administration Costs

7. Recommendations, if any.

(e) Annual Budget and Appeal Procedure in Relation Thereto. The Watermaster shall annually prepare a tentative budget for each Administrative year stating the anticipated expense for administering the provisions of this judgment. The Watermaster shall mail a copy of said tentative budget to each of the parties hereto at least 60 days before the beginning of each Administrative year. For the first Administrative year of operation under this judgment, if the Watermaster is unable to meet the above time requirement, the Watermaster shall mail said copies as soon as possible. If any party hereto has any objection to said tentative budget, it shall present the same in writing to the Watermaster within 15 days after the date of mailing of said tentative budget by the Watermaster. If no objections are received within said period, the tentative budget shall become the final budget. If objections are received, the Watermaster shall, within 10 days thereafter, consider such objections, prepare a final budget and mail a copy thereof to each party hereto, together with a statement of the amount assessed to each party. Any party may apply to the Court within 15 days after the mailing of such final budget for a revision thereof based on specific objections thereto. The parties hereto shall make the payments otherwise required of them to the Watermaster even though such a request for revision has been filed with the Court. Upon any revision by the Court the

Watermaster shall either remit to the parties their prorata portions of any reduction in the budget, or credit their accounts with respect to their budget assessments for the next ensuing Administrative year, as the Court shall direct.

The amount to be assessed to each party shall be determined as follows: If that portion of the final budget to be assessed to the parties is equal to or less than $20.00 per party then the cost shall be equally apportioned among the parties. If that portion of the final budget to be assessed to parties is greater than $20.00 per party then each party shall be assessed a minimum of $20.00. The amount of revenue expected to be received through the foregoing minimum assessments shall be deducted from that portion of the final budget to be assessed to the parties and the balance shall be assessed to the parties having Allowed Pumping Allocations, such balance being divided among them proportionately in accordance with their respective Allowed Pumping Allocations.

Payment of the assessment provided for herein, subject to adjustment by the Court as provided, shall be made by each such party prior to beginning of the Administrative year to which the assessment relates, or within 40 days after the mailing of the tentative budget, whichever is later. If such payment by any party is not made on or before said date, the 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 order hereinafter made by the Court, or by other proceedings by the Watermaster or by any party hereto on the Watermaster's behalf.

Any money unexpended at the end of any Administrative year shall be applied to the budget of the next succeeding Administrative year.

Notwithstanding the above, no part of the budget of the Watermaster shall be assessed to the Plaintiff District or to any party who has not extracted water from Central Basin for a period of two successive Administrative years prior to the Administrative year in which the tentative budget should be mailed by the Watermaster under the provisions of this subparagraph (e).

(f) Rules. The Watermaster may adopt and amend from time to time such rules as may be reasonably necessary to carry out its duties, powers and responsibilities under the provisions of this judgment. The rules shall be effective on such date after the mailing thereof to the parties as is specified by the Watermaster, but not sooner than 30 days after such mailing.

2. Use of Facilities and Data Collected by Other Governmental Agencies. The Watermaster is directed not to duplicate the collection of data relative to conditions of the Central Basin which is then being collected by one or more governmental agencies, but where necessary the Watermaster may collect supplemental data. Where it appears more economical to do so, the Watermaster is directed to use such facilities of other governmental agencies as are available to it under either no cost or cost agreements with respect to the receipt of reports, billings to parties, mailings to parties, and similar matters.

3. Appeal from Watermaster Decisions Other Than With Respect to Budget. Any party interested therein who has objection to any rule, determination, order or finding made by the Watermaster, may make objection thereto in writing delivered to the Watermaster within 30 days after the date the Watermaster mails written notice of the making of such rule, determination, order or finding, and within 30 days after such delivery the Watermaster shall consider said objection and shall amend or affirm his rule, determination, order or finding and shall give notice thereof to all parties. Any such party may file with the Court within 30 days from the date of said notice any objection to such rule, determination, order or finding 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 all other parties. The Court may affirm, modify, amend or overrule any such rule, determination, order or finding of the Watermaster. The provisions of this paragraph shall not apply to budgetary matters, as to which the appellate procedure has heretofore been set forth. Any objection under this paragraph shall not stay the rule, determination, order or finding of the Watermaster. However, the Court, by ex parte order, may provide for a stay thereof on application of any interested party on or after the date that any such party delivers to the Watermaster any written objection.

4. Effect of Non-Compliance by Watermaster With Time Provisions. Failure of the Watermaster to perform any duty, power or responsibility set forth in this judgment within the time limitation herein set forth shall not deprive the

Watermaster of authority to subsequently discharge such duty, power or responsibility, except to the extent that any such failure by the Watermaster may have rendered some otherwise required act by a party impossible.

III. PROVISIONS FOR PHYSICAL SOLUTION TO MEET THE WATER REQUIREMENTS IN CENTRAL BASIN. In order to provide flexibility to the injunction set forth in Part I of the judgment, and to assist in a physical solution to meet water requirements in Central Basin, the injunction so set forth is subject to the following provisions.

A. Carryover of Portion of Allowed Pumping Allocation.

(1) Each party adjudged to have a Total Water Right or water rights and who, during a particular Administrative year, does not extract from Central Basin a total quantity equal to such party's Allowed Pumping Allocation for the particular Administrative year, less any allocated subscriptions by such party to the Exchange Pool, or plus any allocated requests by such party for purchase of Exchange Pool water, is permitted to carry over (the "One Year Carryover") from such Administrative year the right to extract from Central Basin in the next succeeding Administrative year so much of said total quantity as it did not extract in the particular Administrative year, not to exceed 20% of such party's Allowed Pumping Allocation, or 20 acre feet, whichever of said 20% or 20 acre feet is the larger.

(2) Following the declaration of a Declared Water Emergency and until the Declared Water Emergency ends either

by expiration or by resolution of the Board of Directors of the Central and West Basin Water Replenishment District, each party adjudged to have a Total Water Right or water rights and who, during a particular Administrative year, does not extract from Central Basin a total quantity equal to such party's Allowed Pumping Allocation for the particular Administrative year, less any allocated subscriptions by such party to the Exchange Pool, or plus any allocated requests by such party for purchase of Exchange Pool water, is permitted to carry over (the "Drought Carryover") from such Administrative year the right to extract from Central Basin so much of said total quantity as it did not extract during the period of the Declared Water Emergency, to the extent such quantity exceeds the One Year Carryover, not to exceed an additional 35% of such party's Allowed Pumping Allocation, or additional 35 acre feet, whichever of said 35% or 35 acre feet is the larger. Carryover amounts shall first be allocated to the One Year Carryover and any remaining carryover amount for that year shall be allocated to the Drought Carryover.

(3) No further amounts shall be added to the Drought Carryover following the end of the Declared Water Emergency, provided however that in the event another Declared Water Emergency is declared, additional Drought Carryover may be added, to the extent such additional Drought Carryover would not cause the total Drought Carryover to exceed the limits set forth above.

(4) The Drought Carryover shall be supplemental to and shall not affect any previous drought carryover acquired by a party pursuant to previous order of the court.

B. When Over-extractions May be Permitted.

1. Underestimation of Requirements for Water. Any party hereto having an Allowed Pumping Allocation and not in violation of any provision of this judgment may extract in an Administrative year an additional quantity of water not to exceed: (a) 20% of such party's Allowed Pumping Allocation or 20 acre feet, whichever is greater, and (b) any amount in addition thereto which may be approved in advance by the Watermaster.

2. Reductions in Allowed Pumping Allocations in Succeeding Years to Compensate for Permissible Overextractions. Any such party's Allowed Pumping Allocation for the following Administrative year shall be reduced by the amount over-extracted pursuant to paragraph 1 above, provided that if the Watermaster determines that such reduction in the party's Allowed Pumping Allocation in one Administrative year will impose upon such a party an unreasonable hardship, the said reduction in said party's Allowed Pumping Allocation shall be prorated over a period of five (5) Administrative years succeeding that in which the excessive extractions by the party occurred. Application for such relief to the Watermaster must be made not later than the 40th day after the end of the Administrative year in which such excessive pumping occurred. Watermaster shall grant such relief if such over-extraction, or any portion thereof, occurred during a period of Declared Water Emergency.

3. Reductions in Allowed Pumping Allocations for the Next Succeeding Administrative Year to Compensate for Overpumping. Whenever a party over-extracts in excess of 20% of such party's Allowed Pumping Allocation, or 20 acre feet, whichever is greater, and such excess has not been approved in advance by the Watermaster, then such party's Allowed Pumping Allocation for the following Administrative year shall be reduced by an amount equivalent to its total over-extractions in the particular Administrative year in which it occurred.

4. Reports of Certain Over-extractions to the Court. Whenever a party over-extracts in excess of 20% of such party's Allowed Pumping Allocation, or 20 acre feet, whichever is greater, without having obtained prior approval of the Watermaster, such shall constitute a violation of the judgment and the Watermaster shall make a written report to the Court for such action as the Court may deem necessary. Such party shall be subject to such injunctive and other processes and action as the Court might otherwise take with regard to any other violation of such judgment.

5. Effect of Over-extractions on Rights. Any party who over-extracts from Central Basin in any Administrative year shall not acquire any additional rights by reason of such over-extractions; nor, shall any required reductions in extractions during any subsequent years reduce the Total Water Right or water rights of any party to the extent said over-extractions are in compliance with paragraph 1 above.

6. Pumping Under Agreement With Plaintiff During Periods of Emergency. Plaintiff overlies Central Basin and

engages in activities of replenishing the ground waters thereof. Plaintiff by resolution has appropriated for use during emergencies the quantity of 17,000 acre feet of imported and reclaimed water replenished by it into Central Basin, and pursuant to such resolution Plaintiff reserves the right to use or cause the use of such quantity during such emergency periods.

(a) Notwithstanding any other provision of this judgment, parties who are water purveyors (including successors in interest) are authorized to enter into agreements with Plaintiff under which such water purveyors may exceed their respective Allowed Pumping Allocations for the particular administrative year when the following conditions are met:

(1) Plaintiff is in receipt of a resolution of the Board of Directors of the Metropolitan Water District of Southern California ("MWD") that there is an actual or immediately threatened temporary shortage of MWD's imported water supply compared to MWD's needs, or a temporary inability to deliver MWD's imported water supply throughout its area, which will be alleviated by overpumping from Central Basin.

(2) The Board of Directors of both Plaintiff and Central Basin Municipal Water District by resolutions concur in the resolution of MWD's Board of Directors, and the Board of Directors of Plaintiff finds in its resolution that the average minimum elevation of water surface among those wells in the Montebello Forebay of the Central Basin designated as Los Angeles County Flood Control District Wells Nos. 1601T, 1564P, 1615P,

and 1626L, is at least 43.7 feet above sea level. This computation shall be based upon the most recent "static readings" taken, which shall have been taken not more than four weeks prior. Should any of the wells designated above become destroyed or otherwise be in a condition so that readings cannot be made, or the owner prevent their use for such readings the Board of Directors of the Plaintiff may, upon appropriate engineering recommendation substitute such other well or wells as it may deem appropriate.

