City of Lakewood
Urban Water Management Plan
Update
2010

May 24, 2011

RESOLUTION NO. 2011-23

RESOLUTION OF THE CITY COUNCIL OF THE CITY OF LAKEWOOD ADOPTING THE CITY OF LAKEWOOD 2010 URBAN WATER MANAGEMENT PLAN UPDATE DESCRIBING THE CITY'S WATER SUPPLY PLAN FOR THE NEXT TWENTY YEARS

WHEREAS, the Urban Water Management Planning Act requires all water purveyors serving more than 3,000 customers or supplying more that 3,000 acre feet of water annually to prepare an Urban Water Management Plan every five years; and

WHEREAS, the primary purpose of the Urban Water Management Plan is to plan for the conservation and efficient use of water supplies; and

WHEREAS, the City is an urban water purveyor serving approximately 59,660 customers; and

WHEREAS, the 2010 Urban Water Management Plan Update must be adopted before July 1, 2011 after public review and public hearing, and filed with the State of California Department of Water Resources within thirty days of adoption; and

WHEREAS, the 2010 Urban Water Management Plan Update, was reviewed by the Water Resources Committee on March 21, 2011; and

WHEREAS, said Water Resources Committee recommends that said Plan be submitted to public review and approved by the City Council following a public hearing; and

WHEREAS, said Plan has been available for public review beginning March 25, 2011;

NOW, THEREFORE, the City Council of the City of Lakewood does hereby resolve as follows:

SECTION 1. The Urban Water Management Plan is hereby adopted and filed with the City Clerk. The City Council finds that said 2010 Urban Water Management Plan Update, has been submitted to a public review and a public hearing before the City Council on May 24, 2011.

SECTION 2. The 2010 Urban Water Management Plan Update is hereby approved, and the Mayor is authorized and directed to file the same with the California Department of Water Resources within thirty (30) days.

ADOPTED AND APPROVED THIS 24TH DAY OF MAY, 2011.

Mayor

ATTEST:

City Clerk

Table of Contents

Required Tables

City of Lakewood
2010 Urban Water Management Plan
Contact Sheet

Plan Submittal Date:	June 30, 2011
Name of Person Submitting Plan:	Lawrence Van Nostran, Mayor
Phone Number:	562.866.9771
Water Supplier Type:	Municipality
Water Sales Type:	Retailer
Utility services provided by water utility:	Potable & Recycled Wastewater
Bureau of Reclamation Contractor:	No
State Water Project Contractor:	No
Preparer:	Nancy van der Linden, Water Administration Manager, under the direction of: James B. Glancy Director of Water Resources City of Lakewood 5050 Clark Ave. Lakewood, CA 90712 562.866.9771 ext. 2700 nvanderl@lakewoodcity.org

Section 1: Plan Preparation
City of Lakewood Department of Water Resources 2010 Urban Water Management Plan

Agency Coordination

The City's Department of Water Resources prepared the 2010 Urban Water Management Plan during February 2011. The department worked with various other City departments to compile the document. The City of Lakewood also relied on several regional agencies for the development of the utility's 2010 Urban Water Management Plan: Metropolitan Water District of Southern California (MWD), Central Basin Municipal Water District (CBMWD), City of Cerritos, Los Angeles County Sanitation Districts and Water Replenishment District of Southern California (WRD). See Table 1 for a summary of inter-agency and public involvement.

Table 1 Agency Coordination

Coordination and Public Involvement Actions

Coordinating Agencies	*Participated in Developing the Plan*	*Provided Comments on Draft*	*Attended Public Meetings*	*Contacted for Assistance*	*Sent a Copy of the Draft*	*Sent Notice of Intent to Adopt*	*No Involvement / No Information*
Other Water Suppliers				Central Basin Municipal Water District, City of Cerritos Water Department	Long Beach Water, Central Basin Municipal Water District, Golden State Water Co., Metropolitan Water District of Southern California, City of Cerritos	Long Beach Water, Central Basin Municipal Water District, Golden State Water Co., Metropolitan Water District of Southern California, City of Cerritos	
Water Management Agencies		Sanitation Districts of Los Angeles County		Sanitation Districts of Los Angeles County, Water Replenishment District of Southern California	Sanitation Districts of Los Angeles County, Water Replenishment District of Southern California	Sanitation Districts of Los Angeles County, Water Replenishment District of Southern California	
Relevant Public Agencies	City of Lakewood Departments: Administrative Services, City Clerk, Community Development, Public Works	City of Lakewood Departments: Administrative Services, City Clerk, Community Development, Public Works	City of Lakewood Departments: Administration, Administrative Services, Community Development, Public Works	City of Lakewood Departments: Administrative Services, City Clerk, Community Development, Public Works	City of Lakewood Departments: Administrative Services, City Clerk, Community Development, Public Works County of Los Angeles	City of Lakewood Departments: Administrative Services, City Clerk, Community Development, Public Works County of Los Angeles	
General Public					UWMP Draft online at www.lakewoodcity.org, City of Lakewood, Notice in *Lakewood Living Magazine,, Lakewood Community News, Lakewood Connect eMagazine,* Available at 2 City Parks & 2 Los Angeles County Libraries	UWMP Draft online at www.lakewoodcity.org, City of Lakewood, Notice in *Lakewood Living Magazine, Lakewood Community News*	
Other							

Public Participation

The Department of Water Resources staff met with the City Council Water Resources Committee on March 21, 2011 to discuss the content of the plan and obtain feedback. The City Council Water Resources Committee opened the public comment period and directed staff to schedule a public hearing to gather testimony regarding the 2010 Urban Water Management Plan Update on the May 24, 2011 City Council agenda and consider

plan adoption. The department informed the general public in the following manner:

- Post the notice regarding the Urban Water Management Plan public comment period and public hearing at two City recreation facilities and the City Clerk's office at Lakewood City Hall. This is the standard public hearing protocol, because the city does not have a newspaper of general circulation.

- Provided a draft copy of the plan to the two Los Angeles County libraries in the city of Lakewood for public review.

- Published information regarding the completion of the draft plan and availability for comment in a city newsletter, *Lakewood Living,* in April 2011. Lakewood sends this newsletter to all residents and business owners in the Department of Water Resources service area. Staff included notice in City of Lakewood's weekly eMagazine, *Lakewood Connect*, to approximately 12,000 residents and businesses after March 21, 2011, and the May 1, 2011 edition of the *Lakewood Community News*.

- Published draft Urban Water Management Plan on the City of Lakewood's website: www.lakewoodcity.org.

Adoption, Submittal & Implementation

On March 21, 2011 the Lakewood City Council Water Resources Committee opened the public comment period for the UWMP. The Lakewood City Council held a public hearing and adopting Resolution No. 2011-23 approving the amended plan on May 24, 2011. Staff presentation included the implementation plan for compliance with the Water Conservation Bill of 2009, 20 percent reduction in per capita water use by 2020.

The following outlines the schedule for public review, adoption and submittal of the 2010 Urban Water Management Plan.

Adoption, Submittal & Implementation

Action	***Time Line***
Presentation of the UWMP to the City Council Water Resources Committee	March 21, 2011
City Council Opens Public Comment Period	March 21, 2011
Informed Outside Agencies Regarding the Preparation of the UWMP	March 25, 2011
UWMP Available for Public Comment in the City Clerk's Office, Mayfair Park, Nye and Iacoboni Libraries	March 25, 2011
UWMP Draft Available Online at www.lakewoodcity.org	March 28, 2011
Notification to Community of Public Comment Period	April, 2011
Deadline for Written Comments	May 24, 2011
City Council Holds Public Hearing to Accept Public Comments and Adopt UWMP	May 24, 2011
Submittal to the State of California Department of Water Resources, State Library	June 24, 2011
UWMP Available for Public Review at City of Lakewood City Clerk's Office and Department of Water Resources Office, and online at www.lakewoodcity.org, County of Los Angeles and affected agencies	June 24, 2011

Section 2: System Description
City of Lakewood Snapshot

Description of Lakewood

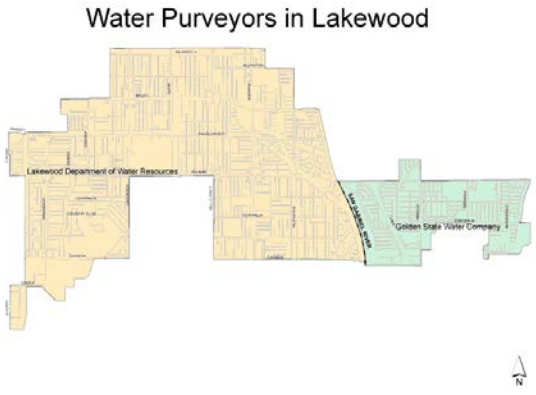
The City of Lakewood incorporated in 1954 as a general law city. Located 20 miles southeast of the city of Los Angeles, Lakewood borders the cities of Long Beach, Hawaiian Gardens, Bellflower and Cerritos, and Orange County.

Lakewood encompasses 9.5 square miles. It lies approximately 50 feet above sea level. The terrain is generally flat and regionally slopes to the south. Incorporated in 1954, most Lakewood development occurred within a 20-year period.

Lakewood Water Purveyors

Two water purveyors serve Lakewood. The City of Lakewood supplies water to Lakewood residents and businesses west of the San Gabriel River. The Department of Water Resources operates as a municipal water utility that relies solely on water revenues from potable water sales, recycled water sales and other water related funding sources. Golden State Water Company (GSWC), formerly Southern California Water Company, serves the area east of the river. GSWC is a privately held water utility governed by the Public Utilities Commission. GSWC maintains approximately 3,673 customer accounts in Lakewood.

Lakewood maintains approximately 195 miles of water mains, 18.5 miles of transmission mains, eleven water wells, a 1,125 gallons per minute water treatment facility, three water storage facilities holding approximately 13.1 million gallons, two connections to Metropolitan Water District of Southern California import supplies through Central Basin Municipal Water District, and three emergency interconnections with GSWC, the City of Cerritos and the City of Long Beach. The city relies on groundwater to meet current demand. The water wells are located throughout the City's service area. The pumped water either flows directly into the distribution system or into one of the water storage facilities. All Lakewood water customers receive water through a metered service connection.



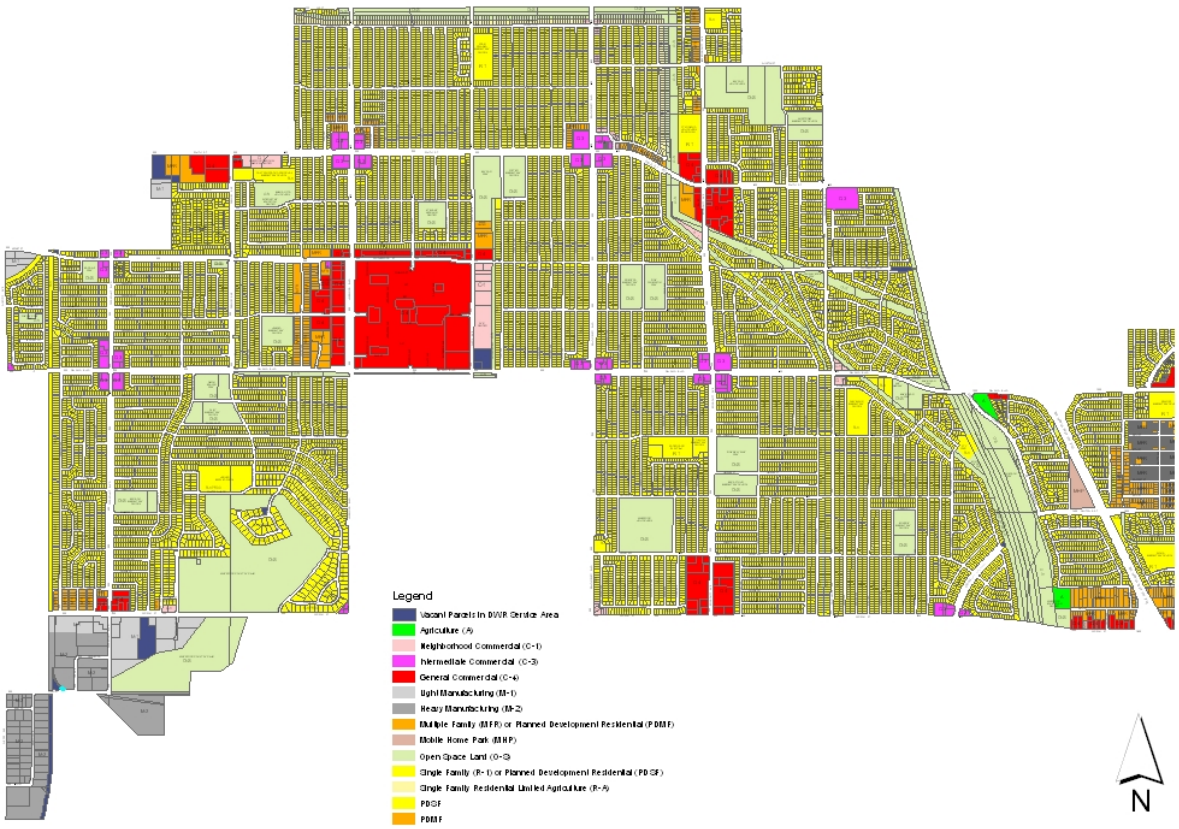
Land Use

Lakewood consists largely of single family dwellings. The vast majority of the single family residential parcels are 50 feet wide and 100 feet deep. The community's housing density is estimated at 2,874.7 housing units per square mile or 4.47 houses per acre.

Though the focal point for commercial activity is the Lakewood Center Mall, the city's forefathers built commercial centers at most major intersections for easy access by foot to grocery stores and other necessities. The anchors at Lakewood Center Mall include two department stores, Nordstrom Rack, Target, Home Depot, Best Buy and Costco. Approximately 500 additional retail and commercial businesses are also located in this regional shopping area.

The city manufacturing and industrial base is small due to the residential nature of the community. The majority of the manufacturing/industrial businesses, located in the southwest corner of the community, provide warehousing functions.

City of Lakewood Department of Water Service Area
Vacant Parcels
January 2011



Approximately 22 acres of land remains vacant in the Lakewood Department of Water Resources service area: 4.5 acres zoned commercial, 17 acres zoned manufacturing,

and .5 acres zoned residential. The table below indicates the city's distribution of land use. The largest vacant parcel is over 6.5 acres and zoned manufacturing. At this time there are no plans to develop this lot or any of the other vacant parcels due to the recent economic downturn. The vacant parcels are indicated in navy blue on the above map.

City of Lakewood Service Area Land Use

Type of Land Use		***# of Acres***	***% of Total Acres***
Residential	▪ Single Family Homes- 18,862 Dwellings, 2,440 acres ▪ Multiple Family Homes- 2,143 Dwellings, 65 acres	2,505	50.5%
Commercial	▪ Lakewood Center Mall- 135 acres ▪ Financial/Office- 22 acres ▪ General Commercial- 341 acres	498	10%
Manufacturing/ Industrial	▪ Warehousing- 107 acres	107	2%
Public/Quasi Public	▪ City Parks/Facilities- 314 acres ▪ Public Schools- 211 acres ▪ Hospitals- 6 acres ▪ Religious/Private Education- 46 acres ▪ Streets- 1,063 acres ▪ Flood Control- 39 acres ▪ Railroad ROW- 17 acres ▪ Power ROW- 120 acres	1,816	37%
Miscellaneous	▪ Vacant Land- 22 acres	22	0.5%
Total		4,948	100.00%

The City currently maintains 21,005 housing units in the Department of Water Resources service area, 18,862 single family residential units and 2,143 multi-family units. The City of Lakewood Housing Element 2008-2014, approved by the Lakewood City Council in 2009, indicates a total of potential growth of 931 dwellings units. This estimate is based on a density of 22 units per acre. The potential construction of additional living units in the City's water utility service area is 130 units. These potential projects would be built on existing multi-family dwelling parcels. Though Lakewood's Municipal Codes does not currently allow construction of a second unit on existing parcels zoned for single family dwellings, an ordinance allowing this type of unit might be considered by the Lakewood City Council in the future. This revision would allow the construction of a second living unit on a SFR parcel if the lot size is 10,000 square feet or more. Approximately 261 parcels in Lakewood's water utility service area would meet the minimum lot size requirement.

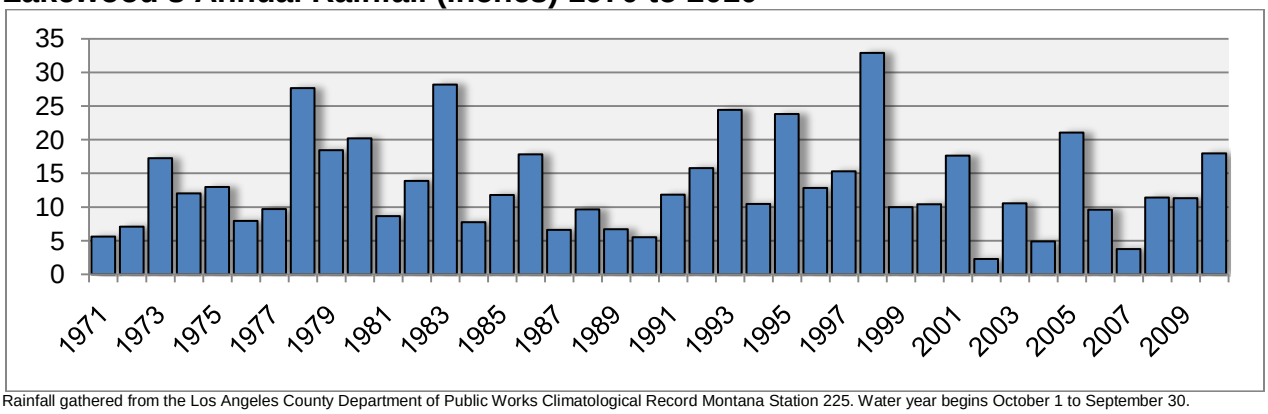
According to the City of Lakewood Housing Element 2008-2014, the population density has declined to 3.1 persons per household, down from the 1960 high of 3.77.

Climate

Lakewood lies close enough to the ocean to benefit from sea breezes and marine cloud layer. The temperature averages 84º in the summer months and 66º in the winter months. Rainfall averages 12-14 inches annually. Rainfall for the 2010 water year totaled 17.98 inches. The cyclical nature of the region's rainfall plays a significant role in water supply demand. Water demand drops in those years with above average rainfall. The following

chart indicates the historical rainfall for the city.

Lakewood's Annual Rainfall (Inches) 1970 to 2010



Rainfall gathered from the Los Angeles County Department of Public Works Climatological Record Montana Station 225. Water year begins October 1 to September 30.

The table below indicates the average monthly evapotranspiration levels, rainfall and high/low temperatures in the Long Beach/ Lakewood area.

Lakewood's Average Monthly ETo, Rainfall and Temperature

	Monthly Average ETo[1]	Monthly Average Rainfall (Inches)	Monthly Average Temperature (Fahrenheit)[2]	
			Low	High
January	1.65	2.96	45.5	66.9
February	2.15	3.54	47.3	67.3
March	3.59	2.37	49.7	68.4
April	4.77	0.64	52.3	71.8
May	5.12	0.27	56.7	73.6
June	5.71	0.09	60.2	77.1
July	5.93	0.04	63.6	82.4
August	5.91	0.11	64.9	84.0
September	4.39	0.25	62.9	82.4
October	3.22	0.58	58.0	78.1
November	2.18	1.05	50.3	72.0
December	1.68	1.83	45.2	67.2
Annual	46.30	13.73	54.7	74.3

Lakewood Population

Lakewood's population dipped between the 1980 and 1990 U.S. Census, but steadily increased since then: 7.8 percent increase from the 1990 census to the 2000, and a one percent increase between the 2000 and 2010 Census. Firm population estimates during non-census years are more difficult to estimate. The City relies on the California Department of Finance population estimates for non-census years.

The City of Lakewood Department of Water Resources serves 74 percent of the city of Lakewood's population, located west of the San Gabriel River. The 1990, 2000 and 2010 population for the utility's service area listed in Table 2 is based on census tract data. The 74 percent is based on the percent of Lakewood's total 2010 U.S. Census population located within the census tracts west of the San Gabriel River. U.S. Census data

[1] ETo from CIMIS (www.cimis.water.ca.gov)

[2] Monthly Average High and Low Temperatures from Western Regional Climate Center April 1, 1958 to December 31, 2004 (www.wrcc.dri.edu)

indicates a population increase of two percent in the Lakewood Department of Water Resources' service area.

The population for 1995 and 2005 are calculated at 74 percent of Lakewood's total population as estimated by the California Department of Finance.

The 2015, 2020, 2025 and 2030 population projections are based on Southern California Area Governments estimates for the city of Lakewood. Department of Water Resources (DWR) service area estimates are based on 74 percent of the SCAG's estimated population for Lakewood. Based on SCAG's projects, Lakewood anticipates minimum population growth during this timeframe, and expects most growth to occur in the eastern portion of the city, which is served by Golden State Water Company. The Lakewood 2008-2014 Housing Element summarizes the potential growth as:

> The local population increase projected for the next decade and a half will come from an increase in the number of persons per household as more young families move into the City, and to a lesser extent from increased residential density as some Multiple Family Residential (MFR) zoned areas occupied by single family homes are redeveloped with MFR structures.[3]

The following table indicates the projected population growth for the city of Lakewood and the portion of Lakewood served by the Lakewood Department of Water Resources.

Table 2 **Lakewood Population Projections**

	1990	*1995*	*2000*	*2005*	*2010*	*2015*	*2020*	*2025*	*2030*	*Data Source*
Lakewood	73,557	75,513	79,345	83,079	80,048	84,354	84,420	84,425	84,430	U.S. Census Bureau, CA Dept. of Finance, & SCAG[1]
DWR Service Area	55,186	56,634	58,461	61,478	59,660	62,421	62,470	62,474	62,478	U.S. Census Bureau, CA Dept. of Finance & SCAG[2]

[1]U.S. Bureau of Census, Census Data Tract: 1990, 2000, 2010
California Department of Finance Population Estimates: 1995, 2005
Southern California Area Governments 2008 Data: 2015, 2020, 2025, 2030
[2]U.S. Bureau of Census, Census Data Tract: 1990, 2000 & 2010
California Department of Finance Population Estimates: 74 % of Estimates for 1995, 2005
Southern California Area Governments 2008 Data: 74% of Estimates for 2015, 2020, 2025, 2030

The Southern California Area Governments' population projections between now and 2030 for the Department of Water Resources' service area are less than one percent growth.

[3] City of Lakewood 208-2014 Housing Element, September 2009, 6.

Section 3: Water Demands
City of Lakewood Department of Water Resources
Past, Current and Projected Water Use

Water Demand

Actual Water Demand 2005 and 2010

The City of Lakewood Department of Water Resources operates as a municipal water utility, which relies solely on water revenues from potable and recycled water sales, and other water related funding sources to finance operational and capital expenditures. The City currently maintains service connections to 20,421 active accounts, a decrease of 38 customers since 2005. All water delivered to Lakewood water customers is metered.

The predominantly residential character of Lakewood coupled with the retail base that exists in the community creates a stable environment for water demand. The Department of Water Resources anticipates little fluctuation in the type of water account and water use over the planning period.

Table 3 **Water Deliveries- Actual 2005**

	Metered		Unmetered		Total
Water Use Sector	**# of Accounts**	**Volume (af)**	**# of Accounts**	**Volume (af)**	**Volume (af)**
Single Family	19,078	6,689	0	0	6,689
Multi-Family	202	413	0	0	413
Commercial			0	0	
Industrial	965	1,271	0	0	1,271
Institutional/Governmental			0	0	
Landscape (includes recycled water deliveries)	39	415	0	0	415
Agriculture			0	0	
Other	175	224	0	0	224
TOTAL	**20,459**	**9,012**	**0**	**0**	**9,012**

Beginning in 2007, Lakewood conducted an aggressive water conservation campaign without resorting to mandatory conservation measures. The community responded to the request to save water. The FY2010 water deliveries were 2 percent lower than projected for 2010 in the City of Lakewood 2005 Urban Water Management Plan Update. The drop in water deliveries is due in part to the almost 18 inches of rain received in the 2009-2010 Water Year (begins October 1, ends September 30), moderate temperatures over the summer months, the nationwide economic downturn also affected water use and the call to conserve water.

Table 4 **Water Deliveries- Actual FY2010**

Water Use Sector	Metered		Unmetered		Total
	# of Accounts	Volume (af)	# of Accounts	Volume (af)	Volume (af)
Single Family	19,134	6,107	0	0	6,107
Multi-Family	206	352	0	0	352
Commercial	841	1,417	0	0	1,417
Industrial			0	0	
Institutional/Governmental	62	172	0	0	172
Landscape (includes recycled water deliveries)	41	444	0	0	444
Agriculture			0	0	
Other	137	0	0	0	0
TOTAL	**20,421**	**8,492**	**0**	**0**	**8,492**

Projected Water Demand 2015, 2020, 2025 & 2030

In October 2010 the City implemented changes in the water conservation rate structure. These changes separated landscape irrigation and several commercial customer types to encourage conservation and monitor water consumption by specific water user groups. Table 5, 6 and 7 distribute the customer accounts based on the new water conservation rate structure. The 2015 through 2030 projections are calculated based on the year's estimated population and the gallons per capita per day goal. The calculation also included the addition of Lakewood's credit for recycled water used for groundwater recharge.

The projected deliveries for 2015 are calculated based on the interim target water use of 103 gallons per capita per day.

Table 5 **Water Deliveries- Projected FY2015**

Water Use Sector	Metered		Unmetered		Total
	# of Accounts	Volume (af)	# of Accounts	Volume (af)	Volume
Single Family	19,153	7,040	0	0	7,040
Multi-Family	206	405	0	0	405
Commercial	797	1,257	0	0	1,257
Industrial			0	0	
Institutional/Governmental	62	198	0	0	198
Landscape (No Recycled)	215	376	0	0	376
Agriculture			0	0	
Other	137	1	0	0	1
TOTAL	**20,570**	**9,277**	**0**	**0**	**9,277**

The projected deliveries for 2020, 2025 and 2030 are calculated based on the target water use of 100 gallons per capita per day.

Table 6 **Water Deliveries- Projected FY2020**

Water Use Sector	Metered		Unmetered		Total
	# of Accounts	Volume(af)	# of Accounts	Volume (af)	Volume
Single Family	19,153	6,885	0	0	6,885
Multi-Family	206	396	0	0	396
Commercial	797	1,229	0	0	1,229
Industrial			0	0	
Institutional/Governmental	62	194	0	0	194
Landscape (No Recycled)	215	368	0	0	368
Agriculture			0	0	
Other	137	1	0	0	1
TOTAL	**20,570**	**9,073**	**0**	**0**	**9,073**

Table 7 **Water Deliveries- Projected FY2025 & FY2030**

Water Use Sector	2025		2030	
	Metered		Metered	
	# of Accounts	Volume (af)	# of Accounts	Volume (af)
Single Family	19,153	6,885	19,153	6,885
Multi-Family	206	396	206	396
Commercial	797	1,229	797	1,230
Industrial				
Institutional/Governmental	62	194	62	194
Landscape (No Recycled)	215	368	215	368
Agriculture				
Other	137	1	137	1
TOTAL	**20,570**	**9,073**	**20,570**	**9,074**

Water Demand for Low Income Households

The Lakewood Housing Element indicates that 6,605 households or 25 percent of Lakewood's households earn income 50% to 80% less than the city's median income of $58,447. According to the American Community Survey[4] approximately five percent of families considered low income reside in the Lakewood. The City of Lakewood Housing Element identifies extremely low income households as those households with an income 30 percent below the City's median family income. Forty-five percent of the 1,660 households considered extremely low income live in an owner occupied house and 55 percent rent. Using this information and calculating water use based on the population estimates in Table 2 the projected water demand for the low income population is indicated in Table 8 below. Since the estimated water demand over the next 20 years will remain very near 2010 levels, the low income demand is expected to remain fairly constant.

[4] 2005-2009 American Community Survey 5-Year Estimates Population and Housing Narrative Profile: 2005-2009 and Housing Data for City of Lakewood

Table 8 Low Income Projected Water Demands (acre feet)

Low Income Water Demands	2015	2020	2025	2030
Single Family Residential	157	157	157	157
Multi-Family Residential	193	193	193	193
TOTAL	**350**	**350**	**350**	**350**

Sales to Other Water Agencies

The City of Lakewood maintains emergency water connections with three neighboring utilities: City of Cerritos, Golden State Water Company (GSWC) and City of Long Beach. While the City has delivered water to Golden State Water Company during periods when a key treatment plant is down for service, Lakewood does not plan to sell water to any of these agencies as a reliable source of supply. In the past five years the City of Lakewood has sold 263 acre feet of water to supplement GSWC's supply while a water production facility underwent repairs. Table 9 indicates the anticipated water sales to neighboring water purveyors. Any need for nonemergency water supplies would be accomplished through the lease of water rights rather than direct delivery to another agency.

Table 9 Sales to Other Water Agencies (acre feet)

Water Distributed	2005	2010	2015	2020	2025	2030
Golden State Water Company	0	37	0	0	0	0
City of Cerritos	0	0	0	0	0	0
City of Long Beach	0	0	0	0	0	0
TOTAL	**0**	**37**	**0**	**0**	**0**	**0**

Additional Water Uses & Losses

In 2005 the City of Lakewood signed a water storage agreement with the City of Long Beach Water Department, which will remain in effect during the timeframe for this Urban Water Management Plan. Long Beach transfers water rights, via a lease agreement, to Lakewood when supplemental water is available, and Long Beach calls this water as needed. The stored water is returned to Long Beach through the emergency inter-connection between the two utilities. Long Beach pays the groundwater extraction fees and operating and maintenance costs associated with the agreement. The City of Lakewood received funds for the drilling of an additional well and the partial funding of a treatment plant to handle the additional capacity required to meet the additional demand when sending the transferred water back to Long Beach.

Long Beach can store 1,200 acre feet per year with Lakewood up to 3,600 acre feet total water, but Long Beach can only call 900 acre feet in any fiscal year. The called water received from this agreement frees Long Beach from purchasing import supplies from Metropolitan Water District of Southern California. To date Long Beach has stored 1,800 acre feet of water with Lakewood and called 900 acre feet. The call on stored water supplies is triggered by reduced imported water supplies to Long Beach. The projected water use for the next twenty years includes 900 acre feet in 2020 and 2030 of called water to satisfy the provisions in the storage agreement. However, the return of stored water back to Long Beach is solely based on MWD's supply status. It cannot be anticipated five years in advance.

All recycled water sold to customers in the City of Lakewood's service area is used for irrigation. Since weather patterns affect irrigation schedules, the contractual amount of 450 acre feet was used to project future demand. It is anticipated that actual use will vary with the weather.

The projected system loss is 171 acre feet, and is based on 2 percent of the total water deliveries. This percentage may be high. System loss varies between 1% and 2%.

Table 10 Additional Water Uses & Losses (acre feet)

Water Use	2005	2010	2015	2020	2025	2030
Saline Barrier	0	0	0	0	0	0
Groundwater Recharge	0	0	0	0	0	0
Conjunctive Use	0	900	0	900	0	900
Raw Water	0	0	0	0	0	0
Recycled Water	352	444	450	450	450	450
System Losses	209	111	171	171	171	171
Other: Test Pumping Water Well	0	12	0	0	0	0
TOTAL	**561**	**1,467**	**621**	**1,521**	**621**	**1,521**

As indicated above, the total water use for FY2010 dropped significantly due to greater than normal rainfall, cool summer temperatures, conservation and the economy. The per capita water use for FY2010 was 94 gallons per person per day. The increase in water projections for FY2015 is due to the use of a 10-year average that ends in FY2005. While the water use in this period fluctuates between 98 and 115 gallons per capita per day, the average is 105 gallons per capita per day. To meet the 20 percent by 2020 goal, the water demand must drop approximately 2 percent. Since the estimated population is not expected to change significantly after 2020, water demand is expected to remain constant.

Table 11 Total Water Use (acre feet)

Water Use	2005	2010	2015	2020	2025	2030
Total Water Deliveries Tables 3 to 7	8,660	8,048	9,277	9,073	9,073	9,074
Sales to Other Water Agencies Table 9	0	37	0	0	0	0
Additional Water Uses & Losses Table 10	561	1,467	621	1,521	621	1,521
TOTAL	**9,221**	**9,552**	**9,898**	**10,594**	**9,694**	**10,595**

Total Water Deliveries Subtract Recycled Water from Total of Actual Water Deliveries for 2005 and 2010

Import Water Demand

The Lakewood Department of Water Resources no longer relies on the direct purchase of import supplies from wholesale agencies. The last purchase of imported water through the Central Basin Municipal Water District was in April 1991. The likelihood of future direct import purchases is not anticipated. The cost of import supplies coupled with the differences in the treatment process make the use of import supplies doubtful. While the City maintains two connections to Central Basin MWD, it does not have a contract for water purchases at this time.

Table 12 **Retail Agency Water Use (acre feet)**

Wholesale	Contracted Volume	2010	2015	2020	2025	2030
Central Basin Municipal Water District	0	0	0	0	0	0
TOTAL	0	0	0	0	0	0

Baseline and Targets

Baseline Calculations

The Lakewood Department of Water Resources determined the base period for development of the 20 percent by 2020 target by examining all the potential timeframes. The City's recycled water use does not exceed 10 percent of the utilities' water demand, so the DWR used the 10-year base period. Fiscal Year 1996 to Fiscal Year 2005 (Table 14) was chosen for the calculation to meet the requirements of Section 10608.20 of the California Water Code. FY2004 through FY2008 to calculate the 5-year gross water use as established in Section 10608.22 of the Water Code (Table 15). (See Attachment 1.)

Table 13 **Base Period Ranges**

Base	Parameter	Value	Units
10- to 15-year base period	2008 total water deliveries	9,299*	acre feet
	2008 total volume of delivered recycled water	457	acre feet
	2008 recycled water as a percent of total deliveries	5	Percent
	Number of years in base period	10	Years
	Year beginning base period range	FY1996	
	Year ending base period range	FY2005	
5-year base period	Number of years in base period	5	Years
	Year beginning base period range	FY2004	
	Year ending base period range	FY2008	

*Total water deliveries for FY2008 prior to adjustment for recycled water used for replenishment.

The following is an explanation of the calculation of the baseline water use for both time periods:

- **Population Estimates.** Population estimates were developed as indicated above. The utility used U.S. Census data for FY2010 population. The U.S. Census tracts on the west side of the San Gabriel River mimic the utility's services area. DWR staff used the 2010 U.S. Census data for all of Lakewood to calculate the percentage of Lakewood's population service by the City, 74 percent. The years when U.S. Census data was unavailable the population estimates were based on 74 percent of the California Department of Finance estimates or the Southern California Area Government's projected estimates for all of Lakewood.

- **Groundwater Extractions.** Groundwater extractions were gathered for the baseline period using the Watermaster reports. Water used to develop water production wells and water sold to other water utilities were subtracted from the groundwater production to determine the volume entering the distribution system. The Lakewood DWR did not make meter error adjustments for metering at water production facilities.

The Watermaster tests the utilities' water meters every two years for accuracy, and meters beyond five percent accuracy are repaired or replaced. This testing routine made inclusion of this calculation unnecessary.

- **Purchased Water Supplies.** During FY1997 and FY1998 Lakewood purchased additional supplies from the City of Cerritos, 92 acre feet and 36 acre feet respectively. Lakewood received the water from an emergency inter-connection between the two utilities installed in 1996. The bi-directional meter was tested upon completion of the project, so the gross water calculation does not contain a meter error adjustment.

- **Change in Distribution Storage.** The net change in the distribution system storage was not included in the gross water calculation. This factor was considered insignificant.

- **Gross Water Use before Indirect Recycled Water Use.** Groundwater extractions and purchased potable water were combined.

- **Indirect Water Use Deduction.** The Water Replenishment District of Southern California (WRD) uses recycled wastewater to maintain the groundwater table. The DWR determined the five year average of recycled water used for replenishment from FY1990 (beginning July 1, 1990) to FY1995 (June 30, 1995). The Lakewood Department of Water Resources calculated its portion of recycled water used for groundwater replenishment by making the following calculations: determined the percent of total groundwater extractions attributed to Lakewood; and multiplied the five year average of recycled recharge water and Lakewood's percentage of groundwater extractions less 10 percent for in-basin loss of supply and 3 percent adjustment for unaccounted for water. The 676 million gallons was deducted from each of the years.

- **Agricultural Water Use & Process Water Use.** These water uses were not included in the gross water use calculation.

Table 14 Base Daily per Capita Water Use—10-year Range

Base Period Year		Distribution System Population	Daily System Gross Water Use	Annual Daily per Capita Water Use (gpcd)
Sequence Year	Fiscal Year			
Year 1	FY1996	56,828	6,320,718	111
Year 2	FY1997	57,275	6,576,842	115
Year 3	FY1998	57,751	5,785,266	100
Year 4	FY1999	58,371	6,012,833	103
Year 5	FY2000	58,461	6,328,749	108
Year 6	FY2001	58,715	5,963,750	102
Year 7	FY2002	60,163	6,376,047	106
Year 8	FY2003	60,804	6,201,133	102
Year 9	FY2004	61,311	6,593,798	108
Year 10	FY2005	61,478	6,032,466	98
			Base Daily Per Capita Water Use	**105**

Table 15 Base Daily per Capita Water Use—5-year Range

Base Period Year		Distribution System Population	Daily System Gross Water Use	Annual Daily per Capita Water Use (gpcd)
Sequence Year	Fiscal Year			
Year 1	FY2004	61,311	6,593,798	108
Year 2	FY2005	61,478	6,032,466	98
Year 3	FY2006	61,398	6,388,541	104
Year 4	FY2007	61,296	6,860,631	112
Year 5	FY2008	61,325	6,446,548	105
			Base Daily Per Capita Water Use	**105**

Water Use Target

City of Lakewood Target

The provisions in *Methodologies for Calculating Baseline and Compliance Urban Per Capita Water Use* establish 100 gallons per capita per day as the floor for conservation efforts. Any utility that calculates a baseline at or below 100 gallons per capita per day is not required to further reduce per capita water use. Lakewood's baseline per capita water use is 105 gallons per capita per day using the calculations for both the 5-year and 10-year range. Since the utility's baseline water use is already nearing the 100 gallons per day per capita mark, Lakewood plans to use Method 1 to determine the water use target. Method 1 is 80 percent of the water supplier's baseline per capita water use. Eight percent of 105 per capita per day is 84 gallons per capita per day. Since this is below the 100 per capita per day floor, Lakewood's 2020 target is 100 gallons per capita per day. The interim goal is the midpoint, 103 gallons per capita per day.

Regional Alliance Target

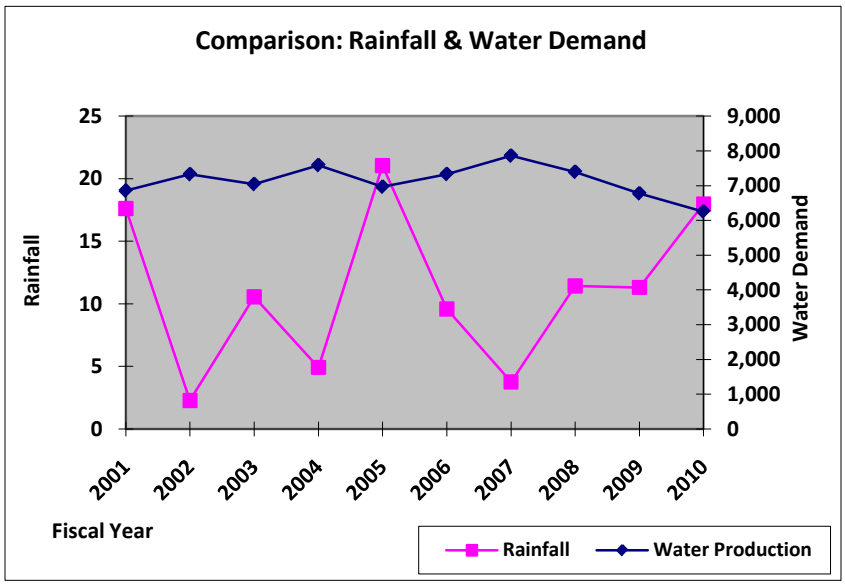
The Water Conservation Act of 2009 also allows water purveyors to meet the 20 percent by 2020 goal through a regional alliance, such as a wholesale supplier, a regional water management group, a hydrologic region or an integrated regional water management funding area. The members of the Los Angeles Gateway Region Integrated Regional Management Joint Powers Authority, an integrated water management funding area, have formed an alliance to comply with the provisions in the Water Conservation Act of 2009. Upon consideration and approval of the Letter of Agreement by the Lakewood City Council on May 24, 2011, the Lakewood Department of Water Resources became a member of this alliance.

The Gateway Authority hired GEI Consultants to gather population information and historic water demand to establish a regional baseline for the Gateway cities. GEI recommended using methodology #9 option #1 (M1 and M3), which establishes a base line of 114.6 gallons per capita per day. The proposed regional target for 2015 and 2020 is 109.4 and 104.2 gallons per capita per day respectively. The Los Angeles Gateway Region Integrated Regional Management Joint Powers Authority Board of Directors held a public hearing on May 12, 2011 to gather testimony, and reviewed the final report and adopted the target goals at the June 9, 2011 Board of Directors meeting. The 20x2020 Regional Alliance Target/Report is included in Attachment 1.

Both the City's 2020 target and the regional alliance target will be reviewed during the 2015 Urban Water Management Plan Update. At this time the methodology will be analyzed to determine if the option chosen best meets the needs of Lakewood and the Los Angeles Gateway Region Integrated Regional Management Joint Powers Authority.

Water Use Reduction Plan

Since Lakewood is primarily a residential community and most water use is outside the home for landscape irrigation, the Lakewood Department of Water Resources will target this type of water use to meet the per capita water use goal of 100 gallons per person per day. As the following chart illustrates, in the last ten years the water demand decreases as rainfall increases.



Reducing Residential Demand

In fall 2010 the City Council approved the implementation of two programs aimed to increase the effectiveness of water use for landscape irrigation of single family residential water customers. The program provides residential customers with rebates for the installation of water conserving irrigation devices and the removal of high water use turf areas. The rebate program was launched in February 2011, and submittal of rebate applications began May 1, 2011. The City Council allocated $25,000 for FY2011 and staff has requested continuation of the same funding level for FY2012.

Single family residential customers in Lakewood's service area can purchase and install a variety of water conserving devices including:

- Retrofit or installation of rotor nozzle/sprinkler heads
- Installation of weather based irrigation controllers
- Installation of irrigation controllers equipped with rain sensors or moisture sensors

- Installation of rain sensors or moisture sensors on existing irrigation controllers
- Installation or retrofit of irrigation system with drip irrigation kits
- Installation of hose end timers

The turf removal rebate program pays $1.00 per square foot of turf removed and replaced with drought tolerant plants, water conserving irrigation and a water permeable ground cover such as rock, bark or pavers. The project must be a minimum of 40 square feet and up to 80 square feet is eligible for the rebate. Unlike the device rebate the turf removal program, requires the submittal of a pre-application and a landscape plan for the proposed project. Once approval is received the resident has 60 days to complete the project. The water customer must commit to keeping the area turf free for five years to receive the rebate. Residents can link this rebate program with the device rebate offerings for a maximum rebate amount of $195.00. All rebates are awarded as a credit on the water bill. See Attachment 2 for the details in the water conservation device and turf removal rebate programs.

The Water Resources Department estimates the annual cost savings for a typical Lakewood home between $40 and $65. This assumes that a resident would retrofit the existing irrigation system with rotor sprinkler heads. The water savings are estimated at 14,000 to 20,000 gallons a year. A home with four occupants that reduces outdoor water use as predicted would save 9.5 to 13.7 gallons per person per day.

Reducing Commercial Water Demand

The Lakewood City Council adopted revisions to the Water Conservation in Landscaping Ordinance in 2009. These revisions require planned developments with a landscaped area greater than or equal to 2,500 square feet to submit a landscape plan that indicates the water budget, plant type and estimated water use. The landscape irrigation system must meet or better an average landscape irrigation efficiency of 0.71. The plan is reviewed and approved by the City of Lakewood Community Development Department. Upon completion of the approved landscape installation, the developer must submit an as built landscape plan prior to final approval of construction permits. Though Lakewood's water utility service is considered built out, redevelopment of commercial areas continues.

Since 2005, 29 projects have met the size provisions established in the Water Conservation in Landscape Ordinance. Though it is impossible to determine water savings through the provisions in this ordinance from future commercial projects, the installation and proper maintenance of low water use plant material and efficient irrigation systems, coupled with a water meter dedicated to irrigation use, will make it possible to monitor water use and ensure the compliance to the City's water conservation measures.

Section 4: System Supplies Water Sources

The City of Lakewood maintains four sources of water supply to meet customer demand: groundwater, imported surface water, recycled wastewater and emergency interconnections with other water retailers.

The City projects that the groundwater rights and allowable carry over currently owned by the utility will meet water demand during normal water supply periods for the 20-year planning period. Table 16 indicates FY2010 water production and projected water production for the City of Lakewood. As indicated, the groundwater and recycled supplies are expected to handle all projected use through 2030. The projections assume no expansion of the City's recycled water distribution system or the addition of recycled water customers. Table 16 estimates projected water production; based solely on water rights allocation, water storage program storage/extraction obligations and the recycled water contract with the City of Cerritos. The supplier produced groundwater includes the annual extraction allocation of 9,432 acre feet and 1,886 acre feet of maximum annual carryover. The carryover portion includes the water stored for the agreement with the Long Beach Water Department. This amount was not placed under water exchange in Table 16 due to two factors: the Central Groundwater Basin Judgment only allows a 20 percent carryover to the next fiscal year (unless a water supply emergency is declared) and the fluctuation of water stored and called through the execution of the water storage agreement cannot be accurately predicted.

Table 16 Water Supplies-- Current and Projected (Acre Feet)

Water Supply Sources		**2010**	**2015**	**2020**	**2025**	**2030**
Water Purchased from:	***Wholesaler Supplied Volume (yes/no)***					
CBMWD	Yes	0	0	0	0	0
Supplier produced groundwater		9,108	11,318	11,318	11,307	11,318
Supplier produced surface water		0	0	0	0	0
Transfers in						
Exchanges (Included in groundwater production)						
Recycled Water		444	450	450	450	450
Desalinated Water		0	0	0	0	0
Other		0	0	0	0	0
TOTAL		**9,552**	**11,768**	**11,768**	**11,768**	**11,768**

Import Water Supplies

Prior to 1991, the department met peak demand for potable water supply with imported water from Metropolitan Water District of Southern California (MWD). The City purchased this supply through one of two Central Basin Municipal Water District (CBMWD) connections. Each connection can supply water at a rate of 15 cubic feet per second. This supply is currently the most expensive of available sources of supply. CBMWD charges water purveyors $811 an acre foot for treated water.

Any need to return to purchasing MWD supplies would require significant operational changes. The City can, however, purchase limited additional supplies from the City of

Cerritos or Golden State Water Company through two emergency inter-connections.

Table 17 Wholesale Supplies—Existing and Planned Sources of Water

Wholesale Source	Contracted Volume	2015	2020	2025	2030
Central Basin Municipal Water District	0	0	0	0	0

Groundwater

The City currently relies on groundwater for 100 percent of its potable water supply. The installation of the recycled water distribution system in 1989 freed the City from dependence on supplementary import water from Metropolitan Water District of Southern California purchased through the Central Basin Municipal Water District.

Central Groundwater Basin

The City draws its supply from the Central Groundwater Basin. This source annually supplies approximately 200,000 acre feet of potable water to the area south of the Whittier Narrows to the Pacific Ocean and from the Orange County line to the city of Compton. The Central Groundwater Basin covers 277 square miles. According to *California's Groundwater Bulletin 118*, the basin's geologic boundaries are:

> Bounded on the north by a surface divide called the La Brea high, and on the northeast by emergent less permeable Tertiary rocks of the Elysian, Repetto, Merced and Puente Hills. The southeast boundary between Central Basin and Orange County Groundwater Basin roughly follows Coyote Creek, which is a regional drainage province boundary. The southwest boundary is formed by the Newport Inglewood fault system and the associated folded rocks of the Newport Inglewood uplift.[5]

The physical characteristics of the Los Angeles Forebay, located at the Los Angeles River, and the Montebello Forebay, located at the Whittier Narrows, allow for the recharge of the Central Groundwater Basin. According to *California's Groundwater Bulletin 118*, these areas "have unconfined groundwater conditions and relatively interconnected aquifers that extend up to 1,600 feet deep…."[6] The Central Groundwater Basin consists of seven aquifers and aquicludes. The main freshwater bearing aquifers are the Gaspur, Gage, Gardena, Silverado, Lynwood and Sunnyside aquifers.