(3) In said resolution, Plaintiff's Board of Directors sets a public hearing, and notice of the time, place and date thereof (which may be continued from time to time without further notice) is given by First Class Mail to the current designees of the parties, filed and served in accordance with Part V, paragraph 3 of this Judgment. Said notice shall be mailed at least five (5) days before the scheduled hearing date.

(4) At said public hearing, parties (including successors in interest) are given full opportunity to be heard, and at the conclusion thereof the Board of Directors of Plaintiff by resolution decides to proceed with agreements under this Part III-B.

(5) For purposes of this Part III-B, "water purveyors" mean those parties (and successors in interest) which sell water to the public whether regulated public utilities, mutual water companies or public entities, which have a connection or connections for the taking

of imported water of MWD, or access to imported water of MWD through a connection, and which normally supply part of their customer's needs with such imported water.

(b) All such agreements shall be subject to the following requirements, and such others as Plaintiff's Board of Directors shall require:

(1) They shall be of uniform content except as to quantity involved, and any special provisions considered necessary or desirable with respect to local hydrological conditions or good hydrologic practice.

(2) They shall be offered to all water purveyors, excepting those which Plaintiff'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 Central 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, which agreements shall commence on the same date and end on the same date (and which may be executed at any time within the four month period), unless an extension thereof is authorized by the Court, under Part IV of this judgment.

(4) They shall contain provisions that the water purveyor executing the agreement pay to the Plaintiff a

price in addition to the applicable replenishment assessment determined on the following formula. The normal price per acre-foot of Central Basin Municipal Water District's (CBMWD) treated domestic and municipal water, as "normal" price of such category of water is defined in Part C, paragraph 10 (price to be paid for Exchange Pool Water) as of the beginning of the contract term less the deductions set forth in said paragraph 10 for the administrative year in which the contract term commences. The agreement shall provide for adjustments in the first of said components for any proportional period of the contract term during which the CBMWD said normal price is changed, and if the agreement straddles two administrative years, the said deductions shall be adjusted for any proportionate period of the contract term in which the amount thereof or of either subcomponent changes for purposes of said paragraph 10. Any price for a partial acre-foot shall be computed prorata. Payments shall be due and payable on the principle that over extractions under the agreement are of 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 Plaintiff if, in the Judgment of Plaintiff's Board of Directors, the conditions or threatened conditions upon which they

were based have abated to the extent over extractions are no longer considered necessary; and (b) that any individual agreement or agreements may be terminated if the Plaintiff's Board of Directors finds that adverse hydrologic circumstances have developed as a result of over extractions by any water purveyor or purveyors which have executed said agreements, or for any other reason that Plaintiff's Board of Directors finds good and sufficient.

(c) Other matters applicable to such agreements and over pumping thereunder are as follows, without need for express provisions in the 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 over pumping under all said agreements during said four months shall not exceed Seventeen thousand (17,000) acre feet, but the individual water purveyor shall not be responsible or affected by any violation of this requirement. That total is additional to over extractions otherwise permitted under this Judgment.

(3) Only one four month period may be utilized by Plaintiff in entering into such agreements, as to any one emergency or continuation thereof declared by MWD's Board of Directors under paragraph 6(a).

(4) Plaintiff may utilize the ex parte provisions of Part IV of this Judgment in lieu of the authority

contained herein (which ex parte provisions are not limited as to time, nature of relief, or terms of any agreements), but neither Plaintiff nor any other party shall utilize both as to any one such emergency or continuation thereof.

(5) If any party claims it is being damaged or threatened with damage by the over extractions by any party to such an agreement, the first party or the Watermaster may seek appropriate action of the Court for termination of any such agreement upon notice of hearing to the party complaining, to the party to said agreement, to the plaintiff, and to any parties who have filed a request for special notice. Any termination shall not affect the obligation of the party to make payments under the agreement for over extractions which did occur thereunder.

(6) Plaintiff shall maintain separate accounting of the proceeds from payments made pursuant to agreements entered into under this part. Said fund shall be utilized solely for purposes of replenishment in replacement of waters in Central Basin and West Basin. Plaintiff shall as soon as practicable cause replenishment in Central Basin by the amounts to be overproduced pursuant to this Paragraph 6 commencing at Page 63, whether through spreading, injection, or in lieu agreements.

(7) Over extractions pursuant to the agreements shall not be subject to the "make up" provisions of the

Judgment as amended, provided that if any party fails to make payments as required by the agreement, Plaintiff may require such "make up" under Paragraph 3, Subpart B, Part III of the Judgment (Page 62).

(8) Water Purveyor under any such agreement may, and is encouraged to enter into appropriate arrangements with customers who have water rights in Central Basin under or pursuant to this Judgment whereby the Water Purveyor will be assisted in meeting the objectives of the agreement.

(9) Nothing in this Paragraph 6 limits the exercise of the reserved jurisdiction of the court except as provided in subparagraph (c) (4) above.

7. Exemption for Extractors of Contaminated Groundwater. Any party herein may petition the Replenishment District for a Non-consumptive Water Use Permit as part of a project to remedy or ameliorate groundwater contamination. If the petition is granted as set forth in this part, the petitioner may extract the groundwater as permitted hereinafter, without the production counting against the petitioner's production rights.

(a) If the Board of the Replenishment District determines by Resolution that there is a problem of groundwater contamination that a proposed program will remedy or ameliorate, an operator may make extractions of groundwater to remedy or ameliorate that problem without the production counting against the petitioner's production rights if the water is not applied to beneficial surface use, its extractions are made in compliance with all the terms and conditions of the Board Resolution, and

the Board has determined in the Resolution either of the following:

(1) The groundwater to be extracted is unusable and cannot be economically treated or blended for use with other water.

(2) The proposed program involves extraction of usable water in the same quantity as will be returned to the underground without degradation of quality.

(b) The Resolution may provide those terms and conditions the Board deems appropriate, including, but not limited to, restrictions on the quantity of the extractions to be so exempted, limitations on time, periodic reviews, requirement of submission of test results from a Board-approved laboratory, and any other relevant terms or conditions.

(c) Upon written notice to the operator involved, the Board may rescind or modify its Resolution. The rescission or modification of the Resolution shall apply to groundwater extractions occurring more than ten days after the rescission or modification. Notice of rescission or modification shall be either mailed first class mail, postage prepaid, at least two weeks prior to the meeting of the Board at which the rescission or modification will be made to the address of record of the operator or personally delivered two weeks prior to the meeting.

(d) The Board's decision to grant, deny, modify or revoke a permit or to interrupt or stop a permitted project may be appealed to this court within thirty days of the notice thereof to the applicant and upon thirty days notice to the designees of all parties herein.

(e) The Replenishment District shall monitor and periodically inspect the project for compliance with the terms and conditions for any permit issued pursuant to these provisions.

(f) No party shall recover costs from any other party herein ~~on~~ in connection with ~~determinators~~ determinations made with respect to this part.

C. Exchange Pool Provisions.

(1) Definitions.

For purposes of these Exchange Pool provisions, the following words and terms have the following meanings:

(a) "Exchange Pool" is the arrangement hereinafter set forth whereby certain of the parties, ("Exchangees") may, notwithstanding the other provisions of the judgment, extract additional water from Central Basin to meet their needs, and certain other of the parties ("Exchangors"), reduce their extractions below their Allowed Pumping Allocations in order to permit such additional extractions by others.

(b) "Exchangor" is one who offers, voluntarily or otherwise, pursuant to subsequent provisions, to reduce its extractions below its Allowed Pumping Allocation in order to permit such additional extractions by others.

(c) "Exchangee" is one who requests permission to extract additional water from Central Basin.

(d) "Undue hardship" means unusual and severe economic or operational hardship, other than that arising (i) by reason of any differential in quality that might exist between water extracted from Central Basin and water available for importation

or (ii) by reason of any difference in cost to a party in subscribing to the Exchange Pool and reducing its extractions of water from Central Basin in an equivalent amount as opposed to extracting any such quantity itself.

2. Parties Who May Purchase Water Through the Exchange Pool. Any party not having existing facilities for the taking of imported water as of the beginning of any Administrative year, and any party having such facilities as of the beginning of any Administrative year who is unable, without undue hardship, to obtain, take, and put to beneficial use, through its distribution system or systems existing as of the beginning of the particular Administrative year, imported water in a quantity which, when added to its Allowed Pumping Allocation for that particular Administrative year, will meet its estimated needs for that particular Administrative year, may purchase water from the Exchange Pool, subject to the limitations contained in this Subpart C of this Part III (Subpart "C" hereinafter).

3. Procedure for Purchasing Exchange Pool Water. Not later than the 40th day following the commencement of each Administrative year, each such party desiring to purchase water from the Exchange Pool shall file with the Watermaster a request to so purchase, setting forth the amount of water in acre feet that such party estimates that it will require during the then current Administrative year in excess of the total of:

(a) Its Allowed Pumping Allocation for that particular Administrative year; and

(b) The imported water, if any, which it estimates it will be able, without undue hardship, to obtain, take and put to

beneficial use, through its distribution system or systems existing as of the beginning of that particular Administrative year.

Any party who as of the beginning of any Administrative year has existing facilities for the taking of imported water and who makes a request to purchase from the Exchange Pool must provide with such request substantiating data and other proof which, together with any further data and other proof requested by the Watermaster, establishes that such party is unable without undue hardship, to obtain, take and put to beneficial use through its said distribution system or systems a sufficient quantity of imported water which, when added to its said Allowed Pumping Allocation for the particular Administrative year, will meet its estimated needs. As to any such party, the Watermaster shall make a determination whether the party has so established such inability, which determination shall be subject to review by the court under the procedure set forth in Part II of this judgment. Any party making a request to purchase from the Exchange Pool shall either furnish such substantiating data and other proof, or a statement that such party had no existing facilities for the taking of imported water as of the beginning of that Administrative year, and in either event a statement of the basis for the quantity requested to be purchased.

4. Subscriptions to Exchange Pool.

(a) Required Subscription. Each party having existing facilities for the taking of imported water as of the beginning of any Administrative year hereby subscribed to the Exchange Pool for purposes of meeting Category (a) requests thereon, as more

particularly defined in paragraph 5 of this Subpart C, twenty percent (20%) of its Allowed Pumping Allocation, or the quantity of imported water which it is able, without undue hardship, to obtain, take and put to beneficial use through its distribution system or systems existing as of the beginning of the particular Administrative year in addition to such party's own estimated needs for imported water during that water year, whichever is the lesser. A party's subscription under this subparagraph (a) and subparagraph (b) of this paragraph 4 is sometimes hereinafter referred to as a 'required subscription'.

(b) Report to Watermaster by Parties with Connections and Unable to Subscribe 20%. Any party having existing facilities for the taking of imported water and estimating that it will be unable, without undue hardship, in that Administrative year to obtain, take and put to beneficial use through its distribution system or systems existing as of the beginning of that Administrative year, sufficient imported water to further reduce its extractions from the Central Basin by twenty percent (20%) of its Allowed Pumping Allocation for purposes of providing water to the Exchange Pool must furnish not later than the 40th day following the commencement of such Administrative year substantiating data and other proof which, together with any further data and other proof requested by the Watermaster, establishes said inability or such party shall be deemed to have subscribed twenty percent (20%) of its Allowed Pumping Allocation for the purpose of providing water to the Exchange Pool. As to any such party so contending such inability, the Watermaster shall make a determination whether the party has so established such

inability, which determination shall be subject to review by the Court under the procedure set forth in Part II of this judgment.

(c) Voluntary Subscriptions. Any party, whether or not having facilities for the taking of imported water, who desires to subscribe to the Exchange Pool a quantity or further quantity of its Allowed Pumping Allocation, may so notify the Watermaster in writing of the quantity of such offer on or prior to the 40th day following the commencement of the particular Administrative year. Such subscriptions are referred to hereinafter as "voluntary subscriptions." Any Exchangor who desires that any part of its otherwise required subscription not needed to fill Category (a) requests shall be available for Category (b) requests may so notify the Watermaster in writing on or prior to said 40th day. If all of that Exchangor's otherwise required subscription is not needed in order to fill Category (a) requests, the remainder of such required subscription not so used, or such part thereof as such Exchangor may designate, shall be deemed to be a voluntary subscription.

5. Limitations on Purchases of Exchange Pool Water and Allocation of Requests to Purchase Exchange Pool Water Among Exchangors.

(a) Categories of Requests. Two categories of Exchange Pool requests are established as follows:

(1) Category (a) requests. The quantity requested by each Exchangee, whether or not that Exchangee has an Allowed Pumping Allocation, which quantity is not in excess of 150% of its Allowed Pumping Allocation, if any, or 100 acre feet, whichever is greater. Requests or portions thereof within the

above criteria are sometimes hereinafter referred to as "Category (a) requests."

(2) Category (b) requests. The quantity requested by each Exchangee having an Allowed Pumping Allocation to the extent the request is in excess of 150% of that Allowed Pumping Allocation or 100 acre feet, whichever is greater, and the quantity requested by each Exchangee having no Allowed Pumping Allocation to the extent the request is in excess of 100 acre feet. Portions of requests within the above criteria are sometimes hereinafter referred to as "Category (b) requests."

(b) Filling of Category (a) Requests. All Exchange Pool subscriptions, required and voluntary, shall be available to fill Category (a) requests. Category (a) requests shall be filled first from voluntary subscriptions, and if voluntary subscriptions should be insufficient to fill all Category (a) requests required subscriptions shall be then utilized to fill Category (a) requests. All Category (a) requests shall be first filled before any Category (b) requests are filled.

(c) Filling of Category (b) Requests. To the extent that voluntary subscriptions have not been utilized in filling Category (a) requests, Category (b) requests shall be filled only out of any remaining voluntary subscriptions. Required subscriptions will then be utilized for the filling of any remaining Category (b) requests.

(d) Allocation of Requests to Subscriptions When Available Subscriptions Exceed Requests. In the event the quantity of subscriptions available for any category of requests exceeds those requests in that category, or exceeds the remainder

of those requests in that category, such requests shall be filled out of such subscriptions proportionately in relation to the quantity of each subscription.

(e) Allocation of Subscriptions to Category (b) Requests in the Event of Shortage of Subscriptions. In the event available subscriptions are insufficient to meet Category (b) requests, available subscriptions shall be allocated to each request in the proportion that the particular request bears to the total requests of the particular category.

6. Additional Voluntary Subscriptions. If subscriptions available to meet the requests of Exchangees are insufficient to meet all requests, additional voluntary subscriptions may be solicited and received from parties by the Watermaster. Such additional subscriptions shall be allocated first to Category (a) requests to the extent unfilled, and next to Category (b) requests to the extent unfilled. All allocations are to be otherwise in the same manner as earlier provided in paragraph 5 (a) through 5 (e) inclusive.

7. Effect if Category (a) Requests Exceed Available Subscriptions, Both Required and Voluntary. In the event that the quantity of subscriptions available to fill Category (a) requests is less than the total quantity of such requests, the Exchangees may, nonetheless, extract the full amount of their Category (a) requests otherwise approved by the Watermaster as if sufficient subscriptions were available. The amounts received by the Watermaster on account of that portion of the approved requests in excess of the total quantities available from Exchangors shall either be paid by the Watermaster to Central &

West Basin Water Replenishment District in trust for the purpose of purchasing imported water and spreading the same in Central Basin for replenishment thereof, or credited to an account of said Plaintiff District on the books of the Watermaster, at the option of said Plaintiff District. Thereafter said Plaintiff District may, at any time, withdraw said funds or any part thereof so credited in trust for the aforesaid purpose, or may by the 40th day of any Administrative year notify the Watermaster that it desires all or any portion of said funds to be expended by the Watermaster for the purchase of water available from subscriptions by Exchangors in the event the total quantity of such subscriptions exceeds the total quantity of approved requests by parties to purchase Exchange Pool water. To the extent that there is such an excess of available subscriptions over requests and to the extent that the existing credit in favor of Plaintiff District is sufficient to purchase such excess quantity at the price established for Exchange Pool purchases during that Administrative year, the account of the Plaintiff District shall be debited and the money shall be paid to the Exchangors in the same manner as if another party had made such purchase as an Exchangee. The Plaintiff District shall not extract any such Exchange Pool water so purchased.

8. Additional Pumping by Exchangees Pursuant to Exchange Pool Provisions. An Exchangee may extract from Central Basin in addition to its Allowed Pumping Allocation for a particular Administrative year that quantity of water which it has requested to purchase from the Exchange Pool during that Administrative year and which has been allocated to it pursuant

to the provisions of paragraphs 5, 6 and 7. The first pumping by an Exchangee in any Administrative year shall be deemed to be pumping of the party's allocation of Exchange Pool water.

9. Reduction in Pumping by Exchangors. Each Exchangor shall in each Administrative year reduce its extractions of water from Central Basin below its Allowed Pumping Allocation for the particular year in a quantity equal to the quantity of Exchange Pool requests allocated to it pursuant to the provisions of paragraphs 4, 5, 6 and 7 of this Subpart C.

10. Price to be Paid for Exchange Pool Water. The price to be paid by Exchangees and to be paid to Exchangors per acre foot for required and voluntary subscriptions of Exchangors utilized to fill requests on the Exchange Pool by Exchangees shall be the dollar amount computed as follows by the Watermaster for each Administrative year. The "normal" price as of the beginning of the Administrative year charged by Central Basin Municipal Water District (CBMWD) for treated MWD (Metropolitan Water District of Southern California) water used for domestic and municipal purposes shall be determined, and if on that date there are any changes scheduled during that Administrative year in CBMWD's "normal" price for such category of water, the weighted daily "normal" CBMWD price shall be determined and used in lieu of the beginning such price; and there shall be deducted from such beginning or weighted price, as the case may be, the "incremental cost of pumping water in Central Basin" at the beginning of the Administrative year and any then current rate or rates, of assessments levied on the pumping of ground water in Central Basin by Plaintiff District and any other governmental

agency. The "normal" price charged by CBMWD shall be the highest price of CBMWD for normal service excluding any surcharge or higher rate for emergency deliveries or otherwise failing to comply with CBMWD rates and regulations relating to earlier deliveries. The "incremental cost of pumping water in Central Basin" as of the beginning of the Administrative year shall be deemed to be the Southern California Edison Company Schedule No. PA-1 rate per kilowatt-hour, including all adjustments and all uniform authorized additions to the basic rate, multiplied by 560 kilowatt-hours per acre-foot, rounded to the nearest dollar (which number of kilowatt-hours has been determined to represent the average energy consumption to pump an acre-foot of water in Central Basin). In applying said PA-1 rate the charge per kilowatt-hour under the schedule shall be employed and if there are any rate blocks then the last rate block shall be employed. Should a change occur in Edison schedule designations, the Watermaster shall employ that applicable to motors used for pumping water by municipal utilities.

11. Carry-over of Exchange Pool Purchases by Exchangees. An Exchangee who does not extract from Central Basin in a particular Administrative year a quantity of water equal to the total of (a) its Allowed Pumping Allocation for that particular Administrative year, reduced by any authorized amount of carry-over into the next succeeding Administrative year pursuant to the provisions of Subpart A of Part III of this judgment, and (b) the quantity that it purchased from the Exchange Pool for that particular Administrative year, may carry over into the next succeeding Administrative year the right to

extract from Central Basin a quantity equal to the difference between said total and the quantity actually extracted in that Administrative year, but not exceeding the quantity purchased from the Exchange Pool for that Administrative year. Any such carry-over shall be in addition to that provided in said Subpart A of Part III.

If the 'Basinwide Average Exchange Pool Price' in the next succeeding Administrative year exceeds the 'Exchange Pool Price' in the previous Administrative year any such Exchangee exercising such carry-over rights hereinabove provided shall pay to the Watermaster, forthwith upon the determination of the 'Exchange Pool Price' in said succeeding Administrative year, and as a condition to such carry-over rights, an additional amount determined by multiplying the number of acre feet of carry-over by the difference in 'Exchange Pool Price' as between the two Administrative years. Such additional payment shall be miscellaneous income to the Watermaster which shall be applied by him against that share of the Watermaster's budget to be paid by the parties to this Agreement for the second Administrative year succeeding that in which the Exchange Pool water was so purchased.

12. Notification by Watermaster to Exchangors and Exchangees of Exchange Pool Requests and Allocations Thereof and Price of Exchange Pool Water. Not later than the 65th day after the commencement of each Administrative year, the Watermaster shall determine and notify all Exchangors and Exchangees of the total of the allocated requests for Exchange Pool water and shall provide a schedule divided into categories of requests showing

the quantity allocated to each Exchangee and a schedule of the allocation of the total Exchange Pool requirements among the Exchangors. Such notification shall also advise Exchangors and Exchangees of the prices to be paid to Exchangors for subscriptions utilized and the Exchange Pool Price for that Administrative year as determined by the Watermaster. The determinations of the Watermaster in this regard shall be subject to review by the Court in accordance with the procedure set forth in Part II of this judgment.

13. Payment by Exchangees. Each Exchangee shall, on or prior to last day of the third month of each Administrative year, pay to the Watermaster one-quarter of said price per acre-foot multiplied by the number of acre feet of such party's approved request and shall, on or before the last day of each of the next succeeding three months, pay a like sum to the Watermaster. Such amounts must be paid by each Exchangee regardless of whether or not it in fact extracts or uses any of the water it has requested to purchase from the Exchange Pool.

14. Payments to Exchangors. As soon as possible after receipt of moneys from Exchangees, the Watermaster shall remit to the Exchangors their prorata portions of the amount so received in accordance with the provisions of paragraph 10 above.

15. Delinquent Payments. Any amounts not paid on or prior to any due date above shall carry interest at the rate of 1% per month or any part of a month. Any amounts required to be so paid may be enforced by the equitable powers of the Court, including, but not limited to, the injunctive process of the Court. In addition thereto, the Watermaster, as Trustee for the

Exchangors, may enforce such payment by any appropriate legal action, and shall be entitled to recover as additional damages reasonable attorneys' fees incurred in connection therewith. If any Exchangee shall fail to make any payments required of it on or before 30 days after the last payment is due, including any accrued interest, said party shall thenceforward not be entitled to purchase water from the Exchange Pool in any succeeding Administrative year except upon order of the Court, upon such conditions as the Court may impose.