[5] California's Groundwater Bulletin 118, February 27, 2004.
[6] California's Groundwater Bulletin 118, February 27, 2004.

Central Groundwater Basin Water Bearing Zones[7]

Aquifer/ Aquiclude	Age	Formation	Lithology	Maximum Thickness (feet)
Gaspur	Holocene		Coarse sand, gravel	120
Semiperched	Holocene		Sand, gravel	60
Bellflower	Pleistocene	Lakewood Formation	Clay, sandy clay	140
Gardena	Pleistocene	Lakewood Formation	Sand, gravel	160
Gage			Sand	120
Silverado	Lower Pleistocene	San Pedro Formation	Sandy gravel	300
Lynwood			Coarse sand and gravel	150
Sunnyside				350

Groundwater Management Program

The Water Replenishment District of Southern California manages the Central and West Coast Groundwater Basins. Maintenance of the basin and the groundwater pumping allocation requires recharging; accomplished through facilities operated by the Los Angeles County Department of Public Works. The groundwater basin is replenished with three sources of water: import supplies from Metropolitan Water District of Southern California (MWD), local supplies from storm flows and allocations from the Upper San Gabriel Groundwater Basin, and recycled wastewater from the Sanitation Districts of Los Angeles County. The Water Replenishment District of Southern California (WRD) purchases import supplies and recycled wastewater for groundwater replenishment. The WRD also purchases import and recycled supplies to maintain seawater intrusion barriers.

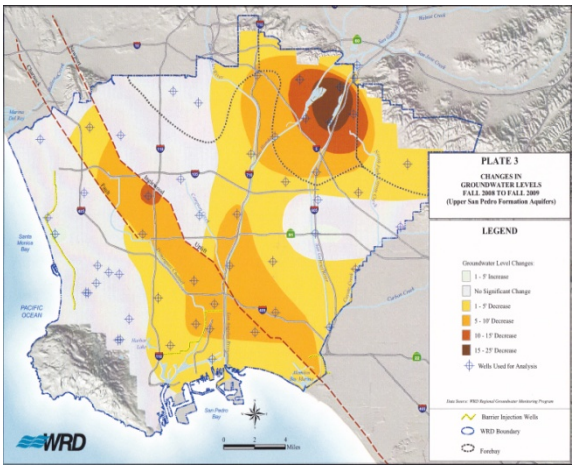
The table below indicates the historical recharge in the Central Groundwater Basin. The WRD optimizes the use of local and recycled water supplies to replenish the basin. As the table indicates the amount of water used for groundwater recharge has dropped from 203,473 acre feet in 2005 to 74,959 acre feet in 2009. This is due to the loss of import supplies from MWD. Attachment 3 is a table with the Central Groundwater Basin's historical groundwater recharge.

Until recently, the WRD offered groundwater producers a program that traded reduced import water supply costs in exchange for setting aside the annual groundwater pumping rights to remain in the ground. The bottom row of the table provides an historical prospective of groundwater recharge that occurred through the in lieu program.

[7] California's Groundwater Bulletin 118, February 27, 2004.

Historical Groundwater Recharge in the Central Groundwater Basin (acre feet)[8]

Type of Supply	*1990*	*1995*	*2000*	*2005*	*2009*
Import Water	52,700	21,837	45,037	25,296	0
Recycled Wastewater	50,109	33,300	43,271	29,504	39,611
Local Water	9,388	100,578	20,607	148,673	35,348
Makeup Water	13,600	0	0	0	0
TOTAL	**125,797**	**155,715**	**108,915**	**203,473**	**74,959**
Groundwater Recharge Through In Lieu Program	29,151	50,898	22,278	7,804	0



According the WRD, the groundwater levels have dropped over 15 feet due to the recent drought and the lack of MWD supplies for groundwater replenishment. A drop in the pumping levels has the potential for decreasing the accessibility of the groundwater. Producers are experiencing a 1 foot to 10 foot drop in water levels in Lakewood's service area. (See the adjacent map.)

Map to Right: Water Replenishment District of Southern California Engineering Survey and Report, May 11, 2010, Plate 3

Central Basin Adjudication

The Central Groundwater Basin became an adjudicated basin in 1966. See Attachment 4. The Los Angeles County Superior Court oversees the adjudication and the California Department of Water Resources serves as the court appointed Watermaster. The Court established groundwater pumping rights at the time of adjudication, and the total allowable extractions from the basin in a given year are 217,367 acre feet. Groundwater producers may also carry over up to 20 percent of the allowable pumping rights to the next fiscal year. The judgment also allows for the declaration of a water supply emergency as a means to maintain pumping levels in the groundwater basin. In fall 2010 the Water Replenishment District declared a water supply emergency, which allows pumpers to carryover an additional 35 percent of water extraction rights. The emergency declaration will remain in effect until June 30, 2011. The Cities of Downey, Cerritos, Signal Hill, and Central Basin Municipal Water District sued against implementation of drought carry over action.

Lakewood is a part of a group of pumpers seeking changes in the Central Basin Judgment. This group is seeking provisions that would allow groundwater producers to store water in the unused portion of the groundwater basin. The following are the key elements of the proposed groundwater storage plan framework:

- Establishes available storage in the Central and West Coast Groundwater Basins at 450,000 acre feet, of which 330,000 acre feet is available in Central Basin.

[8] *Water Replenishment District of Southern California Engineering Survey and Report 2010, Updated May 11, 2010*, Historical Amounts of Water for Replenishment A-4.

- Allows for the establishment of an Individual Storage Account for each water rights holder, and a Community Storage Pool Account.
- Allows the storage of water without replenishment fees or approvals.
- Increases the allowable carryover of unused water rights in a fiscal year from 20 percent to 100 percent, up to 20 percent to be placed into an Individual Storage Account and the remainder stored in the Community Storage Pool Account (stored on a first come first serve basis).
- Allows parties the ability to cumulatively store up to 200 percent of the party's annual extraction rights in Individual and Community Storage Pool Accounts.
- Provides for the extraction of stored water without fee or tax and reserves the space from that extracted water if replaced within 24 months.
- Provides a leave behind requirement for water stored over 10 years; 5 percent loss of stored water per year based on the lowest quantity held in storage during the 10 year period.
- Reaffirms the Water Replenishment District of Southern California's function as administrator of storage in the West Coast and Central Groundwater Basins with authority shared with a panel elected by water rights holders.
- Outlines the use of the Los Angeles County Department of Public Works spreading grounds for individual storage projects.
- Establishes guidelines for development of Water Rights Augmentation Projects, projects that require substantial capital costs to implement, and Regional Storage Projects that provide storage of water for beneficial use to parties within the basin through contracts with entities outside the region.
- Establishes guidelines for inter-basin transfer of stored water between the West Cost and Central Basins.
- Requires designated projects, i.e. Regional Water Projects, Water Augmentation Projects, extractions over 120 percent of extraction rights, and non-carryover conversion water storage projects, to be reviewed and approved. One or both Water Rights Panels and the WRD Board of Directors shall approve these projects by majority vote of each body.
- Removes the California Department of Water Resources as Watermaster and grants WRD Watermaster duties over administration and grants the pumpers' water rights panel responsibility over water rights.

The groundwater storage amendment to the Central Basin Judgment is currently pending legal decision by the Court.

Lakewood's Groundwater Production

The City of Lakewood owns 9,432 acre feet of groundwater rights in the Central Groundwater Basin. Table 18 contains the annual groundwater production for the City. The eleven groundwater production wells extract enough water to meet average and peak demand. The recycled water supply makes up the remainder of the City's total water supply. The map below generally locates all of the City's water production wells.

In FY2010 Lakewood pumped 9,108 acre feet of water, and carried over 1,836 acre feet to FY2011. Nine hundred acre feet of groundwater produced in FY2010 were transferred to Long Beach as a part of the conjunctive use program between Long Beach and Lakewood. An additional 900 acre feet of Lakewood's carryover water rights remain stored for future use by the Long Beach Water Department.

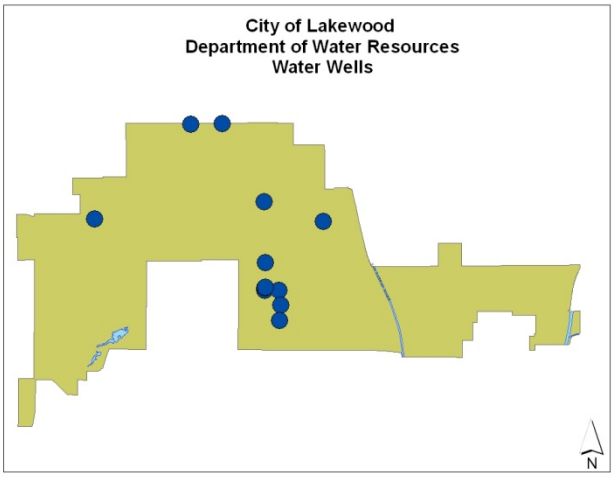


Table 18 **Groundwater Volume Pumped (acre feet)**

Groundwater Basin	Metered or Unmetered	FY2006	FY2007	FY2008	FY2009	FY2010
Central Groundwater Basin	Metered	9,234	9,965	9,472	8,679	9,108
Groundwater as a percent of total water supply[1]		100%	100%	100%	100%	100%

[1] Percent based on potable water supply.

Though the water levels in the Central Groundwater Basin have dropped over the last several years, with the exception of lowering the pump at Well #2A by 40 feet, Lakewood's production has not been directly impacted, nor has the water quality been affected. The raw water at all but one water production well meets all current state and federal drinking water standards. Only the supply from Well #27 requires treatment prior to entering the distribution system.

Lakewood expects to remain solely dependent on groundwater to meet potable water demands for the next 20 years. Table 19 indicates the projected groundwater extractions for FY2015, FY2020, FY2025 and FY2030. The estimates for FY2020 and 2030 include a call of 900 acre feet by the City of Long Beach. In order for this to occur, Long Beach would have to transfer a minimum of 900 acre feet to Lakewood.

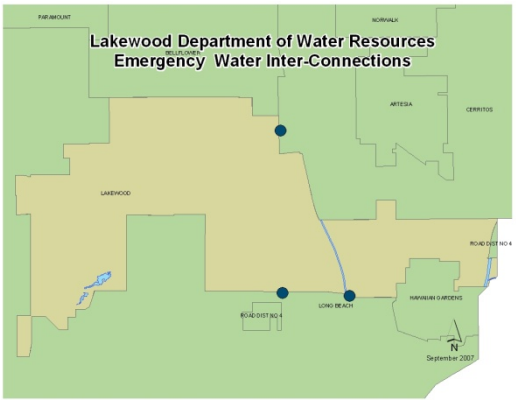
Table 19 **Groundwater—Volume to Be Pumped (acre feet)**

Groundwater Basin	2015	2020	2025	2030
Central Groundwater Basin	9,448	10,144	9,244	10,145
Percent of Total Water Supply[1]	100%	100%	100%	100%

[1] Percent based on potable water supply.

Transfer or Exchange Opportunities

The City of Lakewood currently maintains three emergency water supply inter-connections with adjacent water purveyors, the Cities of Cerritos and Long Beach, and Golden State Water Company. The existing Long Beach connection operates manually while the Cerritos and Golden State Water Company connections operate with an automatic bi-directional flow valve.



These connections have the potential for transfer or exchange of water supply during water shortages associated with water quality problems, disaster, drought and system maintenance. Each connection can provide up to 5,000 gallons per minute. All water that passes through any metered emergency interconnection is charged at the current rate charged by Metropolitan Water District of Southern California for non-interruptible water. The map to the left locates the emergency interconnections.

While Lakewood has the facilities to move water to and from neighboring utilities, and the ability to lease in/out access water rights to other utilities in the Central Basin, the likelihood of any projects that could augment the City's water supply is limited without revisions to the Central Basin Judgment. The increase in flexibility to store access water and participate in regional projects that could increase the reliability cannot take place unless the Court determines that this is a proper use of the groundwater basin. Lakewood has no plans to engage in additional transfer/exchange programs other than the existing agreement with the Long Beach Water Department.

Table 20 **Transfer and Exchange Opportunities**

Transfer Agency	Transfer or Exchange	Short Term or Long Term	Proposed Volume
None Planned in the Urban Water Management Planning Horizon	0	0	0
Total	0	0	0

Development of Desalinated Water

The City of Lakewood Department of Water Resources currently has no plans for the use of desalinated water to meet water supply demands. In September 2005 the Long Beach Water Department launched a demonstration and research project for the Long Beach Seawater Desalination Prototype Facility at the LADWP Haynes Generation Station in Long Beach. This facility served as a laboratory for refining desalination technology. This plant was located within a reasonable distance to Lakewood and could have provided a future water source for Lakewood. At this point the best and most economical desalter plants produce fresh water at about $1,302 per acre foot. The desalination process is very energy intensive; a one percent change in electrical power cost results in a $50/AF change in finished water cost. A project of this nature would require a regional approach to finance, construct and operate.

Recycled Water Opportunities

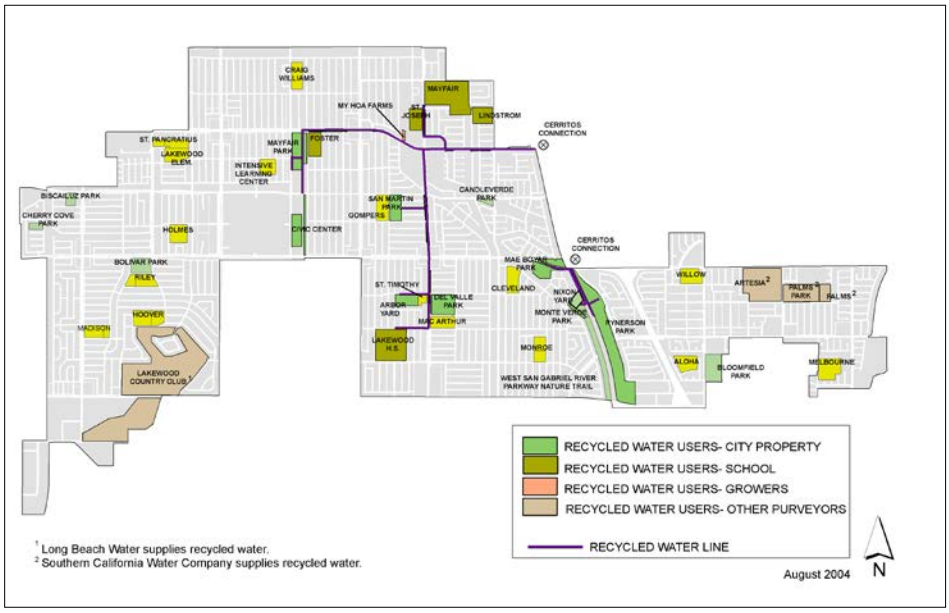
Southern California uses recycled water to meet water demands including landscape/agricultural irrigation, groundwater recharge, and industrial/commercial applications. Lakewood has operated a recycled water system since 1989. The table below indicates the agencies involved in the development of Lakewood's recycled water system.

Participating Agencies for Operation of Lakewood Recycled Water System

Type of Agency	*Agency*	*Role in Plan Development*
Water Agencies	City of Lakewood	Construction and Delivery of Recycled Water to the Community
	City of Cerritos	Maintains Pump Facility, Sells Recycled Water to Lakewood via Metered Connections
	Metropolitan Water District of Southern California	Incentive Program to Promote Recycled Water Use
	Central Basin Municipal Water District	Incentive Program to Promote Recycled Water Use (MWD Program Implemented through CBMWD)
Wastewater Agencies	Sanitation Districts of Los Angeles County	Treated Wastewater Supplier
Planning Agencies	California Department of Water Resources	Funding- Low Cost Loan for Construction of Recycled Water System

Over the past 20 years, the City of Lakewood has reduced its reliance on potable water by 8,787 acre feet or an average of 439 acre feet each year through the use of recycled water. The City's six mile recycled water distribution system connects to the Sanitation Districts of Los Angeles County's Los Coyotes Reclamation Plant through the City of Cerritos' recycled water production and distribution system. Cerritos operates a pump station at the reclamation plant, which can produce up to 12,000 GPM. The City of Lakewood maintains two metered service connections with the City of Cerritos. The map below identifies the recycled water connections to the Cerritos system, and the current recycled water customers.

City of Lakewood Recycled Water System



Wastewater Quantity, Quality and Current Uses

The Sanitation Districts of Los Angeles County maintain wastewater treatment plants in

the region. The Long Beach Water Reclamation Plant (WRP), 7400 E. Willow St., Long Beach, processes wastewater generated from Lakewood. The WRP's was designed to process 25 million gallons of wastewater a day. The average flow is currently 19 million gallons a day. Lakewood generates approximately 7.1 million gallons a day of wastewater.

The city of Lakewood receives its recycled water supply from the Sanitation Districts of Los Angeles County Los Coyotes Water Reclamation Plant. The plant influent averages 21.5 MGD of which 2.8 MGD is reused. The plant has the capacity to handle peak demand of 37.5 MGD. The Sanitation Districts of Los Angeles County has no plans for the expansion of the Los Coyotes Water Reclamation Plant. During the next several years the Districts is investigating projects (feasibility studies and pre design work) that would equalize the flow of the plants. While the size of the plant would remain the same the operational flexibility would improve. According the Sanitation staff, the San Jose Creek Water Reclamation Plant would be the first to be analyzed.

Table 21 Recycled Water-- Wastewater Collected & Treated (MG/Day)*

	2010	2015	2020	2025	2030
Wastewater Collected & Treated in Service Area	21.5	25.5	29.5	33.5	37.5
Volume Meeting Recycled Water Standard	21.5	25.5	29.5	33.5	37.5
Volume Reused	2.8	3.9	11.4	11.6	12.8

*Sanitation Districts of Los Angeles County Los Coyotes Reclamation Plant

Regionally, the potential for recycled wastewater use is greater than current use. In 2010, an average of 18.7 million gallons of treated wastewater escapes into the ocean every day, which could be beneficially reused. At the Los Coyotes Water Reclamation Plant, recycled water use limits are based on the pumping capacity and the timing of demand. Current recycled water demands are between 10:00 PM and 6:00 AM, which is when recycled water availability is the lowest. Cerritos upgraded the recycled pumps with variable frequency controllers used to distribute recycled wastewater to Bellflower, Cerritos, Lakewood and Central Basin Municipal Water District during 2006. The project increased reliability and energy efficiency, but not capacity.

Central Basin Municipal Water District (CBMWD) plans to construct the Montebello Loop, which would connect the recycled water distribution system served by the Los Coyotes Water Reclamation Plant with the water distribution system served by San Jose Creek plant. The inter connection of these systems will increase the District's flexibility, taking more water from San Jose Creek Water Reclamation Plant. This operational change could free pumping capacity at the Los Coyotes plant. This additional volume could be distributed from the Los Coyotes plant for direct customer reuse. The construction of a pipeline between Lakewood and Long Beach recycled water systems could transport the additional water available from the Los Coyotes plant to the Van Der Lans plant located in Long Beach for injection into the seawater intrusion barrier. Currently the Van Der Lans plant production relies on recycled water for 50 percent of its injection needs.

Table 22 Disposal of Non-Recycled Wastewater (AF/Year)

Disposal	Treatment Level	2010	2015	2020	2025	2030
To Ocean	Tertiary	18.7	21.6	18.1	21.9	24.7

Lakewood's Current Recycled Water Uses

The City currently maintains 41 service connections to the recycled water distribution system. Currently all recycled water is used for irrigation. Due to the residential/commercial composition of the community, the City expects all recycled use to remain for irrigation only. Five schools, City Hall and two City-owned maintenance yards, six parks and almost nine acres of parkway use recycled water for landscape irrigation. The City maintains one service connection with a commercial grower that uses this supply to maintain inventory. Since this water supply is used solely for irrigation, the demand is based on the weather. In hot dry years recycled water demand meets the projected demand of 450 acre feet. Wet years reduce recycled water demand. Table 23 breaks down the past and potential recycled water use by type.

Table 23 Recycled Water—Past & Potential Future Use (AF /Year)

User Type	Description	Feasibility	2005	2010	2015	2020	2025	2030
Agricultural Irrigation								
Landscape Irrigation	Park, school & traffic medians	Expansion Unlikely	352	444	450	450	450	450
Commercial Irrigation								
Golf Course Irrigation								
Wildlife Habitat								
Wetlands								
Industrial Reuse								
Groundwater Recharge								
Seawater Barrier								
Geothermal/Energy								
Indirect Potable Reuse								
		TOTAL	**352**	**444**	**450**	**450**	**450**	**450**

Table 24 compares the recycled water use projected for FY2010 in the 2005 Urban Water Management Plan by customer type. The actual use was slightly lower than the projected target of 450 acre feet. This may be due in part to the almost 18 inches of rain received during FY2010.

Table 24 Recycled Water Use—2005 UWMP Use Projection vs. 2010 Actual (AF/Year)

Type of Customer	FY2010 Actual Use	2005 Projection for FY2010
Agricultural Irrigation		
Landscape Irrigation	444	450
Commercial Irrigation		
Golf Course Irrigation		
Wildlife Habitat		
Wetlands		
Industrial Reuse		
Groundwater Recharge		
Seawater Barrier		
Geothermal/Energy		
Indirect Potable Reuse		
TOTAL	**444**	**450**

Recycled Water Incentives

The City's main incentive to encourage recycled water use is the difference in the quantity charge between recycled and potable water. Lakewood's recycled water quantitative rate

is significantly lower than the quantitative charge for potable water. Currently the recycled rate is $1.02 per hundred cubic feet compared to the potable rate of $2.17 per hundred cubic feet. Initially, the City provided financial assistance to the local school districts when connecting to the recycled water system. The City assisted in the installation of required backflow prevention devices to protect the public water supply. The City does not anticipate providing further incentives to encourage connection to the recycled water system due to the current differential in the quantitative charges between potable and recycled water.

The City can maintain the cost differential between recycled water charges and potable water charges due to an incentive program instituted by MWD. Lakewood receives a $154 per acre foot rebate for up to 450 acre feet of recycled water used through MWD's Local Projects Program (LPP). MWD engages in this type of incentive program to reduce the reliance on import water supplies. The contract between Lakewood and MWD expires in 2014; seven years beyond the repayment of the low interest loan from the State of California used to fund the construction of the distribution system.

The City of Lakewood's existing recycled water distribution system is essentially built out. The landscape areas along the existing system are not large enough to entice additional users. The potential for additional customers requires an extension of the system's pipeline. Therefore, as Table 25 indicates, Lakewood has no plans to market the recycled system during this Urban Water Management Plan planning horizon.

Table 25 Methods to Encourage Recycled Water Use (AF/Year)

Actions	Projected Results				
	2010	2015	2020	2025	2030
Financial					
Name of Action					
Name of Action					
TOTAL	0	0	0	0	0

Recycled Water System Expansion

The City of Lakewood examined potential expansion of the recycled water system. In fall 2009 the City contracted with Willdan Associates for the completion of a feasibility study regarding the expansion of the recycled water system. (Attachment 5 contains the complete study.) The study estimates build out of the recycled water system would result in approximately 608 acre feet sold annually; 159 acre feet of potential recycled water use. All potential uses are for landscape irrigation including: 8 large irrigation sites (parks and schools), and 49 metered parkways and traffic medians. The complete build out of the recycled water system would require the installation of an additional 40,700 linear feet of recycled pipeline. The cost of pipeline installation and service connections is estimated at $7,250,700. Currently Lakewood does not have the funds to construct this project. The large cost factor and the small incremental increase in the use of recycled water does not make this project economically feasible at this time. Grant funds would have to be made available to the city to proceed with the expansion project.

An additional factor that could influence the recycled expansion is Cerritos' ability to

provide additional recycled water. Cerritos personnel indicated that the existing system could meet Lakewood's additional recycled water needs. According to Cerritos staff the pumping facility and annual recycled water use could absorb an additional 159 acre feet of production.

Future Water Projects

The City of Lakewood's existing water production facilities are capable of producing groundwater supplies in normal, single dry and multiple dry years. The City's well field continues to age. Since the 2005 Urban Water Management Plan Update, four water wells have been taken out of service and properly destroyed. The volume of water produced in these wells dropped significantly as each of these wells reached the end of useful life. The City drilled two replacement wells, each producing approximately 2,500 gallons per minute. The City plans to drill and equip an additional well prior to the 2015 Urban Water Management Plan. Project design is expected to begin in FY2013, drilling and equipping completed by FY2015. The new well is expected to produce approximately 1,300 acre feet of the total groundwater extracted a year. The construction of a new well does not change the amount available for extraction. See Table 26 below.

Table 26 Future Water Supply Projects (Acre Feet per Year)

Project Name	Projected Start Date	Projected Completion Date	Potential Project Constraints	Normal Year Supply	Single Dry Year Supply	Multiple Dry Year First Year Supply	Multiple Dry Year Second Year Supply	Multiple Dry Year Third Year Supply
New Well	FY2013	FY2015	None	1,300	1,300	1,300	1,300	1,300
			TOTAL	**1,300**	**1,300**	**1,300**	**1,300**	**1,300**

SECTION 5: Reliability of Supply and Water Shortage Contingency Planning

Water Supply Reliability

The City expects the availability of groundwater supplies to remain constant over the next 20 years in this managed basin. The supply estimates are based on the annual allowable pumping rights and carryover from the previous year, which includes the water stored in the agreement with Long Beach Water Department. A severe single dry year or several consecutive dry years would not impact the City's ability to meet water demand.

Prolonged drought, more than multiple dry years, could result in a water supply shortfall. The City's ability to maintain reliable water supplies hinges on the maintenance of the groundwater basin. The Los Angeles County Department of Public Works operates two spreading grounds in the Central Basin: Rio Hondo and San Gabriel River. The ability to "stockpile" water during wet years increases the reliability in dry years.

A prolonged drought without recharge of the groundwater table could eventually lower the groundwater table and impact the ability to pump water from the basin. A significant drop in the groundwater table could mean the loss in groundwater production wells and additional seawater intrusion into the basin. The City estimates that a 50 percent loss in the groundwater supply would have to occur to affect the City's water production. If the drought lasted more than several years and no groundwater recharge occurred for at least two years, the City could lose two or three production facilities; that is the groundwater table would drop to a level that the water bearing strata would lay below the well perforations. In such situations the Watermaster could reduce the amount of allowed pumping allocation by local groundwater producers.

The Department of Water Resources can manage localized water supply shortages in several ways—leasing groundwater rights from other basin producers or purchasing water through Cerritos or Golden State Water Company emergency interconnections. These alternatives increase the cost of water production, but serve to meet the "short term gap" between demand and supply. For example, any water exchanged through the emergency interconnection is charged at the current rate for imported water from MWD. Though there are no additional costs associated with this water supply, MWD supplies cost approximately $811 per acre foot, over $400 per acre foot more than groundwater supplies.

Groundwater leasing remains a viable source of supply as long as the City's production facilities operate at existing levels. The cost of leasing groundwater rights fluctuates from year to year. The current rate is less than $120 an acre foot. The City allocates funds annually for the purchase or lease of groundwater extraction rights.

Changes in the Central Groundwater Basin Judgment could also allow greater flexibility to the groundwater producer. The utility's ability to store carryover water in excess of the current allowance of 20 percent would allow for banking water during wet years and

extractions during periods of drought without harming the overall operation of the basin. This proposed change is currently being challenged in the Court.

The long-term solution to water supply reliability lies in the ability to develop methods to reduce the amount of import water used for groundwater recharge. The Water Replenishment District of Southern California is looking at advanced treatment of wastewater to increase the amount of recycled water used for groundwater recharge.

Inconsistent Water Sources

The City does not rely on any inconsistent sources of potable water supply. The Court apportionment of water rights, which is managed by the Watermaster established property rights to the underground water resource. The Watermaster can call for a cessation of pumping, but prolonged drought and basin mismanagement would need to occur to lose this water supply.

Table 29 Factors Resulting in Inconsistent Supply

Water Supply Sources	Specify Source Name, If Any	Limitation Quantification	Legal	Environmental	Water Quality	Climatic	Additional Information
Groundwater		0	0	0	0	0	

Water Shortage Contingency Plan

Preparation for Catastrophic Water Supply Interruption

In 2003 the Lakewood Department of Water Resources prepared a vulnerability risk assessment for the U.S. Environmental Protection Agency in response to the amendments to the Safe Drinking Water Act. The assessment examined each water production facility for possible vulnerability associated with a variety of manmade and natural disasters. The department's emergency response procedures were updated based on the study's findings. The study contains highly sensitive information, and is therefore not available to the public.

Over the past twenty years the water utility has prepared for a catastrophic water supply interruption, including the purchase of emergency generators, installation of security measures, seismic retrofit of water storage facilities, development of communication systems and plans for emergency response. These emergency operations procedures are updated annually, and water personnel are routinely trained on emergency response procedures. Attachment 6 is an excerpt from the Lakewood Water Resources Departmental Emergency Operations Procedures Public Notification Plan. The department's emergency response plan outlines procedures for the following:

- Assessing water production and distribution facilities
- Implementing plans for breeches in water quality
- Distributing water to the community
- Repairing damage to the water system

In addition to planning for disasters, the Lakewood City Council has addressed mechanisms to implement and enforce water conservation measures.

Regional Power Outage

The Lakewood Department of Water Resources maintains three portable emergency generators and three stationary emergency generators to run the booster pumps at the water storage facilities. The portable generators can connect to eight different water wells, which provide the utility with significant flexibility. The electrical panels are identically wired for rapid installation and conversion to the portable generators. The stationary generators at the water storage facilities start automatically at the loss of electrical power. All emergency generators operate using diesel fuel. The City maintains a supply of diesel fuel at one of the City's maintenance yards. All generators are routinely run and tested under load. Testing and routine running allows for rotation of fuel. In 2008 the City installed a solar array on the roof of a 5.5 million gallon water tank at the Arbor Maintenance Yard. This solar array is connected to one of the boosters at Plant #4, and operates off the grid during partly cloudy and sunny days. The excess energy produced flows through a bi-directional meter to other Southern California Edison customers.

Earthquake

Since the mid-1990s the water utility has retrofitted water storage tanks to increase reliability during seismic activity. The interior structure of seven welded steel tanks contains reinforced framing to withstand significant ground shaking. The floor tank overflow drains were modified so that the pipe no longer penetrates the floor, which reduces the potential tearing in the event of storage tank movement. Additionally, each inlet and outlet has been retrofitted with flexible couplings that move with an earthquake. The utility maintains 11 water wells, which provide redundancy during emergency situations. The looped transmission lines can deliver water to all parts of the service area. The Emergency Operations Plan includes detailed checklist to determine the operational status of every water production facility, mechanisms to evaluate breaks in the water lines, and methods for addressing water quality issues.

Flooding

The Department of Water Resources service area is located in the Federal Emergency Management Agency's (FEMA) Flood Zone X. According to FEMA areas designated Zone X "are areas of moderate or minimal flood hazard." [9] Residents and businesses in this area are not required to purchase flood insurance.

Stages of Action

The water conservation plan contains six phases of action based on water supply conditions: voluntary phase, which remains in effect during normal supply conditions, to Phase 5 for shortages up to 50 percent. Table 35 places the shortages into stages and

[9] Federal Emergency Management Agency Letter if Map Revision (LOMR) to City of Lakewood January 11, 2002.

outlines the conditions for declaration of each stage. The Lakewood City Council can declare a water supply emergency by holding a public hearing and adopting a resolution. The resolution indicates the reason for the water supply emergency and the phase to be implemented. Attachment 7 is a sample of a resolution declaring a water supply emergency.

Table 35 Water Shortage Contingency- Rationing Stages to Address Water Supply Shortages

Rationing Stage	Water Supply Condition	% Shortage
Voluntary Phase	Normal Supply Conditions	<10%
Phase 1	Declaration of Drought by State or Regional Agency Calling 10% Reduction	10%>
Phase 2	Declaration of Drought by State or Regional Agency Calling 20% Reduction	<20%
Phase 3	Declaration of Drought by State or Regional Agency Calling 30% Reduction	<30%
Phase 4	Halt of Artificial Recharge of Groundwater Basin Over 3 Year Period	<40%
Phase 5	Halt of Artificial Recharge of Groundwater Basin Over 5 Year Period	<50%

Prohibitions, Penalties and Consumption Reduction Methods

The City began developing its water conservation plan in March 1990 as a result of lingering drought conditions. The Water Conservation Ordinance adopted in 1990 and revised in 1991 was amended again in 2009. The plan criterion includes:

- Providing a mechanism to prohibit water waste and penalize habitual water wasters
- Creating a fair and equitable water conservation rate structure that did not penalize customers already conserving water
- Creating an easily understood plan
- Allowing for effective enforcement of the plan
- Implementing an administratively feasible plan that did not require major increases in administrative costs, such as computer programming modifications and additional personnel

Water Waste Provisions

The City Council adopted general water use prohibitions in 1991, and amended the provisions in 2009. Some of these provisions are in effect regardless of water supply conditions. See Attachment 8 for the Water Conservation Ordinance 91-3, 91-13 and 2009-5. Table 36 indicates the type of water waste provisions contained in the City's water conservation ordinance. The following table summarizes the prohibitions imposed during the stages of water supply shortages.

Table 36 Water Shortage Contingency- Mandatory Prohibitions

Prohibited Water Use	Stage When Prohibition Becomes Mandatory
Use of Potable Water for Street Sweeping	At discretion of City Council
Uncorrected Plumbing Leaks	Normal Water Supply
Operating Decorative Fountains without Recirculating Water System	Normal Water Supply
Installation of Single Pass Cooling Systems Prohibited	Normal Water Supply
Installation of Car Wash without Recirculating Water System	Normal Water Supply
Serving Water at Public Eating Establishments Upon Request Only	Normal Water Supply
Construction or remodeling (50% or more) a commercial kitchen without water conserving spray valves	Normal Water Supply
Lodging Establishments serving customers without an opt out of daily linen service program	Normal Water Supply
Overspray Caused by Irrigation	Phase 1
Street/Sidewalk Cleaning	Phase 1 (Limits Use)
Washing Cars	Phase 1 (Limits Use)
Watering Lawns/Landscape	Phase 1 (Limits Use)
Non-permanent Agriculture	Phase 3 (Limits Use)

The loss of 50 percent or more of Lakewood's water supply would trigger the implementation of Phase 5 Mandatory Water Conservation. In a Phase 5 stage residential and commercial water used for landscape irrigation would be limited to watering only permanent trees and shrubs once a week during the summer and once every two weeks in the winter. Only watering with a bucket or drip irrigation system using no more than 2 gallons per hour would be permitted. Commercial growers would be limited to watering stock no more than once a week for no more than ten minute cycles per irrigation station. Parks and playgrounds using potable water for irrigation would be limited to twice a week for no more than 10 minutes per station.

The water conservation ordinance also allows customers to apply for an exemption from water use restrictions. The process for an exemption is outlined on the Request for Exemption from Water Use Restriction Form. Attachment 9 is a sample of the Request for Exemption from Water Use Restriction Form. The water conservation coordinator reviews each request and recommends to the Director of Water Resources the appropriate action. The ordinance allows the consumer appeal rights to the City Council. Failure to meet the water use restrictions can result in a fine and/or the turn off of water service to the property. The Water Conservation Ordinance does not provide relief from the water conservation rate structure. See section on Consumption Reduction Methods below.

Consumption Reduction Methods

The City incorporated a monetary means to reduce water use in the water conservation measures, which were initially implemented in 1991 and amended in 2009. Table 37 illustrates the type of consumption reduction measures outlined in the City's water conservation program.

Table 37 Water Shortage Contingency- Consumption Reduction Methods

Consumption Reduction Methods	Stage When Method Takes Effect	Projected Reduction
Education Program	Normal	Not Quantified
Water Shortage Pricing	Voluntary	Depends on the Conservation Phase 10-<30% Implemented
Voluntary Rationing	Voluntary	<10%
Use Prohibitions	Normal-Phase 5	<10%-40%
Flow Restriction on Water Use Restriction Violators	Phase 1	<1%
Reduce Pressure in Water Lines	Phase 2	8-10%

The City's water rate structure does not require the water customer to reduce water use based on historical demand. Instead the City separates the water customers into 28 classifications, e.g. single family residential, large grocery stores, theaters, department stores, and fast food establishments. In 2009 the City added three categories for landscape irrigation (potable water users), a category for store front businesses and categories for launder mats, hair and nail salons, and ice rinks. The City analyzed the historical water use for each water use classification and established consumption tiers based on total historical water use in each classification. The additional categories were developed to tighten the water use ranges and encourage conservation. Attachment 10 is the current water conservation rate structure.

The premise of this rate structure is simple, the more you use the more you pay. A consumer using water that exceeds the first and subsequent tiers would be charged for excessive use. The rate increases progressively; the greater the water supply shortage the steeper the excessive use charge. The excessive water use charge is calculated only on the amount of water used over each tier.

The City designed the water conservation rate structure to allow those customers already conserving to remain unaffected by the implementation in conservation rates. In the voluntary phase a customer must use over four times the average residential consumption to receive an excessive use charge on the water bill. Excessive use charge during a Phase 3 water supply shortage begins when a customer uses more than the citywide average for the water use classification. The table below lists the water use classifications, the type of account and the percentage of the total accounts in the classification.

Lakewood's Water Use Classifications

Water Use Classification	Description of Account Type
Single Family Residential	Detached homes without differentiating lot size
Multiple Family Residential	Based on the number of units connected to the water meter
Duplex Residential	Two residential units
Auto Related Business	Gas stations & auto repair shops
Churches	Churches without school facilities
Supermarkets	Large food store chains
Theaters	Multiple movie theater centers
Car Washes	Car washes without recycling equipment
Fast Food Restaurants	Large volume fast food establishments
Fast Food Restaurants	Small volume fast food establishments
Small Food Stores	Grocery stores not associated with a supermarket chain
Medical/Dental Offices	Professional medical facilities excluding hospitals
Commercial Nurseries & Growers	Christmas tree farms & local growers
Restaurants, Lounges & Taverns	All non-fast food establishments
Schools	Elementary schools
Schools	Junior & senior high schools
Commercial Storefront	Small commercial business
Commercial Centers	Small commercial shopping centers
Commercial Large	Large commercial shopping centers
Motels	Based on the number of units connected to the water meter
Coin Operated Laundry	Laundry facilities
Hair and Nail Salon	Hair, nail and facial salons
Department Stores	Large retail department stores
Ice Rinks	Ice rinks
Landscape Irrigation Small Area	Typical water use below 11 hcf per month
Landscape Irrigation Medium Area	Typical water use below 81 hcf per month
Landscape Irrigation Large Area	Typical water use below 441 hcf per month
Exempt	Hospitals, recycled water user, recycled car washes

The water conservation rate structure exempts recycled water users, hospitals and recycled car washes, but these customers are not exempt from the water use restrictions.

Penalties and Charges

The Water Conservation Ordinance includes excessive water use penalties. While the City does not restrict the use of water consumed, the consumer that uses more than the average in the water rate classification does pay more for the extra water consumed. The greater the water use the greater the excess charge.

The ordinance also provides a mechanism to penalize consumers for violation of the water use restrictions. These penalties range from a warning to the termination of water service. The ordinance also includes provisions to write citations and charge fees for violation of water use restrictions.

As Table 38 illustrates, an individual failing to comply with the mandatory water use restrictions is issued a citation for improper water use. The penalties gradually increase with subsequent violations. The 2009 amendment to the Water Conservation Ordinance increased the fine for violations to the ordinance.

Table 38 Water Waste Penalties & Charges

Penalty or Charges	Stage When Penalty Takes Effect
Penalty for Excess Use	Voluntary
Charge for Excess Use	Voluntary
First Violation: Written Warning Notice	Normal Water Supply
Second & Third Violations: Written Notice of Violation & $100.00 (payable in no more than 15 days)	Normal Water Supply
Fourth Violation: Written Notice of Violation, $200.00 & Installation of Flow Restrictor (Restrictor shall remain in place for no less than 24 hours & customer must pay fees prior to removal.)	Normal Water Supply
Fifth & Subsequent Violations: Written Notice of Violation, $500.00 & Installation of Flow Restrictor (Restrictor shall remain in place for no less than 48 hours & customer must pay fees prior to removal.)	Normal Water Supply

Analysis of Revenue Impacts of Reduced Sales during Water Shortages

The estimated revenue from the water conservation rate structure is not expected to relieve the City from the anticipated shortfall. In fact, in phases four and five the amount of revenue from the water conservation rate structure is expected to diminish due to the additional water use restrictions for outdoor water use. The City expects that those commercial customers that cannot further reduce consumption will continue to pay the excessive use charges.

The City collects approximately $9.7 million annually from water sales. Based on average annual potable water sales of 10,998 acre feet (See Table 28) a 50 percent loss in water sales would reduce production to 5,499 acre feet. Without the implementation of additional water rate increases above and beyond the water conservation rate structure or the reduction in capital or operating expenditures, the City's estimated loss in water revenue would total $3.3 million in a Phase 5 water supply shortage, as indicated in the table below. The decrease in water sales is only partially offset by avoided maintenance and operating costs: decrease in the groundwater extraction fees, energy costs associated with the large decrease in water use and other incidental expenses. The anticipated avoided costs would total $1,579,700, not enough to make up the loss in revenue. The City Council would need to raise water rates and/or further cut operating costs.

Actions and Conditions that Impact Revenues & Expenditures

Type of Revenue	Anticipated Revenue Reduction Phase 5 Water Shortage	Type of Expenditure	Anticipated Expenditure Increase/Decrease
Water Sales	$3,283,200	Reduction in Groundwater Extraction Fees	$1,127,300
		Reduction in Energy Costs	$250,000
		Reduction in Incidental Costs	202,400
TOTAL	$3,283,200		$1,579,700

The table labeled Fiscal Impact of Drought Conditions without Changes to Utility

Operations below indicates the revenues and expenditures without change to utility operations or increases in quantity charges. This table reduces the maintenance and operations expenditures for energy and groundwater extraction fees to match the reduction in demand as indicated above, but makes no other changes in operation or capital expenditures. As the table indicates, the ending balance for a Phase 4 water supply shortage would result in a $2.6 million shortfall, and a $2.9 million shortfall in a Phase 5 water supply shortage.

The second table assumes the same reductions in the quantity of water and the same operational expenditures, but decreases the capital expenditures from $2.05 million in a normal water supply year to $950,976 in Phases 4 and $660,714 in Phase 5. The reduction in capital projects still leaves a negative balance of $1,502,382. The funds for the limited capital improvement plan would be financed through water fund reserves, and result in delays to replace aging infrastructure.

Fiscal Impact of Drought, Conditions without Changes to Utility Operations

	Normal	Voluntary	Phase 1	Phase 2	Phase 3	Phase 4	Phase 5
	0%	5%	10%	20%	30%	40%	50%
Operating Revenue	$ 9,700,795	$ 9,375,394	$ 9,041,649	$ 8,457,596	$ 7,759,235	$ 7,053,115	$ 6,417,607
Operating Expenses	$ 9,136,056	$ 8,925,053	$ 8,787,816	$ 8,513,341	$ 8,195,423	$ 7,901,597	$ 7,556,351
Net Operating Income	$ 564,739	$ 450,340	$ 253,833	$ (55,746)	$ (436,187)	$ (848,482)	$ (1,138,744)
Adjusted Net Operating Income[(1)]	$ 1,618,949	$ 1,504,551	$ 1,308,043	$ 998,465	$ 618,023	$ 205,729	$ (84,534)
Non-Operating Income	$ 257,884	$ 257,884	$ 257,884	$ 257,884	$ 257,884	$ 257,884	$ 257,884
Net Revenue	$ 1,876,833	$ 1,762,435	$ 1,565,927	$ 1,256,349	$ 875,907	$ 463,613	$ 173,350
Debt Service	$ 1,015,018	$ 1,015,018	$ 1,015,018	$ 1,015,018	$ 1,015,018	$ 1,015,018	$ 1,015,018
Available for Capital Projects	$ 861,815	$ 747,417	$ 550,909	$ 241,331	$ (139,111)	$ (551,405)	$ (841,668)
Total Capital Projects[(2)]	$ 2,053,291	$ 2,053,291	$ 2,053,291	$ 2,053,291	$ 2,053,291	$ 2,053,291	$ 2,053,291
Ending Balance	$ (1,191,476)	$ (1,305,874)	$ (1,502,382)	$ (1,811,960)	$ (2,192,402)	$ (2,604,696)	$ (2,894,959)

(1) Less depreciation expense
(2) Major funding source is an investment from the Utility's Reserves

Fiscal Impact of Drought, Conditions with Changes to Utility Operations

	Normal	Voluntary	Phase 1	Phase 2	Phase 3	Phase 4	Phase 5
	0%	5%	10%	20%	30%	40%	50%
Operating Revenue	$ 9,700,795	$ 9,375,394	$ 9,041,649	$ 8,457,596	$ 7,759,235	$ 7,053,115	$ 6,417,607
Operating Expenses	$ 9,136,056	$ 8,925,053	$ 8,787,816	$ 8,513,341	$ 8,195,423	$ 7,901,597	$ 7,556,351
Net Operating Income	$ 564,739	$ 450,340	$ 253,833	$ (55,746)	$ (436,187)	$ (848,482)	$ (1,138,744)
Adjusted Net Operating Income[(1)]	$ 1,618,949	$ 1,504,551	$ 1,308,043	$ 998,465	$ 618,023	$ 205,729	$ (84,534)
Non-Operating Income	$ 257,884	$ 257,884	$ 257,884	$ 257,884	$ 257,884	$ 257,884	$ 257,884
Net Revenue	$ 1,876,833	$ 1,762,435	$ 1,565,927	$ 1,256,349	$ 875,907	$ 463,613	$ 173,350
Debt Service	$ 1,015,018	$ 1,015,018	$ 1,015,018	$ 1,015,018	$ 1,015,018	$ 1,015,018	$ 1,015,018
Available for Capital Projects	$ 861,815	$ 747,417	$ 550,909	$ 241,331	$ (139,111)	$ (551,405)	$ (841,668)
Total Capital Projects[(2)]	$ 2,053,291	$ 2,053,291	$ 2,053,291	$ 1,743,713	$ 1,363,271	$ 950,976	$ 660,714
Ending Balance	$ (1,191,476)	$ (1,305,874)	$ (1,502,382)	$ (1,502,382)	$ (1,502,382)	$ (1,502,382)	$ (1,502,382)

Water Shortage Ordinance/Resolution and Water Use Monitoring Procedures

On February 28, 1991 the Lakewood City Council adopted a Water Conservation Ordinance No. 91-3 and instituted a Phase 1 water supply shortage following public hearings. The ordinance was adopted as an urgency ordinance based on the need to protect the public health and safety. On March 1, 1991 the Council adopted a water conservation rate structure, which instituted a financial "incentive" for customer conservation. The City Council adopted the rate resolution after a public hearing and two readings by the Council. The original ordinance included the mechanism to institute a water supply emergency and initiate water use restrictions, penalties for wasting water, and the water conservation rate structure. The ordinance consists of six water supply shortage phases for a 10, 20, 30, 40 and 50 percent water supply shortage. The rate structure includes three mandatory water conservation measures.

The City's implementation of any phase of the water conservation plan is based on the existing and predicted water supply outlook as determined by the State Department of Water Resources, Metropolitan Water District of Southern California, Central Basin Municipal Water District and the Water Replenishment District of Southern California. The implementation of the water conservation ordinance or movement from one phase to another is accomplished by the adoption of a City Council resolution. This resolution enacts the appropriate water use restrictions and the corresponding water conservation rate structure. Attachment 7 is a sample of the City Council Resolution.

The City uses historical production data to determine the effectiveness of water conservation programs. Staff analyzes daily, weekly and rolling four week production. Additionally, the City monitors water use, especially accounts that use amounts over the water conservation rate structure tiers. This analysis can indicate the success of the public education portion of the water conservation program. While the City expects a low percentage of customers' use to exceed the first tier, a gradual decrease in consumption should occur as the drought continues. Failure of the community to respond to the request to conserve water would force the implementation of additional water conservation measures.

Water Use Monitoring Mechanisms

Mechanisms for Determining Actual Reductions	Type and Quality of Data Expected
Analysis Daily Consumption Analysis Weekly Consumption Analysis Rolling 4 Week Average	Data for all production analysis is numerical data from water production meters at each well, which are tested annually to fall within a +/-3%. Data is collected daily.
Analysis Water User Exceeding Average Tier	Extrapolate users exceeding the typical water use to target additional water conservation message. This information is collected bi-monthly. In extreme water supply shortages the water meters could be read on a monthly basis.