IV. CONTINUING JURISDICTION OF THE COURT.

The Court hereby reserves continuing jurisdiction and upon application of any interested party, or upon its own motion, may review and redetermine the following matters and any matters incident thereto:

(a) Its determination of the permissible level of extractions from Central Basin in relation to achieving a balanced basin and an economic utilization of Central Basin for ground water storage, taking into account any then anticipated artificial replenishment of Central Basin by governmental agencies for the purpose of alleviating what would otherwise be annual overdrafts upon Central Basin and all other relevant factors.

(b) Whether in accordance with applicable law any party has lost all or any portion of his rights to extract ground water from Central Basin and, if so, to ratably adjust the Allowed Pumping Allocations of the other parties and ratably thereto any remaining Allowed Pumping Allocation of such party.

(c) To remove any Watermaster appointed from time to time and appoint a new Watermaster; and to review and revise the duties, powers and responsibilities of the Watermaster and to make such other and further provisions and orders of the Court that may be necessary or desirable for the adequate administration and enforcement of the judgment.

(d) To revise the price to be paid by Exchangees and to Exchangors for Exchange Pool purchases and subscriptions.

(e) In case of emergency or necessity, to permit extractions from Central Basin for such periods as the Court may determine: (i) ratably in excess of the Allowed Pumping Allocations of the parties; or (ii) on a non-ratable basis by certain parties if either compensation or other equitable adjustment for the benefit of the other parties is provided. Such overextractions may be permitted not only for emergency and necessity arising within Central Basin area, but to assist the remainder of the areas within The Metropolitan Water District of Southern California in the event of temporary shortage or threatened temporary shortage of its imported water supply, or temporary inability to deliver the same throughout its area, but only if the court is reasonably satisfied that no party will be irreparably damaged thereby. Increased energy cost for pumping shall not be deemed irreparable damage. Provided, however, that the provisions of this subparagraph will apply only if the temporary shortage, threatened temporary shortage, or temporary inability to deliver was either not reasonably avoidable by the Metropolitan Water District, or if reasonably avoidable, good reason existed for not taking the steps necessary to avoid it.

(f) To review actions of the Watermaster.

(g) To assist the remainder of the areas within The Metropolitan Water District of Southern California within the parameter set forth in subparagraph (e) above.

(h) To provide for such other matters as are not contemplated by the judgment and which might occur in the future, and which if not provided for would defeat any or all of the purposes of this judgment to assure a balanced Central Basin subject to the requirements of Central Basin Area for water required for its needs, growth and development.

The exercise of such continuing jurisdiction shall be after 30 days notice to the parties, with the exception of the exercise of such continuing jurisdiction in relation to subparagraphs (e) and (g) above, which may be ex parte, in which event the matter shall be forthwith reviewed either upon the Court's own motion or the motion of any party upon which 30 days notice shall be so given. Within ten (10) days of obtaining any ex parte order, the party so obtaining the same shall mail notice thereof to the other parties. If any other party desires Court review thereof, the party obtaining the ex parte order shall bear the reasonable expenses of mailing notice of the proceedings, or may in lieu thereof undertake the mailing. Any contrary or modified decision upon such review shall not prejudice any party who relied on said ex parte order.

V. GENERAL PROVISIONS.

1. Judgment Constitutes Inter Se Adjudication. This judgment constitutes an inter se adjudication of the respective rights of all parties, except as may be otherwise specifically

indicated in the listing of the rights of the parties at pages 12 through 52 of this judgment, or in Appendix "2" hereof.

2. Assignment, Transfer, Etc., of Rights. Subject to the other provision of this judgment, and any rules and regulations of the Watermaster requiring reports relative thereto, nothing herein contained shall be deemed to prevent any party hereto from assigning, transferring, licensing or leasing all or any portion of such water rights as it may have with the same force and effect as would otherwise be permissible under applicable rules of law as exist from time to time.

3. Service Upon and Delivery to Parties of Various Papers. Service of the judgment on those parties who have executed that certain Stipulation and Agreement for Judgment or who have filed a notice of election to be bound by the Exchange Pool provisions shall be made by first class mail, postage prepaid, addressed to the designee and at the address designated for that purpose in the executed and filed Counterpart of the Stipulation and Agreement for Judgment or in the executed and filed "Notice of Election to be Bound by Exchange Pool Provisions", as the case may be, or in any substitute designation filed with the Court.

Each party who has not heretofore made such a designation shall, within 30 days after the judgment shall have been served upon that party, file with the Court, with proof of service of a copy upon the Watermaster, a written designation of the person to whom and the address at which all future notices, determinations, requests, demands, objections, reports and other

papers and processes to be served upon that party or delivered to that party are to be so served or delivered.

A later substitute designation filed and served in the same manner by any party shall be effective from the date of filing as to the then future notices, determinations, requests, demands, objections, reports and other papers and processes to be served upon or delivered to that party.

Delivery to or service upon any party by the Watermaster, by any other party, or by the Court, or any item required to be served upon or delivered to a party under or pursuant to the judgment may be by deposit in the mail, first class, postage prepaid, addressed to the designee and at the address in the latest designation filed by that party.

4. Judgment Does Not Affect Rights, Powers, Etc., of Plaintiff District. Nothing herein constitutes a determination or adjudication which shall foreclose Plaintiff District from exercising such rights, powers, privileges and prerogatives as it may now have or may hereafter have by reason of provisions of law.

5. Continuation of Order Under Interim Agreement. The order of Court made pursuant to the "Stipulation and Interim Agreement and Petition for Order" shall remain in effect through the water year in which this judgment shall become final (subject to the reserved jurisdiction of the Court).

6. Effect of: Extractions by Exchangees; Reductions in Extractions. With regard to Exchange Pool purchases, the first extractions by each Exchangee shall be deemed the extractions of the quantities of water which that party is

entitled to extract pursuant to his allocation from the Exchange Pool for that Administrative year. Each Exchangee shall be deemed to have pumped his Exchange Pool request so allocated for and on behalf of each Exchangor in proportion to each Exchangor's subscription to the Exchange Pool which is utilized to meet Exchange Pool requests. No Exchangor shall ever be deemed to have relinquished or lost any of its rights determined in this judgment by reason of allocated subscriptions to the Exchange Pool. Each Exchangee shall be responsible as between Exchangors and that Exchangee, for any tax or assessment upon the production of ground water levied for replenishment purposes by the Central and West Basin Water Replenishment District or by any other governmental agency with respect to water extracted by such Exchangee by reason of Exchange Pool allocations and purchases. No Exchangor or Exchangee shall acquire any additional rights, with respect to any party to this action, to extract waters from Central Basin pursuant to Water Code Section 1005.1 by reason of the obligations pursuant to and the operation of the Exchange Pool.

7. Judgment Binding on Successors, Etc. This judgment and all provisions thereof are applicable to and binding upon not only the parties to this action, but as well to their respective heirs, executors, administrators, successors, assigns, lessees, licensees and to the agents, employees and attorneys in fact of any such persons.

8. Costs. No party shall recover its costs herein as against any other party.

9. Intervention of Successors in Interest and New Parties. Any person who is not a party (including but not limited to successors or parties who are bound by this judgment) and who proposes to produce water from the basin or exercise water rights of a predecessor may seek to become a party to this Judgment through a Stipulation in Intervention entered into with the Plaintiff. Plaintiff may execute said Stipulation on behalf of the other parties herein, but such Stipulation shall not preclude a party from opposing such intervention at the time of the court hearing thereon. Said Stipulation for Intervention must thereupon be filed with the Court, which will consider an order confirming said intervention following thirty (30) days notice to the parties. Thereafter, if approved by the Court, such intervenor shall be a party bound by this Judgment and entitled to the rights and privileges accorded under the physical solution herein.

10. Effect of this Amended Judgment on Orders Filed Herein. This Second Amended Judgment shall not abrogate such rights of additional carry-over of unused water rights as may otherwise exist pursuant to orders herein filed June 2, 1977 and September 29, 1977.

THE CLERK WILL ENTER THIS SECOND AMENDED JUDGMENT FORTHWITH.

DATED: May 6, 1991

/s/ Florence T. Pickard
Judge of the Superior Court

Appendix E

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: Charles Emig

From: Mike Swan

Date: March 29, 2011

Subject: 20x2020 Baseline Calculation & Water Use Target Method Selection

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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 Cerritos met 17 percent of its total 2008 water demand through recycled water and, as a result, may use a 15-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) 1990 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 period from FY 1990 thru FY 2005 was determined to be the most advantageous. However, the data between FY 1990 and FY 1996 is incomplete, in that records for water sold to Norwalk and County water are unavailable prior to FY 1997. Therefore, the 14-year period from FY 1997 thru FY 2010 was used to calculate a baseline per capita water use average of 131.4 GPCD as shown in *Table 1*.

Table 1

City of Cerritos Base Daily Per Capita Use

FISCAL YEAR	Imported Water [1] (AFY)	Pumped Water [2] (AFY)	Recycled Water [3] (AFY)	Sold Water [4] (AFY)	Gross Water Use [5] (AFY)	Gross Water Use (gal/day)	Water Service Area Population [6]	Annual/ Capita Use (GPCD)
1990	4,853	9,158	910	*1,908*	-	-	52,857	-
1991	4,068	8,607	799	*2,009*	-	-	52,111	-
1992	1,934	9,060	783	*1,518*	-	-	51,859	-
1993	2,426	8,859	896	*1,011*	-	-	51,617	-
1994	2,211	9,292	1,885	*1,551*	-	-	51,188	-
1995	1,811	8,813	2,100	*573*	-	-	51,147	-
1996	3,863	7,834	1,916	*1,099*	-	-	50,607	-
1997	3,667	8,705	2,016	2,091	8,265	7,377,951	50,501	146.1
1998	2,027	9,374	1,816	1,976	7,609	6,792,754	50,373	134.8
1999	3,835	7,772	1,954	1,918	7,735	6,904,839	50,391	137.0
2000	3,255	9,515	2,241	2,470	8,059	7,193,836	51,114	140.7
2001	2,555	9,759	1,778	2,357	8,179	7,301,413	51,737	141.1
2002	2,252	10,504	1,919	2,614	8,222	7,339,307	52,709	139.2
2003	2,515	9,971	1,726	2,761	7,999	7,140,364	53,726	132.9
2004	2,898	10,349	2,042	3,140	8,064	7,198,763	54,102	133.1
2005	1,493	10,434	1,708	2,799	7,420	6,623,537	54,286	122.0
2006	625	12,028	1,731	3,492	7,429	6,631,821	54,229	122.3
2007	1,505	11,812	2,188	3,526	7,603	6,787,014	54,112	125.4
2008	2,027	11,415	2,164	2,690	8,588	7,666,368	54,167	141.5
2009	340	10,021	1,500	1,717	7,145	6,377,773	54,256	117.5
2010	290	9,307	1,871	1,257	6,469	5,774,374	54,547	105.9
Baseline (Average FY 1997-2010)								131.4
Minimum Baseline (Average FY 2004-2008)								128.9

[1] Imported Water is water purchased from CBMWD/MWD.

[2] Pumped Water is water pumped from the City's three wells.

[3] Recycled Water is water from the Los Coyotes Wastewater Treatment Plant, not including City of Lakewood use.