Water Quality

The Department of Water Resources does not anticipate a change in water supply reliability due to water quality. Groundwater quality in the area of the City's water

production facilities remains consistent. However, any variation in groundwater quality would not change the amount of water that could be extracted in an adjudicated groundwater basin, like Central Basin. Changes in water quality could prompt water production personnel to change operational procedures, but the total groundwater production would not change.

Table 30 Water Quality—Current and Projected Water Supply Impacts (AF)

Water Source	Description of Condition	2010	2015	2020	2025	2030
Well #2A	None anticipated	0	0	0	0	0
Well #4	None anticipated	0	0	0	0	0
Well #8	None anticipated	0	0	0	0	0
Well #10	None anticipated	0	0	0	0	0
Well #13A	None anticipated	0	0	0	0	0
Well #14	None anticipated	0	0	0	0	0
Well #15A	None anticipated	0	0	0	0	0
Well #17	None anticipated	0	0	0	0	0
Well #18	None anticipated	0	0	0	0	0
Well #22	None anticipated	0	0	0	0	0
Well #27	Water Supply Already Treated Prior to Placing into Water Storage Facility	0	0	0	0	0
		0	0	0	0	0

New regulations by the California Department of Health Services and/or the U.S. Environmental Protection Agency may require the addition of water treatment facilities. In addition to the treatment plant at Well #27 for arsenic removal, Lakewood plans to install a treatment plant at Well #22 for the removal of total organic carbons and dissolved sulfides. Changes in regulations may result in the treatment of all groundwater supplies. Lakewood has planned for centralized water treatment, by citing new water wells near existing water storage facilities. Water from new wells would discharge into storage before entering the distribution system. Any need for treatment for multiple water supplies could be placed on reservoir sites, so the water could be treated prior to storage.

Drought Planning

Estimating Minimum Water Supply- Normal, Single Dry and Multiple Dry Years

Lakewood averages 12-14 inches of rain annually. However, the lack of rainfall in a single year or over multiple years does not provide a good indicator of the availability of water in the Central Groundwater Basin. For this reason Lakewood also examined the amount of local water used in groundwater replenishment as an indicator. Table 27 indicates the years chosen for normal, single dry and multiple dry year water supplies.

Table 27 Basis of Water Year Data

Water Year Type	Base Year(s)
Average Water Year	FY2008
Single-Dry Water Year	FY1990
Multiple-Dry Water Years (3-Year Period)	FY1989 to FY1991

Table 28 indicates the historic conditions during those years listed in Table 27. Lakewood's water supply for each of the years listed in Table 28 is based on a total of the following: groundwater extractions, purchased water from Central Basin Municipal Water District, carryover pumping rights from the previous year and purchased recycled water from the City of Cerritos.

Table 28 Supply Reliability- Historic Conditions (AF)

		Multiple Dry Years		
Average/Normal Water Year	**Single Dry Water Year: FY1990**	**Year 1: FY1989**	**Year 2: FY1990**	**Year 3: FY1991**
10,998 AF	10,847 AF	10,757 AF	10,847 AF	10,428 AF
% of Normal Year	99%	98%	99%	95%

Normal Water Supply Year

Using local water (runoff entering the groundwater basin) and rainfall as criteria, Lakewood determined that FY2008 is the closest to meeting the criteria for the average water year. Local water for groundwater replenishment was at 55,000 acre feet, the 55-year average, and local rainfall for the year was 11.43 inches, according to the Los Angeles County Department of Public Works Climatological Record Montana Station 225. Groundwater production for FY2008 was 9,472 acre feet and 1,069 acre feet of water rights was carried over into FY2009. Recycled water purchased from Cerritos was 457 acre feet in FY2008. Total water supply available to Lakewood in FY2008 was 10,998 acre feet. (See Table 27 & 28.)

Single Dry Water Supply Year

Lakewood chose FY1990 as the single dry year. (See Table 27 & 28.) Only 9,388 acre feet of local water was captured for groundwater replenishment and the area received 5.51 inches of rainfall in FY1990. Lakewood's total available water supply was 10,847 acre feet in FY1990: groundwater extractions-- 9,168 acre feet, import water purchases from Central Basin Municipal Water District-- 688 acre feet, recycled water purchases from Cerritos-- 359 acre feet (first year of recycled water system operations), and available carryover-- 632 acre feet. Lakewood owned 8,921 acre feet of water rights in FY1990, so meeting demand required the use of carryover water rights. Of the 1,784 acre feet of allowable carryover water rights, Lakewood used 1,152 acre feet.

Multiple Dry Water Supply Years

Lakewood chose FY1989 to FY1991 as the multiple dry year period. (See Table 27 & 28.) The average rainfall for this period was 33.69 inches. The years chosen were not the driest years since 1970; FY2001-02 rainfall 2.27 inches, and FY2002 through FY2004 rainfall totaled 17.75 inches. However these years have the lowest local water used for groundwater recharge. The lowest three year average replenishment using local water occurred during a period between Fiscal Year 1989 and Fiscal Year 1991. Only 62,201 acre feet of water was captured in the local spreading grounds during this multiple year

period.[10] (See Attachment 3 for the historical amounts of water used for Central Basin recharge.)

As Table 28 indicates, the City of Lakewood's water production dropped during the multiple-dry year period compared to the normal water supply year, but the availability of the groundwater extraction rights did not change during this period. The City still maintained the ability to extract the annual pumping rights allocation and carryover water from the previous fiscal year, so the percent of normal does not provide a clear picture of water reliability.

Current Water Supply Reliability

As a groundwater producer, Lakewood enjoys the security associated with an adjudicated groundwater basin. The three-year minimum water supply would be based on the adjudicated groundwater extraction rights held by the utility. Lakewood currently owns 9,432 acre feet of extraction rights, and maximizes its allowable 20 percent carryover or 1,886 acre feet (total extraction rights of 11,318 acre feet). The Watermaster, which oversees the execution of the judgment, controls the extraction of water from the Central Groundwater Basin, and could call for a reduction in groundwater extraction during prolonged drought. Though this type of restriction has not occurred since the adjudication of the basin, a long-term cessation of recharge could trigger such action. Table 31 indicates the amount of water that is currently available to Lakewood water customers. The groundwater extraction is the total annual pumping allocation and 20 percent carryover. Recycled water is demand driven. The purchase of recycled water is based on customer demand, which varies based on local rainfall.

Table 31 Supply Reliability—Current Water Sources (AF)

		Multiple Dry Water Year Supply		
Water Supply Source	**Average/Normal Water Year Supply**	**FY2011**	**FY2012**	**FY2013**
Groundwater	11,318	11,318	11,318	11,318
Recycled Water	450	450	450	450
TOTAL	11,768	11,768	11,768	11,768
Percent of Normal Year	100%			

The following tables project various scenarios regarding the reliability of the City's water supply during normal, single dry year and multiple dry years. These calculations are based on the percent of normal supply used in Table 28, but in reality unless the Central Groundwater Basin Watermaster further limits groundwater production the available water supply would remain the same through normal, single dry and multiple dry years.

As Table 32 indicates under normal conditions Lakewood's water supplies are in excess of demand through 2030.

[10] Water Replenishment District of Southern California Engineering Survey and Report May 11, 2010, Historical Amounts of Water for Replenishment, A-4

Table 32 Supply and Demand Comparison Normal Year

	2015	2020	2025	2030
Supply Totals (from Table 16)	11,768	11,768	11,768	11,768
Demand Totals (from Table 11)	9,898	10,594	9,694	10,595
Difference	1,870	1,174	2,074	1,173
Difference as % of Supply	16%	10%	18%	10%
Difference as % of Demand	19%	11%	21%	11%

Single Dry Year Water Supply

The calculations in Table 33 indicate an excess of water supply in a single dry year. This calculation was based on 99 percent of the normal water supply year indicated in Table 28. Fiscal Years 2020 and 2030 drop to two percent due to the inclusion of a call on the water stored for Long Beach Water Department. As previously indicated only 900 acre feet can be called in a year, but the timing for the storage and call for this supply is based on MWD's water supply outlook.

Table 33 Supply and Demand Comparison Single Dry Year

	2015	2020	2025	2030
Supply Totals	10,847	10,847	10,847	10,847
Demand Totals	9,898	10,594	9,694	10,595
Difference	949	253	1,153	252
Difference as % of Supply	9%	2%	11%	2%
Difference as % of Demand	10%	2%	12%	2%

Multiple-Dry Year Supply

The multiple-dry year scenario is based on a reduction of water between 95 and 99 percent (see data in Table 28). This scenario is also affected by the projection of a call for Long Beach's stored water in 2020 and 2030. Based on these calculations Lakewood would see a 2 percent gap between supply and demand. This scenario would require the implementation of mandatory water conservation or the purchase of leased groundwater rights, if available.

Table 34 Supply and Demand Comparison Multiple Dry Years

		2015	2020	2025	2030
Multiple Dry Year First Year Supply	Supply Totals	10,757	10,757	10,757	10,757
	Demand Totals	9,898	10,594	9,694	10,595
	Difference	859	163	1,063	162
	Difference as % of Supply	8%	2%	10%	2%
	Difference as % of Demand	9%	2%	11%	2%
Multiple Dry Year Second Year Supply	Supply Totals	10,847	10,847	10,847	10,847
	Demand Totals	9,898	10,594	9,694	10,595
	Difference	949	253	1,153	252
	Difference as % of Supply	9%	2%	11%	2%
	Difference as % of Demand	10%	2%	12%	2%
Multiple Dry Year Third Year Supply	Supply Totals	10,428	10,428	10,428	10,428
	Demand Totals	9,898	10,594	9,694	10,595
	Difference	530	-166	734	-167
	Difference as % of Supply	5%	-2%	7%	-2%
	Difference as % of Demand	5%	-2%	8%	-2%

This scenario is not likely unless the number of dry years continues past three years, and the Water Replenishment District is unable to provide an adequate water supply to keep basin extractions at levels currently approved by the Court.

Section 6: Demand Management Measures

Implemented Demand Management Measures

The State of California Department of Water Resources in conjunction with the State Water Coalition developed the Memorandum of Understanding Regarding Urban Water Conservation (MOU) in California. These conservation measures are commonly referred to as Best Management Practices (BMP). The purpose of the document is to gain cooperation among water agencies and the environmental community to increase reliability of the state's water supply, establish state-wide standards for water conservation, eliminate high water conservation quotas and promote uniformity in the implementation of water conservation measures. The State Department of Water Resources encourages water purveyor participation in the MOU. Lakewood is not a signatory of the MOU.

Water Survey Programs for Single-Family and Multifamily Residential Customers

The department offers water audit services to all water customers. Staff members work with the water customers to check for leaks, check water using fixtures, irrigation and landscape. The customer is also given instruction on how to read the water meter and water utility bill. Staff makes written recommendations based on the customer's water use practices. Attachment 11 is the City of Lakewood Residential Water Audit Checklist. Requests for this type of service occurred frequently during the drought in the early 1990's. During this period of time the City promoted the service to meet conservation needs. Since 1990 the Department of Water Resources has conducted 86 water audits, but has not calculated the water savings associated with the surveys. The Department of Water Resources advertises this service in the annual water quality report. See Attachment 12.

In addition to the formal water audit, staff provides additional customer service that promotes water conservation. The water utility personnel began using handheld meter reading devices to gather consumption data in 1990. These devices allow for the detection of excessive water use based on the historical water use for the service address. Water meter reads that exceed the customers' "normal" range of use trigger an alert to the meter reader. Staff follows up on high reads with an investigation. The City rereads the meter and contacts the customer to inform them of a possible leak. The department staff assists customers in finding the leak, so that a qualified plumber can make appropriate repairs. The department does not track the number of contacts made to notify a customer of high water use triggered by the meter read. The table below indicates the number of times the department has responded to a request by the customer to assist with locating water leaks.

Water Customer Leak Detection Service

	2009	***2010***
# Customer Contacts	155	170
Percent of Residential Customers	1%	1%
Expenditures	No additional associated costs.	
Water Savings	Data Not Calculated	

Residential Plumbing Retrofit

The City's plumbing codes reflect county and state laws regarding the use of water conserving devices. State law requires that all showerheads sold in California must meet a standard of 2.5 gallons per minute or less. Toilets can be retrofitted with displacement devices that reduce the amount of water used up to 4.2 gallons per day, and water faucets can be fitted with aerators that save approximately 1.5 gallons per day.

The City has not implemented a program to retrofit low-flow showerheads, water displacement devices for toilets and faucet aerators, because the cost of the program outweighs the benefit. A residential plumbing retrofit program that reaches 75% of the water customers would require the purchase of 15,371 aerators, toilet dams and low flow showerheads. The total cost of the devices, not including the cost of staff to promote and implement the program, would cost $260,500. Acknowledging that a percentage of the water customers would fail to install the devices, and estimating the life span of the devices at three to seven years, results in a savings of 97 acre feet of water annually or 498 acre feet over the life of the devices.

Since Lakewood is primarily a residential community and most water use is outside the home for landscape irrigation, the Lakewood City Council recently implemented a program to target outdoor water use. In fall 2010 the City Council approved the implementation of two programs aimed to increase the effectiveness of water use for landscape irrigation. The program provides residential customers with rebates for the installation of water conserving irrigation devices and the removal of high water use turf areas. The rebate program was launched in February 2011, and applications for the rebates began in May 1, 2011. The City Council allocated $25,000 for FY2011 and staff has requested continuation of the same funding level for FY2012.

Single family residential customers in Lakewood's service area can purchase and install a variety of water conserving devices including:

- Retrofit or installation of rotor nozzle/sprinkler heads
- Installation of weather based irrigation controllers
- Installation of irrigation controllers equipped with rain sensors or moisture sensors
- Installation of rain sensors or moisture sensors on existing irrigation controllers
- Installation or retrofit of irrigation system with drip irrigation kits
- Installation of hose end timers

See Attachment 2 for the details in the water conservation device rebate program.

Though Central Basin Municipal Water District and Metropolitan Water District of Southern California provide similar programs for the weather-based irrigation controllers and rotor nozzles, Lakewood expanded the conservation program to include devices that a homeowner can afford and a do-it-yourselfer can install, i.e. drip irrigation kits. The last several phases of the mandatory conservation program limit watering with a bucket or drip irrigation system. The installation of drip irrigation will place the water in the desired location and limit the flow to the plant material.
The Water Resources Department estimates the annual cost savings for a single family residential customer between $40 and $65. This assumes that a resident would retrofit the irrigation system with rotor sprinkler heads. The water savings are estimated at 14,000 to 20,000 gallons a year.

The turf removal rebate program pays $1.00 per square foot of turf removed and replaced with drought tolerant plants, water conserving irrigation and a water permeable ground cover such as rock, bark or pavers. The project must be a minimum of 40 square feet and up to 80 square feet is eligible for the rebate. Unlike the device rebate, the turf removal program requires the submittal of a pre-application and a landscape plan for the proposed project. Once approval is received the resident has 60 days to complete the project. The water customer must commit to keeping the area turf free for five years to receive the rebate. Residents can link this rebate program with the device rebate offerings for a maximum rebate amount of $195.00. All rebates are awarded as a credit on the water bill.

Since these programs are new, Lakewood has no data on the effectiveness of the rebates. The Lakewood Department of Water Resources set up an inspection routine and a database to track the rebates and water use for the participating customers.

Metering with Commodity Rates for All New Connections & Retrofit Existing Connections

All existing and new Lakewood service connections are metered. In 2002 the City completed a five-year meter replacement program to insure accuracy in billing of consumption. The next meter rotation program will not be implemented until 2018.The department maintains funds in the annual operating budget to test large meters and maintains a meter test bench to test smaller meters, 2-inch or less. The meters listed in Table 5-2 include replacement meters due to loss of accuracy, and meter and service upgrades. New and changed out meters are tracked in the City's utility billing system, serial number, size, manufacturer and date of installation.

Meters are read and customers billed bi-monthly. Each user is charged a basic charge for service and a quantitative charge for water used. Attachment 10, Water Conservation Rate Structure, outlines the rate structure for Lakewood water customers. Residential users receive seven units of water with the basic charge of service; multifamily and commercial customers do not. Each customer category (restaurant, large commercial, fast food, schools, etc.) is assigned a range that is considered average consumption for that customer class. Customers that consume beyond that average range are charged penalties during a declared drought. (The City Council maintains the water rate resolution

in a Voluntary Drought Stage.) For example, a residential customer consuming over 108 units in the voluntary drought phase is charged 1.25 times the normal quantitative rate.

Metering with Commodity Rates

	FY2007	*FY2008*	*FY2009*	*FY2010*
# Unmetered Connections	0	0	0	0
# Replacement Meters Installed	47	60	82	48
# of Accounts without Commodity Rates	0	0	0	0
Expenditures	~$5,450	$16,236	$13,271	$9,755
Water Savings	Not Calculated			

Large Landscape Water Audits and Incentives

The largest landscape areas in the community are city-owned. Eight of these sites use recycled water for landscape irrigation. The Recreation and Community Services staff continually monitors the landscape irrigation at all City facilities. In April 2009 the City worked with a contractor from Metropolitan Water District of Southern California to analyze the irrigation at city facilities. See Attachment 13 for the landscape audit results from Water Wise Consulting, Inc.

The City Council adopted the Water Conservation in Landscaping Ordinance No. 93-11 in 1993 and amended it in 2009. See Attachments 14 and 15. The ordinance established standards and procedures for the design, installation, and management of water conserving landscapes in order to utilize available plant, water, and land resources to avoid excessive landscape water demands while ensuring high quality landscape design. These requirements are applicable to new and rehabilitated landscaping for industrial, commercial, office and institutional developments; parks and other public recreational areas; multifamily residential developments; public open space; and road medians and corridors.

The Department of Water Resources requires a separate metered connection for landscape irrigation for these projects. The utility has 221 dedicated irrigation connections to the potable water system. In September 2009 the Lakewood City Council approved the addition of three water conservation categories for landscape irrigation to the rate structure. The new categories placed irrigation metered connections into low, medium or large landscape irrigation customers based on the irrigated area. This change was incorporated into the utility billing system during the fall of 2010. The City expects that this will increase the department's ability to track this type of water use.

Single family residential developments under 7,000 square feet, and sites using recycled wastewater are exempt from the provisions of the Water Conservation in Landscaping Ordinance.

Since Fiscal Year 2005, the development of 29 projects in Lakewood's service area met the provisions in the Water Conservation in Landscaping Ordinance. These developers submitted appropriate data to the Community Development Department for approval.

The developer submits plans to the Lakewood's Community Development Department for

review and initial approval. Once the plan is approved the developer installs the irrigation and landscaping. Upon installation, Community Development staff inspects the project to verify the installation of the approved irrigation devices and plantings. The table below indicates the number of submittals required as per the provisions of the Landscape Ordinance from 2001-2010.

Large Landscape Conservation Programs

	2005	***2006***	***2007***	***2008***	***2009***	***2010***
# of Budgets Developed	9	6	4	2	5	3
# of Surveys Completed	3	8	4	3	1	7
# of Follow Up Visits	0	5	6	4	4	1
Actual Expenditures	Data Not Collected					
Actual Water Savings	Data Not Collected					

High Efficiency Washing Machine Rebate Programs

The City of Lakewood does not operate a high efficiency washing machine rebate program. Central Basin Municipal Water District provides this rebate program for the community. The resident fills out a rebate application and provides proof of residency and purchase, then mails the information to a contract agency for processing. The table, entitled High Efficiency Clothes Washer Rebate Programs, indicates the number of rebates processed from Fiscal Year 2006 through Fiscal Year 2010. Total annual savings for the 841 high efficiency washing machines in use is estimated at 1,255,110 gallons per year.

High Efficiency Clothes Washer Rebate Programs

	2006	***2007***	***2008***	***2009***	***2010***
$ per Rebate Start at:	$85	$85	$85	$85	$85
# of Rebates	67	102	170	75	427
Expenditures	Lakewood Has No Direct Expenditure for Program				
Water Savings (gallons)	99,991	152,225	253,708	111,930	637,256

Public Information Programs

The Public Information Program demand management measure requires water purveyors educate the public about water conservation through speaking to community groups and the media, advertising, billing inserts, consumer's water use comparison to previous year(s) on a local and regional level.

The City of Lakewood continues to spread the word about water conservation through periodic articles in various publications, marketing tools and speaking engagements. The table that follows indicates the budget and the type of public awareness programs used in Lakewood's service area.

Public Information Programs

	FY2006	*FY2007*	*FY2008*	*FY2009*	*FY2010*
Paid Advertising					✓
Public Service Announcement					
Bill Inserts/ Newsletter/ Brochures	✓	✓	✓	✓	✓
Demonstration Gardens	✓				
Special Events, Media Events	✓	✓	✓	✓	✓
Speaker's Bureau	✓	✓	✓	✓	✓
Coordination with Other Agencies, Industry, Groups					
Expenditures	~$16,500	~$16,500	$23,268	$17,622	$20,056

Public Information Events

Staff participates in large community events to promote water conservation. The City of Lakewood hosts an annual event called the Pan Am Fiesta. The utility staffs a booth to distribute water conservation and water quality information to customers. The same booth hosts other departments with information on emergency preparedness and recycling. Approximately 300 individuals receive conservation information through the fiesta each year.

In July 2010 the City updated the water conservation street banners along major boulevards containing the conservation message. Approximately 287 banners are installed at various times during the year to reinforce the conservation message.

In 2003 the City dedicated a 17-acre nature trail called the West San Gabriel River Open Space. This trail contains California native plantings. The Phase 2 project, which expanded the West San Gabriel River Open Space area an additional 2.5 acres, was completed in 2007.

Every spring the utility participates in two events: City of Lakewood's Earth Walk and the Water Replenishment District of Southern California's Groundwater Festival. The Earth Walk encourages children and their parents to learn about the environment through interactive displays. The Lakewood Department of Water Resources puts the participants through their paces by testing their knowledge about water conservation. The department's display also provides information to parents regarding the earth friendly advances implemented by the City, including the use of recycled water and solar energy to operate production facilities. Approximately 200 children and parents received water conservation, waste recycling and gardening information from local and regional agencies. The WRD Groundwater Festival, held in

Lakewood, focuses on water conservation and protection of the groundwater table. The Lakewood Department of Resources staff provides water conservation materials specific to Lakewood at this event.

Publications

The City uses numerous printed materials to send information to the community. *Lakewood Living*, the community newsletter, incorporates water quality, conservation and infrastructure improvement information in its Annual Water Quality Report each spring. This publication is delivered to every address in the utility's service area, over 20,000 households and businesses. See Attachment 12. *Lakewood Briefs*, the City's water utility bill stuffer highlighted water conservation in four issues (Attachment 16). In addition to routine mailings, the City communicated the water conservation message to the community through one direct mailing (Attachment 17).

The City developed a water waste door hanger as a means to educate customers and to respond to neighbors witnessing water waste. Water customer service staff and Lakewood code enforcement officers use these tags as a first contact for water wasting customers. See Attachment 18. The City has also developed a water conservation brochure specific to Lakewood water customers, which is distributed to the community at various events. See Attachment 19.

School Education Programs

The City works with the four school districts and one private school to deliver information on water conservation to school children. Staff provides tours of water facilities, all-school assemblies, a poster contest and classroom presentations. The table indicates the number of children reached during school education programs by the Lakewood Department of Water Resources, and the City of Lakewood expenses associated with the program. The department has developed several water conservation worksheets for school children.

School Education Programs

	2006	***2007***	***2008***	***2009***	***2010***
Grades K-3rd	645	585	700	616	1036
Grades 4th-6th	395	390	505	370	690
Grades 7th-8th	0	0	0	0	0
High School	0	0	0	0	0
Expenditures	$1,100	$1,200	$1,330	$1,289	$1,064

Since 1990 over 17,750 children have participated in the annual water conservation poster contest sponsored by the City. This is the only water-related program that the City offers to the entire community. The program coordinates with Earth Day activities and ends during Water Awareness Month in May. The City provides each class with poster paper and a water conservation related giveaway. The 12 winning posters in three age categories are displayed at the annual Pan Am Fiesta (see above). The utility staff urges teachers to use the water department as a resource. Between 2006 and 2010 staff made

four presentations to 480 Lakewood students. The students received information on water supply and simple water conservation tips.

Commercial and Industrial Water Conservation

During periods of declared drought, the City water conservation ordinance requires all commercial and industrial water customers to submit a water conservation plan. The plan requires a thorough examination of water use. Approximately 91 plans have been submitted and approved by the Department of Water Resources since 1991. Attachment 20 is the Business Water Conservation Plan.

Department of Water Resources staff provides technical assistance for the completion of the plan. The construction of new development is limited in Lakewood, due to the availability of vacant or underutilized land in the service area, but the department staff review and approve all plans that require new plumbing installation or retrofit of existing plumbing fixtures. The City also requires developments over 10,000 square feet to install a separate meter for irrigation for possible future connection to the recycle water distribution system. The City maintains only one financial incentive program to encourage water conservation, that is the lower quantitative rate charged to customers purchasing recycled water. The recycled water customer saves $1.15 per unit consumed and is exempt from the water conservation rate structure.

The Central Basin Municipal Water District (CBMWD) conducts two programs that target commercial and industrial water users; installation of water free urinals and high efficiency clothes washers. CBMWD worked various business to install 10 waterless urinals; an estimated 54,071 gallons of water savings annually. The 7 commercial water efficient clothes washers provide an estimated savings of 10,447 gallons of water annually.

Commercial High Efficiency Clothes Washer Program

	2006	***2007***	***2008***	***2009***	***2010***
# of Commercial Replacements		2	8		
# Industrial Replacements					
# Institutional Replacements					
Expenditures		Lakewood Has No Direct Expenditure for Program			
Water Savings (AF)		2,985	7,462		

Urinal Replacement Program

	2006	***2007***	***2008***	***2009***	***2010***
# of Commercial Replacements			2	8	
# Industrial Replacements					
# Institutional Replacements					
Expenditures		Lakewood Has No Direct Expenditure for Program			
Water Savings (AF)			10,814	43,257	

Wholesale Agency Programs

The City of Lakewood does not wholesale water to other agencies, therefore provides no water conservation programs.

Conservation Pricing

According to the Memorandum of Understanding Regarding Urban Water Conservation in California, "conservation pricing provides economic incentives (a price signal) to customers to use water efficiently."[11] This requires a metered service connection to determine volume of water used by a water customer.

The section entitled Water Shortage Contingency Plan details the City's water conservation rate structure, which was adopted by the Lakewood City Council in 1991 and revised in 2009. The utility's rate structure is based on the historical water use by customer classification or an allocation-based rate. See Attachment 10 to examine rate structure for all Lakewood water customers. The structure is based on the premise the more you use the more you pay.

The table below lists the water use categories included in Lakewood's water conservation rate structure. The highlighted uses were added in 2009.

Lakewood's Water Use Classifications

Water Use Classification	Description of Account Type
Single Family Residential	Detached homes without differentiating lot size
Multiple Family Residential	Based on the number of units connected to the water meter
Duplex Residential	Two residential units
Auto Related Business	Gas stations & auto repair shops
Churches	Churches without school facilities
Supermarkets	Large food store chains
Theaters	Multiple movie theater centers
Car Washes	Car washes without recycling equipment
Fast Food Restaurants	Large volume fast food establishments
Fast Food Restaurants	Small volume fast food establishments
Small Food Stores	Grocery stores not associated with a supermarket chain
Medical/Dental Offices	Professional medical facilities excluding hospitals
Commercial Nurseries & Growers	Christmas tree farms & local growers
Restaurants, Lounges & Taverns	All non-fast food establishments
Schools	Elementary schools
Schools	Junior & senior high schools
Commercial Storefront	Small commercial business
Commercial Centers	Small commercial shopping centers
Commercial Large	Large commercial shopping centers
Motels	Based on the number of units connected to the water meter
Coin Operated Laundry	Laundry facilities
Hair and Nail Salon	Hair, nail and facial salons
Department Stores	Large retail department stores
Ice Rinks	Ice rinks
Landscape Irrigation Small Area	Typical water use below 11 hcf per month
Landscape Irrigation Medium Area	Typical water use below 81 hcf per month
Landscape Irrigation Large Agra	Typical water use below 441 hcf per month
Exempt	Hospitals, recycled water user, recycled car washes

The City does not provide sewer service. The County of Los Angeles provides this service

[11] Memorandum of Understanding Regarding Urban Water Conservation in California, Amended September 16, 2009, Exhibit 1, 29.

to the community.

Water Conservation Coordinator

The member of the Department of Water Resources staff fills the function of the water conservation coordinator. The Water Administration Manager spends approximately five percent of the time managing the provisions in the water conservation program, and implementing the public relations and school education programs. This staff member also coordinated the development of the water conservation rebate program. The time required implementing the rebate program once applications are submitted, beginning May 1, 2011, is unknown at this time.

During periods of declared drought the time allocated to conservation duties increases to approximately 50 percent. The duties related to conservation coordination were developed in 1991. The individual that currently holds the position was involved in the development of the utility's water conservation program.

Water Waste Provisions

The City Council adopted general water use prohibitions in 1991 and updated in 2009. Some of these provisions are in effect regardless of water supply conditions. See Attachment 8 for the Water Conservation Ordinance. The table indicates the type of water waste provisions contained in the City's water conservation ordinance.

Water Waste Provisions

	2006	***2007***	***2008***	***2008***	***2009***
Waste Ordinance in Effect	YES	YES	YES	YES	YES
# of On-Site Visits	0	0	0	0	0
Water Softener Ordinance	NO	NO	NO	NO	NO
Expenditures	No Additional Expense to Administer the Water Waste Provisions				

The Water Conservation Ordinance established guidelines for each phase of a water supply shortage. The following are water waste practices that are always prohibited:

- Use of potable water for irrigation by commercial shopping centers, schools, office buildings, hospitals, industrial uses, and churches whose property line is located within a reasonable distance from the City of Lakewood's recycled water system;
- Use of decorative fountains, or other structures using water for aesthetic purposes operating without a recirculating system; and
- Failure to fix known leaks on indoor or outdoor plumbing fixtures. A leak is defined as any water not used for beneficial use that wastes more than 0.5 gallons of water per minute. All know leaks from indoor and outdoor plumbing fixtures shall be repaired within seven days upon receipt of written notice of the observed water leak.
- Drinking water shall not be served in any restaurant, motel, café or other drinking or eating establishment unless expressly requested.
- Installation of single pass cooling systems shall be prohibited in buildings requesting new water service.
- Hotels, motels and other commercial lodging establishments must provide customers the option to refuse daily towel and linen service. Commercial lodging establishments shall prominently display notice of this option in each guest room.

- Installation of non re-circulating car washes and laundry systems shall be prohibited.
- New eating and drinking establishments and existing eating and drinking establishments that remodel more than 50 percent of the kitchen area shall install water conserving dish wash spray valves.

The following are suggested water use practices during periods of normal water supply availability:

- Use of water to wash walkways, driveways, parking areas and other hard surfaces should occur only as necessary to alleviate safety and sanitary hazards, and then only with a hose equipped with a positive shut off nozzle, a handheld bucket or similar container, or a low volume/high pressure water broom. Excessive water runoff into gutters is discouraged.
- Washing of vehicles and any other mobile equipment should be done only with a bucket or a hose equipped with a positive shut off nozzle for quick rinses. Commercial car washes are exempt from this provision.
- Voluntary water conservation water audits are encouraged;
- Retrofit of water conserving devices, including but not limited to ultra low flow toilets and low flow showerheads, is encouraged; and
- Installation of water efficient landscapes and irrigation devices, such as drip irrigation and moisture sensors, is encouraged. A drip irrigation system shall be defined as an irrigation system consisting of individual emitters installed at permanent plantings with a capacity to emit no more than 2 gallons of water per hour of operation.

The following are suggested water use practices during periods of voluntary water conservation:

- Leaks from indoor and outdoor plumbing fixtures shall be repaired within six days upon receipt of written notice of observed water leak.
- Washing of sidewalks, driveways, parking lots, building exteriors, streets and gutters should be minimized and limited to no more than two times during a month to alleviate safety and sanitary hazards, and then only with a hose equipped with a positive shut off nozzle, a handheld bucket or similar container, or a low volume/high pressure water broom.
- Watering lawns and landscaped areas should be limited to between the hours of 5:00 p.m. and 9:00 a.m. Watering using a handheld bucket or similar container, a hose equipped with a shut off nozzle, a drip irrigation system with emitters producing no more than two gallons per hour, weather based controllers or stream rotor sprinklers meeting a 70 percent efficiency standard, or running an irrigation system for short durations to make repairs or adjustments are exempt from this provision.

The following are mandatory water use practices during periods of Phase 1 water supply shortages:

- Washing of sidewalks, driveways, parking lots, building exteriors, streets and gutters shall be limited to no more than two times during a month to alleviate safety and sanitary hazards, and then only with a hose equipped with a positive shut off nozzle, a handheld bucket or similar container, or a low volume/high pressure water broom. Water used in this manner to protect the public health is exempt from this provision.
- Washing of vehicles and any other mobile equipment shall be done only with a bucket or a hose equipped with a positive shut off nozzle for quick rinses. Commercial car washes are exempt from this provision.
- Leaks from indoor and outdoor plumbing fixtures shall be repaired within five days upon receipt of written notice of observed water leak.
- Sprinklers must be adjusted to minimize water runoff from landscape on to hardscape areas. No person shall allow excess water runoff after notice from the City to desist therefrom. Excess water runoff is defined as water accumulation in the street, gutters, neighboring properties or in other amounts sufficient to cause a flow of water off of landscape areas.

- Landscape irrigation is recommended during the early morning hours for no more than 10 minutes at a time. Irrigation should be avoided between the hours of 9:00 a.m. and 5:00 p.m. Landscape irrigation for commercial nurseries and growers, active parks and playing fields, school grounds, golf course greens, landscaping for fire and erosion protection, protecting endangered species, environmental mitigation projects, and properties using reclaimed water shall be exempt from this provision. Watering using a handheld bucket or similar container, a hose equipped with a shut off nozzle, a drip irrigation system with emitters producing no more than two gallons per hour, weather based controllers or stream rotor sprinklers meeting a 70 percent efficiency standard, or running an irrigation system for short durations to make repairs or adjustments are exempt from this provision.

The following are additional mandatory water use practices during periods of Phase 2 water supply shortages:

- Residential landscape irrigation can occur no more than three times during a seven day period for no more than ten minutes at a time during the months of June, July, August and September, and prohibited during the hours of 9:00 a.m. and 5:00 p.m. Landscape irrigation shall be restricted to twice during a seven day period for no more than ten minutes at a time during the months of October, November, December, January, February, March, April and May, and prohibited during the hours of 9:00 a.m. and 5:00 p.m. Irrigation should be avoided between the hours of 9:00 a.m. and 5:00 p.m. Landscape irrigation for commercial nurseries and growers, active parks and playing fields, school grounds, golf course greens, landscaping for fire and erosion protection, protecting endangered species, environmental mitigation projects, and properties using reclaimed water shall be exempt from this provision. Watering using a handheld bucket or similar container, a hose equipped with a shut off nozzle, a drip irrigation system with emitters producing no more than two gallons per hour, weather based controllers or stream rotor sprinklers meeting a 70 percent efficiency standard, or running an irrigation system for short durations to make repairs or adjustments are exempt from this provision.
- Non-residential water customers with consumption in excess of 25,000 cubic feet in any billing period during the prior year, shall prepare a written water conservation plan within 60 days of the effective date of a declared water shortage. The customer shall submit said plan to the Director of Water Resources for approval. The customer shall then implement the approved plan to meet the specific conservation goals stated therein.
- Leaks from indoor and outdoor plumbing fixtures shall be repaired within four days upon receipt of written notice of observed water leak.

The following are additional mandatory water use practices during periods of Phase 3 water supply shortage:

- Residential and commercial landscape areas shall be watered no more than two times during a seven day period for no more than ten minutes at a time during the months of June, July, August and September, and prohibited during the hours of 9:00 a.m. and 5:00 p.m. Landscape irrigation shall be restricted to once during a seven day period for no more than ten minutes at a time during the months of October, November, December, January, February, March, April and May, and prohibited during the hours of 9:00 a.m. and 5:00 p.m. Irrigation should be avoided between the hours of 9:00 a.m. and 5:00 p.m. Watering using a handheld bucket or similar container, a hose equipped with a shut off nozzle, a drip irrigation system with emitters producing no more than two gallons per hour, weather based controllers or stream rotor sprinklers meeting a 70 percent efficiency standard, or running an irrigation system for short durations to make repairs or adjustments are exempt from this provision.
- Irrigation of commercial nurseries and growers, active parks and playing fields, school grounds, golf course greens, landscaping for fire and erosion protection, protecting endangered species, environmental mitigation projects, shall be restricted to no more than three times during a seven day period for no more than ten minutes at a time. Irrigation shall be prohibited during the hours of 9:00 a.m. and 4:00 p.m. Watering using a handheld bucket or similar container, a hose equipped with a shut off nozzle, a drip irrigation system with emitters producing no more than two gallons per hour, weather based controllers or stream rotor sprinklers meeting a 70 percent efficiency standard, or running an

irrigation system for short durations to make repairs or adjustments are exempt from this provision. Those properties using reclaimed water are exempt from this provision.

- Leaks from indoor and outdoor plumbing fixtures shall be repaired within three days upon receipt of written notice of observed water leak.

The following are additional mandatory water use practices during periods of Phase 4 water supply shortages:

- Residential and commercial landscape areas shall be watered no more than one time during a seven day period for no more than ten minutes at a time during the months of June, July, August and September, and prohibited during the hours of 9:00 a.m. and 5:00 p.m. Landscape irrigation shall be restricted to once during a fourteen day period for no more than ten minutes at a time during the months of October, November, December, January, February, March, April and May, and prohibited during the hours of 9:00 a.m. and 5:00 p.m. Irrigation should be avoided between the hours of 9:00 a.m. and 5:00 p.m. Watering using a handheld bucket or similar container, a hose equipped with a shut off nozzle, a drip irrigation system with emitters producing no more than two gallons per hour, weather based controllers or stream rotor sprinklers meeting a 70 percent efficiency standard, or running an irrigation system for short durations to make repairs or adjustments are exempt from this provision.
- Irrigation of commercial nurseries and growers, active parks and playing fields, school grounds, golf course greens, landscaping for fire and erosion protection, protecting endangered species, environmental mitigation projects, shall be restricted to no more than two times during a seven day period for no more than ten minutes at a time. Irrigation shall be prohibited during the hours of 9:00 a.m. and 4:00 p.m. Watering using a handheld bucket or similar container, a hose equipped with a shut off nozzle, a drip irrigation system with emitters producing no more than two gallons per hour, weather based controllers or stream rotor sprinklers meeting a 70 percent efficiency standard, or running an irrigation system for short durations to make repairs or adjustments are exempt from this provision. Those properties using reclaimed water are exempt from this provision.
- Leaks from indoor and outdoor plumbing fixtures shall be repaired within two days upon receipt of written notice of observed water leak.

The following are additional mandatory water use practices during periods of Phase 5 water supply shortage:

- Residential and commercial landscaping shall be restricted to watering only permanent trees and shrubs with a hand carried bucket or similar container, or drip irrigation system with emitters producing no more than two gallons per hour one time during a seven day period during the months of June, July, August and September, and prohibited during the hours of 8:00 a.m. and 8:00 p.m. Landscape irrigation shall be restricted to watering only permanent trees and shrubs with a hand carried bucket or drip irrigation system with emitters producing no more than two gallons per hour one time during a fourteen day period during the months of October, November, December, January, February, March, April and May, and prohibited during the hours of 9:00 a.m. and 5:00 p.m.
- Irrigation of commercial nurseries and growers shall be restricted to one time during a seven day period and prohibited during the hours of 9:00 a.m. and 6:00 p.m. Watering using a handheld bucket or similar container, a hose equipped with a shut off nozzle, a drip irrigation system with emitters producing no more than two gallons per hour, weather based controllers or stream rotor sprinklers meeting a 70 percent efficiency standard, or running an irrigation system for short durations to make repairs or adjustments are exempt from this provision. Those properties using reclaimed water are exempt from this provision.
- Irrigation of active parks and playing fields, school grounds, golf course greens, landscaping for fire and erosion protection, protecting endangered species, environmental mitigation projects, shall be restricted to no more than twice during a seven day period for no more than ten minutes at a time. Irrigation shall be prohibited during the hours of 9:00 a.m. and 4:00 p.m. Watering using a handheld bucket or similar container, a hose equipped with a shut off nozzle, a drip irrigation system with emitters producing no more than two gallons per hour, weather based controllers or stream rotor sprinklers meeting a 70

percent efficiency standard, or running an irrigation system for short durations to make repairs or adjustments are exempt from this provision. Those properties using reclaimed water are exempt from this provision.

- Leaks from indoor and outdoor plumbing fixtures shall be repaired within 24 hours upon receipt of written notice of observed water leak.

Failure to meet the water use restrictions can result in a fine and/or the turn off of water service to the property. The City allows a water customer to file a petition, which waves the water use restrictions. The customer completes the Request for Exemption from Water Use Restrictions form (Attachment 9); the Department of Water Resources staff reviews the information and renders a decision. The customer can appeal the staff's decision to the City Council.

The City developed a water waste door hanger as a means to educate customers and to respond to neighbors witnessing water waste. Water customer service staff and Lakewood code enforcement officers use these tags as a first contact for water wasting customers. See Attachment 18.

Residential Toilet Replacement Program

The City does not operate a toilet replacement program. The Central Basin Municipal Water District (CBMWD) discontinued the high efficiency toilet rebate program on June 1, 2010. Prior to the end of the program Lakewood water customers who wanted to participate would purchase and install a low water use toilet, complete an application provided by CBMWD, and send the application, proof of purchase, and proof of residency (copy of most recent water bill) to CBMWD. Lakewood residents also participated in CBMWD sponsored toilet exchange programs during Fiscal Year 2006, 2007 and 2009. Residents, armed with the latest water bill, received a high efficiency toilet and water conserving showerhead. Several weeks later the resident returned to the drop off the used toilet.

CBMWD has distributed 364 toilets to Lakewood residents through a toilet exchange program and distributed 306 toilet rebates since 2005. See the tables below for information on the residential toilet replacement program. The annualized water savings totals 20 acre feet.

Single Family Residential High Efficiency Toilet Replacement Program

	2006	***2007***	***2008***	***2009***	***2010***
# Rebates	11	80	6	2	40
# Direct Installs					
# CBO Installs	294	47		23	
Expenditures	Program Paid For By CBMWD				
Water Savings AF	9.15	3.81	.18	.75	1.2

Multifamily Residential ULF Toilet Replacement Program

	2006	2007	2008	2009	2010
# Rebates				167	
# Direct Installs					
# CBO Installs					
Expenditures	Program Paid For By CBMWD				
Water Savings AF				5	

Demand Management Measures Not Implemented

The utility has not and does not plan to implement one of the Demand Management Measures: system water audits, leak detection and repair.

Demand Management Measures Not Implemented

Non-implemented & Not Scheduled DMM/Planned Water Supply Project Name	*Per Acre Foot Cost ($)*
System Water Audits, Leak Detection and Repair	$719

System Water Audits, Leak Detection and Repair

According to the California Urban Water Conservation Council, water system audits quantify water production and water sales, testing water meters, and field checking the distribution system.

The City does not contract for a distribution leak audit, due to the low volume of water lost through the system. A comparison of metered water sales, production, authorized non-metered uses (i.e. street sweeping, water used for storm drain clearing, annual mainline flushing and test pumping production facilities prior to meter installation) and metered water production indicates Lakewood had an unaccounted water loss of 90 acre feet in FY2010 or 1 percent of the total water produced. The cost of an audit is approximately $97,000. Assuming that a leak detection audit saves 50 percent of the unaccounted for water in the distribution system, 45 acre feet of unaccounted water would be saved annually.

Groundwater extraction fees for the Fiscal Year 2010 was $185.85 an acre foot. The energy cost for groundwater production was $51.82 per acre foot; totaling $238 per acre foot. The cost of implementing the program is estimated at $719 an acre foot, which indicates the program, is not cost effective to implement.

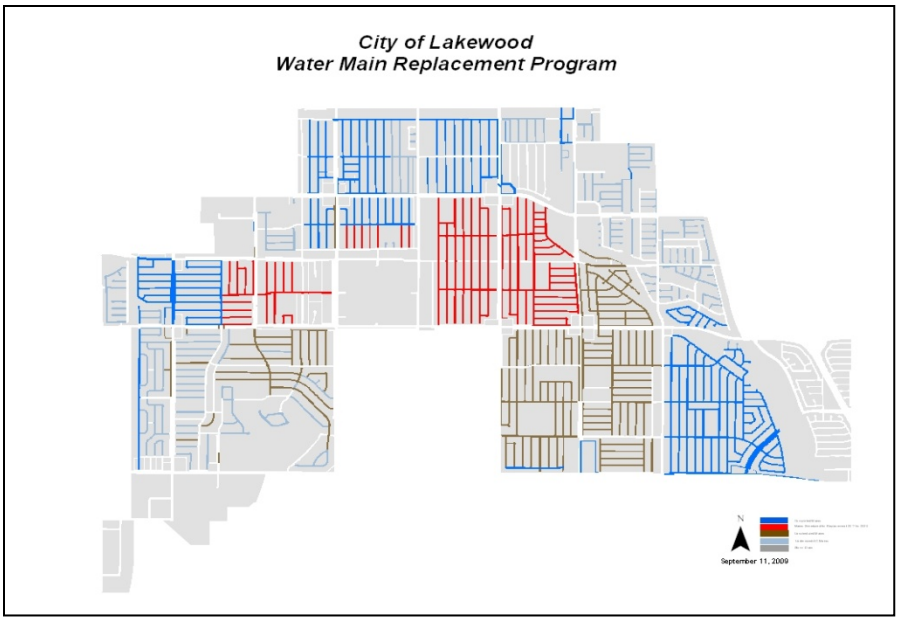
Cost/Benefit System Water Audits, Leak Detection & Repair

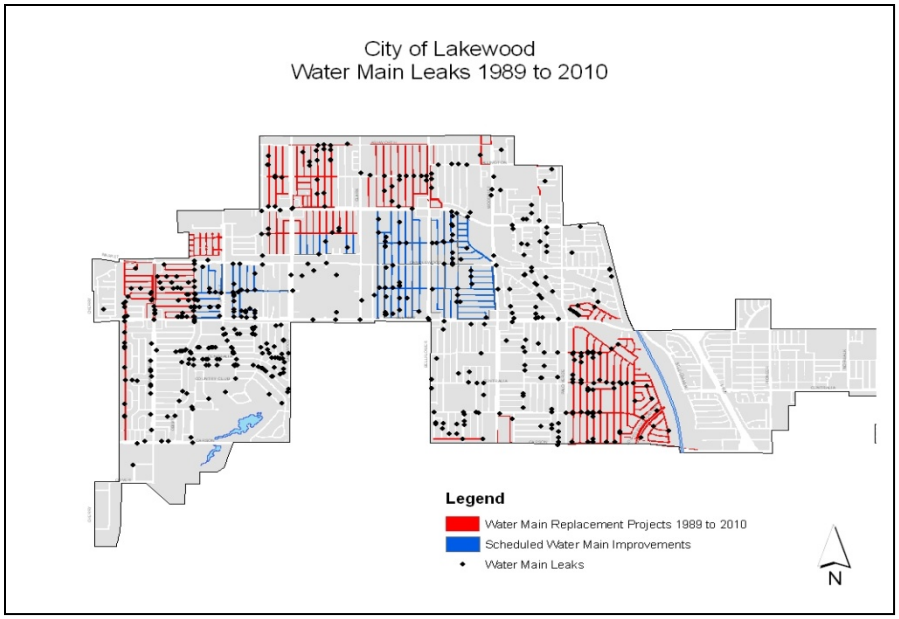
Total Costs	$97,000
Total Benefits	$32,130
Time Horizon	3 Years
Cost of Water ($ per AF)	$238
Water Savings (AF/Y)	45

The Department of Water Resources does implement procedures to minimize water loss caused by consumer leaks. See Section on Water Survey Programs for Single-Family

and Multifamily Residential Customers for additional information.

In addition to providing assistance with consumer leak detection, the City has chosen to focus funds for the improvement of water mains. The location of water main breaks and water quality complaints are maintained and located on a GIS based map to determine which areas of the water system are most vulnerable to breaks. These areas are targeted for replacement. In 1990 the City maintained almost 80 miles of 4-inch undersized cast iron and steel water mains. In the last 20 years 37 miles of mains have been replaced.





SECTION 7: Completed Urban Water Management Plan Checklist

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 p. 1
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, p. 1-2
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)		Resolution 2011-23 following title page
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, p. 2
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, p. 1-2
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		Attachment 21

No.	UWMP requirement [a]	Calif. Water Code reference	Additional clarification	UWMP location
57	Provide supporting documentation that the plan has been adopted as prepared or modified.	10642		Resolution 2011-23 following title page
58	Provide supporting documentation as to how the water supplier plans to implement its plan.	10643		Section 1, p. 2
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, p. 2, Attachment 21
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		Section1, p. 2
SYSTEM DESCRIPTION				
8	Describe the water supplier service area.	10631(a)		Section 2, p. 3
9	Describe the climate and other demographic factors of the service area of the supplier	10631(a)		Section 2, p. 3-6
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 2, p. 6-7
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 2, p. 7
12	Describe other demographic factors affecting the supplier's water management planning.	10631(a)		Section 2, p. 3-6
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 basis for determining those estimates, including references to supporting data.	10608.20(e)		Section 3, p. 9-17, Attachment 1

No.	UWMP requirement [a]	Calif. Water Code reference	Additional clarification	UWMP location
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, p. 2, Section3, p. 17-18
3	Report progress in meeting urban water use targets using the standardized form.	10608.40		Does Not Apply to 2010 UWMP
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 3, p. 9-14
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 3, p. 18 Do not purchase potable water from wholesale agency
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 3. p. 11-12
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 4, p. 19-30

No.	UWMP requirement [a]	Calif. Water Code reference	Additional clarification	UWMP location
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.	Yes Section 4, p. 19-24
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)		Adjudicated Basin Managed by Water Replenishment District of Southern California Section 4, p. 20-24
16	Describe the groundwater basin.	10631(b)(2)		Section 4, p. 20-21
17	Indicate whether the groundwater basin is adjudicated. Include a copy of the court order or decree.	10631(b)(2)		Groundwater Basin Adjudicated Attachment 4
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 4, p. 23-24
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 4, p. 23-24

No.	UWMP requirement [a]	Calif. Water Code reference	Additional clarification	UWMP location
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 4, p. 24
24	Describe the opportunities for exchanges or transfers of water on a short-term or long-term basis.	10631(d)		Section 4, p. 24-25
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, p. 30
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, p. 25
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 4, p. 25-30
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 4, p. 26-27
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 4, p. 26-27
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 4, p. 28-29
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 4, p. 29-30
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 4, p. 28

No.	UWMP requirement [a]	Calif. Water Code reference	Additional clarification	UWMP location
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 4, p. 28-29
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 4, p. 29-30, Attachment 5
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 5, p. 31-32
22	Describe the reliability of the water supply and vulnerability to seasonal or climatic shortage and provide data for (A) an average water year, (B) a single dry water year, and (C) multiple dry water years.	10631(c)(1)		Section 5, p. 31-46
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 5, p. 32
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 5, p. 32-34
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 5, p. 42-44
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 5, p. 32-34
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 5, p. 34-35

No.	UWMP requirement [a]	Calif. Water Code reference	Additional clarification	UWMP location
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 5, p. 35-38
40	Indicated penalties or charges for excessive use, where applicable.	10632(f)		Section 5, p. 37-38
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 5, p. 38-40
42	Provide a draft water shortage contingency resolution or ordinance.	10632(h)		Attachments 7, 8 & 10
43	Indicate a mechanism for determining actual reductions in water use pursuant to the urban water shortage contingency analysis.	10632(i)		Section 5, p. 41
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 5, p. 41-42
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, p. 42-46
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 6, p. 47-62

No.	UWMP requirement [a]	Calif. Water Code reference	Additional clarification	UWMP location
27	Describe the methods the supplier uses to evaluate the effectiveness of DMMs implemented or described in the UWMP.	10631(f)(3)		Section 6, p. 47-62
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 6, p. 47-62
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 6, p. 61-62
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 signatory of the MOU

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.

Attachments

Attachment 1: Calculation of 20 Percent per Capita Water Reduction Goal
- City of Lakewood Calculations:
  - Table 1 Urban Retail Water Supplier Gross Water Use Calculation
  - Table 2 Calculation of Annual Deductable Volume of Indirect Recycled Water Entering Distribution System
  - Table 3 Base Daily per Capita Water Use for Section 10608.22
  - Table 4 Base Daly per Capita Water Use Calculation for Section 10608.20
- Los Angeles Gateway Region Integrated Regional Management JPA Calculations:
  - Los Angeles Gateway Region Integrated Regional Management JPA Letter of Adoption of the Gateway Regional Water Conservation Alliance Report, June 15, 2011
  - Gateway Regional Water Conservation Alliance Report, Los Angeles Gateway Region Integrated Regional Water Management Authority, June 2011

Attachment 2: Water Conservation Rebate Program
- FAQs for Device Rebate Incentive Program
- Water Conservation Device Rebate Program Application
- Types of Rebates (Devices)
- FAQs Turf Removal Rebate Program
- Turf Project Types of Rebates
- Sample Turf Removal Pre-Application
- Sample Turf Removal Plan
- Sample of Turf Removal Rebate Check List
- Turf Removal “How to measure areas”

Attachment 3: Central Groundwater Basin Historical Groundwater Recharge
- Table: Historical Amounts of Water for Replenishment, Water Replenishment District of Southern California2010 Engineering Survey and Report, p. A-4

Attachment 4: Central Groundwater Basin Judgment
- Superior Court of the State of California for the County of Los Angeles, 786,656 Second Amended Judgment (Declaring and Establishing Water Rights in Central Basin and enjoying extractions therefrom in excess of specified quantities.)

Attachment 5: Recycled Water Feasibility Study
- City of Lakewood Feasibility Study for the Proposed Expansion of the Lakewood Recycled Water System in Los Angeles County, California July 15, 2010

Attachment 6: Lakewood Department of Water Resources Emergency Public Notification Plan

Attachment 7: Declaration of Water Supply Emergency Resolution
Resolution No. 91-12 A Resolution of the City Council of the City of Lakewood Declaring Phase 1 of the Lakewood Water Conservation Plan by Reason of a Water Supply Shortage

Attachment 8: Water Conservation Ordinance
Lakewood Municipal Code Section 7500Water Works System, Revised 2009

Attachment 9: City of Lakewood Department of Water Resources Request for Exemption from Water Use Restrictions

Attachment 10: Water Conservation Rate Structure
City of Lakewood Resolution No. 2009-6 A Resolution of the City Council of the City of Lakewood, Establishing Rules, Regulations and Charges Governing Water Conservation and Repealing Prior Action
Water Service Procedure Manual, City of Lakewood, CA

Attachment 11: City of Lakewood Department of Water Resources Residential Water Audit Checklist

Attachment 12: *Lakewood Living Annual Water Quality Report, March 2011, Volume 33, No. 2*

Attachment 13: Landscape Audit Results from Lakewood Parks
Water Wise Consulting Inc., City of Lakewood Facilities Details April 1, 2009

Attachment 14: Water Conservation in Landscaping Ordinance
Lakewood Municipal Code Section8600 Water Conservation in Landscaping Revised 2009

Attachment 15: Procedures for Water Conservation in Landscaping Ordinance
Resolution No. 2009-59 A Resolution of the City Council of the City of Lakewood, Establishing Rules, Regulations and Procedures Governing the Implementation of the Water Conservation in Landscaping Ordinance
City of Lakewood Water Conservation in Landscaping Rules, Regulations and Procedures

Attachment 16: Lakewood Briefs
Lakewood Briefs March 2009 “Is Your Home Water Tight?”
Lakewood Briefs May/June 2010 “Conserve Lakewood. It’s up to us”
Lakewood Briefs July/August 2010 “Saving H2O It’s up to us”

Lakewood Briefs September/October 2010 “It’s up to us!”

Attachment 17: Lakewood Water Conservation Mailing
Is Your Home Water Tight? April 2009
Attachment 18: Lakewood Water Waste Door Hanger
Is Your Home Water Tight? April 2009

Attachment 19: Lakewood Water Conservation Brochure
Lakewood Water. Ideas for wise water management. It’s up to us. April 2010

Attachment 20: City of Lakewood Water Conservation Business Plan

Attachment 21: Proof of Notification & Distribution of 2010 City of Lakewood Urban Water Management Plan Update
Agenda Regular City Council Meeting, May 24, 2011
Transmittal Letter for Draft 2010 City of Lakewood Urban Water Management Plan Update and Distribution List
City of Lakewood Notice of Availability
Other Advertisement of Public Hearing:
Lakewood Living April 2011

TABLE 1
Urban Retail Water Supplier Gross Water Use Calculation
CITY OF LAKEWOOD
12-Month Period: July 1 to June 30

Calculation		FY96	FY97	FY98	FY99	FY00	FY01	FY02	FY03	FY04	FY05
1	Volume from Own Sources (Raw Data)	9,158	9,353	8,522	8,813	9,167	8,758	9,230	8,946	9,491	8,869
	Meter Error Adjustment (+/-)										
	Subtotal: Corrected Volume Own Sources:	9,158	9,353	8,522	8,813	9,167	8,758	9,230	8,946	9,491	8,869
2	Volume from Import Sources (Raw Data)	-	92	36	-	-	-	-	-	-	-
	Meter Error Adjustment (+/-)										
	Subtotal: Corrected Volume Imported Sources:	-	92	36	-	-	-	-	-	-	-
3	TOTAL VOLUME INTO DISTRIBUTION SYSTEM	9,158	9,445	8,558	8,813	9,167	8,758	9,230	8,946	9,491	8,869
4	Volume Exported to Other Utilities	-	-	-	-	-	-	-	-	-	-
	Meter Error Adjustment (+/-)										
	Subtotal Corrected Volume to Other Utilities	-	-	-	-	-	-	-	-	-	-
5	Change in Distribution System Storage (+/-)										
	GROSS WATER USE BEFORE INDIRECT RECYCLED										
6	WATER USE DEDUCTIONS	9,158	9,445	8,558	8,813	9,167	8,758	9,230	8,946	9,491	8,869
7	Indirect Recycled Water Use Deduction	1,986	1,986	1,986	1,986	1,986	1,986	1,986	1,986	1,986	1,986
	GROSS WATER USE AFTER INDIRECT WATER USE										
8	DEDUCTIONS	7,172	7,459	6,572	6,827	7,181	6,772	7,244	6,960	7,505	6,883
9	Water Delivered to Ag. Use	-	-	-	-	-	-	-	-	-	-
10	Process Water Use	-	-	-	-	-	-	-	-	-	-
11	GROSS WATER USE AFTER OPTIONAL DEDUCTIONS	7,172	7,459	6,572	6,827	7,181	6,772	7,244	6,960	7,505	6,883
										Average Water Use	7,058
										Average Water Use	6,299,589
										Per Capita Per Day	107

TABLE 2
Calculation of Annual Deductable Volume of Indirect Recycled Water Entering Distribution System
CITY OF LAKEWOOD
12-Month Period: July 1 to June 30

Groundwater Recharge	5-Year Annual Average Recharge (AF)	Recharge Recovery Factor	Recycled Water Pumped from Basin (AF)	Utility Pumping as % of Basin Total	Recycled Water Pumped by Utility (AF)	Transmission/ Treatment Loss	Transmission/ Treatment Loss (AF)	Volume Entering Distribution Ssytem (AF)
Central Groundwater Basin	47,382	90%	42,644	5%	2,047	3%	61	1,986
					Deductable Volume of Indirect Recycled Water Entering Distribution System:			1,986

TABLE 3
Base Daily per Capita Water Use Calculation for Section 10608.22
CITY OF LAKEWOOD
12-Month Period: July 1 to June 30

	(1)		(2)	(3)	(4)
Base Years	Fiscal Year		Service Area Population	Gross Water Use (Gallons per Day)	Daily per Capita Water Use (3)/(2)
Year 1		2004	61,311	6,593,798	108
Year 2		2005	61,478	6,032,466	98
Year 3		2006	61,398	6,388,541	104
Year 4		2007	61,296	6,860,631	112
Year 5		2008	61,325	6,446,548	105
				Total of Column (4):	527
				Divide Total by 5:	105

TABLE 4
Base Daily per Capita Water Use Calculation for Section 10608.20
CITY OF LAKEWOOD
12-Month Period: July 1 to June 30

	(1)		(2)	(3)	(4)
Base Years	Fiscal Year		Service Area Population	Gross Water Use (Gallons per Day)	Daily per Capita Water Use (3)/(2)
Year 1		1996	56,828	6,320,718	111
Year 2		1996	57,275	6,576,842	115
Year 3		1996	57,751	5,785,266	100
Year 4		1996	58,371	6,012,833	103
Year 5		1996	58,461	6,328,749	108
Year 6		1996	58,715	5,963,750	102
Year 7		1996	60,163	6,376,047	106
Year 8		1996	60,804	6,201,133	102
Year 9		1996	61,311	6,593,798	108
Year 10		1996	61,478	6,032,466	98
				Total of Column (4):	1,053
				Divide Total by 5:	105

Los Angeles Gateway Region

Integrated Regional Water Management
Joint Powers Authority
16401 Paramount Blvd., Paramount, CA 90723
562-663-6850 phone; 562-634-8216 fax

June 15, 2011

20x2020 Regional Alliance Members:
Bellflower-Somerset Mutual Water Company; Bell Gardens, Cerritos, Downey, Huntington Park, Lakewood, Long Beach, Lynwood, Norwalk, Paramount, Pico Rivera, Pico Water District, Santa Fe Springs, Signal Hill, South Gate, Vernon, Whittier

Dear Regional Alliance Member:

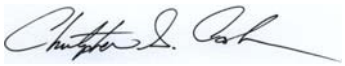
On Thursday, June 9, 2011, the Los Angeles Gateway Region Integrated Regional Water Management Authority (Gateway Authority) adopted the Gateway Regional Water Conservation Alliance Report. The methodologies adopted in the report reflect the Department of Water Resources, Methodology 9-Option 1 for calculating the 2020 Target and 2015 Interim Target for the Gateway Regional Alliance.

Final copies of the report will be sent to members by early July 2011.

If you have any questions, please do not hesitate to call Ms. Grace J. Kast, Executive Officer of the Gateway Authority at 562-663-6850 or gjkast64@gmail.com.

Thank you.

Sincerely,



Christopher Cash, Chair
Gateway Authority

Gateway Regional Water Conservation Alliance Report

Los Angeles Gateway Region Integrated Regional Water Management Authority

June 2011

Gateway Regional Water Conservation Alliance Report

Los Angeles Gateway Region Integrated Regional Water Management Authority

June 2011

1 Introduction

The Senate Bill X7-7 (SBX7-7), the Water Conservation Act of 2009 (Act) was signed into law November 2009. This legislation set a goal of achieving a 20 percent statewide reduction in urban per capita water use, and requires urban retail water suppliers to set 2020 Urban Water Use Targets to meet that goal. Commonly referred to as the 20 by 2020 plan The Act identifies the methodologies, water use targets and reporting requirements that apply to urban water suppliers. It directed the California Department of Water Resources (DWR) to develop technical methodologies and criteria to ensure the consistent implementation of the Act, and to provide guidance to urban retail water suppliers in developing baseline water use and compliance water use targets.

The Act requires that urban retail water suppliers who have either 3000 or more connections or provide 3000 acre-feet or more of water per year to their customers, develop Per Capita Urban Water Use Targets for 2020 in order to qualify for state grants and loans. Each urban retail water supplier must include the following information in their Urban Water Management Plans (UWMPs), beginning in their submittal for 2010:

- Baseline Daily Per Capita Water Use (Baseline)
- 2020 Urban Water Use Target (2020 Target)
- 2015 Interim Urban Water Use Target (2015 Interim Target)

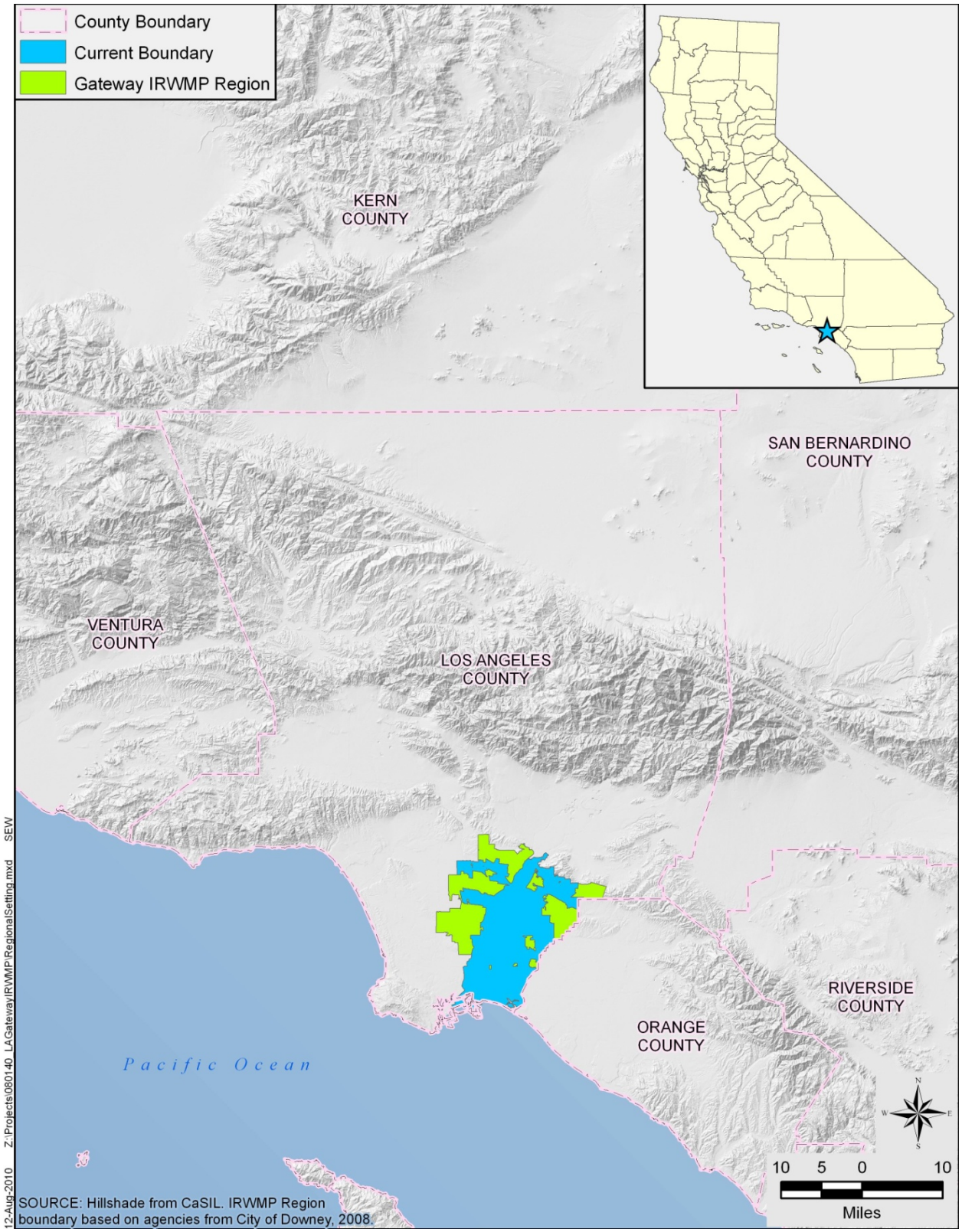
According to Sections 10608.20(a)(1) and 10608.28 of the California Water Code, urban retail water suppliers may plan, comply, and report the above information on a regional basis, an individual basis, or both.

The Gateway Cities formed the Los Angeles Gateway Integrated Water Management Authority (Gateway Authority) to develop a detailed integrated regional water management plan specifically for the Gateway area and to assist the area in other water related projects. The Gateway Authority is an official joint powers authority (JPA) under California law. There are currently 19 entities signatory to the JPA. They are actively engaging in both stakeholder and public outreach programs to expand JPA membership. The Gateway Region is located in southeast Los Angeles County, see Figure 1.

As most urban water retailers in the Gateway Region are signatories to the Gateway Authority, it is a logical extension of regional planning efforts for the Authority to comply with the reporting requirements of SBX7-7 on a regional basis.

If complying on a regional basis, a letter must be submitted to DWR stating that a Regional Alliance has been formed. The alliance members must sign an agreement committing to their participation and to meeting the 2015 interim and 2020 Urban Water Use Targets. Each board must also submit a resolution binding their agency to that agreement. Regional 2020 Targets and 2015 Interim Targets must also be included in each Regional Alliance member's Urban Water Management Plan.

Figure 1. Gateway Authority Location



If a Regional Alliance meets its regional target, then all suppliers in the alliance will be deemed compliant. If a Regional Alliance fails to meet its regional target, water suppliers in the Alliance that meet their individual targets will be deemed compliant. Water suppliers in alliances that meet neither their individual target nor their regional target will be deemed non-compliant. In general, urban water suppliers that use less than 100 gallons per capita per day are exempt from setting compliance targets. An agency that has a low per capita water use helps lower the target for the region, but can still use its individually calculated target.

The participating agencies within the Gateway Region formed a regional alliance. Copies of the draft Letter Agreement and draft resolution can be found in Appendix C.

One goal of the Gateway Regional Alliance is to provide flexibility for the cities and water agencies within the Gateway Region to comply with the requirements of SBX7-7. By enabling the cities and water agencies in the area to plan, comply, and report either regionally or independently, the Gateway Regional Alliance improves the likelihood that those cities and water agencies will qualify for grant funds. A second, long-term goal is for the participating agencies to take a regional approach to water conservation and encourage further cooperation between the participating agencies.

2 Outreach and Participation

2.1 Regional Alliance

A total of 24 urban water suppliers (cities, water companies, and water districts) in the Gateway IRWMP area were invited to form the Gateway Regional Alliance. Figure 2 below shows all of the communities located within the Gateway IRWMP area. A contact list was developed and the urban water suppliers in the Gateway IRWMP area were engaged during the early stages of the Gateway Regional Alliance process. A letter, Appendix A, was sent to each of the water supplier representatives, which included an explanation of the goals and objectives of forming the Gateway Regional Alliance and the benefits of planning, reporting, and complying with the Water Conservation Act of 2009. In addition to the letter, an email with requests for specific water use data was sent out to each urban water supplier. The email explained the type of data required for the 20x2020 Compliance calculations, and identified where that data might be found. Follow-up telephone calls were made to encourage participation in the Gateway Regional Alliance as well as provide information about the alliance process in general and to clarify any questions regarding the data requests.

Once agency-specific data was received and processed, the information was sent back to the individual representatives for their review and comment. Comments, if any, were addressed, and the individual data was entered into the database for regional calculations.

Of the 24 urban water suppliers that were contacted, 17 agencies have agreed to participate and will form the Gateway Regional Alliance.

Participating Agencies	
Bellflower-Somerset Mutual Water Company	City of Bell Gardens
City of Cerritos	City of Downey
City of Huntington Park	City of Lakewood
City of Long Beach	City of Lynwood
City of Norwalk	City of Paramount
City of Pico Rivera	Pico Water District
City of Santa Fe Springs	City of Signal Hill
City of South Gate	City of Vernon
City of Whittier	

The remaining urban water suppliers, listed below, chose not to participate because they are not required to submit an UWMP or stated that they would comply with the SBX7-7 requirements individually.

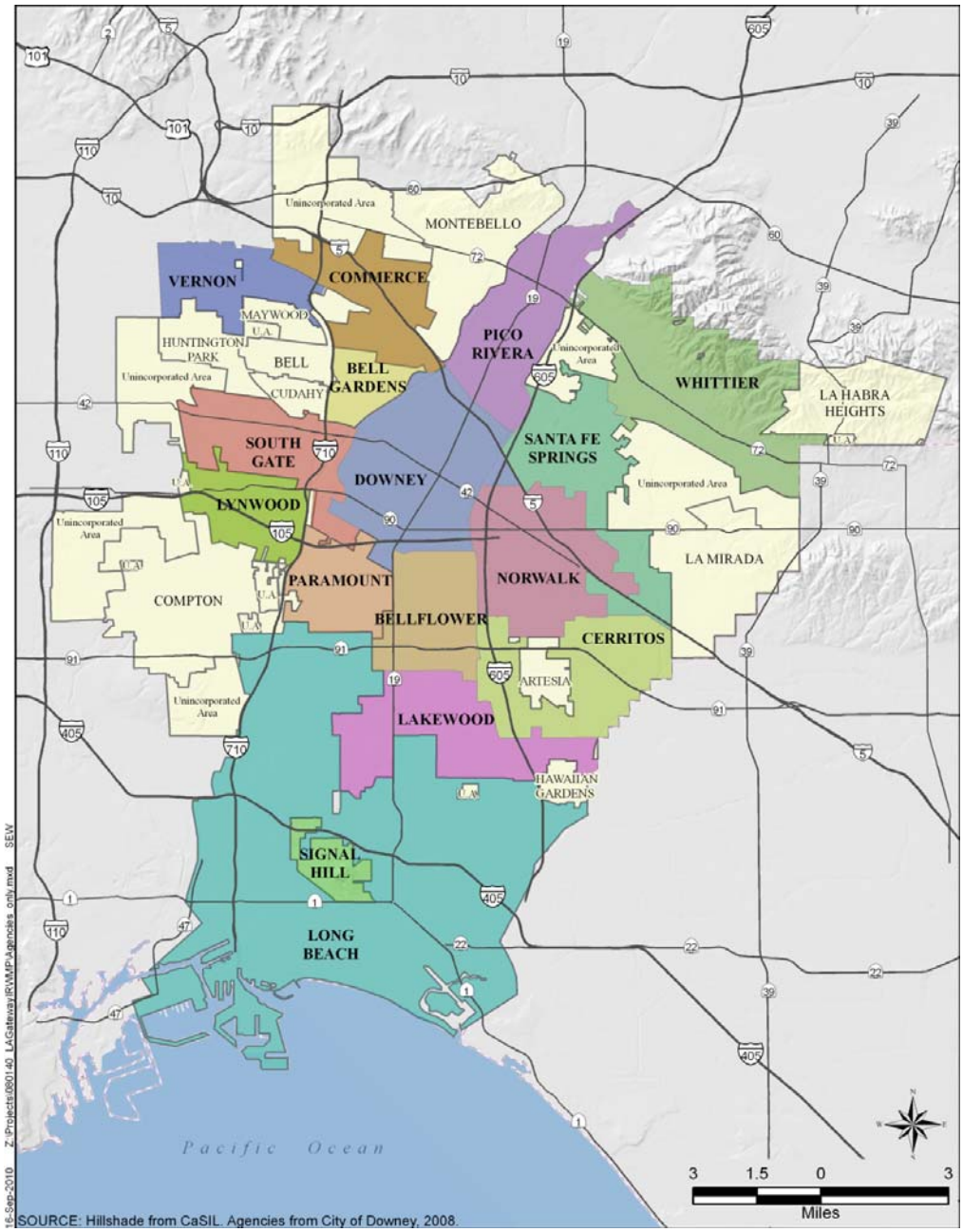
California Water Service Company	Doing own calculations
City of Commerce	UWMP not required
Golden State Water Company	Doing own calculations
La Habra Heights County Water District	UWMP not required
Montebello Land & Water	Doing own calculations
Park Water Company	Doing own calculations
San Gabriel Valley Water Company	Doing own calculations
Suburban Water Systems	Doing own calculations

2.2 Public Hearing

A public hearing was conducted as required by the guidelines to gather any public comments on the formation of a regional alliance for reporting water use targets and on the draft results of the 20x2020 calculations (presented later in this document). The hearing was held on May 13 in conjunction with a regular meeting of the Gateway Authority. The hearing was noticed on May 4 and May 10, 2011 in the Los Angeles Times and the Long Beach Press Telegram, as well as being noticed in the Gateway Authority May 13, 2011 Agenda.

On behalf of the Authority, Gateway Authority's consultant presented the background and results of the 2015 and 2020 water use targets for the region and for each individual participating agency. There were no comments submitted at the public hearing.

Figure 2. Gateway IRWMP Area Map



3 Calculations

The following is an explanation of the elements used to calculate the urban per capita water use for both the 10-Year and the 5-Year Baseline periods:

- **Population Estimate:** The population estimates were obtained from each agency's DWR Public Water System Statistics Reports. Each agency's service area population estimates were developed based on US Census data and California Department of Finance data.
- **Groundwater Extraction:** Groundwater extraction values from each agency were obtained from analysis of DWR Public Water System Statistics Reports. Groundwater used to develop water production wells and groundwater sold to other water utilities was deducted from the overall groundwater extraction volume. This identified the amount of groundwater entering a given agency's distribution system.
- **Purchased Water:** The Alliance participants made numerous water purchases during the selected 10-Year and 5-Year Baseline periods. Additional water was purchased intra-regionally – between suppliers – as well as from the Central Basin Municipal Water District. Purchased water was excluded from the selling agency's calculated water use, but included in the purchasing agency's water use; thus the same water was not counted twice.
- **Distribution System Storage Change:** The net change in the distribution system storage was not included in the gross water calculation.
- **Agricultural Water Use and Process Water:** Agricultural and process water uses were not included in the gross water use calculation.
- **Gross Water Use Before Indirect Recycled Water Use:** Groundwater extractions and purchased potable water were combined to obtain the gross water use.
- **Indirect Water Use Deduction:** The Water Replenishment District of Southern California (WRD) uses recycled water as a supplement to imported water, local water, and natural recharge for replenishment of the groundwater basin. Table A-1 below (Water Replenishment District of Southern California, Engineering Survey and Report, 2011, p. A-6) displays the historical amount of water replenished in the Montebello Forebay Spreading Grounds. The five-year average of recycled water present in the recharged water was estimated for each year in the baseline period. This yearly percentage of recycled water, a 10 percent "in-basin loss," and a 3 percent "distribution system loss," were excluded from the groundwater extraction for each year in the baseline period.
- **Adjusted Gross Water Use Before Indirect Recycled Water Use:** Groundwater extractions adjusted for indirect recycled water use and purchased potable water were combined to obtain the adjusted urban water use.

Table A-1

(In Acre-feet)

YEAR	GROUNDWATER PRODUCTION	IMPORTED WATER FOR DIRECT USE*	RECLAIMED WATER FOR DIRECT USE*	TOTAL
WATER YEAR				
1960-61	354,400	196,800		551,200
1961-62	334,900	178,784		513,684
1962-63	284,500	222,131		506,631
1963-64	280,400	257,725		538,125
1964-65	271,400	313,766		585,166
1965-66	283,600	308,043		591,643
1966-67	269,000	352,787		621,787
1967-68	281,700	374,526		656,226
1968-69	275,400	365,528		640,928
1969-70	284,800	398,149		682,949
1970-71	272,500	397,122		669,622
1971-72	280,900	428,713		709,613
1972-73	265,900	400,785		666,685
1973-74	266,300	410,546		676,846
1974-75	269,800	380,228		650,028
1975-76	274,700	404,958		679,658
1976-77	271,300	355,896		627,196
1977-78	254,900	373,116		628,016
1978-79	265,000	380,101	100 [(a)]	645,201
1979-80	266,600	397,213	200	664,013
1980-81	269,626	294,730	300	564,656
1981-82	264,461	391,734	300	656,495
1982-83	252,090	408,543	400	661,033
1983-84	248,590	441,151	1,800	691,541
1984-85	245,831	451,549	2,000	699,380
1985-86	249,334	427,860	2,400	679,594
1986-87	244,686	478,744	2,300	725,730
1987-88	238,541	479,318	3,500	721,359
1988-89	244,530	466,166	5,300	715,996
1989-90	245,668	448,285	5,900	699,853
1990-91	240,700	485,109	5,000	730,809
1991-92	252,718	395,191	4,900	652,809
1992-93	190,736	388,949	824	580,509
1993-94	198,391	483,287	3,413	685,091
1994-95	221,998	437,191	6,143	665,332
1995-96	234,636	426,699	19,804	681,139
1996-97	240,137	436,569	25,046	701,752
1997-98	240,164	375,738	27,075	642,977
1998-99	256,344	396,655	30,510	683,509
1999-00	252,082	395,681	33,589	681,352
2000-01	249,231	395,024	32,589	676,844
2001-02	250,231	395,799	38,694	684,724
2002-03	242,214	381,148	38,839	662,201
2003-04	248,378	389,233	36,626	674,237
2004-05	230,004	402,660	33,988	666,652
2005-06	227,839	366,815	35,301	629,955
2006-07	235,770	376,492	41,899	654,161
2007-08	244,732	346,035	45,120	635,887
2008-09	243,402	320,711	43,153	607,266
2009-10	241,329	278,857	43,547	563,734
TOTAL	12,852,393	19,058,840	570,561	32,481,793

(a) Los Coyotes on-line in 1979; Long Beach on-line in 1980

** - Includes imported & recycled at seawater barriers, but not spreading grounds.*

The Act requires that a 2020 Target and 2015 Interim Target be calculated using the above elements and one of four methods. These methods, as described in the 2010 UWMP Guidebook, as follows:

- **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, landscaped area water use, and CII uses.
- **Method 3:** Ninety-five percent of the applicable state hydrologic region target.
- **Method 4:** Calculated savings of metering currently unmetered water connections and achieving water conservation measures in three water use sectors.

While the above methods are used to calculate the 2020 Target and 2015 Interim Target for individual agencies, Method 9 is used to calculate the 2020 Target and 2015 Interim Target for a regional alliance. Method 9 does not utilize a distinct set of calculations; rather, the above methods are applied to the region using one of three options described in the 2010 UWMP Guidebook. These options are listed below:

- **Option 1:** A population-weighted average. A target is calculated for an individual urban water supplier, using any method described above, and for any baseline period (ending between December 31, 2004 and December 31, 2010). An agency's target is then multiplied by the ratio of that agency's population to the total population. Summing the resulting values from all participating agencies yields the Regional 2020 Target.
- **Option 2 and Option 3:** An aggregate of individual agency water use and population information. There are slight differences between Option 2 and Option 3, but they can be similarly described. The water use and population information is summed for all participating agencies, and the regional base daily per capita water use is calculated for each year. The 10-year or 15-year baseline is calculated for the region, and one of the four methods described above is applied to obtain the 2020 Target.

4 Results

Multiple Method-and-Option combinations were analyzed to calculate a 2020 Target that would best suit the Gateway Regional Alliance. While the Gateway Regional Alliance elected to calculate the 2020 Target using Option 1 with Method 1 and Method 3, the results of other approaches can be found in Appendix B. The following table details the agency-specific 5-year Baseline, 10-year Baseline, and 2020 Target as well as the Regional 10-Year Baseline, the Regional 2020 Target, and the Regional 2015 Interim Target.

Table 2. Regional Target Calculation

Methodology 9: Option 1 – Population Weighted Average								
City/Agency	**2010 Population**	**2010 5yr Baseline GPCD**	**2010 10yr Baseline GPCD**	**Baseline Weighted Use GPCD**	**2020 Target GPCD**	**Method**	**2020 Target Weighted Use GPCD**	**2015 Interim Target**
Bell Gardens	19,887	48	49	0.8	49	1	0.8	
BSMWC	46,000	99	106	3.9	94	3	3.5	
Cerritos	51,113	137	144	6.0	130	3	5.4	
Downey	110,452	114	113	10.1	108	3	9.6	
Huntington Park	64,219	62	65	3.4	65	1	3.4	
Lakewood	59,660	106	106	5.1	101	3	4.9	
Long Beach	462,257	112	120	44.9	106	3	39.7	
Lynwood	73,212	64	67	4.0	67	1	4.0	
Norwalk	18,361	115	118	1.7	110	3	1.6	
Paramount	57,805	98	101	4.7	93	3	4.4	
Pico Rivera*	62,942	102	102	5.2	97	3	4.9	
Santa Fe Springs	17,438	328	350	4.9	280	1	4.0	
Signal Hill	11,465	153	161	1.5	142	3	1.3	
South Gate	94,746	73	79	6.0	79	1	6.0	
Vernon	90	83005	81643	5.9	65314	1	4.8	
Whittier	87,128	69	71	5.0	71	1	5.0	
Regional Totals	1,236,775			113.2			103.1	108.2
*City of Pico Rivera and Pico Water District were combined								

5 Regional Alliance Formation

5.1 Alliance Process

As noted previously, the following urban water suppliers have committed to forming the Gateway Regional Alliance.

Participating Agencies	
Bellflower-Somerset Mutual Water Company	City of Bell Gardens
City of Cerritos	City of Downey
City of Huntington Park	City of Lakewood
City of Long Beach	City of Lynwood
City of Norwalk	City of Paramount
City of Pico Rivera	Pico Water District
City of Santa Fe Springs	City of Signal Hill
City of South Gate	City of Vernon
City of Whittier	

A Letter Agreement will be signed by all participating agencies and submitted to DWR to inform them that the Gateway Regional Alliance has been formed.

Each individual agency will adopt a Board Resolution and has agreed to take it to their individual Board of Supervisors for approval. While there may be minor differences due to formatting and preferred language the substance of the Resolution is the same for all agencies.

As indicated in the 2010 UWMP Guidebook, there are consequences should any member of the Gateway Regional Alliance decide to leave, or should the Gateway Regional Alliance decide to dissolve. If an individual agency withdraws from the Gateway Regional Alliance, the withdrawing water supplier must then comply individually. The water suppliers remaining in the Gateway Regional Alliance must revise the regional baseline and target data and alliance membership in the subsequent UWMP. The memorandum of understanding or other legal agreements governing the alliance may define additional consequences or remedies.

If the Gateway Regional Alliance dissolves before 2020, each affected water supplier must then comply individually or form or join another alliance. An affected water supplier that had not

previously submitted an individual urban water management plan has to submit an urban water management plan or a regional water management plan. The memorandum of understanding or other legal agreements governing the alliance may define additional consequences or remedies.

The Gateway Regional Alliance will revisit the calculations in 2015 and address any changes to the composition of the alliance or differences in the data. If any agencies have withdrawn from the alliance, or if new agencies have expressed an interest in joining, the same process will be used to calculate a new Baseline and 2020 Target. In addition to accepting requests to join, the Gateway Regional Alliance will make more outreach attempts to the remaining agencies within the Gateway IRWMP area.

5.2 Integration with Urban Water Management Plans

The Gateway Regional Alliance acknowledges that DWR will collect the data pertaining to the alliance through the individual supplier UWMPs, the Central Basin Regional UWMP, and this report. The following information; most of which has been detailed in this report, will also be presented in the individual supplier's UWMPs:

- A list of all regional alliances of which an individual supplier is a member
- Baseline Gross Water Use and Service Area Population (2010, 2015, 2020)
- Individual 2020 Urban Water Use Target and Interim 2015 Urban Water Use Target
- Compliance Year Gross Water Use (2015 and 2020) and Service Area Population
- Adjustments to Gross Water Use in the compliance year (2015 and 2020)

Central Basin will include the data elements that are now required to be included in the individual UWMPs (above), as well as the same data elements aggregated over all regional alliance members in the regional UWMP.

6 Conclusion

The Gateway Regional Alliance has been formed by agencies in the Gateway IRWMP area for the purpose of complying with the requirements of SBX7-7. In accordance with the methodologies and approaches outlined in the 2010 UWMP Guidebook, the Gateway Regional Alliance has calculated the Regional Baseline Daily Per Capita Water Use, Regional 2020 Urban Water Use Target, and Regional 2015 Interim Urban Water Use Target. The following table displays these values.

Gateway Regional Alliance Summary Values

Regional 2010 Population	1,236,775
Regional 10-Yr Baseline GPCD (Ending December 31, 2010)	113.2
Regional 2015 Interim Target GPCD	108.2
Regional 2020 Target GPCD	103.1

7 References

California Department of Water Resources. March 2011. Guidebook to Assist Urban Water Suppliers to Prepare a 2010 Urban Water Management Plan.

Water Replenishment District of Southern California. March 4, 2011. Engineering Survey and Report.

Appendix A

Los Angeles Gateway Region

Integrated Regional Water Management
Joint Powers Authority
11111 Brookshire Avenue, Downey, California 90241
(562) 904-2180 (ph) (562) 923-6388 (fax)

March 11, 2011

Re: Offer of Assistance in Supplying State-Mandated Water Usage Data for your Urban Water Management Plan

Dear :

The Gateway Authority (Los Angeles Gateway Region Integrated Regional Water Management Joint Powers Authority) is embarking on a regional compliance approach to fulfill the requirements of the Water Conservation Act of 2009 (SBx7-7).

The provisions of the Water Conservation Act, signed by the Governor on November 10, 2009, require that you develop per capita urban water use targets for 2020 and interim dates in order to qualify for state grants and loans. This can be a time-consuming, labor-intensive task. One of the options provided by the statutes, however, include developing these water conservation goals on a regional basis. The Gateway Authority, as a regional entity, is in the process of coordinating and compiling the 20x2020 targets for its members and other stakeholders. The Gateway Authority will need to provide that submittal to the Department of Water Resources (DWR) by June 30, 2011.

Because compliance can be assessed regionally, if the region does meet that regional target, all suppliers in the alliance will be deemed compliant. Additional benefits of regional compliance include a reduction in reporting costs, continuing regional coordination and cooperation, and a contribution to more efficient water use.

The Gateway Authority would like to extend an invitation to you to participate in the Gateway Authority's regional effort.

If you are interested in participating in this process, or have questions, please contact me at ashubbell@cox.net, or 858-395-5083. For your convenience, I have attached a fact sheet with information about who we are. Our consultant, Bookman-Edmonston/GEI Consultants, has already begun collecting information for the process; therefore, your rapid response to this invitation is requested. Please provide indication of your interest no later than March 31, 2011.

Sincerely,

Annette Hubbell
Executive Officer
Gateway Authority

enc: Gateway Authority Fact Sheet

Appendix B

Regional Target Calculation
Methodology 9 - Option 1: Population Weighted Average
Targets Calculated Using only Method 1

City/Agency	2010 Population	2010 Baseline GPCD	Baseline Weighted Use (Gal)	2020 Target GPCD	2020 Target Weighted Use* (Gal)	2015 Interim Target
Bell Gardens	19,887	49	0.8	49	0.8	
BSMWC	46,000	106	3.9	85	3.1	
Cerritos	51,113	144	6.0	115	4.8	
Downey	110,452	113	10.1	91	8.1	
Huntington Park	64,219	65	3.4	65	3.4	
Lakewood	59,660	106	5.1	85	4.1	
Long Beach	462,257	120	44.9	96	35.9	
Lynwood	73,212	67	4.0	67	4.0	
Norwalk	18,361	118	1.7	94	1.4	
Paramount	57,805	101	4.7	81	3.8	
Pico Rivera	62,942	102	5.2	82	4.2	
Santa Fe Springs	17,438	350	4.9	280	4.0	
Signal Hill	11,465	161	1.5	129	1.2	
South Gate	94,746	79	6.0	79	6.0	
Vernon	90	81643	5.9	65314	4.8	
Whittier	87,128	71	5.0	71	5.0	
Total	1,236,775		113.2		94.4	103.8

Target was calculated for all agencies using Method 1: 80% Reduction

Regional Target Calculation
Methodology 9 - Option 2: Aggregate Population and Water Use
Target Calculated Using Method 1

(1) Base Year	(2) Service Area Population	(3) Gross Water Use (Gal/Day)	(4) Daily Per Capita Water Use (3)/(2)
1996			
1997			
1998			
1999			
2000			
2001	1,200,915	139,356,293	116
2002	1,206,434	142,270,711	118
2003	1,210,898	138,616,335	114
2004	1,215,776	142,060,619	117
2005	1,245,155	139,721,130	112
2006	1,235,223	141,667,824	115
2007	1,244,926	143,739,334	115
2008	1,244,112	135,777,434	109
2009	1,240,450	125,567,444	101
2010	1,236,775	118,068,398	95
		Total of Column (4)	1113
		Baseline Daily Per Capita Water Use	111

(1) Base Year	(2) Service Area Population	(3) Gross Water Use (Gal/Day)	(4) Daily Per Capita Water Use (3)/(2)
2006	1,235,223	141,667,824	115
2007	1,244,926	143,739,334	115
2008	1,244,112	135,777,434	109
2009	1,240,450	125,567,444	101
2010	1,236,775	118,068,398	95
		Total of Column (4)	536
		5-Year Base Daily Per Capita Water Use	107

Gateway Regional Alliance, 2020 Urban Water Use Target GPCD (Method 1)	89
Gateway Regional Alliance, 2015 Interim Urban Water Use Target GPCD (Average of Baseline and 2020 Target)	100

Regional Target Calculation
Methodology 9 - Option 2: Aggregate Population and Water Use
Target Calculated Using Method 3

(1) Base Year	(2) Service Area Population	(3) Gross Water Use (Gal/Day)	(4) Daily Per Capita Water Use (3)/(2)
1996			
1997			
1998			
1999			
2000			
2001	1,200,915	139,356,293	116
2002	1,206,434	142,270,711	118
2003	1,210,898	138,616,335	114
2004	1,215,776	142,060,619	117
2005	1,245,155	139,721,130	112
2006	1,235,223	141,667,824	115
2007	1,244,926	143,739,334	115
2008	1,244,112	135,777,434	109
2009	1,240,450	125,567,444	101
2010	1,236,775	118,068,398	95
		Total of Column (4)	1113
		Baseline Daily Per Capita Water Use	111

(1) Base Year	(2) Service Area Population	(3) Gross Water Use (Gal/Day)	(4) Daily Per Capita Water Use (3)/(2)
2006	1,235,223	141,667,824	115
2007	1,244,926	143,739,334	115
2008	1,244,112	135,777,434	109
2009	1,240,450	125,567,444	101
2010	1,236,775	118,068,398	95
		Total of Column (4)	536
		5-Year Base Daily Per Capita Water Use	107

Gateway Regional Alliance, 2020 Urban Water Use Target GPCD (Method 3)	102
Gateway Regional Alliance, 2015 Interim Urban Water Use Target GPCD (Average of Baseline and 2020 Target)	107

Appendix C

Letter Agreement

Between and Among the Cities of Cerritos, Downey, Huntington Park, Lakewood, Long Beach, Lynwood, Norwalk, Paramount, Pico Rivera, Santa Fe Springs, Signal Hill, South Gate, Vernon, Whittier, and Pico Water District

For

Establishing a Regional Alliance to Comply with SB X7-7, the Water Conservation Act of 2009

Recitals

1. The Water Conservation Act of 2009 (SB X7-7) set a goal of achieving a 20% reduction in statewide urban per capita water use by the year 2020 and requires urban water retailers to set a 2020 urban per capita water use target. SB X7-7 provides that urban water retailers may plan, comply and report on a regional basis, individual basis, or both.

2. The Parties to this Letter Agreement (Cities of Cerritos, Downey, Huntington Park, Lakewood, Long Beach, Lynwood, Norwalk, Paramount, Pico Rivera, Santa Fe Springs, Signal Hill, South Gate, Vernon, Whittier, and Pico Water District) are eligible to form a "regional Alliance" pursuant to the California *Department of Water Resources Methodologies for Calculating Baseline and Compliance Urban Per Capita Water Use* (DWR Methodologies) because the Parties are recipients of water from a common wholesale water supplier, Central Basin Municipal Water District, and are also a part of an Integrated Regional Water Management (IRWM) planning area, the Gateway Region IRWM. The Parties wish to establish a Regional Alliance for purposes of complying with SB X7-7.

Agreement for the Regional Alliance Formation, Target Calculation, and Reporting

Section 1. Regional Alliance Formation and Target Calculation

The Parties hereby form a Regional Alliance and agree to inform DWR, prior to July 1, 2011, that a Regional Alliance has been formed, pursuant to the DWR Methodologies. The Parties agree that the Regional Alliance Target will be calculated using Option X (as described in DWR Methodology 9). Each Party will include the Regional Alliance Target in its individual 2010 Urban Water Management Plan.

Section 2. Regional Alliance Review

The Parties intend to review and re-calculate the Regional Alliance and Regional Alliance Target, no later than December 31, 2015, in preparation of their respective 2015 Urban Water Management Plans.

Section 3. Regional Alliance Reporting

The Parties intend to prepare and submit Regional Alliance Reports pursuant to the DWR Methodologies, including, but not limited to, the following information:

- Baseline Gross Water Use and Service Area Population,
- 2015 and 2020 Water Use Targets (Individual and Regional),
- Compliance Year Gross Water Use and Service Area Population, and
- Adjustments to Gross Water Use in Compliance Year

Section 4. Regional Water Supply Planning

The Parties intend to participate in discussions regarding regional water supply planning.