[4] Sold Water is water sold to GSWC, Norwalk and County Water. Italics (FY 1990 thru FY 1996) indicates only water sold to GSWC, as data for other two agencies use is unavailable.

[5] Gross Water Use = Imported + Pumped - Recycled - Sold

[6] Census population adjusted to exclude population serviced by City of La Palma and include the City of La Palma population serviced by the City of Cerritos, 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 128.9 GPCD. The minimum per capita water use target for 2020 must therefore be 122.5 GPCD (95% of 128.9).

Calculation of Targets Using Methods 1 – 4

Method 1: Using a baseline per capita average of 131.4 GPCD (shown in Table 1) the City of Cerritos 2020 target would be 105.1 GPCD (80% of 131.4). Since the target water use for Method 1 is less than the one found using the legislation's minimum requirement criteria (122.5), no further adjustments to this water use target would be required, if this method is selected.

Method 2: The City of Cerritos 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 Cerritos 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 Cerritos' 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 122.5 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 pulled the Commercial, Industrial and Institutional (CII) water use consumption of 1801 AF from monthly records for calendar year 2003, which was the midpoint of the baseline period. Using DWR's "SBX7-7 Provisional Method 4 Target Calculator" resulted in a 2020 water use target of 106.6 GPCD.

Conclusion

The discussion and calculations above are summarized in *Table 2*.

Table 2
City of Cerritos
Water Use Target Summary (GPCD)

Method	2020
1	105.1
2	Not Applicable
3	122.5
4	106.6

As shown in *Table 2,* Method 3 results in the most favorable water use target level for the City of Cerritos, with the minimum 5-year water use reduction governing. The 2015 interim target would then be 127.0 GPCD (mid-point between baseline of 131.4 and 2020 target of 122.5). It should be noted that the City has met this 2020 target the past two years and the 2015 target for five of the last six years (excluding FY 2008). 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 7.03 million gallons per day (7,873 AFY), which could be assumed to be a normal year demand, using the current water service area population of 54,547, the per capita use calculates to 128.85 gallons. Therefore, there would still be some additional conservation and/or new recycled water conversion needed to reach the interim and 2020 targets, assuming existing population and normal year demands.

City of Inglewood
Potable Demand Projections

	2010	2015	2020	2025	2030	2035
SCAG GATEWAY CITIES INTEGRATED GROWTH FORECAST/RHNA						
Service Area Population Increase	0	354	64	189	342	410
Per Capita Factor (gpcd) [1]	163	163	163	163	163	163
Population Demand (gpd)	**0**	**57,762**	**10,443**	**30,839**	**55,804**	**66,900**
SCAG WATER DEMAND (gpd)	**0**	**57,762**	**10,443**	**30,839**	**55,804**	**66,900**
CUESTA VILLAS SENIOR HOUSING DEVELOPMENT						
Residential (DU) [2]	0	247	0	0	0	0
Residential Factor (gpd/DU) [1]	163	163	163	163	163	163
Residential Sub-total (gpd)	**0**	**40,303**	**0**	**0**	**0**	**0**
Senior Center (SF)	0	13,000	0	0	0	0
Senior Center (gpd/KSF) [3]	220	220	220	220	220	220
Senior Center Sub-total (gpd)	**0**	**2,860**	**0**	**0**	**0**	**0**
PROPOSED POTABLE WATER DEMAND (gpd)	**0**	**43,163**	**0**	**0**	**0**	**0**
CITY OF CERRITOS WATER DEMAND (gpd)	**8,434,524**	**8,535,449**	**8,545,892**	**8,576,732**	**8,632,536**	**8,699,436**
Unaccounted Water [4]	403,917	408,750	409,250	410,727	413,399	416,603
TOTAL CITY OF CERRITOS WATER DEMAND (gpd)	**8,838,441**	**8,944,199**	**8,955,142**	**8,987,458**	**9,045,935**	**9,116,039**
TOTAL CITY OF CERRITOS WATER DEMAND (AFY) [5]	**9,901**	**10,019**	**10,032**	**10,068**	**10,133**	**10,212**

[1] Based on actual average 2006-2008 Citywide Service Area Demand, excluding recycled water and sold water
[2] Unit breakdown consists of 185 one bedroom units and 62 two bedroom units
[3] Commercial - Community (220 gal/ksf/day) in Table 3-1 in the 2003 IRWD Water Resources Master Plan (accepted water industry standard)
[4] 2010 = Normal Year Unaccounted Water; Future unaccounted water is expected to equal 4.57% of the future demands (i.e. the average loss percentage over the last seven calendar years)
[5] City of Cerritos 2010 Potable Water Demand is equal to the Average Use of 9,901 AF for FY 2006-2008, not including Recycled Water or Sold Water

City of Cerritos
Recycled Demand Projections

	2010	2015	2020	2025	2030	2035
CUESTA VILLAS SENIOR HOUSING DEVELOPMENT						
Common Area, Parkway Landscaping and Park (gal per year)	0	6,000,000	0	0	0	0
Common Area, Parkway Landscaping and Park Sub-total (gpd)	**0**	**16,438**	**0**	**0**	**0**	**0**
PROPOSED RECYCLED WATER DEMAND (gpd)	**0**	**16,438**	**0**	**0**	**0**	**0**
CITY OF CERRITOS WATER RECYCLED DEMAND (gpd)	**1,810,358**	**1,826,797**	**1,826,797**	**1,826,797**	**1,826,797**	**1,826,797**
Unaccounted Water [1]	0	0	0	0	0	0
TOTAL CITY OF CERRITOS RECYCLED WATER DEMAND (gpd)	**1,810,358**	**1,826,797**	**1,826,797**	**1,826,797**	**1,826,797**	**1,826,797**
TOTAL CITY OF CERRITOS RECYCLED WATER DEMAND (AFY) [2]	**2,028**	**2,046**	**2,046**	**2,046**	**2,046**	**2,046**

[1] Recycled Water Demand is assumed to be equal to Recycled Water Supply
[2] City of Cerritos 2010 Recycled Water Demand is equal to the Average Use of 2,028 AF for FY 2006-2008

Appendix F

Emergency Water Conservation Plan Resolution 91-6

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CITY OF CERRITOS

RESOLUTION NO. 91-6

A RESOLUTION OF THE CITY COUNCIL OF THE CITY OF CERRITOS IMPLEMENTING PHASE I AND II OF THE EMERGENCY WATER CONSERVATION PLAN

WHEREAS, on May 2, 1990, the City Council of the City of Cerritos adopted Resolution No. 90-14 entitled "A Resolution of the City Council of the City of Cerritos Adopting a Program of Voluntary Water Conservation to Reduce Water Consumption by Ten (10) Percent"; and,

WHEREAS, the City Council of the City of Cerritos has established an Emergency Water Conservation Plan in light of the current drought conditions in Southern California, particularly in Cerritos, and desires to rescind Resolution No. 90-14.

NOW, THEREFORE, THE CITY COUNCIL OF THE CITY OF CERRITOS DOES RESOLVE AS FOLLOWS:

SECTION 1. Scope. Phase I and II of City of Cerritos Emergency Water Conservation Plan are hereby implemented, effective February 21, 1991.

SECTION 2. Purpose. The City Council hereby declares that a water shortage emergency exists, and this Emergency Water Conservation Plan shall be implemented to provide a vehicle to protect public peace, health and safety by significantly and equitably reducing the consumption of potable water over an extended period. The Conservation Plan shall remain in effect until the Council declares that the water shortage emergency has ended.

SECTION 3. Application. The provisions of this Conservation Plan shall apply to all customers and property receiving potable water from the City wherever situated, and shall also apply to all property and facilities owned, maintained, operated or under the jurisdiction of the various officials, bureaus or agencies of the City of Cerritos. The provisions of this Conservation Plan shall not apply to the use of reclaimed water.

SECTION 4. Authorization. The various officials, bureaus, and agencies of the City are hereby authorized and directed to implement immediately the applicable provisions of this Conservation Plan upon the effective date of the implementation of any Phase.

SECTION 5. Water Conservation Phases. No customer of the City shall make, cause, use, or permit the use of water from the City for residential, commercial, industrial, agricultural, governmental, or any other purpose in a manner contrary to any provision of, or in an amount in excess of that use permitted by the Phase then in effect pursuant to action taken by the City Council. The City Council shall determine by resolution which Phase is necessary to accomplish water conservation, based on the severity of the water shortage emergency.

SECTION 6. Phase I. The following occurrences shall be deemed improper water use:

(a) Washing of walkways, driveways, or parking areas with a hose;

(b) Using water to clean, fill, or maintain levels in decorative fountains unless a recycling system is used;

(c) Serving drinking water to any customer in a restaurant or other public place where food is served, sold, or offered for sale unless expressly requested by the customer;

(d) Failing to repair all water leaks as soon as possible;

(e) Watering or irrigating lawns, turf, or landscape areas between the hours of 10:00 A.M. and 4:00 P.M.;

(f) Watering or irrigating lawns, turf, or landscape areas beyond saturation causing runoff;

(g) Allowing a hose to run continuously while washing vehicles;

(h) Allowing sprinklers to direct water to areas other than landscape causing runoff.

SECTION 7. Notice of Improper Water Use. For each occurrence of improper water use, the City shall send to the customer where the improper use occurred a notice of Improper Water use specifying the subsection or subsections of Section 6 that apply. Where possible, a copy of said Notice shall be given to the individual who has improperly used water in addition to being given as required in Section 11.

(A) Failure to Comply

(1) First Violation: The City shall issue a written notice of the improper water use to the customer.

(2) Second Violation: For a second violation during any one water shortage emergency, the City shall impose a $25.00 penalty, payable with the next subsequent water bill.

(3) Third and Subsequent Violations. For a third and each subsequent violation during any one water shortage emergency, the City shall install a flow restricting device of one (1) gallon per minute capacity for services up to one and one-half (1-1/2) inch size, and comparatively sized for larger services, on the service of the customer at the premises at which the violation occurred for a period of not less than forty-eight (48) hours. The City shall charge the customer the reasonable costs incurred for installing and for restoration of normal service. The charge shall be paid before normal service can be restored.

(4) Failure to pay penalties described in subsection (2) and (3) will result in discontinuation of water service until all previous penalties are paid in full. In addition, a reactivation fee will be imposed.

SECTION 8. Phase II

(A) Section 6 and 7 of the Conservation Plan shall apply in Phase II.

(B) Bimonthly, each 5/8" x 3/4" or 1" water meter shall be billed at a base consumption of 30 units, under the current water rate structure. All billing units of water used over the aforementioned base consumption will be billed at one and one half times the quantity rate in existence in the current rate structure.

(C) Bimonthly, each 1-1/2" water meter shall be billed at a base consumption of 119 units under the current water rate structure.

Bimonthly, each 2" water meter shall be billed at a base consumption of 277 units under the current water rate structure.

Bimonthly, each 3" water meter shall be billed at a base consumption of 511 units under the current water rate structure.

Bimonthly, each 4" water meter shall be billed at a base consumption of 1080 units under the current water rate structure.