Section 5. Regional Alliance Dissolution

The Parties agree that each Party can withdraw from the Regional Alliance at any time without penalty by giving written notice to all other Parties. If a Party withdraws from the Regional Alliance, the Parties agree that the Regional Target will be recalculated among remaining participating Parties as set forth in the DWR Methodologies.

Section 6. Miscellaneous

This Letter Agreement shall be between and among those Parties that have executed this Letter Agreement by (Month/Day), 2011. If all Parties have not executed this Letter Agreement by said date, the Parties who have executed this Letter Agreement by (Month/Day), 2011, agree that the Regional Target will be recalculated among participating Parties as set forth in the DWR Methodologies.

Section 7. Letter Agreement Authorization

This Letter Agreement may be signed in counterparts. By signing below, each signatory states that he or she is authorized to sign this Letter Agreement on behalf of the Party for which he or she is signing.

Signature Date	Signature Date
Print Name City of Cerritos	Print Name City of Downey
LEFT BLANK INTENTIONALLY	Signature Date
	Print Name City of Huntington Park

Signature Date	Signature Date
Print Name City of Lakewood	Print Name City of Long Beach
Signature Date	Signature Date
Print Name City of Lynwood	Print Name City of Norwalk
Signature 5/4/11 Date	Signature Date
LINDA BENEDETTI-LEAL Print Name City of Paramount	Print Name City of Pico Rivera
Signature Date	Signature Date
Print Name City of Santa Fe Springs	Print Name City of Signal Hill
Signature Date	Signature Date
Print Name City of South Gate	Print Name City of Vernon
Signature Date	Signature Date
Print Name City of Whittier	Print Name Pico Water District

RESOLUTION NO. 2011-24

A RESOLUTION OF THE CITY COUNCIL OF THE CITY OF LAKEWOOD AUTHORIZING AND APPROVING A LETTER OF AGREEMENT BETWEEN AND AMONG THE CITIES OF DOWNEY, HUNTINGTON PARK, LAKEWOOD, LONG BEACH, LYNWOOD, NORWALK, PARAMOUNT, PICO RIVERA, SANTA FE SPRINGS, SIGNAL HILL, SOUTH GATE, VERNON, WHITTIER, AND PICO WATER DISTRICT FOR ESTABLISHING A REGIONAL ALLIANCE TO COMPLY WITH SB X7-7, THE WATER CONSERVATION ACT OF 2009

WHEREAS, Senate Bill X7-7, the Water Conservation Act was signed into law in 2009; and

WHEREAS, the Water Conservation Act of 2009 sets a goal for urban water suppliers to reduce per capita water use by 20 percent by the year 2020; and

WHEREAS, the City desires to participate in a regional alliance for the purposes of compliance with the Water Conservation Act of 2009; and

WHEREAS, the City further supports the regional water planning program sponsored by the Los Angeles Gateway Region Integrated Water Management Joint Powers Authority.

NOW, THEREFORE, BE IT RESOLVED by the City Council of the City of Lakewood that it does hereby authorize and approve a letter agreement between and among the cities of Downey, Huntington Park, Lakewood, Long Beach, Lynwood, Norwalk, Paramount, Pico Rivera, Santa Fe Springs, Signal Hill, South Gate, Vernon, Whittier, and Pico Water District for establishing a regional alliance to comply with SB X7-7, the Water Conservation Act of 2009.

BE IT FURTHER RESOLVED that the City Manager is hereby authorized and directed to take all actions to effectuate this agreement for and on behalf of the City of Lakewood, including execution, if necessary, in substantially similar form to the agreement attached hereto as Exhibit "A," subject to minor modifications by the City Manager or City Attorney.

ADOPTED AND APPROVED THIS 24TH DAY OF MAY, 2011.

Mayor

ATTEST:

City Clerk

FAQs for Device Rebate Incentive Program

1. **When can I submit my application for a rebate?**
   Applications can be submitted beginning May 1, 2011. The water conservation devices must be installed prior to submitting the rebate application, so you can start purchasing and installing the eligible devices now.

2. **How long will it take to get my rebate approved and receive my rebate on my water bill?**
   The Lakewood Department of Water Resources staff will inspect the installation of your device(s) prior to issuing the rebate credit on your water bill. It may take 2 to 3 weeks before the rebate is applied to your bill. You will receive a notice via email or U.S. mail upon approval of your rebate. The rebate will appear on the water bill following rebate approval.

3. **I already submitted my water conservation device rebate from the Metropolitan Water District of Southern California (MWD). Can I still get a rebate from the Lakewood Program?**
   Yes, if you purchased the eligible water conservation devices on or after November 10, 2010. Complete the City of Lakewood rebate application and submit it with a copy of your MWD rebate application and receipt(s).

4. **How did you pick the dollar amounts for the rebates?**
   The rebate amounts were based on the typical cost for each type of device. While none of the rebates will pay for the purchase of a water conservation device, it does allow you to recoup some of the cost. Remember, these devices are designed to save you water, which if used correctly should also save you additional money on your water bill for years to come.

   City of Lakewood rebates fall into two categories: devices and turf projects. Device rebates run $5 to $50 towards the purchase cost of water saving irrigation devices like low-waste “rotor” sprinkler heads, drip irrigation kits and hose timers. Additional rebates are available for irrigation timers/controllers and moisture sensors. The rebates are worth approximately 20% of the device cost.

   Rebates for devices and turf removal could add up to $195 per household. Roughly calculated, over a year’s time a typical Lakewood home might save anywhere from $40 to $65 a year on their water bills.

   The program offers up to $80 for the removal of thirsty grass landscaping and the cost of re-landscaping, irrigation or installation of water permeable surfaces. This can be done in conjunction with a device rebate.

5. **I purchased conservation devices a few months ago, before the Lakewood program started. Why can’t I get a rebate from the City of Lakewood?**
   The Lakewood City Council approved the Water Conservation Device Rebate Program at its meeting in November 2010. Unfortunately, the program cannot start before that date. You might however be eligible for a rebate from the Metropolitan Water District of Southern California (MWD). Please check www.bewaterwise.com to see if your water conserving devices are eligible for a rebate from MWD.

6. **I live in the part of Lakewood served by the Golden State Water Company. Why can’t I get a rebate from the City of Lakewood?**
   Golden State Water Company funds rebates for high efficiency washing machines, rotor nozzles, weather based timers and turf removal at www.bewaterwise.com. Golden State Water Company customers are not eligible for the City of Lakewood’s water conservation rebate program, because it is funded entirely through the revenue the City receives from its water customers.

7. **Why can’t businesses, apartment buildings or multi-family units like duplexes get rebates?**

Commercial and industrial businesses and multiple family dwelling units are eligible for a variety of rebates through the Metropolitan Water District of Southern California at www.bewaterwise.com, many of which are not available to the single family homeowner. These rebates can have a positive impact on the businesses' bottom line. The City decided to focus its water conservation device rebates on single family residential customers to reach the largest group of water users. Over 90 percent of Lakewood's water users are single family accounts. In addition, outside water use accounts for up to 70 percent of the water used by single family homes.

8. **Is there an application and step by step guide that I can download?**
   The City's website (Lakewood On Line) has the complete application, approved device list and instructions for completing the rebate applications. Log on to www.lakewoodcity.org/waterrebates.

9. **I'm planning my projects, but they won't be done for a while. What's the deadline to apply for a rebate?**
   There is no deadline for the rebate program, but rebates will cease when the existing funds are expended. The Lakewood City Council has appropriated $25,000 for the current fiscal year ending on June 30, 2011, but no decision has been made regarding future year allocations.

10. **I need help. Is there a list of affordable and reputable plumbers, nurseries or landscapers that can help me?**
    The City cannot recommend businesses. Referrals from friends and family members may be a good place to start. Take the time to interview a potential contractor before you ask for an estimate. Visit California Consumer Affairs Contractors State License Board website for advice on selecting a contractor. You can verify the status of a contractor's license and learn what to look for in a binding contract.

    http://www.cslb.ca.gov/Consumers. Also, make sure the contractor provides pictures and references from previous clients. Take the time to call the references to ask questions about the workmanship, cost and timeliness of the contractor.

11. **I need to plan my project. Who should I talk to?**
    The City cannot provide assistance with project planning. There are several websites that can provide assistance with project planning.

    There are two proven free resources for learning about doing a complete yard makeover. They are the Los Angeles County "Smart Gardener" program and the Water Replenishment District's (WRD) "Eco Gardener" workshop series. Both offer information online and workshops locally.

    Los Angeles County offers more than three dozen beginning and advanced "Smart Gardener" workshops throughout the region. Two beginning workshops will be held in Long Beach – on Saturday February 26 and April 30 from 9:30 a.m. to 11:00 a.m. at Birney Elementary School at 710 W Spring Street. An advanced workshop will be held there on Saturday, May 21 from 9:30 a.m. to 11:00 a.m. Call 888-CLEAN LA for additional information. They also have a complete page on instructional videos online.

    The WRD eco-gardener workshops series cover the concepts of water efficient gardening and landscaping, irrigation basics, best horticultural practices, drought tolerant and native plants, and garden design concepts. Residents will get design tips, irrigation scheduling, maintenance tips and troubleshooting information for choosing appropriate plants and fertilizers. Call 562-275-4234 or call Marisol Carlos at mcarlos@wrd.org or go to www.ecogardener.org to sign up.

    Please visit www.bewaterwise.com or www.lakewoodcity.org/waterrebates for a variety of websites dedicated to water conservation.

    If you have questions regarding the rebate program you can email the City at waterrebates@lakewoodcity.org or call the Lakewood Department of Water Resources at 562.866.9771, extension 2700. If you have questions regarding permits for installation of new landscaping and/or irrigation please contact the Lakewood Community Development Department at 562.866.9771, extension 2300.

12. **I heard you do field checks. What's that?**
    Some of the rebates require a site inspection. The inspection allows staff to verify the proper installation of the water conserving equipment. Lakewood Department of Water Resources staff will call to schedule an appointment to inspect if necessary.

13. **Are there sample plot plans? Photos?**

Yes. Please visit www.lakewoodcity.org/waterrebates for sample plot plans and photos, and additional links to other resources on the internet.

14. Do I need a permit to install any of these water saving devices? What upgrades to my landscaping require a permit?

A plumbing permit is required when changing, adding, altering, repairing, or replacing a sprinkler control valve; and an electrical permit is required when changing, adding, altering, repairing, or replacing a circuit for a time clock for a landscape sprinkler system. A permit is not required when changing, adding, altering, repairing, or replacing a sprinkler head.

15. Are there any classes I can take?

The City does not offer any water wise gardening classes at this time, but Los Angeles County and the Water Replenishment District of Southern California do. The City's website www.lakewoodcity.org/waterrebates provides links to these classes.

16. Is the retrofit of existing irrigation mandatory under the City's Water Conservation Ordinance?

No. The Lakewood City Council placed the community in a voluntary water conservation phase in 1991 and it remains at the voluntary stage. The City asks that our water customers voluntarily cut water use by 10 percent, and the community has complied. Since 2008 the city has reduced water use by 10 percent. However, statewide water supply issues can impact Lakewood and the mandate for a 20 percent per capita reduction in water use by 2020 looms in the future. The City implemented this program to help the community reach the 20 percent by 2020 goal.

17. **How much can I really save? Is it really worth the effort?**

Rebates for devices and turf removal could add up to $195 per household. Roughly calculated, over a year's time a typical Lakewood home might save anywhere from $40 to $65 a year on their water bills.

Water is a precious resource, and the supply to southern California is limited, so any savings will benefit the region, the state and your pocketbook. What you save depends on the type of landscape and irrigation changes you decide to make. The accurate placement of water on grass and shrubs will direct where it needs to go, and reduce the amount of watering time. Timers that automatically shut off when it rains or senses the moisture in the soil will reduce the number of times your irrigation runs.

18. Is there a website with photos and examples of plants and garden designs for how to turn a yard into a water wise garden?

Yes. Please visit www.h2ohouse.com, www.bewaterwise.com or www.lakewoodcity.org/waterrebates for sample plot plans and photos, and additional links to other resources on the internet.

Water Rebate Program

waterrebates@lakewoodcity.org
5050 Clark Avenue Lakewood California 90712

FAQs Turf Removal Rebate Program

1. **When can I submit my application for a rebate?**
   Pre-applications can be submitted beginning May 1, 2011. The water conservation turf removal rebate requires approval prior to the installation of the project. You can start planning your turf removal project now.

2. **How long will it take to get my rebate approved and receive my rebate on my water bill?**
   Lakewood's Department of Water Resources staff will review your turf removal project prior to approving the pre-application. This process could take 2 to 3 weeks. Once approved you have 60 days to complete your project and submit the rebate application. The final approval may take an additional 2 to 3 weeks. You will receive a notice via email or U.S. mail upon approval of your rebate. The rebate will appear on the water bill following rebate approval.

3. **How do I calculate the square footage of the area where I want to remove turf?**
   See the section called How to Measure Turf Areas.

4. **How did you pick the dollar amounts for the rebates?**
   The rebate amount of $1.00 per square foot is consistent with the rebate other water agencies are offering customers. While the rebate will not pay for the total installation of your project, it does allow you to recoup some of the cost. Remember, removing grass areas and installing low water use plants and irrigation will save you water and additional money on your water bill for years to come.

   City of Lakewood rebates fall into two categories: devices and turf projects. Device rebates run $5 to $50 towards the purchase cost of water saving irrigation devices like low-waste "rotor" sprinkler heads, drip irrigation kits and hose timers. Additional rebates are available for irrigation timers/controllers and moisture sensors. The rebates are worth approximately 20% of the device cost.

   The program offers up to $80 for the removal of thirsty grass landscaping and the cost of re-landscaping, irrigation or installation of water permeable surfaces. This can be done in conjunction with a device rebate.

5. **I live in the part of Lakewood served by the Golden State Water Company. Why can't I get a rebate from the City of Lakewood?**
   Golden State Water Company funds rebates for high efficiency washing machines, rotor nozzles, weather based timers and turf removal at www.bewaterwise.com. Golden State Water Company customers are not eligible for the City of Lakewood's water conservation rebate program, because it is funded entirely through the revenue the City receives from its water customers.

6. **Why can't businesses, apartment buildings or multi-family units like duplexes get rebates?**
   Commercial and industrial businesses and multiple family dwelling units are eligible for a variety of rebates through the Metropolitan Water District of Southern California at www.bewaterwise.com many of which are not available to the single family homeowner. These rebates can have a positive impact on the businesses' bottom line. The City decided to focus the water conservation rebate program on single family residential customers to reach the largest group of customers. Over 90 percent of Lakewood's water users are single family accounts. In addition, outside water use accounts for up to 70 percent of the water used by single family homes.

7. **Is there an application and step by step guide that I can download?**
   The City's website (Lakewood Online) has the complete application and instructions for completing the turf removal rebate application. Go to www.lakewoodcity.org/waterrebates.

8. **I'm planning my projects, but they won't be done for a while. What's the deadline to apply for a rebate?**
   There is no deadline for the rebate program, but rebates will cease when the existing funds are expended. The Lakewood City Council has appropriated $25,000 for the current fiscal year ending on June 30, 2011, but no decision has been made regarding future year allocations.

9. **I need help. Is there a list of affordable and reputable plumbers, nurseries or landscapers that can help me?**
   The City cannot recommend particular businesses. Referrals from friends and family members may be a good place to start. Take the time to interview a potential contractor before you ask for an estimate. Visit the California Consumer Affairs Contractors State License Board website for advice on selecting a contractor. You can verify the status of a contractor's license and learn what to look for in a binding contract. http://www.cslb.ca.gov/Consumers/. Also, make sure the contractor provides pictures and references from previous clients. Take the time to call the references to ask questions about the workmanship, cost and timeliness of the contractor.

10. **I need to plan my project. Who should I talk to?**
    The City cannot provide assistance with project planning. There are several websites that can provide assistance with project planning.

    There are two proven free resources for learning about doing a complete yard makeover. They are the Los Angeles County "Smart Gardener" program and the Water Replenishment District's (WRD) "Eco Gardener" workshop series. Both offer information online and workshops locally.

    Los Angeles County offers more than three dozen beginning and advanced "Smart Gardener" workshops throughout the region. Two beginning workshops will be held in Long Beach – on Saturday February 26 and April 30 from 9:30 a.m. to 11:00 a.m. at Birney Elementary School at 710 W Spring Street. An advanced workshop will be held there on Saturday, May 21 from 9:30 a.m. to 11:00 a.m. Call 888-CLEAN LA for additional information. They also have a complete page on instructional videos online.

    The WRD eco-gardener workshops series cover the concepts of water efficient gardening and landscaping, irrigation basics, best horticultural practices, drought tolerant and native plants, and garden design concepts. Residents will get design tips, irrigation scheduling, maintenance tips and troubleshooting information for choosing appropriate plants and fertilizers. Call 562-275-4234 or call Marisol Carlos at mcarlos@wrd.org or go to www.ecogardener.org to sign up.

    Please visit www.bewaterwise.com or www.lakewoodcity.org/waterrebates for a variety of websites dedicated to water conservation.

    If you have questions regarding the rebate program you can email the City at waterrebates@lakewoodcity.org or call the Lakewood Department of Water Resources at 562.866.9771, extension 2700. If you have questions regarding permits for installation of new landscaping and/or irrigation please contact the Lakewood Community Development Department at 562.866.9771, extension 2300.

11. **I heard you do field checks. What's that?**
    The turf removal rebate requires a site inspection. The inspection allows staff to verify the proper installation of the water conserving measures included in the project and the square footage of the project area. Lakewood Department of Water Resources staff will call to schedule an appointment to inspect.

12. **Are there sample plot plans? Photos?**
    Yes. Please visit www.lakewoodcity.org/waterrebates for sample plot plans and photos, and additional links to other resources on the internet.

13. **Do I need a permit to install any of these water saving devices? What upgrades to my landscaping require a permit?**
    A plumbing permit is required when changing, adding, altering, repairing, or replacing a sprinkler control valve; and an electrical permit is required when changing, adding, altering, repairing, or replacing a circuit for a time clock for a landscape sprinkler system. A permit is not required when changing, adding, altering, repairing, or replacing a sprinkler head. Projects requiring permits must be inspected by a building inspector from the Lakewood Community Development Department, Building Division. It is your responsibility or your licensed contractor's responsibility to arrange for the inspection. Inspection requests can be made by calling (562) 866-9771, extension 2350.

14. Are there any classes I can take?

The City does not offer any water wise gardening classes at this time, but Los Angeles County and the Water Replenishment District of Southern California do. The City's website www.lakewoodcity.org/waterrebates provides links to these classes.

15. Is the retrofit of existing irrigation mandatory under the City's Water Conservation Ordinance?

No. The Lakewood City Council placed the community in a voluntary water conservation phase in 1991 and it remains at the voluntary stage. The City asks that our water customers voluntarily cut water use by 10 percent, and the community has complied. Since 2008, the city has reduced water use by 10 percent. However, statewide water supply issues can impact Lakewood, and the mandate for a 20 percent per capita reduction in water use by 2020 looms in the future. The City implemented this program to help the community reach the 20 percent by 2020 goal.

16. How much can I really save? Is it really worth the effort?

Water is a precious resource, and the supply to southern California is limited, so any savings will benefit the region, the state and your pocketbook. What you save depends on the type of landscape and irrigation changes you decide to make. The removal of high water using plants, such as grass, reduces water consumption. The accurate placement of water on grass and shrubs will direct where it needs to go and reduce the amount of watering time. Timers that automatically shut off when it rains or senses moisture in the soil will reduce the number of times your irrigation runs.

17. Is there a website with photos and examples of plants and garden designs for how to turn a yard into a water wise garden?

Yes. Please visit www.h2ohouse.com, www.bewaterwise.com or www.lakewoodcity.org/waterrebates for sample plot plans and photos, and additional links to other resources on the Internet.

Water Rebate Program

waterrebates@lakewoodcity.org

5050 Clark Avenue Lakewood California 90712

Sample of a Turf Removal Rebate Check List

Your Pre-Application for the City of Lakewood Turf Removal Program has been approved. Please use this checklist to verify completion of all the required steps to obtain your rebate.

- ☐ Project completion required within 60 days of receipt of the pre-application approval.

- ☐ Complete the Rebate Request Form.
  - ☐ Record the REBATE NUMBER on the Rebate Request Form.
  - ☐ Verify the square footage of the project area.

- ☐ Did the project include changes, additions, alterations, repairs, or replacement of a sprinkler control valve? If so, include a copy of the finaled plumbing permit. The project is not complete until the plumbing work is inspected by the Lakewood Building and Safety Deportment. You can call the Lakewood Building and Safety Department at 562.866.9771 extension 2350 to schedule an inspection of your sprinkler control valve. (This inspection is in addition to the inspection by the Lakewood Department of Water Resources.)

- ☐ Did the project include changes, additions, alterations, repairs, or replacement of a circuit for the time clock for your landscape sprinkler system? If so, include a copy of the finaled electrical permit. The project is not complete until the electrical work is inspected by the Lakewood Building and Safety Deportment. You can call the Lakewood Building and Safety Department at 562.866.9771 extension 2350 to schedule an inspection of your electrical work. (This inspection is in addition to the inspection by the Lakewood Department of Water Resources.)

- ☐ Submit 4-5 photographs of the project area with the rebate request form.

- ☐ Were there any changes to the plan as originally submitted on the pre-application form? If so, the following must be included in rebate request packet:
  - ☐ Landscape plan indicating the changes from the original plan.
  - ☐ Revised plant list.
  - ☐ Revised irrigation installation location and type.
  - ☐ Revised list of ground covers and weed barrier.

- ☐ Sign and date the completed turf removal rebate request.

- ☐ Mail signed application, revised landscape plan, copy of finaled permit(s) if project included changes to control valve and/or electrical circuit, and photos to the following:

  CITY OF LAKEWOOD DEPARTMENT OF WATER RESOURCES
  WATER CONSERVATION TURF REMOVAL REBATE PROGRAM
  5050 Clark Avenue Lakewood, CA 90712

Water Rebate Program

Turf Removal Rebate Program Request Form

Rebate Reservation Number (See Pre-Application Approval Email/Letter): _____

Water Customer Name: _____

Lakewood Water Customer Account Number: _____

Daytime Telephone Number: _____

Email Address: _____

Property Street Address: _____

City: Lakewood, CA

Zip Code: 90712: ☐ 90713: ☐ 90714: ☐

Indicate the Location & Actual Size of Turf Removal Project (Check all that apply.):

Front Yard ☐ Actual Square Footage: _____ sq. ft.
Backyard ☐ Actual Square Footage: _____ sq. ft.
Left Side Yard ☐ Actual Square Footage: _____ sq. ft.
Right Side Yard ☐ Actual Square Footage: _____ sq. ft.
Parkway ☐ Actual Square Footage: _____ sq. ft.
TOTAL SQUARE FEET OF TURF REMOVED: 0.00 _____ sq. ft.

Rebate Calculation (Though the project area can be greater than 80 square feet, the Total Rebate Area must be between 40 and 80 square feet.)

0.00 _____ TOTAL SQ. FT. X $1.00 = $ $0.00 _____
Was there any change in the landscape plan submitted with the Pre-Application?

Yes: ☐ No: ☐ If yes, please describe the changes in the plan. Include the following with the revised Landscape Plan:_____
_____
_____

- Landscape Plan indicating the changes from the original plan.
- Revised plant list.
- Revised irrigation installation location and type.
- Revised list of ground covers and weed barrier.

Indicate the type of irrigation that is in the converted area (Check all that apply.):

Automatic In Ground Sprinklers ☐
Automatic Drip Irrigation ☐
Manual In Ground Sprinklers ☐
Manual Drip Irrigation ☐
Manual Sprinkler ☐
Hand Water ☐
No Irrigation Required ☐
Other ☐ _____

If project area is watered by Automatic In Ground Sprinklers, indicate the Manufacturer and Model of the Irrigation Controller:

Manufacturer:_____ Model Name/Number:_____

If project area watered by Automatic In Ground Sprinklers, please indicate the Manufacturer and Model of the Sprinkler Heads:

Manufacturer:_____ Model Name/Number:_____

Disclaimer

The City of Lakewood makes no representation or warranty relating to contracted services or products that may be installed in converted area, including any hazardous substances that may be contained in the product. Removal of turf and installation of water efficient devices does not guarantee reduced water use. This pre-application is for a rebate only.

By participating in the program, you waive and release the City of Lakewood from any and all claims and causes of action arising out of the removal of turf and/or the purchase, installation or use of devices in connection with this Turf Removal Rebate Program. Any claim you may have based upon any defect or failure of performance of a contracted service or device purchased by you should be pursued with the contractor or manufacturer/distributor.

The City of Lakewood only enforces the terms and conditions of the Turf Removal Program. The applicant is responsible for complying with all applicable laws, codes, policies, covenants, conditions and restrictions that may apply. Quality and appearance of the converted area is the responsibility of the applicant. The applicant agrees to the following:

1. Complete the turf removal project as approved within 60 days of the project acceptance. Failure to complete the project within the stated time will forfeit the pre-approved rebate.
2. Maintain the converted area free of turf for no less than five (5) years or until such time that property ownership changes hands.

This is a one-time-per-address rebate. Future turf removal projects will not be eligible for another rebate.

By signing this application, the applicant agrees to comply with the program terms and conditions, as well as, all Federal, State and local codes, including covenants, conditions and restrictions, as applicable. The applicant has read, understands and agrees to the terms and conditions of the program as outlined and certifies that the information on the application is true and correct.

_____ _____ _____

Water Customer Signature Print Water Customer Name Date

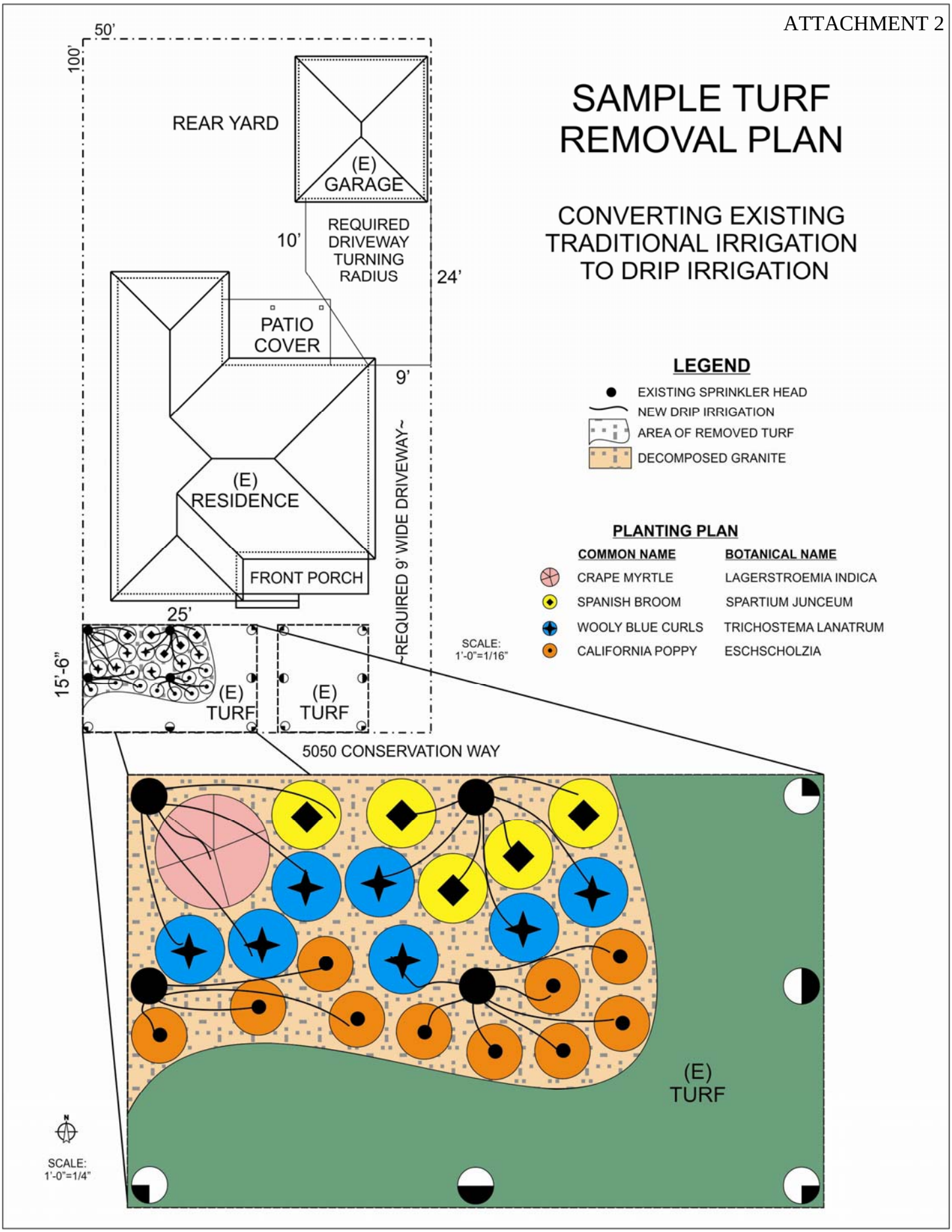
FOR OFFICE USE ONLY	
DATE STAMP	
Approved/Denied	
Reason for Denial	

PLANT LIST

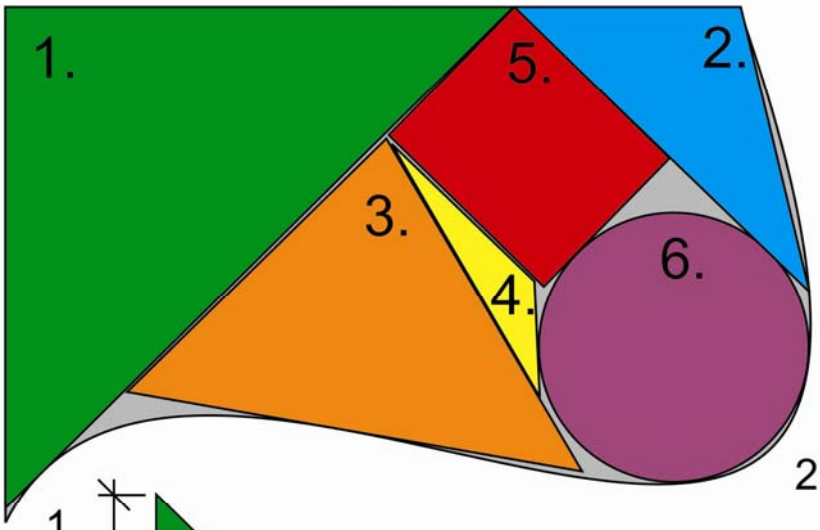
1. _____
2. _____
3. _____
4. _____

GROUND COVER

1. _____
2. _____
3. _____
4. _____

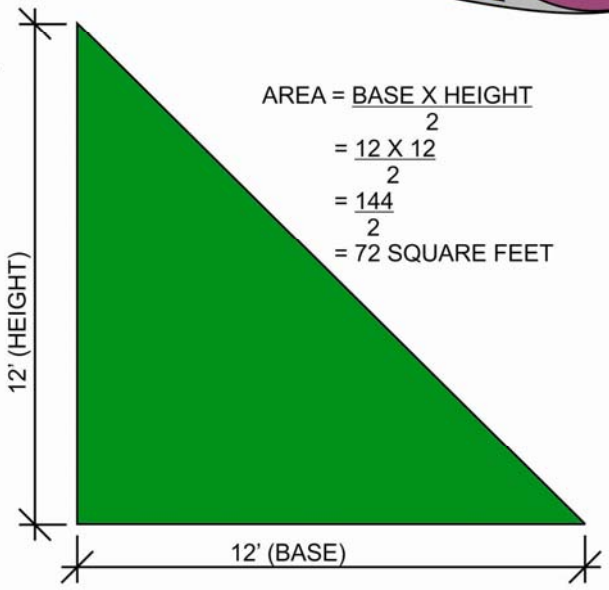

SAMPLE TURF REMOVAL PLAN
CONVERTING EXISTING TRADITIONAL IRRIGATION TO DRIP IRRIGATION
50'
100'
REAR YARD
(E) GARAGE
10'
REQUIRED DRIVEWAY TURNING RADIUS
24'
PATIO COVER
9'
(E) RESIDENCE
FRONT PORCH
~REQUIRED 9' WIDE DRIVEWAY~
25'
15'-6"
(E) TURF
(E) TURF
5050 CONSERVATION WAY
SCALE: 1'-0"=1/16"
LEGEND
EXISTING SPRINKLER HEAD
NEW DRIP IRRIGATION
AREA OF REMOVED TURF
DECOMPOSED GRANITE
PLANTING PLAN
COMMON NAME
BOTANICAL NAME
CRAPE MYRTLE
LAGERSTROEMIA INDICA
SPANISH BROOM
SPARTIUM JUNCEUM
WOOLY BLUE CURLS
TRICHOSTEMA LANATRUM
CALIFORNIA POPPY
ESCHSCHOLZIA
(E) TURF
N
SCALE: 1'-0"=1/4"

CALCULATING AREA OF TURF REMOVAL



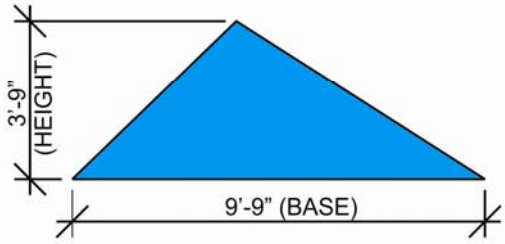
AREA 1 = 72 SQ FT
AREA 2 = 18 SQ FT
AREA 3 = 39 SQ FT
AREA 4 = 5 SQ FT
AREA 5 = 22 SQ FT
AREA 6 = 33 SQ FT
= 189 SQ FT

1.



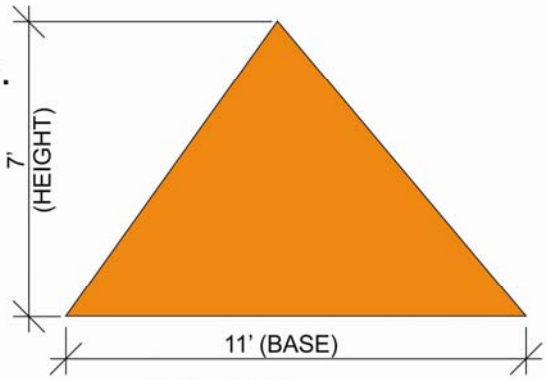
AREA = $\frac{\text{BASE X HEIGHT}}{2}$
= $\frac{12 \text{ X } 12}{2}$
= $\frac{144}{2}$
= 72 SQUARE FEET

2.



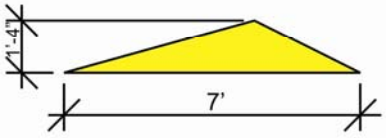
AREA = $\frac{3.75 \text{ X } 9.75}{2}$
= $\frac{36.56}{2}$
= 18 SQUARE FEET

3.



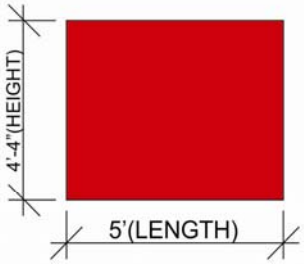
AREA = $\frac{11 \text{ X } 7}{2}$
= $\frac{77}{2}$
= 39 SQUARE FEET

4.



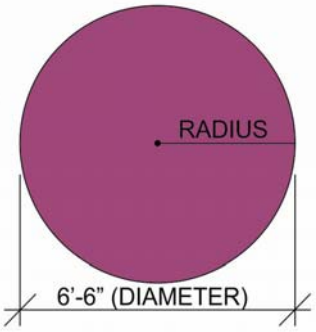
AREA = $\frac{1.3 \text{ X } 7}{2}$
= $\frac{9}{2}$
= 5 SQUARE FEET

5.



AREA = LENGTH X HEIGHT
= 5 X 4.3
= 22 SQUARE FEET

6.



RADIUS = $\frac{\text{DIAMETER}}{2}$
RADIUS = $\frac{6.5}{2}$
RADIUS = 3.25
AREA = (RADIUS X RADIUS) X 3.14
= (3.25 X 3.25) X 3.14
= (10.56) X 3.14
= 33 SQUARE FEET

Water Rebate Program

SAMPLE **Turf Removal Rebate Program Pre-Application** SAMPLE

Water Customer Name:

Lakewood Water Customer

Lakewood Water Customer Account Number:

000200000

Daytime Telephone Number:

562-555-5555

Email Address:

lakewoodwatercustomer@xxx.com

Property Address:

5050 Conservation Way

Street Address
Lakewood, CA

Zip Code:
☑ 90712
☐ 90713
☐ 90714

Name of Property Owner (if different from Water Customer):

SAME AS ABOVE

Property Owner Daytime Telephone Number (if different from Water Customer):

SAME AS ABOVE

Property Owner Approval (Projects without owner approval are ineligible for rebate):

Signature
Date

Indicate the Location & Estimated Size of Turf Removal Project (Check all that apply.):

☑ Front Yard		Estimated Square Footage: 189 sq. ft.
☐ Backyard		Estimated Square Footage: _____sq. ft.
☐ Side Yard	☐ North Side ☐ South Side ☐ East Side ☐ West Side	Estimated Square Footage: _____sq. ft.
☐ Side Yard		Estimated Square Footage: _____sq. ft.
☐ Parkway	☐ North Side ☐ South Side ☐ East Side ☐ West Side	Estimated Square Footage: _____sq. ft.

TOTAL SQUARE FEET OF TURF TO BE REMOVED: 189 sq. ft.

Who will complete the project?

☑ Owner
☐ Renter
☐ Contractor
☐ Other_____

The project area is currently by watered (check all that apply):

☑ Automatic in-ground sprinklers
☐ Manual in-ground sprinklers
☐ Manual sprinklers
☐ By hand
☐ Other _____

Do you plan to install, replace, alter, upgrade, or change your current system?

☑ Yes
☐ No

If yes, what irrigation changes do you plan to make to the project area?

☐ Control Valve, explain_____
☐ Time Clock, explain_____
☑ Drip irrigation, explain__Retrofit existing sprinkler heads with micro tubing and 2 gallon emitters
☐ New sprinkler heads, explain_____
☐ Other, explain_____

When changing, adding, altering, repairing, or replacing a control valve or a circuit for a time clock for a landscape sprinkler system a plumbing and/or electrical permit is required respectively.

If project area is currently watered by Automatic In Ground Sprinklers, please indicate the Manufacturer and Model of the Irrigation Controller:

Orbit	57096 Super-6 Timer
Manufacturer	Model Name/Number

If project area watered by Automatic In Ground Sprinklers, please indicate the Manufacturer and Model of the Sprinkler Heads:

Orbit	54070 Brass Pop Up
Manufacturer	Model Name/Number

Product Disclaimer & Terms of Turf Removal Rebate Program

The City of Lakewood makes no representation or warranty relating to contracted services or products that may be installed in converted area, including any hazardous substances that may be contained in the product. Removal of turf and installation of water efficient devices does not guarantee reduced water use. This pre-application is for a rebate only. By participating in the program, you waive and release the City of Lakewood from any and all claims and causes of action arising out of the removal of turf and/or the purchase, installation or use of devices in connection with this Turf Removal Rebate Program. Any claim you may have based upon any defect or failure of performance of a contracted service or device purchased by you should be pursued with the contractor or manufacturer/distributor.

The City of Lakewood only enforces the terms and conditions of the Turf Removal Rebate Program. The applicant is responsible for complying with all applicable laws, codes, policies, covenants, conditions and restrictions that may apply. Quality and appearance of the converted area is the responsibility of the applicant. The applicant agrees to the following:

1. Complete the turf removal project as approved within 60 days of the project acceptance. Failure to complete the project within the stated time will forfeit the pre-approved rebate.
2. The converted area must be maintained free of turf for no less than five (5) years or until such time that property ownership changes hands.

This is a one-time-per-address rebate. Future turf removal projects will not be eligible for another rebate.

By signing this application, the applicant agrees to comply with the program terms and conditions, as well as, all Federal, State and local codes, including covenants, conditions and restrictions, as applicable. The applicant has read, understands and agrees to the terms and conditions of the program as outlined and certifies that the information on the application is true and correct.

	LAKEWOOD WATER CUSTOMER	May 1, 2011
Water Customer Signature	Print Name	Date

FOR OFFICE USE ONLY	
DATE STAMP	
REBATE NUMBER	
Pre-Application Approved/Denied	
Date of Application Approval/Denial	

Turf Removal Rebate Program Request Form
Rebate Reservation Number (See Pre-Application Approval Email/Letter): T-050311-A
Water Customer Name: Lakewood Water Customer
Lakewood Water Customer Account Number: 000200000
Daytime Telephone Number: 562-555-5555
Email Address: lakewoodwatercustomer@xxx.com
Property Address: 5050 Conservation Way
Street Address: City: Lakewood, CA
Zip Code: ☑ 90712 ☐ 90713 ☐ 90714
Indicate the Location & Actual Size of Turf Removal Project (Check all that apply.): ☑ Front Yard Actual Square Footage: ___189_____sq. ft. ☐ Backyard Actual Square Footage: _____sq. ft. ☐ Left Side Yard Actual Square Footage: _____sq. ft. ☐ Right Side Yard Actual Square Footage: _____sq. ft. ☐ Parkway Actual Square Footage: _____sq. ft.
TOTAL SQUARE FEET OF TURF REMOVED: 189 sq. ft.
Rebate Calculation (Though the project area can be greater than 80 square feet, the Total Rebate Area must be between 40 and 80 square feet.) __80_ TOTAL SQ. FT. X $1.00 = $ _80.00____
Was there any change in the landscape plan submitted with the Pre-Application? ☐ Yes ☑No If yes, please describe the changes in the plan. Include the following with the revised Landscape Plan: • Landscape Plan indicating the changes from the original plan. • Revised plant list. • Revised irrigation installation location and type. • Revised list of ground covers and weed barrier.
Indicate the type of irrigation that will be used in converted area (Check all that apply.):

☐ Automatic In Ground Sprinklers
☑ Automatic Drip Irrigation
☐ Manual In Ground Sprinklers
☐ Manual Drip Irrigation
☐ Manual Sprinkler
☐ Hand Water
☐ No Irrigation Required
☐ Other _____

If project area watered by Automatic In Ground Sprinklers, please indicate the Manufacturer and Model of the Irrigation Controller:
Orbit 57096 Super-6 Timer

If project area watered by Automatic In Ground Sprinklers, please indicate the Manufacturer and Model of the Sprinkler Heads:
DIG 2 gallon per hour Emitters

Disclaimer

The City of Lakewood makes no representation or warranty relating to contracted services or products that may be installed in converted area, including any hazardous substances that may be contained in the product. Removal of turf and installation of water efficient devices does not guarantee reduced water use. This pre-application is for a rebate only.

By participating in the program, you waive and release the City of Lakewood from any and all claims and causes of action arising out of the removal of turf and/or the purchase, installation or use of devices in connection with this Turf Removal Rebate Program. Any claim you may have based upon any defect or failure of performance of a contracted service or device purchased by you should be pursued with the contractor or manufacturer/distributor.

The City of Lakewood only enforces the terms and conditions of the Turf Removal Program. The applicant is responsible for complying with all applicable laws, codes, policies, covenants, conditions and restrictions that may apply. Quality and appearance of the converted area is the responsibility of the applicant. The applicant agrees to the following:

1. Complete the turf removal project as approved within 60 days of the project acceptance. Failure to complete the project within the stated time will forfeit the pre-approved rebate.
2. Maintain the converted area free of turf for no less than five (5) years or until such time that property ownership changes hands.

This is a one-time-per-address rebate. Future turf removal projects will not be eligible for another rebate.

By signing this application, the applicant agrees to comply with the program terms and conditions, as well as, all Federal, State and local codes, including covenants, conditions and restrictions, as applicable. The applicant has read, understands and agrees to the terms and conditions of the program as outlined and certifies that the information on the application is true and correct.

	LAKEWOOD WATER CUSTOMER	June 15, 20111
Water Customer Signature	Print Water Customer Name	Date

FOR OFFICE USE ONLY	
DATE STAMP	
Approved/Denied	
Reason for Denial	

PLANT LIST

1. Crape Myrtle
2. Spanish Broom
3. Wooly Blue Curls
4. California Poppies

GROUND COVER

1. Decomposed Granite

Turf Project - Type of Rebates

Turf Removal Rebate:

Eligible Projects:

- Only areas with live turf are eligible for rebate with potable water irrigation system.
- Replacement of turf with water and air permeable surfaces such as stones and gravel, weed barrier with mulch or decorative rock. No synthetic turf or nonporous concrete/tile.
- Exposed soil must be covered with a 2-3" layer of non living yet permeable material to prevent erosion
- Plants must be low water use plants.
- Plants must be watered using drip irrigation or micro sprinklers.

Rebate Amount: $1.00 per square foot
Minimum Amount: 40 square feet
Maximum Amount: 80 square feet

Special Requirements:

- Submittal requires a pre-application: Rebate application, pictures of area to be renovated, landscape plan
- Approval before project to begin
- 60 days to complete
- Potential inspection upon completion
- Credit on water bill after project verification
- Area must remain turf free for 5 years or until the property is sold, whichever is shorter

Water Rebate Program

Turf Removal "How to measure turf areas"

WHAT YOU'LL NEED:

1. TAPE MEASURE
2. PLAIN OR GRAPH PAPER
3. CALCULATOR

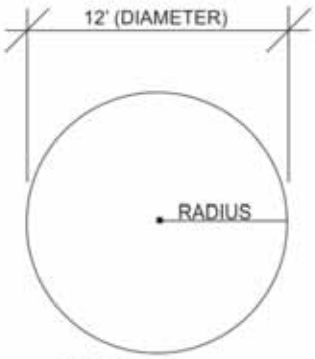
STEP 1: SKETCH TH SHAPE OF THE AREA OF TURF YOU PLAN TO REMOVE OR REPLACE.

STEP 2: MOST LANDSCAPE AREAS ARE NOT PERFECTLY SHAPED. TO MEASURE AN IRREGULARLY SHAPED LANDSCAPE AREA, BREAK THE AREA INTO SEPARATE SQUARES, RECTANGLES, CIRCLES AND TRIANGLES. MEASURE THE SQUARE FOOTAGE OF EACH SHAPE, AND ADD THE AREA MEASUREMENTS TOGETHER.