Under each condition in Section C, if the bimonthly usage exceeds the aforementioned base consumption, a comparison to the previous years water consumption, during a similar bimonthly period will be made. The customer will be allowed ninety percent (90%) of the previous years use. Any water used in excess of the greater of the following, will be billed at one and one half times the quantity rate in existence under the current rate structure:

(a) the base consumption for a 1-1/2", 2", 3" or 4" meter as applicable, or

(b) ninety percent (90%) of the previous years use comparison.

SECTION 9. Exceptions. The improper use of water specified in Section 6 of this Conservation Plan are not applicable to that use of water necessary for public health and safety or for essential governmental services such as police, fire, and other similar emergency services.

SECTION 10. Failure to Comply. A flow restricting device may be installed for a period of three (3) months in the water service of any customer whose bill shows an excess rate, as established in Section 8 above, for three (3) consecutive months. The charge for installation and removal of the flow restricting device shall be as established in Section 7.

SECTION 11. Notice. Except as otherwise provided in this Conservation Plan, all notices required or desired to be given under the Conservation Plan shall be in writing and personally served or deposited in the U.S. Postal Service, first class, postage prepaid, addressed to the billing address of the customer and to the City of Cerritos, P. O. Box 3130, Cerritos, CA 90703, Attn: Water Superintendent. Notice shall be effective on the date personal service is obtained or the date on which the notice is deposited in the mail. If the customer is absent from this residence or place of business so that personal service cannot be obtained, notice may be given by leaving a copy thereof with some responsible person at either place and then sending a copy by regular mail addressed to the customer at his billing address, or if the residence or place of business cannot be ascertained or a responsible

person cannot be found there, then notice may be given by affixing a copy thereof in a conspicuous place on the property where the improper water use occurred and delivering a copy thereof to a person residing there if such person can be found and sending a copy thereof by regular mail addressed to the customer at his or her billing address.

SECTION 12. Relief from Compliance.

(A) Administrative Hearing. A customer shall have the right to a hearing to obtain relief from compliance with the Conservation Plan by filing a written request for hearing within fifteen (15) days after receipt of a Notice of Improper Water Use or receipt of a bill whichever is later. To the extent possible, the hearing shall be held by the Water Superintendent or designee within fifteen (15) days after receipt of the request therefor. In determining whether or not relief shall be granted, the Water Superintendent shall consider all relevant factors including but not limited to:

(1) The fact that reduction in water consumption will result in unemployment;
(2) Increased number of employees in commercial or industrial business, and governmental offices;
(3) The existence of emergency health or safety hazards;
(4) The existence of family health problems;
(5) The fact that the current customer was not a customer at the water service address during the base period and the nature of the current customer's water use is substantially different from the use during the base period;
(6) Special needs of medical care facilities or schools.

The Water Superintendent or designee shall give the customer notice of his decision, including notice of the customer's right to appeal the decision to the City Council. No customer shall appeal to the City Council prior to receipt of a decision from the Water Superintendent or designee.

(B) Appeal to Council. A customer shall have the right to appeal the decision of the Water Superintendent or designee to the City Council by filing a written request for appeal within fifteen (15) days after receipt of said decision. To the extent possible, the City Council shall hear the appeal at its first regular meeting occurring after the expiration of fifteen (15) days of receipt of the request for appeal. The decision of the City Council shall be final.

SECTION 13. General Provisions.

(A) Reduction in Water Supplied. If any customer fails to comply with any provision of this Conservation Plan, the City may reduce the amount of water provided to that customer to the level which that customer would be using if he were complying with the provisions of this Conservation Plan. The provisions of this subsection shall be applied in lieu of, or in addition to, any of the other provisions of this Conservation Plan, in the discretion of the City and shall be applied without regard to the status or nature of the customer.

(B) Public Health and Safety Not to be Affected. Nothing contained in this Conservation Plan shall be construed to require the City to curtail the supply of water to any customer when, in the discretion of the Council, such water is required by that customer to maintain an adequate level of public health and safety.

(C) Base Period. The base period shall be the historic period designated by the Council and is hereby established as the period June 1989 through May 1990.

SECTION 14. Severability. If any section, subsection, sentence, clause and phrase in this Conservation Plan or the application thereof to any person or circumstances is for any reason held invalid, the validity of the remainder of the Conservation Plan or the application of such provisions to other persons or circumstances shall not be affected thereby. The City Council declares that it would have passed this Conservation Plan and each section, subsection, sentence, clause, and phrase thereof irrespective of the fact that one or more sections, subsections, sentences, clauses, or phrases or the application thereof to any person or circumstances be held invalid.

SECTION 15. Resolution No. 90-14 is hereby rescinded.

SECTION 16. The City Clerk of the City of Cerritos shall certify to the approval of this Resolution cause the same to be published one time only in a newspaper of general

circulation in Cerritos, which publication shall be made on or after the effective date of the Resolution of the City Council approving this Resolution.

PASSED, APPROVED and ADOPTED this 21st day of February, 1991.

MAYOR

ATTEST:

CITY CLERK

STATE OF CALIFORNIA)
COUNTY OF LOS ANGELES) ss
CITY OF CERRITOS)

I, Caroline deLlamas, City Clerk of the City of Cerritos, California, DO HEREBY CERTIFY that the foregoing Resolution No. 91-6 was duly adopted by the City Council of said City and was approved by the Mayor of said City at a regular meeting of said City Council held on the 21st day of February, 1991, and that it was so adopted as follows:

AYES: COUNCILMEMBERS - Crawley, Kappe, Wong, Bowlen and Joynt.

NOES: COUNCILMEMBERS - None.

ABSENT: COUNCILMEMBERS - None.

ABSTAIN: COUNCILMEMBERS - None.

Caroline deLlamas
City Clerk of the City of Cerritos

DATED: February 22, 1991

Appendix G

Ordinance No. 703 Addressing Measures Aimed at Curtailing Water Consumption During Times of Supply Shortages.

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CITY OF CERRITOS

ORDINANCE NO. 703

AN ORDINANCE OF THE CITY COUNCIL OF THE CITY OF CERRITOS ESTABLISHING AN EMERGENCY WATER CONSERVATION PLAN AND PROVIDING FOR ITS ADOPTION AS AN URGENCY ORDINANCE

The City Council of the City of Cerritos does hereby ordain as follows:

SECTION 1. The City Council of the City of Cerritos shall adopt a resolution establishing water conservation measures required of all water consumers in the City to reduce consumption of potable water.

(a) Said resolution shall specify the level of water savings to be achieved.

(b) Said resolution shall specify procedures and penalties for non-compliance.

(c) Said resolution shall remain in effect until modified or rescinded by a subsequent resolution.

SECTION 2. Declaration of Urgency. The State of California is currently in its fifth year of drought. The City of Cerritos ("City") is a water supplier in the Metropolitan Water District's ("MWD") service area and has the power and the authority to adopt water conservation measures within its boundaries. The City relies on water purchased from MWD through the Central Basin Municipal Water District ("District") to augment water which the City pumps from the underground sources to meet the City's total water demands. District has adopted an ordinance requiring a mandatory ten percent (10%) cutback in water purchase from the District. Unless there is an end to the drought, more severe restrictions may be imposed to additionally reduce water consumption. Since penalties have been imposed by the District for water use in excess of the allocation utilized during the base year (June 1989 to May 1990), it is necessary that this City immediately implement water conservation measures to meet the reduced water allocation. This ordinance is therefore adopted to provide for the public health and welfare and the same shall take effect immediately upon it adoption.

SECTION 3. Publication. This Ordinance shall take effect immediately upon adoption and within fifteen (15) days after its passage, the City Clerk shall cause it to be posted in three (3) public places designated for that purpose.

PASSED, APPROVED AND ADOPTED this 21st day of February, 1991.

MAYOR

ATTEST:

CITY CLERK

STATE OF CALIFORNIA)
COUNTY OF LOS ANGELES) ss
CITY OF CERRITOS)

I, Caroline deLlamas, City Clerk of the City of Cerritos, California, DO HEREBY CERTIFY that the foregoing Ordinance No. 703 was duly adopted by the City Council of said City and was approved by the Mayor of said City at a regular meeting of said City Council held on the 21st day of February, 1991, and that it was so adopted as follows:

AYES: COUNCILMEMBERS - Crawley, Kappe, Wong, Bowlen and Joynt.

NOES: COUNCILMEMBERS - None.

ABSENT: COUNCILMEMBERS - None.

ABSTAIN: COUNCILMEMBERS - None.

Caroline deLlamas
City Clerk of the City of Cerritos

DATED: February 22, 1991

Appendix H

Draft Water Shortage Stage Resolution

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--DRAFT--

CITY OF CERRITOS

RESOLUTION NO. ____

A RESOLUTION OF THE CITY COUNCIL OF THE CITY OF CERRITOS ADOPTING WATER SHORTAGE STAGE ___ OF THE EMERGENCY WATER CONSERVATION PLAN

WHEREAS, the Department of Water Resources has indicated that water supplies from the State Water Project (SWP) will be drastically reduced; and

WHEREAS, the Metropolitan Water District of Southern California, who is the main supplier of water to the City of Cerritos, receives a major portion of its water supplies from the SWP; and

WHEREAS, Metropolitan Water District has adopted regulations that impose severe surcharges for water use in excess of __ percent of that used during a specified base period; and

WHEREAS, in order to stretch available supplies to meet critical customer needs and to protect the public welfare and safety, it will be necessary to significantly reduce water usage in the city; and

WHEREAS, in accordance with Resolution No. 91-6 that establishes the Emergency Water Conservation Plan, the City Council may implement the applicable provisions of the Phased Water Conservation Plan of the City of Cerritos in order to protect the public welfare and safety.

NOW, THEREFORE, BE IT RESOLVED that the City Council of the City of Cerritos, does hereby declare that there currently exists a water supply shortage in all areas and; therefore, under the provisions of the Emergency Water Conservation Plan under Resolution No. 91-6 of the City of Cerritos, a Phase ___Shortage is declared. Under the Phase __ Shortage, the following conditions shall apply:

1. For each occurrence of improper water use, the City shall send to the customer where the improper use occurred a notice of Improper Water use specifying the subsection or subsections of the following that apply:
    a. First Violation: The City shall issue a written notice of the improper water use to the customer.
    b. Second violation: The City shall impose a $25.00 penalty payable with the next subsequent water bill.
    c. Third and Subsequent Violations: For a third and each subsequent violation during any one water shortage emergency, the City shall

install a flow restricting device of one (1) gallon per minute capacity for service up to one and one-half (1-1/2) inch size, and comparatively sized for larger services, on the service of the customer at the premises at which the violation occurred for a period of not less than forty-eight (48) hours. The City shall charge the customer the reasonable costs incurred for installing and for restoration of normal service. The charge shall be paid before normal service can be restored.

d. Failure to pay penalties will result in discontinuation of water service until all previous penalties are pad in full. In addition, a reactivation fee will be imposed.

Now, THEREFORE, BE IT RESOLVED, that the City Council authorizes the implementation of stage __ of the Emergency Water Conservation Plan.

PASSED, APPROVED, AND ADOPTED THIS __ day of _____, 20__

_____
MAYOR

ATTEST:

_____
CITY CLERK

Appendix I

Recycled Water Ordinance No. 621

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ORDINANCE NO. 621

AN ORDINANCE OF THE CITY COUNCIL OF THE CITY OF CERRITOS AMENDING TITLE 13 OF THE CERRITOS MUNICIPAL CODE BY AMENDING SECTION 13.04.010 AND BY ADDING SECTIONS 13.04.120 THROUGH 13.04.280 PERTAINING TO RECLAIMED WATER SERVICE

THE CITY COUNCIL OF THE CITY OF CERRITOS DOES HEREBY ORDAIN AS FOLLOWS:

Section 1. Section 13.04.010 of Title 13 of the Cerritos Municipal Code is hereby amended by adding thereto subsections (k) through (y) to read as follows:

"(k) "Air-gap separation" shall mean a physical break between a supply pipe and a receiving vessel which shall be at least double the diameter of the supply pipe, measured vertically above the top rim of the vessel, and in no case less than one inch.

(l) "Approved backflow preventer" shall mean a device installed to protect the potable water supply from contamination by reclaimed water. This device shall be recognized and approved for use for this purpose by the Los Angeles County Department of Health Services.

(m) "Connection fee" shall mean a charge imposed by the City for providing reclaimed water service, including construction and/or installation of offsite and onsite facilities.

(n) "Cross connection" shall mean any unprotected connection between any part of a water system used or intended to supply potable water and any source or system containing reclaimed or other water or substance that is not safe, wholesome, and potable for human consumption.

(o) "Non-Potable water" shall mean that water that has not been treated for human consumption in conformance with the Drinking Water Standards referred to in subsection (r) herein.

(p) "Offsite facilities" shall mean facilities under the control of the City including, but not limited to, reclaimed water pipelines, reservoirs, pumping stations, manholes, valves, connections, supply interties, treatment facilities, and other appurtenances and property. For reclaimed water service, offsite facilities shall be those upstream of the point of connection with the customer's onsite facilities located and starting at the downstream end of the meter tailpiece.

(q) "Onsite facilities" shall mean facilities under the control of the applicant, owner, or customer including, but not limited to, landscape irrigation systems and agricultural irrigation systems. For reclaimed water service, the onsite facilities shall be those downstream of the reclaimed service connection, which shall normally be the downstream end of the meter tailpiece.

(r) "Potable water" shall mean that water furnished to the customer that does not contain objectionable pollution, contamination, minerals or infective agents and is considered satisfactory for domestic consumption, and conforms to the latest edition of the United States Public Health Service Drinking Water Standards, the California Safe Drinking Water Act, or any other applicable standards.

(s) "Reclaimed water" shall have the definition set forth in Title 2, Chapter 4, of the California Administrative Code (hereinafter "Code") and shall mean water which, as a result of treatment of domestic wastewater, is suitable for a direct beneficial use or a controlled use that otherwise would not occur, such treatment of domestic wastewater having been accomplished in accordance with the criteria, including the level of constituents in combination with the means for assurance of reliability, as set forth in the Code.

(t) "Reclaimed water facilities" shall mean facilities used in the storage, pumping, and conveyance of reclaimed water. Reclaimed water facilities are intended to provide reclaimed water for uses such as landscape irrigation,

agricultural irrigation, and construction or industrial process water.

(u) "Reclaimed water service connection" shall mean the point of connection of the customer's reclaimed water line with the reclaimed water service line of the City, which shall normally be the downstream end of the reclaimed water meter tailpiece.

(v) "Reclaimed water service line" shall mean the City's facility between its reclaimed water distribution system and the reclaimed water service connection.

(w) "Reclaimed water transmission mains" shall mean reclaimed water lines and appurtenances purchased or constructed and owned by the City or which the City requires an applicant, owner or customer to construct but which are owned by the City. The City shall determine what facilities are reclaimed water transmission mains from time to time. The City's determination in regard to these matters shall be final and conclusive.

(x) "Reclaimed water use area" shall mean the property, or portion of property, which has been approved by the City for reclaimed water service in accordance with this Chapter.

(y) "User's reclaimed water supervisor" shall mean a qualified person, designated by a reclaimed water user and approved by the City, who shall be knowledgeable in the construction and operation of onsite facilities and irrigation systems, and in the application of the guidelines, criteria, standards, rules and regulations for reclaimed water.

Section 2. Chapter 13.04 of Title 13 of the Cerritos Municipal Code is hereby amended by adding Sections 13.04.120 through 13.04.280, to read as follows:

"13.04.120 Reclaimed Water Service Area and Conditions of Service.

The water superintendent shall control and schedule reclaimed water distribution to customers. The City shall provide reclaimed water service in accordance with this Chapter to any

applicant who meets the requirements of this Chapter. The provision of reclaimed water service and the use of reclaimed water by any customer shall be subject to all the terms and conditions of this Chapter.

13.04.130 Application Requirements for Reclaimed Water Service.

(a) An applicant for reclaimed water service shall file with the water superintendent an application for service on a form designated by the water superintendent. The application shall include a scaled drawing and written description delineating the proposed reclaimed water use area; the proposed location, size and type of all reclaimed water service connections and onsite facilities; the street adjacent or nearest to the reclaimed water use area; the proposed use or uses of reclaimed water; and any other information deemed necessary by the water superintendent.

(b) The applicant for reclaimed water service shall comply with all requirements of applicable Federal, State and local statutes, ordinances, regulations, and other requirements. The water superintendent may reject for filing any application where the water superintendent determines that the applicant has failed to obtain any necessary prior approval of reclaimed water service from any Federal, State or local office or agency.

(c) Application fees and deposits shall be paid in accordance with Section 13.04.050(a) of the Municipal Code and shall be subject to all terms and conditions set forth therein.

13.04.140 Provision of Reclaimed Water Service.

Upon receipt of an application for reclaimed water service, the water superintendent shall review the application and conduct any necessary investigation in order to determine whether the City shall provide reclaimed water service. The water superintendent shall either approve, approve with conditions, or deny reclaimed water service. In approving or conditionally approving reclaimed water service, the water superintendent shall find the following:

(b) That the provision of reclaimed water service to the applicant is compatible with the City's reclaimed water system, and that the location of the reclaimed water use area is reasonably accessible to the City's reclaimed water system.

Among other conditions of approval, the water superintendent may require that the applicant construct specific onsite facilities in order to facilitate reclaimed water service. The water superintendent may also require the applicant to make modifications in the onsite potable water system and to install an approved backflow preventer. The customer shall not make any changes in the reclaimed water system or facilities on property subject to reclaimed water service without prior approval from the water superintendent.

Any approval or conditional approval of an application for reclaimed water service shall, unless otherwise specified, be deemed to be approval or conditional approval of reclaimed water service only for the reclaimed water use area, for the location, size and type of all reclaimed water service connections and onsite facilities, and for the proposed use of reclaimed water, described in the application.

13.04.150 Reclaimed Water Service Connection and Meter Charges.

(a) Before a reclaimed water service connection shall be supplied to or installed on the premises, the customer shall pay to the City the sum of money necessary to cover all costs of the reclaimed water service connection including, but not limited to, the cost of a meter unless the City agrees to other arrangements in writing. The water superintendent may, in his or her discretion, authorize a customer to install reclaimed water service connections and meters, subject to prior approval of all plans, equipment and material, and further subject to ongoing inspection and approval of installation by the water superintendent.

(b) Before a reclaimed water service connection shall be supplied to or installed on the premises, the customer shall pay to the City the sum of money necessary to cover all costs incurred

by the City in extending existing off-site facilities, including but not limited to the reclaimed water service line, in order to provide reclaimed water service to the customer unless the City agrees to other arrangements in writing. Construction of reclaimed water transmission mains and water service extensions shall be subject to the provisions of Section 13.04.080. All reclaimed water service provided prior to the installation of final street improvements shall be considered to be temporary, and the costs for all repairs or changes required to be made to the reclaimed water service line upon installation of final street improvements shall be paid by the customer.

(c) If reclaimed water service to any customer is suspended or terminated because of failure by a customer to adhere to the provisions of this Chapter, including but not limited to, the failure by a customer to pay for reclaimed water in accordance with this Chapter, the customer shall pay to the City in advance of resumption of reclaimed water service a delinquent and/or reconnection charge which shall be equal to that delinquent and/or reconnection charge for potable water established from time to time by resolution of the City Council, in addition to any payment for reclaimed water service then due.

13.04.160 Fees and Charges for Reclaimed Water.

(a) All fees, charges, deposits or penalties provided for herein, including reclaimed water charges, shall be in the amount set forth in this Chapter or as may be established by resolution of the City Council.

(b) Payment by a customer for reclaimed water service shall be due and payable to the City on or before thirty (30) days following the date of presentation of the bill. If payment is not received by the City in timely fashion in accordance with the Section, then the City may suspend and/or terminate reclaimed water service. In the event the City suspends and/or terminates reclaimed water service pursuant to this Section, then in addition to the payment due the City for reclaimed water, the customer shall pay to the City any and all delinquent and/or reconnection charges for reclaimed water service.

13.04.170 Conditions of Reclaimed Water Service.

(a) The water superintendent shall establish and may vary conditions of pressure and service. The City shall not be liable for damage or injury arising from low pressure or high pressure conditions or from interruptions of reclaimed water service.

(b) The City shall have control of and shall maintain and repair reclaimed water transmission mains, service lines and meters. The customer shall maintain in good working condition and shall repair the reclaimed water service connection and onsite facilities.

(c) Unless otherwise provided by written agreement between the customer and the City, the customer shall pay for all onsite facilities, including their installation, as well as for reclaimed water service lines and extensions of reclaimed water transmission mains in order to provide reclaimed water service to the customer, in accordance with the provisions of Sections 13.04.080 and 13.04.150(b) of this Chapter.

(d) The customer shall not make any changes in or additions to the reclaimed water system or to onsite facilities without obtaining prior approval from the water superintendent.

(e) Neither a reclaimed water service connection nor a reclaimed water meter shall be used to provide reclaimed water service to any property or any portion of property which is not approved by the water superintendent for that service or meter.

(f) When property provided with a reclaimed water service connection and reclaimed water meter is subdivided, such connection and meter shall thereafter serve only the lot or parcel of land on which the meter is located. Additional reclaimed water mains, service lines, connections and/or meters will be required for additional new lots or parcels created by subdivision, in accordance with this Chapter.

(g) All reclaimed water used on any premises approved for reclaimed water service must pass through a reclaimed water meter. A customer

shall be responsible and shall pay for all reclaimed water passing through its meter.

(h) The customer shall install and pay for an angle meter stop, as approved by the water superintendent, on the inlet side of the meter, which shall be used exclusively by the City for controlling the reclaimed water supply through the reclaimed water service line. If the angle meter stop is damaged or otherwise requires replacement, in the determination of the water superintendent, such replacement shall be made by and at the expense of the customer.

(i) Each customer shall restrict the use of reclaimed water to those uses set forth in the application for reclaimed water services which is approved or conditionally approved by the water superintendent.

(j) The City shall not be responsible or liable for any suspension in service of, or failure to supply, reclaimed water, or for any damage or injury to person or property relating to the provision of reclaimed water.