CALCULATING THE AREA OF AN IRREGULAR SHAPED LANDSCAPED AREA:

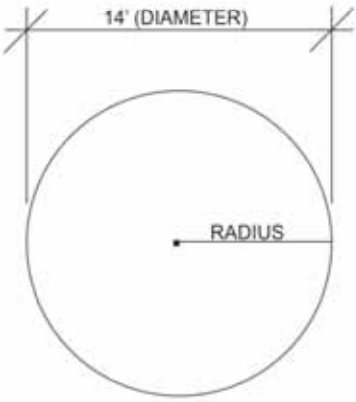
1. AREA OF A CIRCLE:

RADIUS = DIAMETER/2
AREA = (RADIUS X RADIUS) X 3.14



RADIUS = $\frac{12}{2}$
= 6
AREA = (6 X 6) X 3.14
= 36 X 3.14
=113 SQUARE FEET

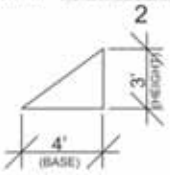
2. AREA OF A CIRCLE



RADIUS = $\frac{14}{2}$
= 7
AREA = (7 X 7) X 3.14
= 49 X 3.14
= 154 SQUARE FEET

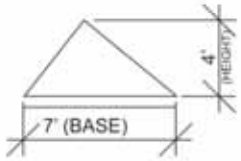
3. AREA OF A TRIANGLE:

AREA = $\frac{\text{BASE X HEIGHT}}{2}$



AREA = $\frac{4 \text{ X } 3}{2}$
= $\frac{12}{2}$
= 6 SQUARE FEET

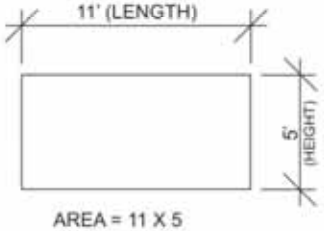
4. AREA OF A TRIANGLE:



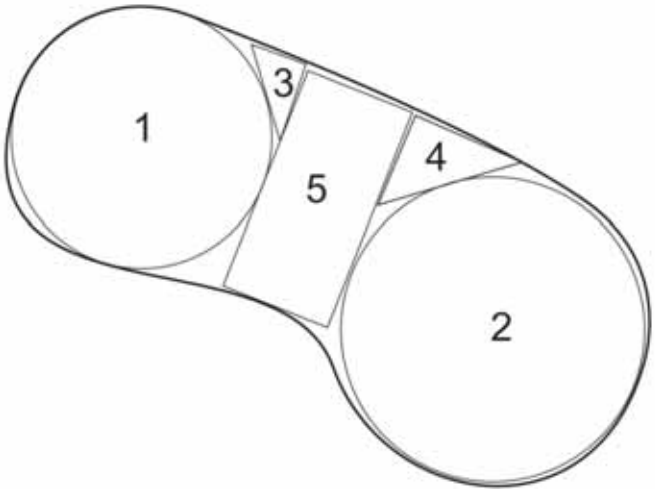
AREA = $\frac{7 \text{ X } 4}{2}$
= $\frac{28}{2}$
= 14 SQUARE FEET

5. AREA OF A RECTANGLE OR SQUARE:

AREA = LENGTH X HEIGHT



AREA = 11 X 5
= 55 SQUARE FEET



TOTAL LANDSCAPED AREA:

AREA 1 = 113
AREA 2 = 154
AREA 3 = 6
AREA 4 = 14
AREA 5 = 55
TOTAL AREA = 342 SQUARE FEET

Water Rebate Program

Turf Removal Rebate Program Pre-Application

Water Customer Name: _____

Lakewood Water Customer Account Number: _____

Daytime Telephone Number: _____

Email Address: _____

Property Address: _____

Street Address: _____

Lakewood, CA

Zip Code: 90712: ☐ 90713: ☐ 90714: ☐

Name of Property Owner (if different from Water Customer):

_____

Property Owner Daytime Telephone Number (if different from Water Customer):

_____

Property Owner Approval (Projects without owner approval are ineligible for rebate):

_____ _____

Signature Date

Indicate the Location & Estimated Size of Turf Removal Project (Check all that apply.):

Front Yard: ☐ North Side:☐ South Side:☐ East Side:☐ West Side:☐ Est. Square Footage: _____

Backyard: ☐ North Side:☐ South Side:☐ East Side:☐ West Side:☐ Est. Square Footage: _____

Side Yard: ☐ North Side:☐ South Side:☐ East Side:☐ West Side:☐ Est. Square Footage: _____

Side Yard: ☐ North Side:☐ South Side:☐ East Side:☐ West Side:☐ Est. Square Footage: _____

Parkway: ☐ North Side:☐ South Side:☐ East Side:☐ West Side:☐ Est. Square Footage: _____

TOTAL SQUARE FEET OF TURF TO BE REMOVED: 0.00

Who will complete the project?

Owner: ☐ Renter: ☐ Contractor: ☐ Other: ☐

Other_____

The project area is currently by watered (check all that apply):

Automatic in-ground sprinklers: ☐

Manual in-ground sprinklers: ☐

Manual sprinklers: ☐

By hand: ☐

Other: ☐

Explain:_____

_____

Do you plan to install, replace, alter, upgrade, or change your current system?

Yes: ☐ No: ☐

If yes, what irrigation changes do you plan to make to the project area?

Control Valve: ☐ Explain:_____

Time Clock: ☐ Explain:_____

Drip irrigation: ☐ Explain:_____

New sprinkler heads: ☐ Explain:_____

Other: ☐ Explain:_____

When changing, adding, altering, repairing, or replacing a control valve or a circuit for a time clock for a landscape sprinkler system a plumbing and/or electrical permit is required respectively.

If project area is currently watered by Automatic In-ground Sprinklers, please indicate the Manufacturer and Model of the Irrigation Controller:

Manufacturer:_____ Model Name/Number:_____

If project area watered by Automatic In Ground Sprinklers, please indicate the Manufacturer and Model of the Sprinkler Heads:

Manufacturer:_____ Model Name/Number:_____

Product Disclaimer & Terms of Turf Removal Rebate Program

The City of Lakewood makes no representation or warranty relating to contracted services or products that may be installed in converted area, including any hazardous substances that may be contained in the product. Removal of turf and installation of water efficient devices does not guarantee reduced water use. This pre-application is for a rebate only. By participating in the program, you waive and release the City of Lakewood from any and all claims and causes of action arising out of the removal of turf and/or the purchase, installation or use of devices in connection with this Turf Removal Rebate Program. Any claim you may have based upon any defect or failure of performance of a contracted service or device purchased by you should be pursued with the contractor or manufacturer/distributor.

The City of Lakewood only enforces the terms and conditions of the Turf Removal Rebate Program. The applicant is responsible for complying with all applicable laws, codes, policies, covenants, conditions and restrictions that may apply. Quality and appearance of the converted area is the responsibility of the applicant. The applicant agrees to the following:

1. Complete the turf removal project as approved within 60 days of the project acceptance. Failure to complete the project within the stated time will forfeit the pre-approved rebate.
2. The converted area must be maintained free of turf for no less than five (5) years or until such time that property ownership changes hands.

This is a one-time-per-address rebate. Future turf removal projects will not be eligible for another rebate.
By signing this application, the applicant agrees to comply with the program terms and conditions, as well as, all Federal, State and local codes, including covenants, conditions and restrictions, as applicable. The applicant has read, understands and agrees to the terms and conditions of the program as outlined and certifies that the information on the application is true and correct.

Water Customer Signature	Print Name	Date

FOR OFFICE USE ONLY	
DATE STAMP	
REBATE NUMBER	
Pre-Application Approved/Denied	
Date of Application Approval/Denial	

Type of Rebates

Devices

Rotor Sprinkler Heads:
- Minimum Number of Sprinkler Heads: 7
- Maximum Number of Sprinkler Heads: 25
- Rebate Amount:$2 per sprinkler head

Hose End Timer:
- Number of Allowable Rebates: 1
- Rebate Amount:$5

Drip Irrigation Retrofit (replacement of high water using sprinkler head with adapter, micro tubing & emitters or micro sprinklers):
- Number of Allowable Rebates: 1
- Rebate Amount:Kit costing less than $20 = $5
  Kit costing more than $20 = $10

Weather Based Irrigation Controllers:
- Rebate Amount:$50

Rain or Moisture Sensor & Water Conserving Irrigation Controllers:
- Rebate Amount:$35

Rain Sensor or Moisture Sensor:
- Rebate Amount:$25

Lakewood Water Rebate Program - Approved devices

SMALL DRIP/MICRO SPRINKLER KITS

Manufacturer	Kit Description	Model Number
DIG	Retrofit 4-Outlet Drip System and Accessories Kit	A450
DIG	Retrofit 6-Outlet Drip System and Accessories Kit	A650
DIG	Patio Watering Kit	FM01AS (with Backflow Device)
DIG	Mist and Drip Retrofit Watering Kit	MD50
DIG	Maverick 12-Outlet Drip System Kit	PC12100
DIG	Maverick 12-Outlet High Flow Drip Kit	PC14100
DIG	Drip and Soaker Vegetable Watering Kit	ST100
DIG	Drip and Soaker Vegetable Watering Kit	ST100AS with Backflow Device
Rain Bird	Rain Bird Riser to 8-Port Drip Manifold	CNV2XBIRD
Rain Bird	Rain Bird DC-6 Drip Irrigation Retrofit Kit	DC-6
TORO	TORO Blue Stripe Drip Starter Kit	53724
TORO	TORO Blue Stripe Drip 1/4" Fitting and Emitter Kit	53790

LARGE DRIP/MICRO SPRINKLER KITS

Manufacturer	Kit Description	Model Number
Claber	Claber Logica Drip Kit (Sears Stores 07143383000	CLB90762
DIG	Micro Sprinkler Watering Kit	EF55AS
DIG	Micro Sprinkler Watering Kit	EF55AS (with Backflow Device)
DIG	Vacation Drip Watering Kit	FS50
DIG	Drip Watering Kit (with Backflow Device)	G77AS
DIG	Drip and Micro Sprayer Kit	GE200
DIG	Adjustable Micro Sprayer Kit	R750
Gardena	Gardena Micro-Drip System (Sears Stores 07143338000)	1402-U
Orbit	Drip Irrigation for Dummies (Sears Stores 07106941000)	67520
Orbit	Vegetable Garder Soaker Kit	67527
Rain Bird	Rain Bird Drip Emitter Conversion Kit	CNV182EMT
Rain Bird	Rain Bird Bubbler Conversion Kit	CVN182BUB
Rain Bird	Rain Bird Gardener's Drip Kit	GROWER-KIT
Rain Bird	Rain Bird Landscape Drip Watering Kit	LNDSW-KIT
Rain Bird	Rain Bird Patio Plant Watering Kit	PATIO-KIT
TORO	TORO Blue Stripe Drip 1/2" Emitter Kit	53619

ROTOR NOZZLES

Manufacturer	Model Name	Model Number
Hunter	MP Rotator	MP1000210
Hunter	MP Rotator	MP1000360
Hunter	MP Rotator	MP1000HT1170
Hunter	MP Rotator	MP1000HT1440
Hunter	MP Rotator	MP1000HT360
Hunter	MP Rotator	MP1000HT630
Hunter	MP Rotator	MP1000HT90
Hunter	MP Rotator	MP1000HT900
Hunter	MP Rotator	MP10090
Hunter	MP Rotator	MP2000210
Hunter	MP Rotator	MP2000360
Hunter	MP Rotator	MP200090
Hunter	MP Rotator	MP2000HT210
Hunter	MP Rotator	MP2000HT360
Hunter	MP Rotator	MP2000HT90
Hunter	MP Rotator	MP3000210
Hunter	MP Rotator	MP3000360
Hunter	MP Rotator	MP3000HT210
Hunter	MP Rotator	MP3000HT360
Hunter	MP Rotator	MP3000HT90
Hunter	MP Rotator	MPCORNER
Hunter	MP Rotator	MPCORNERHT
Hunter	MP Rotator	MPLCS515
Hunter	MP Rotator	MPLCS516
Hunter	MP Rotator	MPLCS517
Hunter	MP Rotator	MPLCS518
Hunter	MP Rotator	MPLCSHT515
Hunter	MP Rotator	MPLCSHT516
Hunter	MP Rotator	MPLCSHT517
Hunter	MP Rotator	MPLCSHT518
Hunter	MP Rotator	MPRCS515
Hunter	MP Rotator	MPRCS516
Hunter	MP Rotator	MPRCS517
Hunter	MP Rotator	MPRCS518
Hunter	MP Rotator	MPRCSHT515
Hunter	MP Rotator	MPRCSHT516
Hunter	MP Rotator	MPRCSHT517
Hunter	MP Rotator	MPRCSHT518
Hunter	MP Rotator	MPSS530
Hunter	MP Rotator	MPSS531

Hunter	MP Rotator	MPSS532
Hunter	MP Rotator	MPSS533
Hunter	MP Rotator	MPSSHT530
Hunter	MP Rotator	MPSSHT531
Hunter	MP Rotator	MPSSHT532
Hunter	MP Rotator	MPSSHT533
Orbit	Eco-Stream Rotator Head	ES1000A
Orbit	Eco-Stream Rotator Head	ES1000F
Orbit	Eco-Stream Rotator Head	ES2000A
Orbit	Eco-Stream Rotator Head	ES2000F
Rain Bird	Rotary Nozzle	12SAF
Rain Bird	Rotary Nozzle	12SAH
Rain Bird	Rotary Nozzle	12SAQ
Rain Bird	Rotary Nozzle	22SAF
Rain Bird	Rotary Nozzle	22SAH
Rain Bird	Rotary Nozzle	22SAQ
Rain Bird	Rotary Nozzle	R13-18F
Rain Bird	Rotary Nozzle	R13-18H
Rain Bird	Rotary Nozzle	R13-18Q
Rain Bird	Rotary Nozzle	R13-18T
Rain Bird	Rotary Nozzle	R13-18TQ
Rain Bird	Rotary Nozzle	R17-24F
Rain Bird	Rotary Nozzle	R17-24H
Rain Bird	Rotary Nozzle	R17-24Q
Rain Bird	Rotary Nozzle	R17-24T
Rain Bird	Rotary Nozzle	R17-24TQ
Rain Bird	Rotary Nozzle	R17-24TT
Toro	Multi-Stream PRN Rotor – Full Circle	53878
TORO	Percision	O-10-150
TORO	Percision	O-10-210
TORO	Percision	O-10-60
TORO	Percision	O-10-F
TORO	Percision	O-10-H
TORO	Percision	O-10-Q
TORO	Percision	O-10-T
TORO	Percision	O-10-TQ
TORO	Percision	O-10-TT
TORO	Percision	O-12-150
TORO	Percision	O-12-210
TORO	Percision	O-12-60
TORO	Percision	O-12-F
TORO	Percision	O-12-H
TORO	Percision	O-12-Q
TORO	Percision	O-12-T
TORO	Percision	O-12-TQ
TORO	Percision	O-12-TT
TORO	Percision	O-15-150
TORO	Percision	O-15-210
TORO	Percision	O-15-60
TORO	Percision	O-15-F
TORO	Percision	O-15-H
TORO	Percision	O-15-Q
TORO	Percision	O-15-T
TORO	Percision	O-15-TQ
TORO	Percision	O-15-TT
TORO	Percision	O-4X15-LCS
TORO	Percision	O-4X15-RCS
TORO	Percision	O-4X18-SST
TORO	Percision	O-4X30-SST
TORO	Percision	O-4X9-LCS
TORO	Percision	O-4X9-RCS
TORO	Percision	O-5-150
TORO	Percision	O-5-210
TORO	Percision	O-5-60
TORO	Percision	O-5-F
TORO	Percision	O-5-H
TORO	Percision	O-5-Q
TORO	Percision	O-5-T
TORO	Percision	O-5-TQ
TORO	Percision	O-5-TT
TORO	Percision	O-8-150
TORO	Percision	O-8-210
TORO	Percision	O-8-60
TORO	Percision	O-8-F
TORO	Percision	O-8-H
TORO	Percision	O-8-Q
TORO	Percision	O-8-T
TORO	Percision	O-8-TQ
TORO	Percision	O-8-TT
TORO	Percision	O-T-10-150

TORO	Percision	O-T-10-210
TORO	Percision	O-T-10-60
TORO	Percision	O-T-10-F
TORO	Percision	O-T-10-H
TORO	Percision	O-T-10-Q
TORO	Percision	O-T-10-T
TORO	Percision	O-T-10-TQ
TORO	Percision	O-T-10-TT
TORO	Percision	O-T-12-150
TORO	Percision	O-T-12-210
TORO	Percision	O-T-12-60
TORO	Percision	O-T-12-F
TORO	Percision	O-T-12-H
TORO	Percision	O-T-12-Q
TORO	Percision	O-T-12-T
TORO	Percision	O-T-12-TQ
TORO	Percision	O-T-12-TT
TORO	Percision	O-T-15-150
TORO	Percision	O-T-15-210
TORO	Percision	O-T-15-60
TORO	Percision	O-T-15-F
TORO	Percision	O-T-15-H
TORO	Percision	O-T-15-Q
TORO	Percision	O-T-15-T
TORO	Percision	O-T-15-TQ
TORO	Percision	O-T-15-TT
TORO	Percision	O-T-4X15-LCS
TORO	Percision	O-T-4X15-RCS
TORO	Percision	O-T-4X18-SST
TORO	Percision	O-T-4X30-SST
TORO	Percision	O-T-4X9-LCS
TORO	Percision	O-T-4X9-RCS
TORO	Percision	O-T-5-150
TORO	Percision	O-T-5-210
TORO	Percision	O-T-5-60
TORO	Percision	O-T-5-F
TORO	Percision	O-T-5-H
TORO	Percision	O-T-5-Q
TORO	Percision	O-T-5-T
TORO	Percision	O-T-5-TQ
TORO	Percision	O-T-5-TT
TORO	Percision	O-T-8-150
TORO	Percision	O-T-8-210
TORO	Percision	O-T-8-60
TORO	Percision	O-T-8-F
TORO	Percision	O-T-8-H
TORO	Percision	O-T-8-Q
TORO	Percision	O-T-8-T
TORO	Percision	O-T-8-TQ
TORO	Percision	O-T-8-TT
Toro	Multi-Stream PRN Rotor – Adjustable	53877

RAIN SENSORS

Manufacturer	Model Name	Model Number
Hunter	Rain Clik	Rain-Clik
Irritrol	Irritrol Rain Sensor	RFS1000
Irritrol	Irritrol Rain Sensor	RS1000
Irritrol	Irritrol Rain Sensor	RS500
Melnor	Melnor Automatic Rain Sensor (3290)	3290
ORBIT	Rain/Freeze Sensor	57069
Rain Bird	Rain check	Rain check
Rain Bird	RSD Rain Sensor	RSD-BEx Rain Sensor- With Bracket
Rain Bird	RSD Rain Sensor	RSD-CEx Rain Sensor- No Bracket
Rain Bird	WR2 Wireless Rain/Freeze Sensor	WR2RC Wireless Rain Sensor Combo
Rain Bird	WR2 Wireless Rain or Rain/Freeze Sensor	WR2RFC Wireless Rain/Freese Sensor Combo110.40
TORO	TORO 53769 Sprinkler System Wired Rain Sensor	53769
TORO	TORO Wireless Rain Sensor	53770
TORO	TORO Wired RainSensor with Freeze Detection	53853

MOISTURE SENSORS

Manufacturer	Model Name	Model Number
Acclima	Acclima Digital TDT Soil Moisture Sensor	ACC-SEN-TDT
Acclima	Acclaima SCX Soil Moisture Sensor & Irrigation Override Controller	MS-SCX-01
Gardena	Gardena Moisture Sensor (Sears Stores 07143311000)	1188-U
Melnor	Melnor Wireless Moisture Sensor	33000V
Rain Bird	SMRT-Y Soil Moisture Sensor Kit	SMRT-Y

CONTROLLER EQUIPPED WITH MOISTURE SENSOR

Manufacturer	Model Name	Model Number

Acclima	Acclima Digital TDT Moisture Sensor SC12	ACC-SYS-SC12
Acclima	Acclima Digital TDT Moisture Sensor SC12	ACC-SYS-SC12P
Acclima	Acclima SC6 Plus Outdoor Controller & Digital TDT Moisture Sensor	ACC-SYS-SC6
Acclima	Acclima SC6 Plus Outdoor Controller Digital TDT Moisture Sensor	ACC-SYS-SC6P
Rain Bird	ESP SMT4 Series Smart Timer 4 Station Outdoor Smart Timer	ESP-SMT4
Rain Bird	ESP SMT Series Smart Timer 4 Station Indoor Smart Timer	ESP-SMT4i

HOSE END TIMER

Manufacturer	Model Name	Model Number
Ace	Ace Deluxe Digital Water Timer	
Ace	Ace One Cycle Digital Water Timer	
DIC	DIG Corp One Touch Programmable Sprinkler Timer	2006-I
DIG	3/4 in. Hose Thread Automatic Sprinkler Timer, Programmable, In-Line	7001
DIG	DIG Corp Watering Hose Thread Timer with Push Buttons	9001 EZ
DIG	DIG Corp No. 9001DB with LCD Display Battery Operated Hose Thread Time	9001DB
Gardena	Gardena Water Computer Profi (Sears Store 07143333000)	1814-U
Melnor	Melnor ual Hose End Water Timer (3100)	3100
Orbit	Orbit Digital 2-Outlet HT Timer	27133
Orbit	Orbit 1-Dial 1-Outlet Digital Timer	27729
Orbit	Orbit Watering System	27752
Orbit	Orbit Single Dial Timer	62024
Orbit	Orbit 2-Dial Digital Timer	62155
Raindrip	Raindrip Analog Electronic Water Timer	R672CT
Ray Padula Time I	Ray Padula Time It! Duo Dual Outlet Manual Hose Timer	RPETD2
Ray Padula Time I	Ray Padula Time It! Deluxe Electronic Hose Timer	RPETI1
TORO	TORO Blue Stripte Drip Battery-Operated Hose-End Timer	53746
Vigoro	Vigoro Automatic Yard Watering System	62032
Vigoro	Vigoro 2-Zone Water Timer	3100V

CONTROLLERS THAT CAN ADAPT TO RAIN OR MOISTURE SENSOR

Manufacturer	Model Name	Model Number
Alex-Tronix	Alex-Tronix USM Universal Smart Module	
Irritrol	Rain Dial to Smart Controller	SD1200MOD
Rain Bird	ESP-8LX Modular Outdoor Timer	ESP-8LX
Rain Bird	Upgrade Kit Converts ESP Modular to Smart Timer	ESP-SMT-UPG
Rain Bird	ET Manager	ET
TORO	ECXTRA 8 Zone Sprinkler Timer	53767
TORO	ECXTRA 6 Zone Sprinkler Timer	53794
TORO	ECXTRA 8 Zone Timer with Scheduling Advisor	53795

WEATHER BASED CONTROLLERS

Manufacturer	Model Name	Model Number
Hunter	ICC	ICC-800PL-SSYNC (PL=Plastic)
Hunter	Pro-C	PC-300i-SSYNC
Hunter	Pro-C	PC-300-SSYNC
Hunter	Pro-C Conventional	PCC-1200i-SSYNC
Hunter	Pro-C Conventional	PCC-1200-SSYNC
Hunter	Pro-C Conventional	PCC-1500i-SSYNC
Hunter	Pro-C Conventional	PCC-1500-SSYNC
Hunter	Pro-C Conventional	PCC-600i-SSYNC
Hunter	Pro-C Conventional	PCC-600-SSYNC
Hunter	Pro-C Conventional	PCC-900i-SSYNC
Hunter	Pro-C Conventional	PCC-900-SSYNC
Irritrol	Smart Dial	SD1200-EXT
Irritrol	Smart Dial	SD1200-INT
Irritrol	Smart Dial	SD2400-EXT
Irritrol	Smart Dial	SD600-EXT
Irritrol	Smart Dial	SD600-INT
Irritrol	Smart Dial	SD900-EXT
Irritrol	Smart Dial	SD900-INT
Rain Bird		ESP-LX with ET Manager Cartridge
Rain Bird		ESP-SMT
TORO	Intelli-Sense	TIS-06-ID
TORO	Intelli-Sense	TIS-06-OD
TORO	Intelli-Sense	TIS-09-ID
TORO	Intelli-Sense	TIS-09-OD
TORO	Intelli-Sense	TIS-12-ID
TORO	Intelli-Sense	TIS-12-OD
TORO	Intelli-Sense	TIS-240
TORO	Intelli-Sense	TIS-24-ID
TORO	Intelli-Sense	TIS-24-OD
TORO	Intelli-Sense	TIS-612
WaterOptimizer		300
Weathermatic		SL800

Water Rebate Program

waterrebates@lakewoodcity.org
5050 Clark Avenue Lakewood California 90712

Water Conservation Device Rebate Program Application

Water Customer Name: _____

Lakewood Water Customer Account Number: _____

Daytime Telephone Number: _____

Email Address: _____

Property Address: _____

City: Lakewood, CA Zip Code: 90712 ☐ 90713 ☐ 90714 ☐

Property Owner (if different from Water Customer):

Property Owner Daytime Telephone Number (if different from Water Customer):_____

Location of Device Installation (check all that apply.):

Front Yard ☐
Back Yard ☐
Side Yard ☐ North Side ☐ South Side ☐ East Side ☐ West Side ☐

Type of Rebate (check all that apply.):

Drip Irrigation/Micro Sprinkler Kit <$20.00 ☐ Make/Model: _____
Drip Irrigation/Micro Sprinkler Kit ≥$20.00 ☐ Make/Model: _____
Hose End Timer ☐ Make/Model: _____
Rotor Nozzle ☐ Make/Model: _____
Rain Sensor ☐ Make/Model: _____

Irrigation Controller Equipped with Rain Sensor or Moisture Sensor ☐ Make/Model: _____
Weather Based Irrigation Controller ☐ Make/Model: _____

Water Conservation Device	Number of Allowable Rebates	Number of Rebates Requested:	Rebate Amount per Unit:	TOTAL REBATE	Date of Purchase
Drip Irrigation/Micro Sprinkler Kit <$20.00	1	_____	$5.00	_____	_____
Drip Irrigation/Micro Sprinkler Kit ≥$20.00	1	_____	$10.00	_____	_____
Hose End Timer	1	_____	$5.00	_____	_____
Rotor Nozzle	7-25	_____	$2.00	_____	_____
Rain Sensor or Moisture Sensor	1	_____	$25.00	_____	_____
Irrigation Controller Equipped with Rain Sensor or Moisture Sensor	1	_____	$35.00	_____	_____
Weather Based Irrigation Controller	1	_____	$50.00	_____	_____
			GRAND TOTAL	$0	

Product Disclaimer & Terms of Rebate Program

The City of Lakewood makes no representation or warranty relating to contracted services or products that may be installed, including any hazardous substances that may be contained in the product. Installation of water efficient devices does not guarantee reduced water use. This application is for a rebate only.

By participating in the program, you waive and release the City of Lakewood from any and all claims and causes of action arising out of the purchase, installation or use of devices in connection with this Water Conservation Device Rebate Program. Any claim you may have based upon any defect or failure of performance of a contracted service or device purchased by you should be pursued with the contractor or manufacturer/distributor.

The City of Lakewood only enforces the terms and conditions of the Water Conservation Device Rebate Program. The applicant is responsible for complying with all applicable laws, codes, policies, covenants, conditions and restrictions that may apply. This includes the City of Lakewood Water Conservation Ordinance.

By signing this application, the applicant agrees to comply with the program terms and conditions, as well as, all Federal, State and local codes, including covenants, conditions and restrictions, as applicable. The applicant has read, understands and agrees to the terms and conditions of the program as outlined and certifies that the information on the application is true and correct.

Water Customer

_____	_____	_____
Signature	Print Name	Date

FOR OFFICE USE ONLY

DATE STAMP

REBATE NUMBER

INSPECTION DATE

REBATE APPROVE OR DENIED

ATTACHMENT 3

HISTORICAL AMOUNTS OF WATER FOR REPLENISHMENT

(In Acre-feet)

WATER YEAR	SPREADING					INJECTION	IN-LIEU	TOTAL
	IMPORTED WATER	RECLAIMED WATER	LOCAL WATER	MAKEUP WATER	TOTAL			
1952-53						1,140		1,140
1953-54	30,000			-	30,000	3,290		33,290
1954-55	24,800			-	24,800	2,740		27,540
1955-56	54,500			-	54,500	2,840		57,340
1956-57	50,000			-	50,000	3,590		53,590
1957-58	105,100		87,558	-	192,658	4,330		196,988
1958-59	54,400		31,787	-	86,187	3,700		89,887
1959-60	80,900		20,064	-	100,964	3,800		104,764
1960-61	147,200		9,118	-	156,318	4,480		160,798
1961-62	208,100		39,548	-	247,648	4,510		252,158
1962-63	80,600	8,898	14,565	-	104,063	4,200		108,263
1963-64	104,900	8,903	9,992	-	123,795	10,450		134,245
1964-65	160,100	7,368	13,097	-	180,565	35,980		216,545
1965-66	121,700	13,113	45,754	6,500	187,067	48,110	745	235,922
1966-67	84,300	16,223	59,820	-	160,343	46,940	851	208,134
1967-68	95,400	18,275	39,760	-	153,435	44,530	850	198,815
1968-69	17,800	13,877	119,395	-	151,072	41,680	850	193,602
1969-70	68,900	17,157	52,917	-	138,974	33,940	900	173,814
1970-71	72,100	38,990	89,514	-	200,604	36,202	881	237,687
1971-72	34,400	17,543	17,688	-	69,631	41,036	756	111,423
1972-73	71,900	22,005	45,077	20,000	158,982	41,803	901	201,686
1973-74	68,200	21,392	29,171	23,900	142,663	42,658	901	186,222
1974-75	71,900	21,883	29,665	-	123,448	36,688	400	160,536
1975-76	50,800	21,455	22,073	-	94,328	44,815	400	139,543
1976-77	9,300	22,864	19,252	21,400	72,816	49,315	400	122,531
1977-78	39,900	19,380	147,317	-	206,597	40,233	16,131	262,961
1978-79	65,300	22,499	68,859	-	156,658	34,498	18,378	209,534
1979-80	10,200	24,382	106,820	10,900	152,302	37,119	14,961	204,382
1980-81	32,000	26,108	50,590	31,500	140,198	34,364	23,823	198,385
1981-82	4,600	29,434	47,930	30,900	112,864	34,292	18,883	166,039
1982-83	2,000	17,037	126,076	8,900	154,013	45,186	19,752	218,951
1983-84	1,500	27,731	60,710	20,800	110,741	39,482	41,740	191,963
1984-85	40,600	27,055	39,099	-	106,754	37,524	36,840	181,118
1985-86	21,500	25,312	66,966	-	113,778	31,693	26,132	171,603
1986-87	49,200	34,619	27,613	6,500	117,932	39,317	29,202	186,451
1987-88	23,300	40,191	50,068	5,800	119,359	37,483	28,411	185,253
1988-89	50,300	38,331	17,096	6,500	112,227	33,534	25,425	171,186
1989-90	52,700	50,109	9,388	13,600	125,797	32,054	29,151	187,002
1990-91	56,287	53,864	35,717	100	145,968	29,709	22,039	197,716
1991-92	43,103	46,903	136,357	-	226,363	34,798	19,104	280,265
1992-93	16,561	48,864	147,699	-	213,124	31,341	53,306	297,771
1993-94	20,411	53,981	55,896	-	130,288	25,109	109,581	264,978
1994-95	21,837	33,300	100,578	-	155,715	24,479	50,898	231,092
1995-96	18,012	53,862	62,920	-	134,794	27,473	51,333	213,601
1996-97	22,738	49,959	58,262	-	130,959	29,280	39,394	199,633
1997-98	952	37,017	96,706	-	134,675	25,433	30,330	190,438
1998-99	-	47,201	32,013	-	79,214	27,280	23,516	130,010
1999-00	45,037	43,271	20,607	-	108,915	30,377	22,278	161,570
2000-01	23,451	46,343	39,724	-	109,518	30,423	21,181	161,122
2001-02	42,875	60,598	18,605	-	122,078	31,652	20,720	174,450
2002-03	22,366	42,727	63,340	-	128,433	29,309	11,205	168,947
2003-04	27,520	44,925	30,464	-	102,909	25,030	-	127,939
2004-05	25,296	29,504	148,673	-	203,473	21,580	7,804	232,857
2005-06	33,229	42,022	60,376	-	135,627	21,502	9,889	167,018
2006-07	40,214	45,028	11,508	-	96,750	25,071	9,259	131,079
2007-08	1,510	39,767	55,047	-	96,323	28,045	-	124,368
2008-09	-	39,611	35,348	-	74,959	28,049	-	103,008
TOTAL	2,721,799	1,510,880	2,824,186	207,300	7,264,164	1,595,486	839,503	9,699,153

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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

ATTACHMENT 5

City of Lakewood

Feasibility Study for the Proposed Expansion of the Lakewood Recycled Water System

in

Los Angeles County, California

July 15, 2010

Prepared by Willdan Engineering
Under the supervision of
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Anaheim, California 92806-6073
(714) 978-8200

Executive Summary

In November 2009, Senate Bill 7 was signed into law, which added comprehensive water conservation requirements into the State Water Code. These requirements in concert with existing statutes constitute more stringent water management criteria for every water supplier throughout the State. The statutes are directed toward reducing the amount of water used by every consumer and thereby increasing water use efficiency practices in these times of reduced or limited water supplies throughout the State, and the entire southwestern states.

Part of the water conservation criteria involves reducing the current levels of potable water consumption by allowing the exchange of potable water usage for irrigation with recycled water use in its place. This is especially effective in the irrigation of sizeable landscape sites and certain agricultural crops. Therefore in order for the City of Lakewood to further reduce its potable water usage; this feasibility study for the Proposed Expansion of the Lakewood Recycled Water System was undertaken.

The study involved identifying existing irrigation sites where potable water usage is occurring, and their proximity to both the existing recycled water distribution pipelines, and the feasibility of extending additional pipelines to serve the identified irrigation sites. The study identified eight (8) large irrigated sites (parks and schools) and forth-nine (49) metered median and parkway service locations that could contribute to the exchange of potable for recycled water use. To provide service to the identified sites will require the installation of almost 40,700 linear feet (7.7 miles) of distribution pipe (purple) with new service laterals and meters for delivery of recycled water in place of potable water. The projected amount of total potable water offset by recycled water is 159.3 acre-feet per year. The cost to design and construct the pipelines and service connections is estimated at $7,250,668.

Background

On June 19, 1986, the Cities of Cerritos and Lakewood entered into an agreement (Reclaimed Water User Agreement) under which the cities agreed to design, bid and construct reclaimed water distribution facilities in their respective agencies. The agreement also obligated the City of Cerritos to sell up to 130 acre-feet of reclaimed water per year to the City of Lakewood, subject to the provision of receipt of such water supply from the County Sanitation Districts of Los Angeles County and the City of Lakewood's application for and purchase of the available reclaimed water on an as needed basis.

On August 5, 1987 the Cities of Cerritos and Lakewood entered into an amendment modifying section 2 of the initial agreement. The first amendment increased the annual amount of reclaimed water to be sold to the City of Lakewood to 450 acre-feet subject to

the construction of reclaimed water distribution facilities and obtaining reclaimed water from the County Sanitation Districts of Los Angeles County.
During calendar year 1988, Phase 1 of the City of Lakewood Reclaimed Water System was constructed. This initial water system served reclaimed water for irrigation use to many park, school and public building sites, and a few street parkways within the easterly half of the City's water service area. The properties currently served and the system pipelines are shown on exhibit map # 1 following this page.

On June 5, 1991 the Cities of Cerritos and Lakewood entered into a second amendment modifying section 3 of the initial agreement. This amendment changed the method used to calculate the price of reclaimed water sold under the agreement.

On July 28, 2009 the City of Lakewood entered into an agreement with Willdan Engineering to prepare a feasibility study for a proposed expansion of the Lakewood Recycled Water System. The study involves review of available City records on the existing recycled water system and those mapped features of the existing irrigation systems delivering potable water to various parks, schools, medians and parkways in the westerly half and some additional parkways and medians in the easterly half of the City water service area. The City's proposed expansion service areas and pipelines are shown on exhibit map # 2 following this page.

On August 31, 2009 the project kick-off meeting was held in the Department of Water Resources office at 5812 Arbor Road. Some of the pertinent information was provided and requests were noted for other information needed for the study. Meeting notes were produced and distributed within the week. As the requested information was received it was reviewed, and these reviews were followed by an on site meeting with two Recreation and Community Services personnel to discuss pertinent irrigation issues and related site observations were conducted. The gathered information then allowed the evaluation study to begin taking form.

In September, 2009, the City requested some additional irrigation areas be included in the evaluation work for use of recycled water in lieu of potable water. These included the parkways and medians on Lakewood Blvd. and Del Amo Blvd. abutting the Lakewood Center Mall.

Review of Records and Field Inspections

Records and information received from the City included: Lakewood Municipal Code Sections 5600 (Reclaimed Water) and 8600 (Water Conservation); recycled water usage reports for FY's 2000/2001 through 2008/2009; preliminary analysis of additional recycled water usage; as-built drawings of the 1987 recycled water system design plans; City water atlas maps in GIS format which contain the entire system, including feature attributes of the water meter locations; citywide substructure maps; and the water services procedures manual. Each of these records was reviewed and pertinent information was considered in the development of this feasibility study.

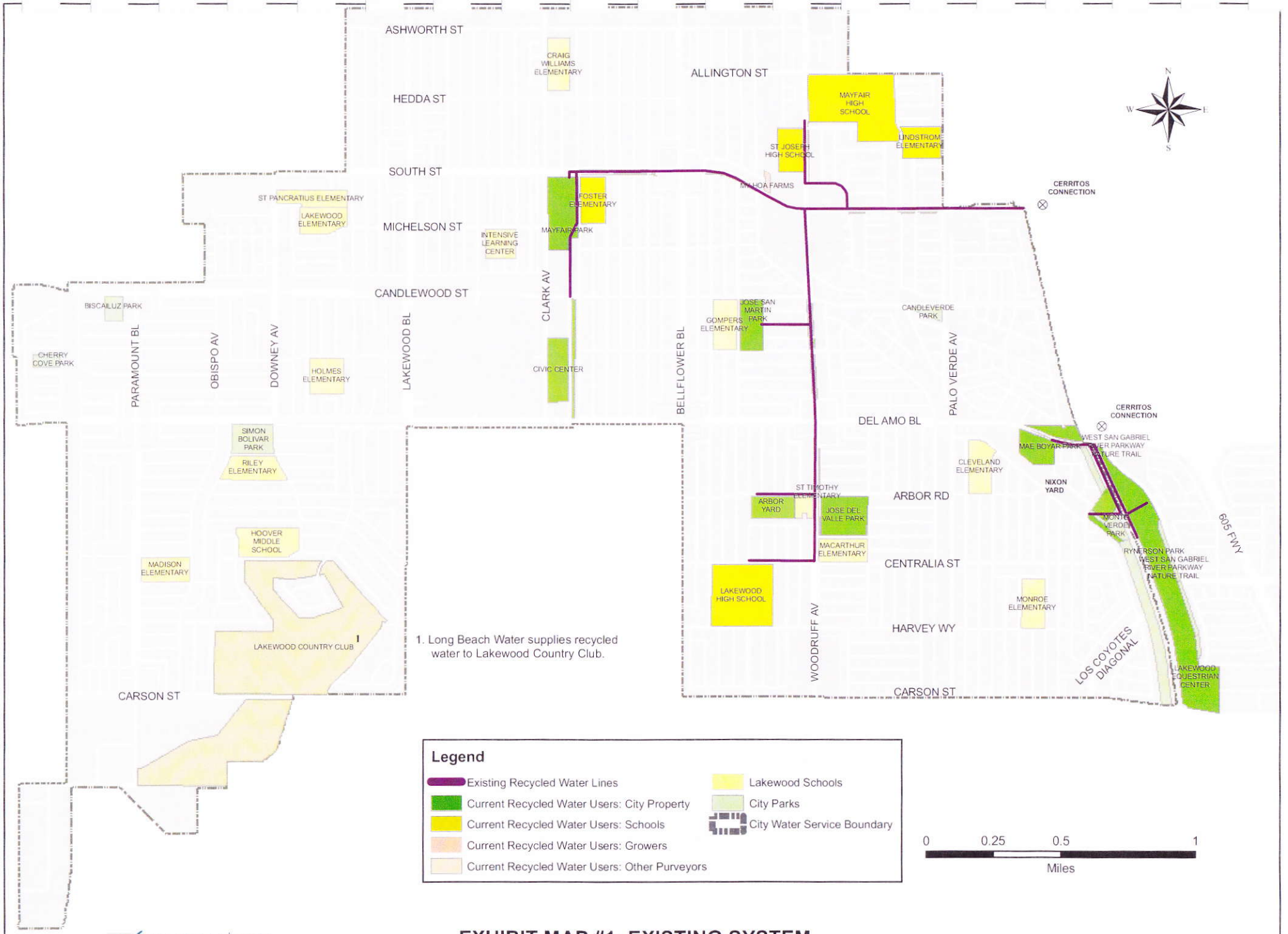

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EXHIBIT MAP #1: EXISTING SYSTEM
LAKEWOOD RECYCLED WATER SYSTEM

May 19, 2010

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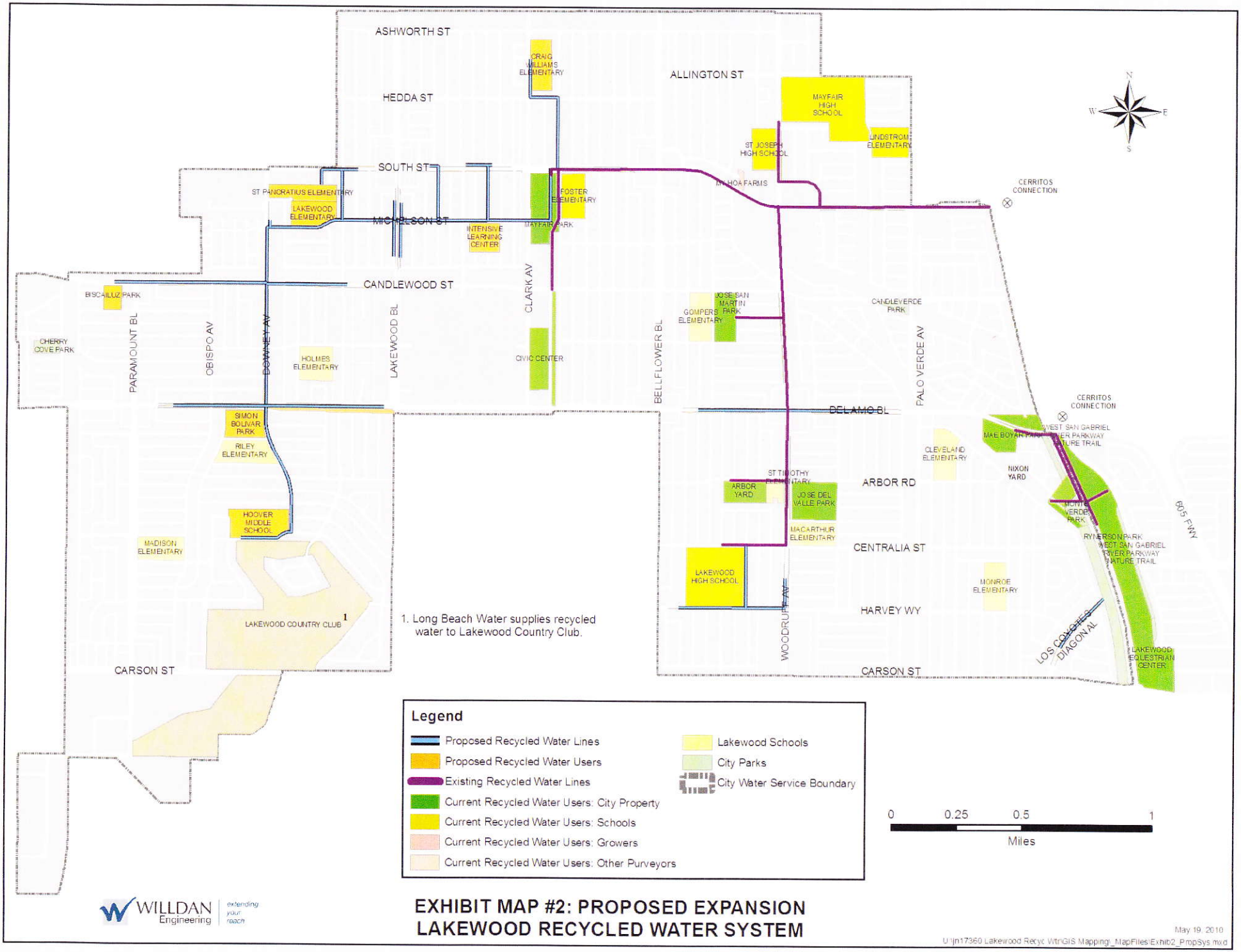

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EXHIBIT MAP #2: PROPOSED EXPANSION LAKEWOOD RECYCLED WATER SYSTEM

May 19, 2010

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A field inspection and discussion with Cam Castello of the Recreation and Community Services Department revealed that current site irrigation systems throughout the city are designed to operate hydraulically or electrically (remote control electric signals utilizing a 24 VAC solenoid). Also, each individual irrigation system is protected by a backflow prevention device consisting of either an atmospheric vacuum breaker (AVB) or reduced pressure (RP) type of device. These systems serve street parkway frontage and/or median islands, and open space areas such as parks and school sites. A majority of the irrigation systems appear to have been in operation 20 years or more, and the operating components and controllers do not have the efficiency features and capabilities that more recently available irrigation components now offer, especially for use with recycled water quality.

Related Water Needs, Service Groupings and Costs

Utilizing recent year's metered water consumption data for the various potential irrigation conversion sites; a spreadsheet table ranked from highest to lowest annual usage was prepared. This helped define phases of grouped service locations for maximum potable water savings as future distribution pipeline expansion is scheduled. The table also reflects the cumulative usage as an indicator used to guide phased groupings. The potential recycled water users spreadsheet tables are included in the appendix to this report.

For irrigated areas which could use recycled water in lieu of using potable water supplies, we have grouped those services areas into phases (each are described below). We started with the largest volume use groupings, based upon user adjacency to minimize costs to install the recycled water delivery system. For each location (phase) we have included all work within public rights-of-way necessary to construct main line facilities, laterals and new service meters to the water users delivery location. Each metered site is projected to have a new meter service and associated meter box for the service site. The engineer's opinion of construction cost, per phase, are included at the end of each phase description, and a map of the pipe alignments and related meter locations is included as exhibit map # 3 in the appendix.

On the customer's side of the meter all necessary and appropriate appurtenances such as pressure regulators, back flow preventers, irrigation controllers, valves, notification tags and markings associated with the use of recycled water are considered the responsibility of the customer/owner and are not included in the total costs to construct delivery pipelines to the related service connection point. Estimated costs per square-foot of irrigated area are included with the irrigation information in Appendix Section 6.

Phase 1 Description and Improvements

Main Line

Phase 1 improvements will provide recycled water service capability to the locations described in Table 1.1. These service sites are The Intensive Learning Center, Lakewood Elementary, St. Pancratius Elementary, the median in Lakewood Blvd., immediately north and south of Michelson Street, and the median in South Street between Hayter Ave. and Lakewood Blvd. Some of the main pipeline capacity size in this phase is necessary to facilitate further service into subsequent Phases 2, 3, 4 and part of 5. All of which are shown on Exhibit Map #3 in the Appendix.

To accomplish service to Phase 1 will involve upsizing the existing 6-inch pipeline that begins at the intersection of Fidler Avenue and South Street[1] and continues south to a tee at the intersection of Fidler Avenue and Bigelow Street and the existing 4-inch pipeline[2] that bears due west of the tee through Mayfair Park, over Los Cerritos Drainage Channel, to Clark Ave. Both pipelines must be upsized to a 10-inch recycled water main. The 10-inch pipeline will then be continued westerly in Michelson Street to its intersection with Hayter Avenue, then north in Hayter Avenue to its inter-section with South Street, then east and west in South Street to existing meter connections points as indicated on Exhibit Map #3. From the pipe cross at Hayter Avenue and Michelson Street, then west in Michelson Street to its intersection with Vedura Avenue, then north in Vedura Avenue to St. Pancratus Pl.

The future extension southerly in Hayter Avenue from the cross at Michelson Street, for phases 2 and 3 service, was selected to avoided Downey Ave. due to a greater number of utilities within the corridor and the higher traffic volume on that arterial.

Service Laterals

Phase 1 service connections include replacing the potable water delivery at each of the irrigation meter points described in Table 1.1, and as shown Exhibit Map #3. Due to the adjacency of six metered usage points near the Phase 1 main line, we have included them (meters 10, 34, 41, 52, 54 and 63) for the long term benefits of reduced potable water usage (7.26 acre-feet). The four median irrigation meters (10, 52, 54 and 63) are located on Lakewood Blvd., between Pepperwood Avenue and Camerino Street, and the two median irrigation meters (34 and 41) are located on South Street, east of Verdura Avenue.

Table 1.1 Phase 1 Service Locations

Potential User Ranking	Meter Location	Estimated R/W Usage (Acre-Feet)
1	Lakewood Elementary	19.68
5	Intensive Learning Center	9.41
9	St. Pancratius Elementary fields	5.03
10	Lakewood Blvd. Median North of Camerino St.	4.49

[1] Lakewood Recycled Water System – Phase 1 Record Drawings design date September 9, 1987.
[2] The existing 4-inch recycled water line bearing north in Clark Ave. shall remain in service

11	St. Pancratius Elementary	3.61
34	South St. Median North side at Castana Ave.	0.88
41	South St. Median South side at Castana Ave.	0.75
52	Lakewood Blvd. Median East side North of Camerino St.	0.52
54	Lakewood Blvd. Median North of Michelson St.	0.47
63	Lakewood Blvd. Median South of Pepperwood Ave.	0.15
	Total Phase 1 R/W Usage (Acre-Feet)	**44.99**
	% of All Considered Users	28%

Estimated Cost for Phase 1 Pipelines

Pipe Size (in)	Pipe Length (ft.)	Unit Cost ($)	Est. Const Cost	Engineering Costs	Contingency (20%)	Total Cost ($)
6" PVC	3,485	130	453050	67,958	90,610	611,618
10" PVC	5,080	135	685,800	102,870	137,160	925,830
						1,537,448

Phase 2 Description and Improvements

Main Line

Phase 2 improvements will provide recycled water service capability to the locations described in Table 2.1. These service sites are Bolivar Park, medians in Candlewood St. between Verdura Avenue and Oliva Avenue, medians in Downey Avenue from Del Amo Blvd to Eckleson Street, and the medians in Del Amo Blvd. from Allred / Silva Streets easterly to Lakewood Blvd. These locations are shown on Exhibit Map #3.