13.04.180. Suspension and Termination of Reclaimed Water Service.

(a) Reclaimed water service may be suspended and/or terminated at any time by the water superintendent due to any one or more of the following:

(1) Failure by a customer to adhere to the provisions of this Chapter;

(2) For the protection of the public health, safety and welfare;

(3) In order to protect reclaimed water facilities or make repairs;

(4) Inability of the City to obtain reclaimed water or otherwise provide reclaimed water service; or

(5) For failure of the customer to pay for reclaimed water in accordance with this Chapter.

(b) Except as hereinafter provided with regard to Section 13.04.180, Subsections (a)(1) and (2), the decision of the water superintendent to suspend and/or terminate reclaimed water service shall be final. With regard to Section 13.04.180, Subsections (a)(1) and (2), the water superintendent may, in his or her discretion suspend service until any appeal is determined in accordance with this Section.

(c) Where the water superintendent determines that service should be terminated in accordance with Section 13.04.180, Subsections (a)(1) or (2), the water superintendent shall provide written notice to the customer at least fifteen (15) days prior to the date of proposed termination of service, setting forth the provisions of this Chapter to which the customer has failed to adhere, or the reasons why the public health, safety or welfare requires the termination, and the factual basis for this determination. At the time the written notice of proposed termination is mailed to the customer, the water superintendent may, in his or her discretion, immediately suspend reclaimed water service pending a determination of any appeal in accordance with this Section. The customer may appeal the determination of the water superintendent as follows:

(1) No later than five (5) days prior to the date of proposed termination of service, the customer may file with the Director of Public Services of the City a written appeal from the notice of termination, which appeal shall stay the proposed termination until a final determination is rendered pursuant to this Section. Within ten (10) days of receipt of an appeal, the Director of Public Services shall meet with the customer, or its designee, in order to review the proposed termination and the reasons therefore. The customer, or its designee, shall be afforded an opportunity to make an oral presentation and to discuss the proposed termination with the Director of Public Services. Within five (5) days following the conclusion of the meeting between the Director of Public Services and the customer, the Director of Public Services shall notify the customer in writing of his or her decision, following a review and consideration of all reasonably available evidence. Unless

the customer appeals the written decision of the Director of Public Services to the City Council in accordance with this Section, the decision of the Director of Public Services shall be final.

(2) No later than ten (10) days following the date upon which the Director of Public Services forwards to the customer a written decision, the customer may file with the City Council a written appeal from the decision of the Director of Public Services. The City Council shall conduct a hearing concerning the proposed termination within thirty (30) days of receipt of a written appeal. Service may thereafter be terminated if the City Council finds that the customer has failed to adhere to any one or more provisions of this Chapter, or if the City Council finds that the public health, safety or welfare requires the termination.

(d) Where the City suspends and/or terminates reclaimed water service in accordance with Section 13.04.180, Subsections (a)(1), (2) or (5), the customer shall thereafter pay any and all costs and fees for reconnecting and/or starting up reclaimed water service. Where the City suspends and/or terminates reclaimed water service in accordance with Section 13.04.180, Subsections (a)(3) or (4), the City shall pay all costs and fees for reconnecting and/or starting up reclaimed water service.

(e) The City Council may, by resolution or by written agreement with the customer, impose a penalty for termination of use of reclaimed water because of voluntary act of the customer or determination of the City for the reasons set forth in paragraphs (1) and (5) of subsection (a) of this section.

13.04.190 Impermissible Reclaimed Water Connections.

No person shall make any connection to reclaimed water facilities of the City unless the City has approved reclaimed water service for that person and for the reclaimed water service area in accordance with this Chapter.

13.04.200 Reclaimed Water Meter Testing.

If it is determined by the water superintendent that a reclaimed water meter fails to register or registers inaccurately during any period, the customer shall be charged for that period pursuant to an average daily consumption rate based upon a reading of the meter when in use and registering accurately during the same season or as close to the same season as is reasonably possible. Any customer may demand by written notice to the water superintendent that the meter through which water is being furnished be examined and tested by the City for the purpose of ascertaining whether or not it is correctly registering the amount of reclaimed water being delivered through it. In such event, the customer shall deposit with the City upon making such demand an amount equal to the charge for testing such meter, as established from time to time by the water superintendent. Upon receipt of such demand and deposit, the City shall within ten (10) days thereafter examine and test the meter. If the meter shall be found by the City to register over three percent (3%) more water than actually passes through it, then the meter shall be properly adjusted or a replacement meter installed by the City, the deposit for testing shall be returned to the customer, and the reclaimed water bill for that portion of the month during which the demand and deposit were made by the customer up to the date of meter adjustment or replacement will be adjusted proportionately. If the meter should be found to register not more than three percent (3%) more water than actually passes through it, the deposit shall be retained by the City as reimbursement for the cost of making the test, and the water bill as presented shall be due and payable by the customer to the City.

13.04.210 Installation of Markings.

(a) Where any property subject to reclaimed water service is served by or contains dual or multiple water systems and piping, the exposed portions of pipelines shall be painted, banded, or marked to distinguish clearly which is used for potable water and which is not used for potable water. In addition, all new unexposed pipes installed on any such property shall be similarly painted, bonded or marked. All reclaimed water

outlets shall be posted with the wording "Reclaimed Water—Do Not Drink". All outlets intended for drinking purposes shall be plainly marked for this purpose. Main shut-off valves shall be clearly identified to distinguish between reclaimed water and domestic water systems.

(b) The water superintendent shall approve all painting, banding or marking prior to installation.

13.04.220 Design and Construction of Onsite Reclaimed Water Facilities.

The customer shall provide and install, at its expense, any onsite reclaimed water facility required to provide reclaimed water service. Onsite reclaimed water facilities shall conform to State and local statutes, ordinances, regulations and other requirements. The customer shall make, at its expense, any modification to the potable water system on the premises which is required by the water superintendent, in his or her discretion, in order to permit reclaimed water service including, but not limited to the installation by the customer of approved backflow preventers. Plans, specifications and record drawings for onsite reclaimed water facilities shall be prepared and submitted by the property owner to the City and must be approved by the City prior to the commencement of construction.

Onsite reclaimed water facilities shall be designed to accommodate the use of reclaimed water in those areas where the City has determined that reclaimed water will be supplied in the future, even though reclaimed water service is not immediately available when the design area is ready for construction.

13.04.230 User's Reclaimed Water Supervisor.

The property owner shall designate a user's reclaimed water supervisor and shall keep the water superintendent informed of his or her identity. The user's reclaimed water supervisor shall be responsible for overseeing reclaimed water service and maintaining onsite facilities on the property receiving reclaimed water service. The user's reclaimed water supervisor shall be responsible for the prevention of any cross-connections on the

property and shall promptly advise the water superintendent of any cross-connection on the premises.

13.04.240 Conversion of Existing Facilities for Reclaimed Water Service.

Where a property owner proposes the conversion of any existing potable water system to a reclaimed water system, a comprehensive investigation shall be performed by or for the City at the expense of the property owner. No potable water facilities shall be connected to or incorporated in the reclaimed water system where such facilities have not been approved for reclaimed water service by the water superintendent and by any and all other required State or local offices or agencies.

13.04.250 Connections to Potable Water System.

If an emergency exists whereby in all, or a portion, of the reclaimed water system, reclaimed water is not available, the water superintendent may approve a temporary connection for a customer to the potable water system. Before such temporary connection is made, the portion of the system that does not have reclaimed water available shall be isolated by an air gap separation from the remainder of the reclaimed water system, either at individual service connections or on offsite facilities, as determined by the water superintendent, and an approved backflow preventer shall be installed on the potable water line or lines in accordance with any and all applicable State and local statutes, ordinances and regulations. The emergency connection or connections shall be removed before connection is reestablished to the remainder of the reclaimed water system. The costs of such emergency connections shall be paid by the City.

13.04.260 Installation of Backflow Preventers.

Approved backflow preventers shall be installed and maintained by the customer, at its expense and following approval by the water superintendent, on the property to which reclaimed water service is provided. All backflow preventers shall be placed on the potable water system twelve (12) inches above grade and as close to meters as possible. Backflow preventers shall be inspected at least once a year by the customer, and the customer shall

perform tests to insure that the backflow preventers remain in first-class working order in accordance with the requirements of the water superintendent and any and all other State and local regulatory authorities. Records of all tests, repairs, and overhauls to backflow preventers shall be maintained by the customer and made available to the water superintendent and any and all other State and local regulatory authorities.

13.04.270 Design and Construction of Offsite Reclaimed Water Facilities.

In circumstances where offsite water facilities constructed by the City are installed to serve more than one property, each property owner shall, in accordance with Sections 13.04.080 and 13.04.150(b) of this Chapter, reimburse the City for the pro rata cost of installation of offsite reclaimed water facilities in accordance with a fee schedule or charges determined by the Director of Public Services based upon costs of design, equipment, overhead, construction and inspection.

The City shall operate and maintain the offsite reclaimed water facilities, including reclaimed water pipelines, reservoirs, manholes, valves, connections, supply interties, and other appurtenances and property up to and including the meter. No other persons, except authorized employees of the City, shall enter upon, inspect, operate, adjust, change, alter, move, or relocate any portion of the offsite reclaimed water facilities.

13.04.280 Additional Restrictions On Use Of Reclaimed Water.

(a) Conditions that cause a runoff of reclaimed water outside of the approved reclaimed water use area, whether by design, construction practice, or system operation, shall be eliminated wherever it is reasonably feasible to do so.

(b) The use of reclaimed water shall be limited to those uses permitted by Federal and State law, and to those uses approved by the City for the reclaimed water service area.

(c) No customer or other party shall install or create cross connections between a pot-

able water system and reclaimed water system, other then as permitted by this Chapter.

(d) Any and all drinking fountains located within an approved reclaimed water use area shall be protected by siting and/or structure from contact with reclaimed water, whether by windblown spray or by direct application through irrigation or other approved uses.

(e) No customer or other party shall use or install hose bibs on any onsite reclaimed water facilities, regardless of the hose bib construction or identification. Quick couplers shall be permitted, subject to the approval of the water superintendent.

(f) No customer or other party shall use or install fire hydrants on any onsite system that presently operates or is designed to operate with reclaimed water, regardless of the fire hydrant construction or identification."

Section 4. Severability.

If any section, subsection, clause, or phrase of this Ordinance is for any reason held to be invalid or unconstitutional, such decision shall not affect the remaining portions of this Ordinance.

PASSED, APPROVED AND ADOPTED this 19th day of January, 1984.

Mayor of the City of Cerritos

Attest

City Clerk

STATE OF CALIFORNIA)
COUNTY OF LOS ANGELES) ss
CITY OF CERRITOS)

I, Caroline deLlamas, City Clerk of the City of Cerritos, California, DO HEREBY CERTIFY that the foregoing Ordinance No. 621 was duly adopted by the City Council of said city and was approved by the Mayor of said city at a regular meeting of said City Council held on the 19th day of January, 1984 and that it was so adopted as follows:

AYES:	COUNCILMEMBERS:	Beanum, Knabe, Needham, Rabbitt and Wong.
NOES:	COUNCILMEMBERS:	None.
ABSENT:	COUNCILMEMBERS:	None.
ABSTAINING:	COUNCILMEMBERS:	None.

DATED: January 20, 1984

Caroline deLlamas
City Clerk, City of Cerritos

CITY OF CERRITOS

18125 Bloomfield Avenue

Cerritos, CA 90703