To accomplish service to Phase 2 will involve joining the Phase 1 main at the intersection of Camerino Street and Hayter Avenue, then continuing south in Hayter Avenue to its intersection with Del Amo Blvd., then west in Del Amo Blvd. and its frontage road, crossing over an open drainage channel, to its intersection with Downey Avenue. A second main extension within the north frontage road of Del Amo Blvd. between Downey Avenue and Allred / Silva Streets will be necessary to provide meter lateral services to the four (4) existing median irrigation meters along Del Amo Blvd. These alignments and service points are as identified on Exhibit #3.

Alternatively, an alignment for Phase 2 could have been westerly in Candlewood Avenue to its intersection with Downey Avenue, then southerly in Downey Ave. to Del Amo Blvd. This option would have involved some additional piping in Del Amo Blvd to reach metered locations 12 and 13, encountering a greater number of utilities within Downey

Avenue corridor, and incurred a greater traffic control impact due to construction within the higher volume secondary arterial; therefore, this alternative was not recommended.

Service Laterals

Phase 2 service connections include replacing potable water delivery to each of the irrigation meter points described in Table 2.1, and as shown Exhibit Map #3. All of these have been included for the long term benefits of reduced potable water usage, and collectively makeup the second largest potable irrigation water savings for the costs involved. The three median irrigation meters (37, 43 and 56) located on Downey Avenue, south from Candlewood Street, with a 1.96 acre-foot annual usage would have substantial service laterals cost with a limited benefit and therefore are not recommended as part of Phase 2.

Table 2.1 Phase 2 Service Locations

Potential User Ranking	Meter Location	Estimated R/W Usage (Acre-Feet)
2	Bolivar Park	15.15
12	Del Amo Blvd. Median at Minturn Ave	3.24
13	Del Amo Blvd. Median West of Lakewood Blvd	2.91
15	Del Amo Blvd. Median West of Obispo Ave	1.46
20	Candlewood St. Median West of Minturn Ave	1.14
22	Candlewood St. Median East of Minturn Ave	1.08
23	Del Amo Blvd. Median West of Downey Ave	1.08
25	Del Amo Blvd. Median South side West of Downey Ave	1.07
29	Del Amo Blvd. Median North side East of Silva St.	1.00
30	Candlewood St. Median East of Hayter Ave	0.94
47	Del Amo Blvd. Median South side East of Downey Ave.	0.61
53	Del Amo Blvd. Median North side west of Hayter St	0.51
55	Downey Ave. Median East side North of Del Amo Blvd.	0.47
	Total Phase 2 R/W Usage (Acre-Feet)	**30.66**
	% of All Considered Users	19%

Estimated Cost for Phase 2 Pipelines

Pipe Size	Pipe Length	Unit Cost	Est. Const	Engineering	Contingency	Total Cost

(in)	(ft.)	($)	Cost	Costs	(20%)	($)
6" PVC	1,850	130	240,500	36,075	48,100	324,675
8" PVC	1,000	132	132,000	19,800	26,400	178,200
10" PVC	5,185	135	699,975	104,996	139,995	944,966
						1,447,841

Phase 3 Description and Improvements

Main Line

Phase 3 improvements will provide recycled water service capability to the locations described in Table 3.1. These service sites include Craig Williams Elementary site, and the medians along South Street between Bonfair Avenue and Sunfield Avenue. These locations are shown on Exhibit Map #3.

To accomplish service to Phase 3 will involve joining the Phase 1 main at the intersection of Sunfield Ave. and Michelson Street, then continuing north in Sunfield Ave. to its intersection with Hedda Street, then easterly in Hedda Street to its intersection with Clark Avenue, then northerly in Clark Ave. to the existing irrigation meter service point for Craig Williams Elementary site. A second main pipe extension is within the north frontage road of South Street between Sunfield Ave and Bonfair Avenue, will be necessary to provide meter lateral services to the five (5) existing median irrigation meters along South Street. These alignments and service points are as identified on Exhibit #3.

Alternatively, an alignment for Phase 3 could have been westerly in South Street from its intersection at Fidler Avenue to Sunfield Avenue for extension to the north and west to the ending meter point on South Street near Bonfair Avenue. This alternative would involve slightly less pipeline length, but it would require construction in South Street (a major arterial) and its signalized intersection with Clark Avenue (another arterial street in the community). To avoid the added construction impacts of this alignment it was decided not to recommend this alternative.

Service Laterals

Phase 3 service connections include replacing potable water delivery to each of the irrigation meter points described in Table 3.1, and as shown Exhibit Map #3. All of these have been included for the long term benefits of reduced potable water usage, and collectively makeup the third largest potable irrigation water savings for the costs involved.

Table 3.1 Phase 3 Service Locations

Potential User Ranking	Meter Location	Estimated R/W Usage (Acre-Feet)
6	Craig Williams Elementary	7.83
7	South St. Median in front of 4505 South St	6.87
28	South St. Median next to 5745 Pennswood Ave	1.01
42	South St. Median next to 5744 Blackthorne Ave	0.75
45	South St. Median in front of 4915 South St	0.63
46	South St. Median in front of 4705 South St	0.62
	Total Phase 3 R/W Usage (Acre-Feet)	**17.71**
	% of All Considered Users	11%

Estimated Cost for Phase 3 Pipelines

Pipe Size (in)	Pipe Length (ft.)	Unit Cost ($)	Est. Const Cost	Engineering Costs	Contingency (20%)	Total Cost ($)
6" PVC	3,138	130	407,940	61,191	81,588	550,719
10" PVC	1,100	135	148,500	22,275	29,700	200,475
						751,194

Phase 4 Description and Improvements

Main Line

Phase 4 improvements will provide recycled water service capability to the metered locations described in Table 4.1. The service site is Herbert Hoover Middle School with meter service on Country Club Drive. This location is shown on Exhibit Map #3.

To accomplish service to Phase 4 will involve joining the Phase 2 main at the intersection of Del Amo Boulevard and Downey Avenue, then southerly in Downey Avenue to its intersection with County Club Drive, then westerly in Country Club Drive to the two existing irrigation meter locations.

Service Laterals

Phase 4 service connections include replacing the potable water delivery at each of the irrigation meter points described in Table 4.1. and as shown Exhibit Map #3. These have been included for the long term benefits of reduced potable water usage, and collectively makeup the fourth largest potable irrigation water savings for the costs involved.

Table 4.1 Phase 4 Service Locations

Potential User Ranking	Meter Location	Estimated R/W Usage (Acre-Feet)
3	Herbert Hoover Middle School	12.43
4	Herbert Hoover Middle School	12.13
	Total Phase 4 R/W Usage (Acre-Feet)	**24.56**
	% of All Considered Users	15%

Estimated Cost for Phase 4 Pipelines

Pipe Size (in)	Pipe Length (ft.)	Unit Cost ($)	Est. Const Cost	Engineering Costs	Contingency (20%)	Total Cost ($)
6" PVC	1,000	130	130,000	19,500	26,000	175,500
10" PVC	2,600	135	351,000	52,650	70,200	473,850
						649,350

Phase 5 Description and Improvements

Main Line

Phase 5 improvements will provide recycled water service capability to various locations as described in Table 5.1. The service sites consist of Biscailuz Park and seven separate median/parkway segments located on six different arterial streets within the community.

To accomplish service to all Phase 5 locations will involve joining previously installed recycled water pipelines at three separate locations. For service to the Biscailuz Park site a connection will be required at the intersection of Verdura Avenue and Michelson Street, then westerly in Michelson St., over the open drainage channel facility, to its intersection with Downey Avenue, then south in Downey Avenue to its intersection with Candlewood Street, then westerly in Candlewood St. and its frontage road to the existing irrigation meter service point for Biscailuz Park site. A second point of connection will be required at the intersection of Centralia Street and Woodruff Avenue, then continuing southerly in Woodruff Ave. to its intersection with Harvey Way, then westerly in Harvey Way to the westerly meter location between Briercrest Avenue and Marber Avenue. The third point of connection will be at the intersection of Woodruff Avenue and Del Amo Blvd. for added service in both directions along Del Amo Blvd. Service for the medians to the west will require pipeline extension from Woodruff Ave. to the meters near Coldbrook Avenue. Service for the medians to the east will require pipeline extension from

Woodruff Ave. to the meters near Canehill Avenue. A fourth point of connection will be at the intersection of Del Amo Blvd. and Lakewood Blvd., then branching northerly along Lakewood Blvd. to the meter north of Hardwick St., and easterly along Del Amo Blvd. to Clark Ave.

Alternatively, an alignment within Candlewood Street from its intersection with Hayter Avenue, then westerly to Downey Avenue involves slightly lesser pipe length, but greater impact to traffic flow in a higher traffic volume arterial, and crossing of an open drainage channel facility as well as through the intersection of Downey Avenue are the reasons this alignment was is not recommended.

Possible Future Addition:

Another somewhat isolated set of street medians that could be transitioned from use of potable water supply for irrigation to use of recycled water are those on Los Coyotes Diagonal between Stevely Avenue and Carson Street. According to metered usage from the five (5) meters along this segment, the annual average is 3.56 acre-feet of water demand. Service to this street segment may require extension of the recycled water pipeline serving Monte Verde Park site near Shadeway Road and Turnergrove Drive. If a pipeline extension is necessary from this location, it could require about 2,300 to 2,750 feet of new pipe, depending upon the available routing. However, if there is a recycled water pipeline with sufficient capacity within the adjacent L.A. Department of Water and Power easement abutting the westerly side of the San Gabriel River, the potential for service to the Los Coyotes Diagonal meters can be accomplished at a much lower cost.

Service Laterals

Phase 5 service connections include replacing potable water delivery to each of the irrigation meter points described in Table 5.1, and as shown Exhibit Map #3. All of these have been included for the long term benefits of reduced potable water usage, and collectively makeup the fifth largest potable irrigation water savings for the costs involved.

Table 5.1 Phase 5 Service Locations

Potential User Ranking	Meter Location	Estimated R/W Usage (Acre-Feet)
8	Biscailuz Park	5.15
14	Downey Ave. Median at Camarino St	1.64
16	Woodruff Ave. Median at Gallup St	1.32
17	Del Amo Blvd. Median at Coldbrook Ave	1.21
18	Del Amo Blvd. Median at Eastbrook Ave	1.19
19	Woodruff Ave. Median at Gallup St	1.16

24	Del Amo Blvd. Median East of Faust Ave	1.08
27	Del Amo Blvd. Median at Ocana Ave	1.03
31	Del Amo Blvd. Median East of Snowden Ave	0.94
32	Downey Ave. Median North of Michelson St	0.92
33	Harvey Way Median at Sebren Ave	0.88
36	Candlewood St. Median at Bixler Ave	0.82
38	Candlewood St. Median East of Daneland St	0.81
39	Del Amo Blvd. Median at Coldbrook Ave	0.80
40	Candlewood St. Median West of Downey Ave	0.79
44	Del Amo Blvd. Median at Canehill Ave	0.67
51	Harvey Way Median at Ocana Ave	0.53
57	Candlewood St. Median at Levelside Dr	0.42
58	Del Amo Blvd. Median East of Faust	0.42
59	Harvey Way Median East of Marber Ave	0.42
61	Harvey Way Median West of Woodruff Ave	0.33
64	Lakewood Blvd. Median North of Hardwick St.	6.74
65	Lakewood Blvd. Median at Silva St.	4.47
66	Del Amo Blvd. 95' East of Lakewood Blvd.	2.44
67	Del Amo Blvd. East of Lakewood Blvd.	1.24
68	Del Amo Blvd. East of Lakewood Blvd.	0.43
69	Del Amo Blvd. West of Clark Ave.	0.32
70	Del Amo Blvd. West of Clark Ave.	0.51
71	Del Amo Blvd. West of Clark Ave.	0.78
	Total Phase 5 R/W Usage (Acre-Feet)	**39.46**
	% of All Considered Users	25%

Estimated Cost for Phase 5 Pipelines

Pipe Size (in)	Pipe Length (ft.)	Unit Cost ($)	Est. Const Cost	Engineering Costs	Contingency (20%)	Total Cost ($)
6" PVC	10,100	130	1,313,000	196,950	262,600	1,772,550

8" PVC	4,800	132	633,600	95,040	126,720	855,360
10" PVC	1,300	135	175,500	26,325	35,100	236,925
						2,864,835

Availability of Additional Recycled Water

The City's Director of Water Resources is addressing this subject area with City of Cerritos representatives.

Funding Opportunities

The cost of expanding the recycled water system to reduce the use of potable water in existing irrigation systems within the community can be offset by application to the Metropolitan Water District (MWD) of Southern California under their Local Resources Program (LRP). This program provides annual financial incentives (per acre-foot of water replaced/developed over a 25-year term) as in this case for the direct replacement of potable water with recycled water. Applications for this program are being accepted, and a copy of the LRP application guidelines is included in the appendix or may also be downloaded from MWD's website at www.mwdh2o.com.

Should additional funding be required to accomplish the recycled water system expansion, there are various combinations of grants, loans, debt instruments, rates and fees that could also be considered and assembled for implementing this type of water conservation program.

Summary

Each of the Phase projects as identified herein, are constructible within existing public right-of-ways. The availability of funding for each Phase will need to be identified and evaluated, then scheduling for the design and construction established around the funding availability identified.

Current City rates and charges for potable water ($2.08/hcf) and for recycled water ($1.02/hcf) results in a $1.06/hcf ($461.74/acre-foot) pricing incentive for use of recycled water, where such is feasible under applicable City codes. Since the City has a tiered rate structure applicable to differing water availability conditions (water conservation related) in the region, the resulting cost savings will vary with the total monthly volume of water applied to irrigated areas. With the current cost differential, the use of recycled water will reduce irrigated water use costs while contributing to the necessary reduction in available potable water usage; thereby resulting in compliance with the 2009 statutes added to the Water Code relative to potable water use reductions per capita. Upon completion of all five phases described above, the added reduction in potable water use will total 159 acre-feet per year.

In conclusion, the conversion of potable water use to recycled water use, in existing and future irrigation systems throughout the City, is a positive step toward sustainable efforts to reuse this valuable alternative water source as available. Recycled water use in landscape irrigation effectively contributes to water conservation, and is a credit under the potable water use reduction as required under SB-7 (2009), now codified in State Water Code Section 10608.16.

Appendices Follow

APPENDICIES

1. Exhibit Map # 3 – Full Scale
   [Map shows the proposed Phased pipeline routing and related meter locations to be served]

2. Potential Recycled Water Users
   [Ranked from highest to lowest annual consumption volume]

3. MWD's Local Resources Program Application Guidelines
   [Guidelines for proposing on development of a water recycling project and application]

4. Statutory and Regulatory Factors
   [Past and recent statutes pertaining to recycled water use]

5. Irrigation Technology Improvements
   [Advances in irrigation technology resulting from climate, policy and marketplace]

6. Issues and Requirements pertinent to Irrigation Application
   [Factors for site application and connection using recycled water]

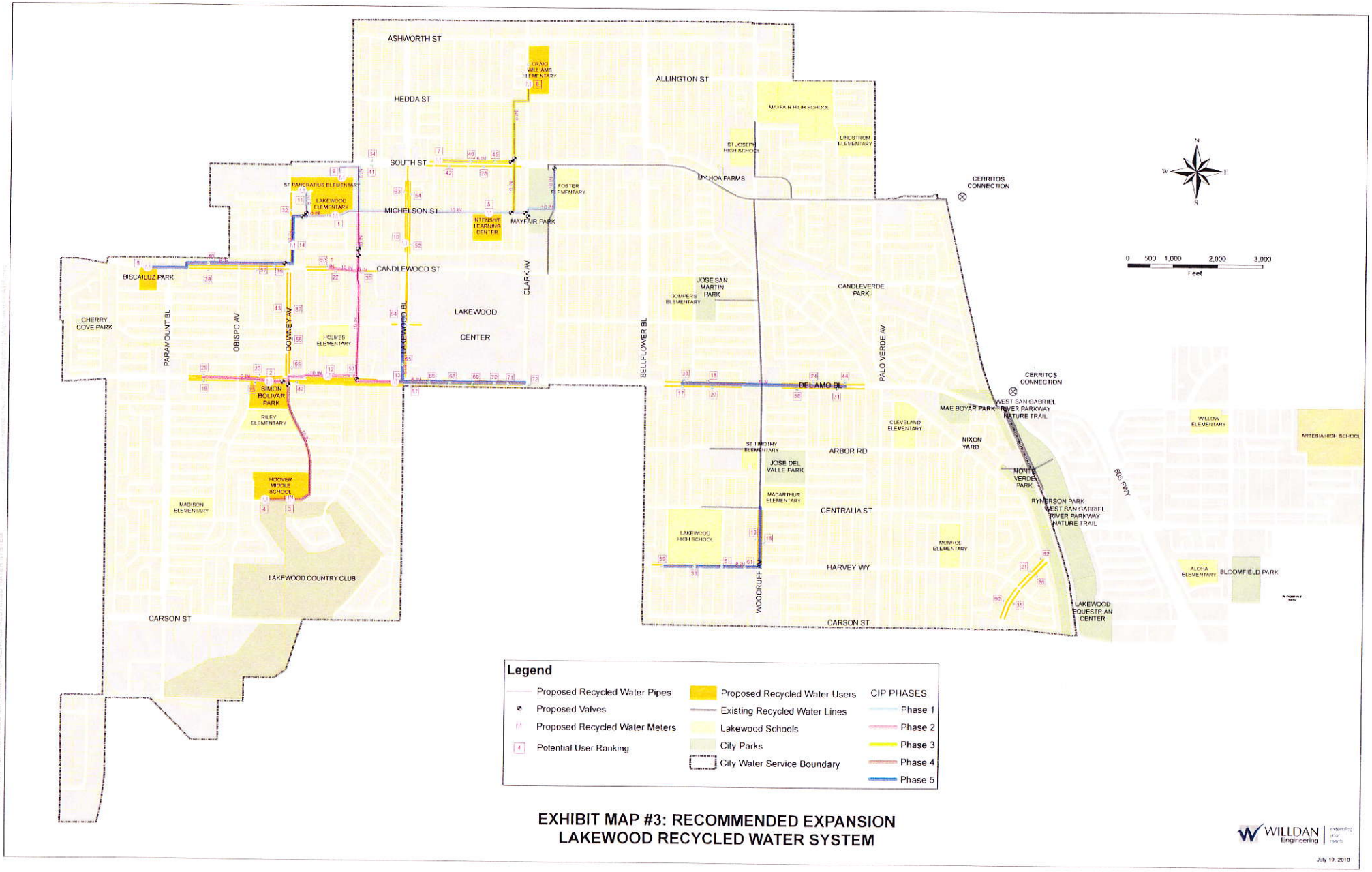

EXHIBIT MAP #3: RECOMMENDED EXPANSION LAKEWOOD RECYCLED WATER SYSTEM

WILLDAN Engineering

July 19, 2010

Potential Recycled Water Use

* Indicates a meter providing both irrigation and domestic water uses. To determine irrigation use we applied the city's assumed 75% factor against total flow. Detailed verification should be conducted before undertaking design.

Indicates Irrigation Meter

Indicates Parkway Meter

Indicates Domestic Meter

Indicates Unknown Amount of Domestic or Irrigation Percentage

Ranking	Service Site	Address	Meter Size	Additional Information	Total Usage (2.33 yrs) Mtr. Rec. (HCF)	Average Annual Usage (HCF/YR)	Estimated Irrigation Use (AF/YR)	Estimated Irrigation Use (HCF/YR)	Cumm Estimated Irrigation Usage (HCF/YR)	Usage Rank	% of Total	Cumm %
1	Lakewood Elementary*	3717 Michelson St.	4"		26630	11429	19.68	8572	8572	1	12%	12%
2	Bolivar Park*	3300 Del Amo Blvd.	3"		20503	8800	15.15	6600	15172	2	10%	22%
3	Hoover Junior H.S.	3501 Country Club Dr.	2"	Irrigation, meter by light pole, west end of school	12615	5414	12.43	5414	20586	3	8%	30%
4	Hoover Junior H.S.	3501 Country Club Dr.	2"	Irrigation, west meter	12313	5285	12.13	5285	25870	4	8%	37%
5	Intensive Learning Center*	4718 Michelson St.	3"		12728	5463	9.41	4097	29967	5	6%	43%
6	Craig Williams Elementary	6144 Clark Ave.	2"	Irrigation, meter by backflow device	7942	3409	7.83	3409	33376	6	5%	48%
7	South St. West of Clark Ave.	4505 South St.	2"	Across From 4505 South St., Irrigation North Side	6973	2993	6.87	2993	36369	7	4%	52%
8	Biscailuz Park*	2601 Dollar St.	3"		6973	2993	5.15	2245	38613	8	3%	56%
9	St. Pancratius Church/School*	5737 Coke Ave.	2"	Serves field	6808	2922	5.03	2191	40805	9	3%	59%
10	Lakewood Blvd. South of Michelson St.	Lakewood Blvd. 460' South of Michelson St.	1-1/2"	Across From 5443 Lakewood Blvd., Irrigation West Side	4560	1957	4.49	1957	42762	10	3%	62%
11	St. Pancratius Church/School*	3601 St. Pancratius Pl.	2"		4889	2098	3.61	1574	44335	11	2%	64%
12	Del Amo Blvd. East of Downey Ave.	Del Amo Blvd. at Minturn Ave., North Side	1-1/2"	North Side	3284	1409	3.24	1409	45745	12	2%	66%
13	Del Amo Blvd. East of Downey Ave.	Del Amo Blvd 103' West of Lakewood Blvd., South Side	1-1/2"	South Side	2952	1267	2.91	1267	47012	13	2%	68%
14	Downey Ave. South of Michelson St.	5426 Downey Ave.	1-1/2"	Across From 5424 Downey Ave.	1667	715	1.64	715	47727	14	1%	69%
15	Del Amo Blvd. West of Downey Ave.	Del Amo Blvd. 560' West of Obispo Ave., South Side	1-1/2"	Across From 2902 Del Amo Blvd. South Side	1484	637	1.46	637	48364	15	1%	70%
16	Woodruff Ave. South of Centralia St.	0 Woodruff Ave. 120' North of Gallup St., East Side	1-1/2"	East Side	1340	575	1.32	575	48939	16	1%	71%

Potential Recycled Water Use

* Indicates a meter providing both irrigation and domestic water uses. To determine irrigation use we applied the city's assumed 75% factor against total flow. Detailed verification should be conducted before undertaking design.

Indicates Irrigation Meter

Indicates Parkway Meter

Indicates Domestic Meter

Indicates Unknown Amount of Domestic or Irrigation Percentage

Ranking	Service Site	Address	Meter Size	Additional Information	Total Usage (2.33 yrs) Mtr. Rec. (HCF)	Average Annual Usage (HCF/YR)	Estimated Irrigation Use (AF/YR)	Estimated Irrigation Use (HCF/YR)	Cumm Estimated Irrigation Usage (HCF/YR)	Usage Rank	% of Total	Cumm %
17	Del Amo Blvd. West of Woodruff Ave.	Del Amo Blvd. at Coldbrook Ave., South Side	1-1/2"	South Side	1228	527	1.21	527	49466	17	1%	71%
18	Del Amo Blvd. West of Woodruff Ave.	0 Del Amo Blvd. 600' West of Silva St.	1-1/2"	North Side	1203	516	1.19	516	49983	18	1%	72%
19	Woodruff Ave. South of Centralia St.	Woodruff Ave. 620' South of Centralia St., West Side	1-1/2"	Irrigation West Side	1180	506	1.16	506	50489	19	1%	73%
20	Candlewood St. East of Downey Ave.	0 Candlewood St. 475' From Minturn, North Side	1-1/2"	Across From 3723 Candlewood St. North Side	1156	496	1.14	496	50985	20	1%	73%
21	Los Coyotes Diag.	Los Coyotes Diag., 425' North of Harvey Way	1-1/2"	Across From 4243 Los Coyotes Diag., Irrigation West Side	1135	487	1.12	487	51472	21	1%	74%
22	Candlewood St. East of Downey Ave.	0 Candlewood St. At Minturn Ave., South Side	1-1/2"	East of Minuturn Ave. South Side	1094	470	1.08	470	51942	22	1%	75%
23	Del Amo Blvd. West of Downey Ave.	0 Del Amo Blvd. 535' West of Downey Ave., North Side	1-1/2"	North Side	1094	470	1.08	470	52411	23	1%	76%
24	Del Amo Blvd. East of Woodruff Ave.	Del Amo Blvd.	1-1/2"	Across From 6037 Del Amo Blvd. North Side	1093	469	1.08	469	52880	24	1%	76%
25	Del Amo Blvd. West of Downey Ave.	0 Del Amo Blvd. 545' West of Downey Ave.	1-1/2"	Middle of Parkway Panel- Bolivar Park South Side	1086	466	1.07	466	53346	25	1%	77%
26	Los Coyotes Diag.	Los Coyotes Diag. 425' North of Harvey Way, East Side	1-1/2"	Across From 4236 Los Coyotes Diag. East Side	1056	453	1.04	453	53800	26	1%	78%
27	Del Amo Blvd. West of Woodruff Ave.	0 Del Amo Blvd. 80' West of Lomina Ave., South Side	1-1/2"	South Side	1041	447	1.03	447	54246	27	1%	78%
28	South St. West of Clark Ave.	5745 Pennswood Ave.	2"	Across From 5745 Pennswood Ave. on south St., Irrigation South Side	1025	440	1.01	440	54686	28	1%	79%
29	Del Amo Blvd. West of Downey Ave.	0 Del Amo Blvd.	1-1/2"	Across From 2903 Del Amo Blvd. North Side	1016	436	1.00	436	55122	29	1%	79%
30	Candlewood St. East of Downey Ave.	0 Candlewood St. at Hayter Ave.	1-1/2"	Next to Speed Limit Sign	956	410	0.94	410	55533	30	1%	80%
31	Del Amo Blvd. East of Woodruff Ave.	0 Del Amo Blvd.120' East of Snowden Ave., South Side	2"	South Side	950	408	0.94	408	55940	31	1%	81%
32	Downey Ave. North of Michelson St.	5630 Downey Ave.	1-1/2"	East Side	931	400	0.92	400	56340	32	1%	81%

Potential Recycled Water Use

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Ranking	Service Site	Address	Meter Size	Additional Information	Total Usage (2.33 yrs) Mtr. Rec. (HCF)	Average Annual Usage (HCF/YR)	Estimated Irrigation Use (AF/YR)	Estimated Irrigation Use (HCF/YR)	Cumm Estimated Irrigation Usage (HCF/YR)	Usage Rank	% of Total	Cumm %
33	Harvey Way West of Woodruff Ave.	999 Harvey Way at Sebren Ave.	1-1/2"	South Side	893	383	0.88	383	56723	33	1%	82%
34	South St. West of Clark Ave.	000 Castana Ave.	1-1/2"	Across from 5802 Castana Ave. North Side	889	382	0.88	382	57105	34	1%	82%
35	Los Coyotes Diag.	Los Coyotes Diag. 100' South of Harvey Way, East Side	1-1/2"	East Side	865	371	0.85	371	57476	35	1%	83%
36	Candlewood St. West of Downey Ave.	Candlewood St. 550' West of Downey Ave.	1-1/2"	North Side	830	356	0.82	356	57832	36	1%	83%
37	Downey Ave. South of Candlewood St.	0 downey Ave. 280' South of Candlewood St., East Side	1-1/2"	Across From 5158 Downey Ave. East Side	824	354	0.81	354	58186	37	1%	84%
38	Candlewood St. West of Downey Ave.	0 Candlewood 560'	1-1/2"	Across From 2852 Candlewood St. South Side	820	352	0.81	352	58538	38	1%	84%
39	Del Amo Blvd. West of Woodruff Ave.	Del Amo Blvd. at Coldbrook Ave., North Side	1-1/2"	North Side	811	348	0.80	348	58886	39	1%	85%
40	Candlewood St. West of Downey Ave.	Candlewood St. 575' West of Obispo Ave, North Side	1-1/2"	Across From 2853 Candlewood St. North Side	797	342	0.79	342	59228	40	0%	85%
41	South St. West of Clark Ave.	0 South St.	1-1/2"	South St. at Castana Ave. South Side	765	328	0.75	328	59556	41	0%	86%
42	South St. West of Clark Ave.	5744 Blackthorne Ave.	2"	Across From 5744 Blackthorne Ave. on South St., Irrigation South Side	761	327	0.75	327	59883	42	0%	86%
43	Downey Ave. South of Candlewood St.	0 Downey Ave.280' South of Candlewood St.	1-1/2"	In Front of 5157 Downey Ave. West Side	728	312	0.72	312	60195	43	0%	87%
44	Del Amo Blvd. East of Woodruff Ave.	Del Amo Blvd. 20' West of Canehil Ave., North Side	1-1/2"	North Side	683	293	0.67	293	60489	44	0%	87%
45	South St. West of Clark Ave.	4915 South St.	2"	Irrigation North Side	639	274	0.63	274	60763	45	0%	88%
46	South St. West of Clark Ave.	4705 South St.	2"	North Side	634	272	0.62	272	61035	46	0%	88%
47	Del Amo Blvd. East of Downey Ave.	0 R/W Del Amo Blvd. at Downey Ave.	1"	25' East of the Curb- Flood Control South Side	620	266	0.61	266	61301	47	0%	88%
48	Hoover Junior H.S.* Middle Meter	3501 Country Club Dr.	2"	Not locateable	792	340	0.00	0	61301	48	0%	88%

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49	Hoover Junior H.S.* South Meter	3501 Country Club Dr.	2"	Not locateable	769	330	0.00	0	61301	49	0%	88%
50	Hoover Junior H.S.* North Meter	3501 Country Club Dr.	2"	Not locateable	757	325	0.00	0	61301	50	0%	88%
51	Harvey Way West of Woodruff Ave.	0 Harvey Way at Ocana Ave.	1-1/2"	South Side	537	230	0.53	230	61531	51	0%	89%
52	Lakewood Blvd. South of Michelson St.	5438 Lakewood Blvd.	2"	East Side	526	226	0.52	226	61757	52	0%	89%
53	Del Amo Blvd. East of Downey Ave.	Del Amo Blvd. at Hayter Ave.	1-1/2"	North Side	522	224	0.51	224	61981	53	0%	89%
54	Lakewood Blvd. North of Michelson St.	5634 Lakewood Blvd.	1-1/2"	Across From 5634 Lakewood Blvd. East Side	478	205	0.47	205	62186	54	0%	90%
55	Downey Ave. South of Candlewood St.	400' North of Del Amo Blvd.	1-1/2"	Across From 4936 Downey Ave. East Side	478	205	0.47	205	62392	55	0%	90%
56	Downey Ave. South of Candlewood St.	Downey Ave. 120' South of Hardwick St.	1-1/2"	Across from 5036 Downey Ave. East Side	440	189	0.43	189	62580	56	0%	90%
57	Candlewood St. West of Downey Ave.	Candlewood St. at Levelside Dr.	1-1/2"	South Side	427	183	0.42	183	62764	57	0%	90%
58	Del Amo Blvd. East of Woodruff Ave.	0 Del Amo Blvd. 170' East of Faust Ave.	1-1/2"	South Side	428	184	0.42	184	62947	58	0%	91%
59	Harvey Way West of Woodruff Ave.	0 Harvey Way 240' East of Marber Ave.	1-1/2"	South Side	424	182	0.42	182	63129	59	0%	91%
60	Los Coyotes Diag.	0 999 4171 Los Coyotes Diag.	1-1/2"	Across From 4171 Los Coyotes Diag. West Side	361	155	0.36	155	63284	60	0%	91%
61	Harvey Way West of Woodruff Ave.	0 Harvey Way	1-1/2"	South Side	335	144	0.33	144	63428	61	0%	91%
62	Los Coyotes Diag.	4273 Los Coyotes Diag.	1-1/2"	Across From 4273 Los Coyotes Diag. In Parkway Panel West Side	197	85	0.19	85	63513	62	0%	92%
63	Lakewood Blvd. North of Michelson St.	Lakewood Blvd. 335' North of Michelson St.	1"	West Side	152	65	0.15	65	63578	63	0%	92%
64*	Lakewood Blvd. North of Del Amo Blvd.	Lakewood and Hardwick in front of 5101 Lakewood Blvd	2"	West Side	7828	3914	6.74	2936	66513	N/A	4%	96%

Potential Recycled Water Use

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65*	Lakewood Blvd. North of Del Amo Blvd.	E FH in Prkwy across from 4949 Lakewood Blvd	2"	West Side	5197	2599	4.47	1949	68463	N/A	3%	99%
66*	Del Amo Blvd East of Lakewood Blvd	95' east of Lakewood Blvd	1-1/2"		2837	1419	2.44	1064	69527	N/A	2%	100%
67*	Del Amo Blvd East of Lakewood Blvd	Next to light pole 2nd FR Clark Del Amo 213' w/ Clark	1-1/2"		1442	721	1.24	541	70068	N/A	1%	101%
68*	Del Amo Blvd East of Lakewood Blvd	By backflow device east of Lakewood w/ corner	1-1/2"		502	251	0.43	188	70256	N/A	0%	101%
69*	Del Amo Blvd East of Lakewood Blvd	By Backflow device W/Cor E of Haz	1"		372	186	0.32	140	70395	N/A	0%	101%
70*	Del Amo Blvd East of Lakewood Blvd	By backflow W/FAC ACR FR Theatre-West of Faculty	1-1/2"		590	295	0.51	221	70617	N/A	0%	102%
71*		By Backflow Device	1-1/2"		679	340	0.78	340	70957	N/A	0%	102%
72*		At the intersection of Clark and Del Amo Blvd	UNK	No information provided on this meter	0	0	0.00	0	70957	N/A	0%	102%

Total Use (HCF) 69405

Total Use (Acre-Ft) 159.33

*INFORMATION FOR THESE METERS RECEIVED MAY 19, 2010 AND IS SUPPLIMENTAL TO THE DATA RANKED 1 THROUGH 63

MWD
METROPOLITAN WATER DISTRICT OF SOUTHERN CALIFORNIA

Executive Office

Date: July 31, 2007

To: Member Agency Managers

From: Stephen N. Arakawa, Manager, Water Resource Management

Subject: Local Resources Program Application Guidelines

The Metropolitan Water District of Southern California (Metropolitan) is currently seeking proposals for the development of water recycling and groundwater recovery projects under the Local Resources Program (LRP). New projects are needed to bolster our region's water supply reliability. The attached guidelines provide information about the program and application submittal. Funding is available to public and private water agencies for projects that are supported by Metropolitan's member agencies

In April 2007, Metropolitan's Board of Directors adopted updated administrative policy principles for LRP implementation. The new program employs an open process to accept and review project applications on a continuous basis for the development of 174,000 acre-feet per year of local resources. Previously, Metropolitan selected projects through a competitive request for proposal process.

We look forward to working with applicants, for further coordination or questions, contact Mr. Andy Hui at (213) 217-6557 or via email at ahui@mwdh2o.com

Stephen N. Arakawa

BE:tw
o:\a\sm\2007\BDE_LRP Application Package.doc

Attachments

cc: Board of Directors

700 N. Alameda Street, Los Angeles, California 90012 · Mailing Address: Box 54153, Los Angeles, California 90054-0153 · Telephone (213) 217-6000

The Metropolitan Water District of Southern California

Local Resources Program
Application Guidelines

INFORMATION FOR RESPONDENTS

The Metropolitan Water District of Southern California (Metropolitan) invites applications for development of water recycling and groundwater recovery projects under the Local Resources Program (LRP). This application package includes information regarding funding, eligibility and the application review process. Additional copies of the application package may be downloaded from Metropolitan's website at: www.mwdh2o.com. We look forward to working with all applicants to bolster our region's water supply reliability.

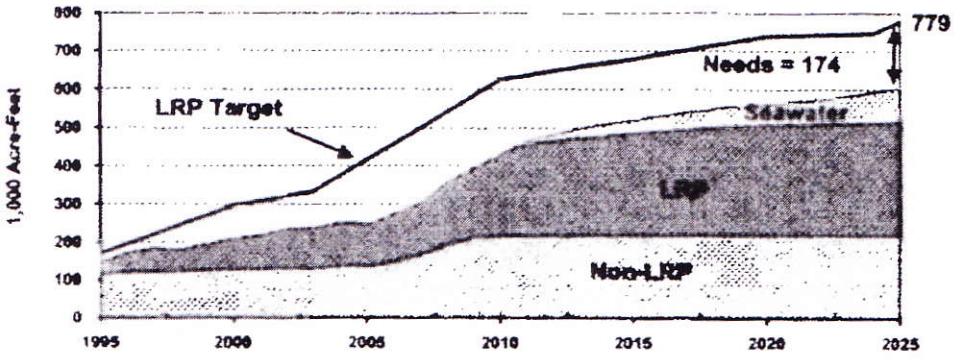
Objective

The LRP provides funding for the development of water recycling and groundwater recovery supplies that replace an existing demand or prevent a new demand on Metropolitan's imported water supplies either through:

- Direct replacement of potable water, or
- Increased regional groundwater production.

Metropolitan seeks development of 174,000 AFY of yield to meet a regional goal of 779,000 AFY by year 2025.

Current LRP Resource Needs *



* To be periodically updated

Application Submittals
Project applications will be accepted on an open and continuous basis until the target yield of 174,000 acre-feet per year is fully subscribed. Mail applications to:

The Metropolitan Water District of Southern California
P.O. Box 54153
Los Angeles, California 90054-0153

Attention: Andy Hui
LRP Application Submittal

Contact for questions:

Mr. Andy Hui, Manager
Regional Supply Unit
The Metropolitan Water District of Southern California
P.O. Box 54153
Los Angeles, California 90054-0153
Telephone: (213) 217-6557
Fax: (213) 217-6119
E-mail: ahui@mwdh2o.com

Who Can Apply
The LRP is open to public and private water utilities within Metropolitan's service area. Applications must be made through the applicant's respective Metropolitan member agency. Applicants are strongly encouraged to initiate early coordination with Metropolitan regarding proposed projects. Submittal of a LRP application does not signify or guarantee funding approval by Metropolitan.

Program Funding
Financial incentives between $0 and $250 per acre-foot produced over 25 year terms are recalculated annually based on eligible project costs incurred each year and Metropolitan's applicable water rates. Incentive commitments are contingent upon approval by Metropolitan's Board of Directors.

Prior to each fiscal year of operation, Metropolitan will set an estimated incentive rate payment for deliveries during the year. At the end of each fiscal year, Metropolitan will conduct a reconciliation to determine the actual incentive rate based on actual project costs and production data. At that time, over- or under-payment adjustments are made between Metropolitan and the project sponsor. The calculated incentive rate may diminish in future years as Metropolitan's water rates increase and each project's annual yield increases.

Targeted Projects
New and expansion of existing water recycling and groundwater recovery projects are eligible for funding provided they include construction of new substantive treatment or distribution facilities. Existing projects or those that have commenced construction prior to application submittal are ineligible. Strong consideration will be given to projects that are well positioned for construction and timely production of stated project capacities in the near future. Projects with long ramp-up schedules may be addressed in phased agreements, executed when each phase is poised for timely construction and operation. Agreements may be deferred or cancelled for projects not positioned to produce water in the near future.

Process Overview
Within four weeks after submittal of an application, Metropolitan will contact applicants if additional information is needed. Metropolitan will meet with applicants to ensure a complete understanding of the proposed project's objectives and benefits. After completion of project review and assessment,

agreement terms negotiations, and environmental documentation, the proposed project would be forwarded to Metropolitan's Board of Directors for funding consideration.

Metropolitan, at its sole discretion, may reject any and all applications and revise the terms of the LRP at any time.

Performance Provisions

Performance provisions will be included in all agreements to encourage timely and responsive project development and production. These provisions reduce or withdraw Metropolitan's financial commitment to projects that do not meet development and production milestones outlined in the following table.

Milestone	Timeline (full fiscal year)	Consequence if target is not achieved
Start construction	2 years after agreement execution	Terminate agreement*
Start operation	5 years after agreement execution	Terminate agreement*
50 percent of contract yield	4-7 years after agreement execution	Reduce ultimate yield by shortfall to meet target using the highest annual yield in the 4-year timeline period
75 percent of contract yield**	8-11 years after agreement execution	Same as above
75 percent of contract yield**	12-15 years and every four years thereafter	Same as above

* Applicants may appeal termination to Metropolitan's Board of Directors.

** Ultimate yield or revised ultimate yield specified in the incentive contract due to project's performance in previous years (if applicable)

Application Options

A written application outlined in the following pages must be submitted to Metropolitan to start the process. Metropolitan will accept applications/reports developed by the project sponsor for other purposes (e.g., applications for state funding programs, US Bureau of Reclamation feasibility report submittals, etc.) as long as they provide needed information. All applications must include an executive summary that identifies the location of the needed information. Failure to provide an executive summary may extend the review process. After an initial review, Metropolitan will meet with each applicant to ensure an accurate understanding of project features and LRP terms.

Local Resources Program
Application Guidelines

Applicants are requested to provide an application package with the following information, which will be used to review project eligibility for LRP funding. Each project application is unique and therefore may require more information.

1) **Project Overview**
   - Location
   - Source of supply and yield
   - Participating agencies and contractual commitments
   - Complete Attachment A

2) **Project Features**
   - Treatment process and quality objectives
   - Storage features
   - List and map distinguishing existing from proposed facilities, land acquisition, etc.
   - Interties to existing LRP agreements
   - Interties and points of connection to other non-project facilities
   - Methodology to measure project yield, e.g. metering, basin adjudication or watermaster rules if applicable

   Additional information for groundwater projects:
   - Basin hydrology and setting
   - Existing groundwater production and increase as a result of project
   - Imported water replenishment requirements
   - Previously abandoned production and/or replenishment
   - Basin adjudication or operating rules
   - Ability to sustain project production during 3-year period without receiving Metropolitan's replenishment
   - Compliance with sound basin management

3) **Project Cost**
   - Capital
   - Operation and Maintenance
   - Labor
   - Complete Attachment B

4) **Benefits**
   - Regional and local water supply reliability benefits
   - Peaking and seasonal variability
   - Local water supply benefits
   - Other benefits (environmental, water quality, energy, wastewater, avoided facilities and permits, etc.)

5) **Environmental Documentation and Permitting**
   - California Environmental Quality Act
   - Regulatory approvals and permits secured
   - Schedule for unsecured approvals and permits
   - Water Reclamation Requirements established by Regional Water Quality Control Board
   - Department of Health Services drinking water requirements

6) **User Identification**

Recycled Water Projects:

Existing recycled water user names, demand and type of use
Proposed user names, demand projections and type of usage including groundwater recharge
Location map of existing and proposed users
Deliveries outside of service area or non-project users
Mandatory use ordinances
Commitment letters
Growth expectations

Groundwater Projects:

Describe how implementation of the project will increase historical groundwater production
Describe how and where project water is used

7) **Implementation Schedule and Financing**

Governing board approvals
Status of design
Construction and operation timelines and milestones
Yield development (amount by year), type of use, and completion date for each phase
Implementation obstacles/challenges
Land acquisition
Financing sources and terms
Grants and third-party payments

ATTACHMENT A
LOCAL PROJECTS PROGRAM
PROJECT FACT SHEET

1.	**Project Name:**	
2.	**Project Location (City, County):**	
3.	**Project Owner (Applicant) Contact Information:**	
4.	**Metropolitan Member Agency:**	
5.	**Source of Project Water:**	
6.	**Type of Uses:**	
7.	**Estimated First Year of Operation:**	
8.	**Ultimate Annual Project Yield (AFY):**	

9. Other agencies / Entities participating in the project:

Agency / Entity	Role
a. _____	a. _____
b. _____	b. _____
c.	c.

10. Status of CEQA Documentation:

☐ Exempt Declaration ☐ Negative

☐ Mitigated Negative Declaration ☐ EIR/S

Status:

ATTACHMENT B
PROJECT COST AND YIELD INFORMATION

Total Project Capital Cost:	

Capital Funding Measures			
Source of Funding	Amount ($)	Interest Rate (%)	Term (years)

Assumed annual inflation rate for O&M cost projections: ____%

	(1)	(2)	(3)	(4)	(5)	(6)	(7)
No.	Fiscal Year End	Yield (AF)	Schedule of Capital Expenditures ($)	Amortized Capital Payments ($)	Cost of Acquiring Water ($)	O&M Cost ($)	Total Project Cost ($)
1							
2							
3							
4							
5							
24							
25							

(1) July 1 to June 30
(2) Projected annual production in acre-feet, excluding existing use
(3) Capital expenditure in each year, identify funding source from table above
(4) Total annual capital debt service
(5) Applicable only if the project sponsor will purchase recycled water from another agency to operate the projects, groundwater basin pumping tax, etc.
(6) Projected annual O&M cost, excludes item 5
(7) Sum of (4) + (5) + (6)

4. Statutory and Regulatory Factors

The California Water Code contains numerous provisions relative to the use of reclaimed (recycled) water, and the conservation of water, since water is classed as a public resource. Sections and excerpts from the Water Code that are applicable to the use of recycled water and the conservation of potable water supplies within the City of Lakewood are as follows:

1. The Water Recycling Act of 1991 as contained in Water Code Sections 13575 through 13583.
2. Water Code Section 10608 contains the following language:
   (a) Water is a public resource that the California Constitution protects against waste and unreasonable use.
   (g) The Governor has called for a 20 percent per capita reduction in urban water use statewide by 2020.
3. Water Code Section 10608.4. contains the following language:
   (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.
4. Water Code Section 10608.16 contains the following language:
   (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.
5. Water Code Section 13551 states the following language:
   A person or public agency, including a state agency, city, county, city and county, district, or any other political subdivision of the state, shall not use water from any source of quality suitable for potable domestic use for non-potable uses, including cemeteries, golf courses, parks, highway landscaped areas, and industrial and irrigation uses if suitable recycled water is available as provided in Section 13550; however, any use of recycled water in lieu of water suitable for potable domestic use shall, to the extent of the recycled water so used, be deemed to constitute a reasonable beneficial use of that water and the use of recycled water shall not cause any loss or diminution of any existing water right.

The Lakewood Municipal Code (LMC) also contains many provisions relative to the use of reclaimed (recycled) water, and the conservation of water, especially relative to use in landscaped areas within the City. Provisions of the LMC that pertain to use of reclaimed water are found in Section 5600, and provisions that pertain to water conservation in landscaping are found in Section 8600.

5. Irrigation Technology Improvements

In the area of technological and irrigation system efficiency, both equipment and methods have advanced due to water allocation restrictions set forth by state, regional and local water purveyors. Because of these water restrictions, the landscape industry responded by developing water-wise irrigation components which effectively reduce the amount of water waste in irrigated landscape. Advancements in irrigation technology include weather-based "smart" irrigation controllers, rain detection and shut-off devices, soil moisture monitors, low-flow drip line distribution, automatic high flow shut-off valves, micro sprays and precise flow adjustment in the sprinkler riser.

Essentially, these advancements provide basic efficiencies such as: placing water directly to the root zone with minimal effort, eliminate overspray, irrigate only when soil moisture falls below acceptable levels for proper plant growth, shut down irrigation systems when natural precipitation occurs, and flow disablers when there is a pipe breakage in the system. Such evolving improvements offer further future opportunities for effective water conservation and irrigation water usage.

6. Issues and Requirements pertinent to Irrigation Application

Based on our field inspection, the following tasks are typical topics that need to be properly addressed when converting landscape irrigation from potable water use to recycled water use. The Lakewood City Code also contains provisions in Section 5600 relative to use of recycled water, and in Section 8600 relative to water conservation in landscape irrigation uses. Additionally, the range of cost associated with converting existing irrigation site facilities is between $0.75 and $1.25 per square-foot of irrigated area, depending upon the density and condition of the existing system.

(A) Current Issues common to the use of Recycled Water in landscape irrigation that must be addressed prior to conversion from Potable Water use.

- Cross Contamination and Clearances – The required distances between water lines (both horizontally and vertically) will need field verification to ensure that safe distances between recycled and potable water lines exist. Additionally, existing underground utilities, other than water lines, could conflict and require additional effort to relocate in order to meet governing agency clearance requirements.

- Public Facilities – Newly designed irrigation systems as well as existing irrigation systems must be evaluated to ensure overspray does not occur on any public site amenity such as a picnic table, bench, playground equipment or other objects where the public has close contact. Further, overspray onto public facilities should be non-existent due to the damaging effects recycled water chemistry can have on said facilities.

- Plant Material – In some incidents, trees, shrubs and groundcover species commonly specified/installed in this geographic region experience negative affects when recycled

water is used for landscape irrigation. Some plantings cannot tolerate recycled water with its higher levels of chlorine and salts commonly resulting from water treatment that produces recycled water. Inspection and evaluation of current and proposed sites receiving irrigation with recycled water should be performed to assure proper selection of plant materials suitable for irrigation with the quality of recycled water.

- Mixed Use Point of Connections – Some sites, specifically schools/institutional facilities have one metered connection point that serves the building facilities as well as the landscape irrigation areas with potable water. For this reason, significant modifications to the aforementioned points of connection will be necessary to provide separated (clearance) between the remaining potable water service and the recycled water service for the irrigated areas.

(B) Irrigation System Components

- Point of Connection – The existing potable water meter for landscape irrigation use will need to be replaced with a reclaimed water meter. Additionally, each new reclaimed water meter shall be accompanied with a pressure regulator and basket strainer. The basket strainer is required for screening foreign matter and solids commonly found in post filtration recycled water processing. Note: A backflow prevention device is not necessary unless required by the water purveyor.

- Remote Control Valves – Existing irrigation control valves will need to be replaced with scrubber type valves which are engineered to operate with recycled water. The operating components within the scrubber type valves are resistant to foreign matter and solids that otherwise would degrade components in the existing potable water valves.

- Irrigation Pipe - Mainline and Lateral – Existing irrigation lines can remain as is. However, all new systems installed shall utilize the appropriate purple colored pipe (for reclaimed water use) throughout the system.

(C) Visual Notification of Recycled Water Use

- Warning Signage – Each specific irrigated site will require warning signs alerting the public of recycled water use on the site. The location of signs is typically at major pedestrian entry points; and along roadways to alert the public that recycled water is being used to irrigate the respective areas.

- Remote Control Valve Box Covers – Existing remote control, shut off and quick coupler valve box covers must be replaced with "purple" colored covers indicating recycled water in use. Additionally, all remote control, shut-off and quick coupler valves must be tagged indicating recycled water in use.

- Irrigation Heads – All irrigation sprinkler heads must have purple colored caps attached to them to indicate recycled water is in use.

- Exposed Irrigation Equipment – Any irrigation equipment that is in direct view of the public must be colored (painted) "purple" to indicate recycled water in use.

Emergency Public Notification Plan

INTRODUCTION

The City of Lakewood Department of Water Resources delivers water that meets all existing State and Federal drinking water standards. However, in emergency situations such as an earthquake, a breach in the integrity of the water may occur due to damaged water lines, pumping facilities and/or reservoirs.

During the first critical hours following a disaster, department personnel will survey the system for damage. The system pressure and chlorine residual will be closely monitored during this time to determine the existence of contaminants in the water supply.

If a drop in system pressure occurs potentially breaching the integrity of the water supply, the Water DOC will initiate the public notification plan. Personnel shall base the extent of the public notification and the communication mechanisms used to inform the public based on the following criteria:

- **The magnitude of the emergency.** Is the entire service area affected? Is the disaster affecting the region or a small section of Los Angeles County?

- **The extent of the water contamination.** Is the problem confined to a small segment of the City's customers or is it throughout the system?

- **The manpower available to communicate the problem.** Are personnel engaged in other disaster response activities limiting their availability to assist with public notification?

- **DPH Instructions.** Has the department received directions from the State Department of Public Health?

The following information shall serve as a guideline for the notification of the public regarding the quality of the water.

DETERMINATION FOR PUBLIC NOTIFICATION

The following list includes potential triggers for the implementation of a public notification program:

- **Wastewater Discharge into Drinking Water.** Discharge of wastewater into the drinking water supply;

- **System Pressure Drops Below 20 psi.** Loss in system pressure 20 psi, which raises the risk of back siphoning into the water supply;

- **Treatment Process Failure.** Failure of treatment mechanism to the water supply;

- **Confirmed Contamination.** Confirmed analytical evidence of microbiological contamination of the water supply.

Department of Water Resources personnel must insure the completion of the following tasks before implementing the public notification program;

- **Cause Loss of System Pressure.** Determine the cause of loss system pressure by surveying production facilities and the distribution system.

- **Measures to Reduce Water Supply Losses.** Take appropriate action to reduce loss of water supply. Shut down appropriate production facilities and/or close distribution system valves. Log each valve closure on the **EMERGENCY VALVE CLOSURE LOG**.

- **Determine Type of Possible Contamination.** Define the type of potential contamination and identify the source.

- **Determine the affected area.**

- **Select Sampling Locations.** Select appropriate sampling locations to determine extent of potential contamination. Sampling sites should be up and downstream of any breach in the water system’s integrity.

- **Draw Samples.** Draw water samples and deliver to the City's contract laboratory:

TRUSDAIL LABORATORIES, INC.
14201 Franklin Ave.
Tustin, CA 92780-7008
Daytime Telephone: 714.730.6239
FAX Number: 714.730.6462

After Hours Emergency Calls:

- **Lab Results.** Lab should return water quality test results at least 24 hours after sampling.

- **Resampling.** Positive results require immediate follow up sampling. Sample location points up and down stream of the potentially contaminated sample.

Confirmation of contamination after an additional 48 hours requires official public notification program implementation as directed by the State Department of Public Health. However, waiting to inform the public of a water quality problem may endanger the community and information dissemination should occur before confirmation.

Notify Lakewood EOC. Contact the Operation Sections Coordinator at the Lakewood EOC via the telephone, radio or personal contact whichever is most expedient under the circumstances. The Operation Section Chief shall inform the EOC Director and the Governor's Office of Emergency Services of the contamination and activation of the public notification program. In addition the Operation Section Chief will assist in coordinating the flow of information to the following:

City Council via the EOC Director. The City Council as determined by the EOC Director or his designee.

Public Information Office. Public information personnel to determine the best plan of action.

Customer Service Employees. Other City employees that interface with the public.

Lakewood Sheriff's Station
Watch Commander
5130 N. Clark Avenue
Lakewood, CA 90712
Telephone: 562.623.3500

Los Angeles County Fire Department
Angel Montoya, Assistant Fire Chief
Fire Station No. 30
19030 Pioneer Boulevard
Cerritos, CA 90701
Telephone: 562.860.5524
FAX: 562.925.3865

Agency Notification. Notify the following persons/ agencies before implementing the public notification program:

State Department of Public Health
500 N. Central Avenue, Suite 500
Glendale, CA 91203
Telephone Number: 818.551.2008
FAX Number: 818.551.2054

The State Department of Health Services will issue instruction for public notification based on the City of Lakewood Department of Water Resources' plan. Contact the following agencies to inform them of the water related incident:

Los Angles County Bureau of Environmental Protection County Environmental Health Department Local Primacy Agency
5050 Commerce Dr.
Baldwin Park, CA 91706-1423
Telephone Number: 626.430.5280
After Hours Telephone: 213.974.1234

Department of Health Services Food and Drug Branch
Los Angeles, CA
Contact:
Daytime Telephone: 213.580.5720
After Hours Telephone: 916.650.6500

Department of Health Services Licensing & Certification
Los Angeles, CA
Telephone: 626.430.5350
After Hours Telephone: 213.974.1234
Duty Officer, Health Facilities: 323.837.1005

The Lakewood EOC will contact those educational facilities affected by the incident (See section entitled: **PRIORITY FACILITIES IN LAKEWOOD** for list of schools addresses, telephone numbers and contacts:

Bellflower Unified School District
Superintendent
16703 Clark Ave.
Bellflower, CA 90706
Telephone: 562.866.9011

Long Beach Unified School District
Superintendent
Asst. Superintendent Elementary Schools
Asst. Superintendent Middle Schools
Asst. Superintendent High Schools
1515 Hughes Way
Long Beach, CA 90813
Daytime Telephone: 562.997.8000

Paramount Unified School District
Superintendent
15110 South California Ave.
Paramount, CA 90723
Daytime Telephone: 562.602.6000

St. Pancratius Elementary School
Principal
3601 St. Pancratius St.
Lakewood, CA 90712
Daytime Telephone: 562.634.6310

St. Joseph's High School
Principal
5825 Woodruff Ave.
Lakewood, CA 90713
Daytime Telephone: 562.925.5073

Mechanisms to Inform the Public

- **Public Address System.** Drive neighborhood to disseminate information using a department vehicle equipped with a portable public address system which repeats a message in English (Spanish if the neighborhood has a concentration on non-English speaking residents).

- **Use of Sky Knight Helicopter.** Fly neighborhood to disseminate information using Sky Knight helicopter and a public address system. In some instances where immediate danger may exist, the department may solicit the assistance of Sky Knight to repeat a message while flying over the neighborhood.

- **Flyer to Neighborhood.** Door to door distribution of flyers in the affected area. This tactic requires the availability of either city personnel and/or volunteers (Neighborhood Watch Block Captains). The time frame must also allow for the production of flyers.

- **Verbal Communication to Neighborhood.** Door to door verbal communication of isolated area by department personnel.

- **Reverse 911 System.** Dissemination of information to a targeted neighborhood or entire service area via the Teleworks System. Water DOC manager will request the use of this system from the Lakewood EOC. Water DOC manager will define affected area and the appropriate message based on guidance from California Department of Public Health.

- **Telephone Pool.** Vocal dissemination of information via a telephone pool. Establish a telephone pool of city staff/volunteers (including bilingual staff) to answer questions concerning the water supply problems. This alternative works only if the City's telephone system functions and sufficient manpower exists to staff the telephone pool.

- **1620AM Radio.** Radio transmission of water quality notification. Place a request with the Lakewood EOC for the broadcast of the don't drink the water or boil order notice on 1620AM.

- **News Media.** Dissemination of information to the media. If the problem covers a significant portion of the service area, the department will request that the public information officer disseminate information to the media. The public information officer shall determine the method of distribution, shall act as the sole representative to the media. No department employee shall speak to the press regarding disaster operations.

- **Emergency Broadcast System.** In the case of a severe regional disaster, the City may rely on the Emergency Broadcast System to inform the customers of possible water contamination. The Emergency Operations Director and the public information officer shall determine the need to use this mechanism to disseminate information. See the Emergency Public Information Standard Operating Procedures for policy and procedures regarding the use of the Emergency Broadcast System in the City of Lakewood Multi-Hazard Function Plan.

Confirmed Water Contamination

Upon receipt of water quality analyses that confirms a breach in water quality, the Water DOC shall request that the Lakewood EOC contact the State Department of Public Health District Sanitary Engineer and the State Department of Public Health Office in Sacramento. The department shall receive instructions from the State Department of Public Health (DPH) on the public notification process.

DPH approved methods for public notification include electronic media, newspaper or direct customer contact (flyer mailed or hand delivered). (DPH requires quarterly notification, when using direct customer contact, until resolved.) The State Department of Public Health must approve the notice and the method of dissemination prior to implementation of the notification process.

The public notice shall include the following information:

- Statement defining the drinking water standard violation and its apparent cause.

- List of the potential adverse health effects.

- Definition of population at risk.

- Steps taken to correct the violation.

- Need (if any) to seek other supplies.

- Preventive measures the customer should take to avoid exposure.

- List contact name, purveyor name, address and telephone number for further information.

Public Notice Guidelines

The public notice must contain:

- Clear and conspicuous design.

- Non-technical language.

- Easy to read print.

- Understandable language that reduces further confusion.

- Multilingual where appropriate.

Public Notification Language

Use the following statements to notify the public after confirmed water quality problems:

Violation of Total Coliform Standard

"The California Department of Public Health sets drinking water standards and has determined that the presence of total coliforms is a possible health concern. Total coliforms are common in the environment and are generally not harmful themselves. The presence of these bacteria in drinking water, however, generally is a result of a problem with water treatment or the pipes which distribute the water, and indicates that the water may be contaminated with organisms that can cause disease. Disease symptoms may include diarrhea, cramps, nausea, and possibly jaundice, and any associated headaches and fatigue. These symptoms, however, are not just associated with disease causing organisms in drinking water, but also may be caused by a number of factors other than your drinking water. The Department of Public Health has set an enforceable drinking water

standard for total coliforms to reduce the risk of these adverse health effects. Under this standard, no more than 5 percent of the samples collected during a month can contain these bacteria, except that systems collecting fewer than 40 samples/ month that have one total coliform-positive sample per month are not violating the standard. Drinking water which meets this standard is usually not associated with a health risk from disease causing bacteria and should be considered safe."

Presence of E. Coli

"The California Department of Public Health (Department) sets drinking water standards and has determined that the presence of fecal coliforms or E. coli is a serious health concern. Fecal coliforms and E. coli are generally not harmful themselves, but their presence in drinking water is serious because they are usually associated with sewage or animal wastes. The presence of these bacteria in drinking water is generally a result of a problem with water treatment or the pipes which distribute the water, and indicates that the water may be contaminated with organisms that can cause disease. Disease symptoms may include diarrhea, cramps, nausea, and possibly jaundice, and any associated headaches and fatigue. These symptoms, however, are not just associated with disease causing organisms in drinking water, but also may be caused by a number of factors other than your drinking water. The Department of Public Health has set an enforceable drinking water standard fecal coliforms and E. coli to reduce the risk of these adverse health effects. Under this standard all drinking water, which meets this standard, is associated with little or none of this risk and should be considered safe. The Department of Public Health recommends that customers take the following precautions: INSTRUCTIONS FROM DEPARTMENT OF PUBLIC HEALTH TO BE INSERTED HERE."

Violations of an MCL

Violations of an MCL can also cause serious health effects. The City shall use the same format to notify the public of a sample exceeding of an MCL. The CDPH shall determine the appropriate language for public notification in such an instance.

Emergency Public Notification Plan (continued)

State of California—Health and Human Services Agency
Department of Public Health

WATER QUALITY EMERGENCY NOTIFICATION PLAN

Name of Utility: City of Lakewood SYSTEM # 1910239

Physical Location/Address: 5050 Clark Avenue Lakewood, CA 90712

The following persons have been designated to implement the plan upon notification by the State Department of Health Services that an imminent danger to the health of the water users exists:

Water Utility:		Telephone		
Contact Name & Title	Email Address	Day	Evening	Cell

The implementation of the plan will be carried out with the following State and County Health Department personnel:

State & County Health Departments:	Telephone	
Contact Name & Title	Day	Evening

4. **If the above personnel cannot be reached, contact:**

Office of Emergency Services Warning Center (24 hrs)	(800) 852-7550 or (916) 845-8911
When reporting a water quality emergency to the Warning Center, please ask for the California Department of Health Services – Drinking Water Program Duty Officer.	

NOTIFICATION PLAN

Attach a written description of the method or combination of methods to be used (radio, television, door-to-door, sound truck, etc.) **to notify customers in an emergency.** For each section of your plan give an estimate of the time required, necessary personnel, estimated coverage, etc. Consideration must be given to special organizations (such as schools), non-English speaking groups, and outlying water users. Ensure that the notification procedures you describe are practical and that you will be able to actually implement them in the vent of an emergency. Examples of notification plans are attached for large, medium and small communities.

Southern California Drinking Water Field Operations Branch, Southern California Section
500 N. Central Avenue, Suite 500, Glandale, CA 91203
Telephone: (818)551-2008 Fax: (818)551-2054
Internet Address: http://www.cdph.dhs.ca.gov/ddwem/default.htm

Emergency Public Notification Plan
Elements of an Acceptable Emergency Chlorination Plan

1. Map of the distribution system indicating surface water sources, wells, storage tanks, booster stations, pressure zones and other points of emergency chlorination.

   Provide diagram.

2. Type and model of chlorinators and flow data at each point of chlorination.

   Type & Model: LMI "A" Series Electromagnetic Dosing Pump
   Flow Rate: 0.42gph

3. Schematic diagram of well site piping indicating injection points, electrical connection, location of chlorinator and piping, and Cl_2 residual test sample location.

   Provide diagram.

4. Chlorinator storage location. If not stored at the well site indicate procedure for set up.

   Storage Location: Chlorinator on site.

5. Name and grade of treatment plant operators involved in the emergency chlorination procedures.

   Water Production Personnel:

   , Water Operations Superintendent, Treatment Grade 2, Distribution Grade 5

   , Leadworker, Treatment Grade 3, Distribution Grade 5

   , Pump Station Operator, Treatment Grade 2, Distribution Grade 3

   , Pump Station Operator, Treatment Grade 3, Distribution Grade 4

   , Pump Station Operator Treatment Grade 2, Distribution Grade 3

6. Type and name of chlorine residual testing equipment.

   Chlorine Residual Testing Equipment:
   HACH Pocket Colorimeter

7. Location of Chlorine Residual Records.

   City of Lakewood
   Department of Water Resources
   Administrative Office

8. Storage location for chlorine cylinders.

   Not Applicable

9. Type of safety equipment and storage location for safety equipment.

   Safety Equipment: goggles, respirator rubber apron, and rubber gloves

   Storage Location: Pump Operator's Vehicle

10. Testing and maintenance schedule for each site.

    Not Applicable

11. Amount of chlorine contact time and rationale to determine the minimum 10 minute contact time.

    5.5 minutes contact time at test point and minimum 24 hours contact time in storage tank

12. Description of water quality that could influence disinfection efficiency, e.g. chlorine demand, pH, temperature.

    See lab results.

Water Quality Sampling Point Locations

SAMPLE #	***SAMPLE POINT***	***REPEAT FOLLOW-UP SAMPLE POINTS***
1		
2		
3		
4		
5		
6		
7		
8		
9		
10		
11		
12		
13		
14		
15		
16		
17		
18		
19		
20		
21		

ATTACHMENT 7

RESOLUTION NO. 91-12

A RESOLUTION OF THE CITY COUNCIL OF THE CITY OF LAKEWOOD DECLARING PHASE 1 OF THE LAKEWOOD WATER CONSERVATION PLAN BY REASON OF A WATER SUPPLY SHORTAGE

WHEREAS, California is experiencing a fifth year of drought state-wide; and

WHEREAS, the Metropolitan Water District of Southern California has adopted a water conservation plan to reduce the amount of imported water purchases; and

WHEREAS, the reduction will affect direct purchases of water supplies from the Metropolitan Water District and indirect purchases for the purpose of groundwater recharge into the Central Basin; and

WHEREAS, the City of Lakewood relies on local groundwater and imported water supplies to meet total demand; and

WHEREAS, the Metropolitan Water District of Southern California has implemented a Stage 5 of a five stage water conservation program to be effective March 1, 1991; and

WHEREAS, the implementation of such a program requires the City of Lakewood to reduce purchases of imported water supplies by up to 50 percent; and

WHEREAS, the implementation of such a program reduces the amount of purchased water used for groundwater recharge into the Central Basin by 90 percent; and

WHEREAS, the City of Lakewood cannot satisfy current demand without depleting the available water supply; and

WHEREAS, the City Council by Ordinance No. 91-3 has adopted a water conservation plan and pursuant thereto may implement the same by declaring Phase 1 by Resolution; and

WHEREAS, it is necessary to conserve up to ten percent (10%) of the City's current water supply because of said water shortage.

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

SECTION 1. The City Council of the City of Lakewood does determine that a water supply emergency exists and directs staff to implement the provisions as stated in Phase 1 of the City of Lakewood Water Conservation Ordinance No. 91-3.

SECTION 2. The establishment of such a water supply emergency shall remain in effect until June 30, 1992 at which time the City Council shall review the water supply conditions to determine the need for continued mandatory water conservation measures.

SECTION 3. At such time on or before the aforementioned date the City Council determines that a water supply emergency ceases to exist the City Council may adopt a resolution to declare an end of water supply emergency.

ADOPTED AND APPROVED THIS 26TH DAY OF FEBRUARY, 1991.

Mayor

ATTEST:

Acting City Clerk

JST:cck:dh

CHAPTER 5
WATER WORKS SYSTEM

PART 1
GENERAL ADMINISTRATION
(Added by Ord. 75-13)

7500. WATER WORKS SYSTEM. The Water Works System of the City of Lakewood shall consist of the entire Water Works system of said City whether located within said City or beyond the boundaries of said City which has been acquired, constructed and financed by said City together with all improvements and extensions to said system later constructed or acquired.

7501. MANAGEMENT AND OPERATION. The management and operation of the Water Works System shall remain vested in the City Council, and the City Council in the exercise of its legislative, discretionary and police powers fix the level and type of service to be supplied to consumers, provide for the collection of charges for the same, provide rules and regulations in respect to the use of said service, determine and fix water rates, and do all things necessary and proper to maintain and preserve the Water Works System in good repair and working order. The management and operation of the system shall be under the control and administration of the Director of Public Works.

7502. FINANCIAL MANAGEMENT. The financial, accounting, and fiscal operation of the Water Works System shall be the responsibility of the Director of Finance.

7503. RULES AND REGULATIONS. It shall be unlawful for any person to violate any of the provisions of this Chapter or any of the provisions of the hereinafter set forth rules and regulations, as well as any of the provisions of any rules and regulations hereinafter adopted or amended by resolution. Any person, firm or corporation applying for the service of the Water Works System shall agree in writing to comply with the terms and provisions of this division, the rules and regulations herein enacted as well as any rules and regulations hereinafter enacted by resolution, as well as any amendment or addition to any of the foregoing. Said rules and regulations are as follows:

7503.1. NON-COMPLIANCE WITH RULES AND REGULATIONS. If any person fails to comply with any of the foregoing, the Director of Public Works shall be advised of such failure. If said person thereafter does not correct said non-compliance within a reasonable time after notification from the Director of Public Works to do so, the Director of Public Works shall have the right, after giving notice, to discontinue service to said person. Except in case of emergency, the Director of Public Works shall not discontinue the service of any person except on written five day notice thereof advising said person in what particular there has been a violation or non-compliance has not been remedied. This notice, however, may be dispensed with by the Director of Public Works in his discretion, in the event of an emergency demanding immediate curtailment of said service in order to protect public life or property.

7504. UNSAFE APPARATUS. The Director of Public Works shall direct that no service be supplied to a person whose service appliances or apparatus is in the judgment of the Director of Public Works unsafe, or if the utilization of water by means thereof is forbidden under the authority of any law or ordinance or regulation of this city or state.

7505. SERVICE DETRIMENTAL TO PUBLIC HEALTH OR PROPERTY. The Director of Public Works shall direct that the continuance of service to any consumer having apparatus or appliances, the operation of which is in the judgment of the Director of Public Works, would be detrimental to the water service being furnished by the city to its other consumers in the immediate vicinity or detrimental to the public health, safety and welfare, be terminated.

7506. OWNERSHIP OF THE SYSTEM. All portions and part of the Water Works System used in supplying water to the consumer shall remain the property of the city and may be only repaired, replace or removed as the city shall so direct. Property herein mentioned includes all meters and appliances, service pipe, lines and mains installed by the city whether on public property or property of the consumer.

7507. METERS. All meters shall be installed by the city and shall be only removed, repaired or replaced by the city. No rent or other charge whatsoever shall be made by the consumer for the placing of any meter or appliance upon the consumer's premises. No person shall move, repair, temper with, injure or destroy any of said meters or appliances other than a representative of the city. The city shall have the right to remove any and all of its facilities installed on a consumer's premises at the termination of service. Meters, wherever practicable shall be placed in a meter box in the roadside area and if not so practicable shall be placed in some other convenient place upon the consumer's premises so that the same at all times are accessible for inspection, reading and testing. No person, other than a representative of the city, shall make or maintain any by-pass or other connection between the meter and the main and shall not tamper with the meter in any way.

7508. RESALE OF WATER. No person may resell any of the water received by him from the city to any other person, or for any other purpose or on other premises than specified in his application for service.

7509. RIGHT OF INGRESS AND EGRESS. The city or its duly authorized agents or contractual agent, shall at all times have the right of ingress to and egress from the consumer's premises at all reasonable hours for any purpose reasonably connected with the furnishing of water and the exercise of any and all rights secured to it by law or the rules and regulations enacted hereunder. The city shall have the right to remove any and all of its property installed on the consumer's premises at the termination of service.

7510. PERSONAL GRATUITIES. All inspectors, agents and employees of the city or any contractual agent of said city in respect to the operation of said system are forbidden to demand, accept or receive any gratuity or personal compensation for services rendered to a consumer in the maintenance and operation of the water system.

7511. WRONG USE OR WASTE OF WATER. No consumer shall provide water regularly to any person, company or corporation other than the occupant or occupants of the premises of said consumer, nor shall any consumer knowingly permit leaks or waste of water.

7511.1 AUTHORIZATION TO IMPLEMENT WATER CONSERVATION ORDINANCE. The City Council is authorized to implement the provisions of the Water Conservation Ordinance upon the determination that a significant shortage in potable water supply is anticipated and implementation of the ordinance is necessary to protect the public welfare and safety. The implementation of the ordinance will occur upon the adoption of a resolution following a public hearing by the City Council. Such a public hearing shall be held to determine whether a water supply shortage exists and which conservation measures provided within the ordinance shall be implemented. (Added by Ord. 91-3)

A. GENERAL PROHIBITION. No person shall make, cause, use or permit the use of water in the City of Lakewood in a manner contrary to any provision of this ordinance or in an amount in excess of that use permitted by any curtailment provisions then in effect pursuant to action taken by the City Council in accordance with the provisions of this section. (Added by Ord. 91-3)

B. RECLAIMED WATER USE. No commercial water customer, including but not limited to commercial shopping centers, schools, office buildings, hospitals, industrial uses, and churches whose property line is located within a reasonable distance from a reclaimed water system shall continue to use potable water for the purpose of landscape irrigation after thirty (30) days written notice to connect to the City's reclaimed water system installed to the property line at the expense of the City. The connection shall be at the expense of the commercial water customer. Those customers using reclaimed water shall be exempt from the emergency rate surcharge and the restrictions regarding landscape irrigation (Added by Ord. 91-3, Amended by Ord. 2009-5)

C. IMPLEMENTATION OF GENERAL WATER CONSERVATION PRACTICES. The City Council finds that water conservation should become a way of life for Lakewood water customers, and that water is a precious resource and should not be wasted even in times when water supply meets normal demand.

1. The following water conservation practices shall be implemented when water supply meets normal demand as declared by resolution of the City Council. The following water use practices shall be maintained and no person shall violate the same:

(a) Decorative fountains, or other structures using water for aesthetic purposes shall be shut off unless such fixture operates on a recirculating system.

(b) No person shall permit leaks or waste of water. A leak shall be defined as any water not used for beneficial use that wastes more than .5 gallons of water per minute. All known leaks from indoor and outdoor plumbing fixtures shall be repaired within seven (7) days upon receipt of written notice of observed water leak. (Amended by Ord. 2009-5)

(c) Drinking water shall not be served at any restaurant, motel, café, or other drinking or eating establishment unless expressly requested.

(d) Installation of single pass cooling systems shall be prohibited in buildings requesting new water service.

(e) Hotels, motels and other commercial lodging establishments must provide customers the option to refuse daily towel and linen service. Commercial lodging establishments shall prominently display notice of this option in each guest room.

(f) Installation of non-re-circulating commercial car washes and laundry systems shall be prohibited.

(g) New eating and drinking establishments and existing eating and drinking establishments that remodel more than 50 percent of the kitchen area shall install water conserving dish wash spray valves.

(Subsections c-g Added by Ord. 2009-5)

2. The following conservation practices are suggested when water supply meets normal demand:

(a) The use of water to wash walkways, driveways, parking areas and other hard surfaces should occur only as necessary to alleviate safety or sanitary hazards, and then only with a hose equipped with a positive shut off nozzle, a handheld bucket or similar container, or a low volume/high pressure water broom. Excessive water runoff into gutters is discouraged. (Amended by Ord. 2009-5)

(b) Washing of vehicles and any other mobile equipment should be done only with a bucket or a hose equipped with a positive shut off nozzle for quick rinses. Commercial car washes are exempt from this provision.

(c) Voluntary water conservation field examination, herein referred to as water audits, are encouraged for all Lakewood water customers.

(d) The retrofit of water conserving devices, including but not limited to ultra low flow toilets and low flow showerheads, is encouraged.

(e) The installation of water efficient landscapes and irrigation devices, such as drip irrigation and moisture sensors, is encouraged. A drip irrigation system shall be defined as an irrigation system consisting of individual emitters installed at permanent plantings with a capacity to emit no more than two (2) gallons of water per hour of operation. (Amended by Ord. 2009-5)

(Added by Ord. 91-13)

D. IMPLEMENTATION OF A VOLUNTARY PHASE WATER CONSERVATION PLAN. Measures instituted during a Voluntary Phase water supply shortage may be declared by Resolution of the City Council finding it necessary to conserve up to ten percent (10%) of the City's water supply. The following water conservation practices are recommended during a Voluntary Phase water shortage:

1. The following restrictions on the use of water shall be in effect during a Voluntary Phase of a water shortage and no person shall fail to comply with the following:

(a) Leaks from indoor and outdoor plumbing fixtures shall be repaired within six (6) days uon receipt of written notice of observed water leak.

2. The following water conservation practices are recommended during a Voluntary Phase water shortage:

(a) Water used to wash sidewalks, driveways, parking lots, building exteriors, streets and gutters should be minimized and should be limited to no more than (2) times during a calendar month to alleviate safety or sanitary hazards, and then only with a hose equipped with a positive shut off nozzle, a handheld bucket or similar container, or a low volume/high pressure water broom .

(b) Watering lawns and landscaped areas should be limited to between the hours of 5:00 p.m. and 9:00 a.m. Watering using a handheld bucket or similar container, a hose equipped with a shut off nozzle, a drip irrigation system with emitters producing no more than two (2) gallons per hour, weather based controllers or stream rotor sprinklers meeting a seventy percent (70%) efficiency standard, or running an irrigation system for short durations to make repairs or adjustments are exempt from this provision.

(Added by Ord. 91-13, Amended by Ord. 2009-5)

E. IMPLEMENTATION OF A PHASE I MANDATORY WATER CONSERVATION PLAN. Measures instituted during a Phase I water supply shortage may be declared by Resolution of the City Council finding it necessary to conserve ten percent (10%) or greater of the City's water supply.

1. The following restrictions on the use of water shall be in effect during Phase I and any additional phases implemented during the course of a water shortage and no person shall fail to comply with the following:

(a) Water used to wash down driveways, sidewalks, parking lots, building exteriors, streets and gutters shall be limited to no more than two (2) times during a calendar month to alleviate safety or sanitary hazards, and then only with a hose equipped with a positive shut off nozzle, a handheld bucket or similar container, or a low volume/high pressure water broom. Water used in this manner to protect the public health is exempt from this provision.

(b) Washing of vehicles and any other mobile equipment shall be done only with a bucket or a hose equipped with a positive shutoff nozzle for quick rinses. Commercial car washes are exempt from this provision.

(d) Leaks from indoor and outdoor plumbing fixtures shall be repaired within five (5) days upon receipt of written notice of observed water leak.

(e) Sprinklers shall be adjusted to minimize water runoff from landscape on to hardscape areas. No person shall allow excess water runoff after notice from the City to desist therefrom. Excess water runoff is defined as water accumulation in the street, gutters, neighboring properties or in other amounts sufficient to cause a flow of water off of landscape areas on to hardscape areas.

(Revised 2009)

2. The following water conservation practices are also recommended during a Phase I water supply shortage:

(a) Landscape irrigation is recommended during the early morning hours for no more than 10 minutes at a time. Irrigation should be avoided between the hours of 9:00 a.m. and 5:00 p.m. Landscape irrigation for commercial nurseries and growers, active parks and playing fields, school grounds, golf course greens, landscaping for fire and erosion protection, protecting endangered species, environmental mitigation projects, and properties using reclaimed water shall be exempt from this provision. Watering using a handheld bucket or similar container, a hose equipped with a shut off nozzle, a drip irrigation system with emitters producing no more than two (2) gallons per hour, weather beased controllers or stream rotor sprinklers meeting a seventy percent (70%) efficiency standard, or running an irrigation system for short durations to make repairs are also exempt from this provision.

(Added by Ord. 91-3, Amended by Ords. 91-13 and 2009-5)

F. IMPLEMENTATION OF PHASE II WATER CONSERVATION PLAN. Measures instituted during a Phase II water supply shortage may be declared by Resolution of the City Council finding it necessary to conserve up to twenty percent (20%) of the City's water supply. The following additional restrictions shall be in effect during a Phase II water shortage:

1. Residential and commercial landscape areas shall be watered no more than three (3) times during a seven (7) day period for no more than ten (10) minutes at a time during the months of June, July, August and September, and prohibited during the hours of 9:00 a.m. and 5:00 p.m. Landscape irrigation shall be restricted to twice (2) during a seven (7) day period for no more than ten (10) minutes at a time during the months of October, November, December, January, February, March, April and May, and prohibited during the hours of 9:00 a.m and 5:00 p.m. Landscape irrigation for commercial nurseries and growers, active parks and playing fields, school grounds, golf course greens, landscaping for fire and erosion protection, protecting endangered species, environmental mitigation projects, and properties using reclaimed water shall be exempt from this provision. Watering using a handheld bucket or similar container, a hose equipped with a shut off nozzle, a drip irrigation system emitters producing no more than two (2) gallons per hour, weather based controllers or stream rotor sprinklers meeting a seventy percent (70%) efficiency standard, or running an irrigation system for short durations to make repairs are also exempt from this provision.

2. Non-residential water customers with a consumption in excess of 25,000 cubic feet in any billing period during the prior year, shall prepare a written water conservation plan within sixty (60) days of the effective date of a declared water shortage. The customer shall submit said plan to the Director of Water Resources for approval. The customer shall then implement the approved plan to meet the specific conservation goals stated therein.

(Added by Ord. 91-3, Amended by Ords. 91-13 and 2009-5)

3. Leaks from indoor and outdoor plumbing fixtures shall be repaired within four (4) days upon receipt of written notice of observed water leak. (Added by Ord. 2009-5)

G. IMPLEMENTATION OF PHASE III WATER CONSERVATION PLAN. Measures instituted during a Phase III water supply shortage shall be declared by Resolution of the City Council finding it necessary to conserve up to thirty percent (30%) of the City's water supply. The following additional restrictions shall be in effect during a Phase III water shortage:

1. Residential and commercial landscape areas shall be watered no more than two (2) times during a seven (7) day period for no more than ten (10) minutes at a time during the months of June, July, August and September, and prohibited during the hours of 8:00 a.m. and 8:00 p.m. Landscape irrigation shall be restricted to once during a seven (7) day period for no more than ten (10) minutes at a time during the months of October, November, December, January, February, March, April and May, and prohibited during the hours of 9:00 a.m. and 5:00 p.m. Watering using a handheld bucket or similar container, a drip irrigation system with emitters producing no more than two (2) gallons per hour, weather based controllers or stream rotor sprinklers meeting a seventy percent (70%) efficiency standard, or running an irrigation system for short durations to make repairs are also exempt from this provision.

2. Irrigation of commercial nurseries and growers, active parks and playing fields, school grounds, golf course greens, landscaping for fire and erosion protection, protecting endangered species, environmental mitigation projects, shall be restricted to no more than three (3) times during a seven (7) day period for no more than ten (10) minutes at a time. Irrigation shall be prohibited during the hours of 9:00 a.m. and 4:00 p.m. Watering using a handheld bucket or similar container, a drip irrigation system with emitters producing no more than two (2) gallons per hour, weather based controllers or stream rotor sprinklers meeting a seventy percent (70%) efficiency standard, or running an irrigation system for short durations to make repairs are exempt from this provision. Those properties using reclaimed water are exempt from this provision.
(Added by Ord. 91-3, Amended by Ords. 91-13 and 2009-5)

3. Leaks from indoor and outdoor plumbing fixture shall be repaired within three (3) days upon receipt of written notice of observed water leak. (Added by Ord. 2009-5)

H. IMPLEMENTATION OF PHASE IV MANDATORY WATER CONSERVATION PLAN. Measures instituted during a Phase IV water supply shortage shall be declared by Resolution of the City Council finding it necessary to conserve up to forty percent (40%) of the City's water supply. The following additional restrictions shall be in effect during a Phase IV water supply shortage:

1. Residential and commercial landscape areas shall be watered no more than one (1) time during a seven (7) day period for no more than ten (10) minutes at a time during the months of June, July, August and September, and prohibited during the hours of 8:00 a.m. and 8:00 p.m. Landscape irrigation shall be restricted to one (1) time during a fourteen (14) day period for no more than ten (10) minutes at a time during the months of October, November, December, January, February, March, April and May, and prohibited during the hours of 9:00 a.m. and 5:00 p.m. Watering using a handheld bucket or similar container, a drip irrigation system with emitters producing no more than two (2) gallons per hour, weather based controllers or stream rotor sprinklers meeting a seventy percent (70%) efficiency standard, or running an irrigation system for short durations to make repairs are exempt from this provision.

2. Irrigation of commercial nurseries and growers, active parks and playing fields, school grounds, golf course greens, landscaping for fire and erosion protection, protecting endangered species, environmental mitigation projects, shall be restricted to no more than twice (2) during a seven (7) day period for no more than ten (10) minutes at a time . The irrigation shall be prohibited during the hours of 9:00 a.m. and 4:00 p.m. Watering using a handheld bucket or similar container, a drip irrigation system with emitters producing no more than two (2) gallons per hour, weather based controllers or stream rotor sprinklers meeting a seventy percent (70%) efficiency standard, or running an irrigation system for short durations to make repairs are exempt from this provision. Those properties using reclaimed water are exempt from this provision.
(Added by Ord. 91-13, Amended by Ord. 2009-5)

3. Leaks from indoor and outdoor plumbing fixture shall be repaired within two (2) days upon receipt of written notice of observed water leak. (Added by Ord. 2009-5)

I. IMPLEMENTATION OF PHASE V MANDATORY WATER CONSERVATION PLAN. Measures instituted during a Phase V water supply shortage shall be declared by Resolution of the City Council finding it necessary to conserve up to fifty percent (50%) of the City's water supply. The following additional restrictions shall be in effect during a Phase V water supply shortage:

1. Residential and commercial landscaping shall be restricted to watering only permanent trees and shrubs with a handheld bucket or similar container, or a drip irrigation system with emitters producing no more than two(2) gallons per hour one (1) time during a seven (7) day period during the months of June, July, August and September, and prohibited during the hours of 8:00 a.m. and 8:00 p.m. Landscape irrigation shall be restricted to watering only permanent trees and shrubs with a handheld bucket or similar container, or a drip irrigation system with emitters producing no more than two (2) gallons per hour one (1) time during a fourteen (14) day period during the months of October, November, December, January, February, March, April and May, and prohibited during the hours of 9:00 a.m. and 5:00 p.m.

2. Irrigation of commercial nurseries and growers shall be restricted to one (1) time during a seven (7) day period for no more than ten (10) minutes at a time and prohibited during the hours of 9:00 a.m. and 6:00 p.m. Watering using a handheld bucket or similar container, a drip irrigation system with emitters producing no more than two (2) gallons per hour, weather based controllers or stream rotor sprinklers meeting a seventy percent (70%) efficiency standard, or running an irrigation system for short durations to make repairs are exempt from this provision. Those properties using reclaimed water are exempt from this provision.
(Added by Ord. 91-13, Amended by Ord. 2009-5)

3. Irrigation of active parks and playing fields, golf course greens, school grounds, landscape for fire protection and the support of protected species, and environmental mitigation projects shall be restricted to no more than twice (2) during a seven (7) day period for no more than ten (10) minutes at a time. The irrigation shall be prohibited during the hours of 9:00 a.m. and 4:00 p.m. Watering using a handheld bucket or similar container, a drip irrigation system with emitters producing no more than two (2) gallons per hour, weather based controllers or stream rotor sprinklers meeting a seventy percent (70%) efficiency standard, or running an irrigation system for short durations to make repairs are exempt from this provision. Those properties using reclaimed water are also exempt from this provision. (Added by Ord. 2009-5)

4. Leaks from indoor and outdoor plumbing fixtures shall be repaired within 24 hours upon receipt of written notice of observed water leak. (Added by Ord. 2009-5)

J. EMERGENCY RATE SURCHARGE TO OBTAIN WATER CONSERVATION.

1. At such time that the City Council determines that a specific conservation effort is required, the City Council shall adopt a resolution declaring the specific phase water conservation. The corresponding rate structure as contained in Resolution No. 91-68 shall take effect within thirty (30) days of such determination.

2. Subject to revenue bond covenants, these funds shall be used to offset revenue loss due to reduced water consumption and pay for such conservation measures as approved by the City Council.

(Added by Ord. 91-3, Amended by Ord 91-13)

3. This ordinance shall not provide any provision for relief from the emergency rate surcharge. (Added by Ord. 2009-5)

K. RELIEF FROM COMPLIANCE. Any person to whom this ordinance applies may file for relief from any or all provisions in this ordinance. The Director of Water Resources or his designee shall develop and implement procedures necessary to consider a customer's application for relief. No relief shall be granted except upon proof of reasonable inability to comply with the provisions of this section, or upon proof of other reasonable conservation alternatives which will achieve conservation measures sought by this section, or upon proof of substantial hardship outweighing the benefits this section would otherwise provide. Commercial customers shall submit a water conservation plan with the request for relief. The Director of Water Resources or his designee shall use the following criteria to grant relief from this ordinance:

1. The relief from compliance does not constitute a special privilege inconsistent with the limitations upon other water customers in the same rate class.

2. Special circumstances applicable to the property or its use exist and strict application of this ordinance would cause a disproportionate impact on the property or use that exceeds the impacts to residents and businesses generally.

3. The relief from compliance will not cause substantial detriment to adjacent properties and will not affect the City of Lakewood's ability to effectuate the purpose of the ordinance and will not be detrimental to the public interest.

4. The condition or situation of the subject property or the intended use of the property is not common.

All criteria shall be met to obtain relief from compliance. The decision of the Director of Water Resources or his designee shall be final unless written appeal to the City Council setting forth the grounds of appeal is filed with the City Clerk within thirty (30) days of the mailing or delivery to said person of the written decision of the Director of Water Resources.

The decision of the Director of Water Resources or his designee shall be forwarded in writing no later than 15 days after the receipt of the application for relief unless additional time has been requested.

(Added by Ord. 91-3, Amended by Ords. 91-13 and 2009-5)

L. FAILURE TO COMPLY WITH MANDATORY WATER CONSERVATION MEASURES. In addition to the provisions of Section 7511.2, any person who fails to comply with any of the mandatory water conservation measures imposed by the implementation of this section shall be subject to an improper water users fee or charge as hereinafter set forth:

1. The following charges are not imposed as a penalty but as a charge for excessive or improper use of water. The charges are necessary in order to recover the reasonable cost of enforcement of the mandatory water provisions and in order to obtain the goals of the water conservation measures contained in this section:

(a) First Violation. The City of Lakewood shall issue a written warning to the customer for the first violation.

(b) Second and Third Violations. The City of Lakewood shall issue a written notice and assess an improper water use fee of $100.00. If the fee is not paid in full within fifteen (15) days of issuance the amount will be added to the customer's bi-monthly water bill.

(c) Fourth Violation. The City of Lakewood shall issue a written notice, charge an improper water use fee of $200.00 and install a flow restricting device on the customer's water service for a period of not less than twenty-four (24) hours. Such flow restricting device shall reduce water flow to one (1) gallon per minute for metered services one and one half inch (1½") or under. Similar devices will be placed on larger meters. The fee shall be paid prior to the resumption of normal water service.

(d) Fifth Violation. The City of Lakewood shall issue a written notice, charge an improper water use fee of $500.00 and install a flow restricting device on the customer's water service for a period of not less than forty-eight (48) hours. Such flow restriction device shall reduce water flow to one (1) gallon per minute for the metered service, one and one-half inch (1½") or under. A similar device shall be placed on larger meters. The fee shall be paid prior to resumption of normal water service.

2. Notification of Violation. Notice of violation shall be given in writing in one of the following methods:

(a) Personal delivery of the notice to the customer.

(b) If the customer is absent from or unavailable at the premises at which the violation occurred, the notice can be left with a responsible person at the premises and a copy mailed to the customer at the billing address.

(c) If a responsible person is not available at the premises at which the violation occurred, then the notice can be affixed in a conspicuous place on the premises and a copy mailed to the customer at the billing address.

Notification shall include a description of the facts in regard to the violation, a statement of the possible penalties for each violation and the statement of the customer's right to a hearing on the merits of the violation as stated in Section M.

(Added by Ord. 91-3, Amended by Ords. 91-13 and 2009-5)

M. HEARING FOR VIOLATIONS. Any customer receiving a fourth (4) or subsequent violation notice shall be entitled to a hearing with the City Manager or his designee within fifteen (15) days of delivery of the violation notice. The following steps shall be taken to process a request for a hearing:

1. The customer shall provide a written request for a hearing. A prompt request for hearing shall automatically stay installation of a flow restricting device or shut off on the customer's water service until the decision is rendered by the City Manager or his designee.

2. The customer's request for a hearing shall not stay the imposition of a fee. If it is determined that a fee is wrongly assessed, the City will refund any fee paid by the customer.

3. The decision of the City Manager or his designee shall be final except for judicial review. Any and all measures of the provisions stated herein shall be implemented throughout the judicial appeal process.

(Added by Ord. 91-3, Amended by Ords. 91-13 and 2009-5)

N. ADDITIONAL WATER CONSERVATION MEASURES. The City Council may order implementation of further water conservation measures in addition to those set forth in this Section. Such measures shall be instituted by the City Council with the adoption of a resolution.

(Added by Ord. 91-3, Amended by Ord. 91-13)

O. PUBLIC HEALTH AND SAFETY SHALL NOT BE AFFECTED. No provision of this section shall be construed to require the City to curtail the supply of water to any customer when such water is required by that customer to maintain an adequate level of public health and safety.

(Added by Ord. 91-3, Amended by Ord. 91-13)

7511.2 VIOLATION A MISDEMEANOR. Notwithstanding any provision of this Code to the contrary, the provisions of Section 377 of the California Water Code shall be applicable to any violation of the provisions of Section 7511.1. No person shall violate any provision of Section 7511.1 or fail to comply with any of the requirements of this section or any Resolution adopted pursuant thereof. Any person violating any of the provisions of Section 7511.1 or any Resolution adopted pursuant thereto or failing to comply with any of the mandatory requirements of Section 7511.1 or any of the Resolutions adopted pursuant thereof shall be guilty of a misdemeanor. Upon conviction thereof, such person shall be punished by imprisonment in the County jail for not more than thirty (30) days or by a fine not exceeding $1,000.00, or both.

(Added by Ord. 91-3)

7512. ILLEGAL CONNECTION TO WATER SYSTEM. No person shall install or maintain, or permit to be installed or maintained, any connection or cross-connection between the water supply system of the city and any other source of water supply whatsoever, without the approval of the Director of Public Works.

7513. ADDITIONAL RULES AND REGULATIONS. The City Council may from time to time amend, alter, or add additional rules and regulations pertaining to the maintenance, operation and use of the Water Works System owned by the City of Lakewood. In addition, the City Council may by resolution adopt such additional rules and regulations pertaining to the maintenance and operation and use of the Water Works System as it deems necessary, including charges for the use of said services, which said rules and regulations may be amended, altered, repealed, or supplemented by the City Council from time to time. The Director of Public Works, as to matters within his jurisdiction, and the Director of Finance, as to matters within his jurisdiction, are hereby authorized and directed to enforce this Chapter, to interpret and apply the rules and regulations herein enacted, or hereinafter enacted by the City Council. Any person aggrieved by the decision of the aforementioned officers may appeal said decision to the City Council, and the decision of the City Council shall be final and conclusive. (Amended by Ord. 2005-15)

ATTACHMENT 9

City of Lakewood
Department of Water Resources
Request for Exemption from Water Use Restrictions

ACCOUNT #:			DATE:
NAME:			
TELEPHONE:		DAY	EVENING
SERVICE ADDRESS:			
	Street	City	Zip Code
BILLING ADDRESS:			
	Street	City	Zip Code

A customer may apply for relief from the provisions in the City of Lakewood Water Conservation Ordinance 91-3. No relief shall be granted without proof of reasonable inability to comply with the provisions in the ordinance, proof that alternative conservation measures have been adopted by the customer, or proof that the water use restrictions would provide substantial hardship on the customer outweighing the benefits of water conservation. Commercial customers must submit a water conservation plan with this request.

The customer shall complete this form and return it to the **CITY OF LAKEWOOD DEPARTMENT OF WATER RESOURCES, 5050 N. Clark Avenue, Lakewood, CA 90712**. The decision of the Director of Water Resources shall be rendered within fifteen (15) days after the receipt of the request for exemption. The decision of the Director of Water Resources may be appealed by filing with the City Clerk within thirty (30) days after receipt of said decision.

Please complete the following information as thoroughly as possible. Failure to provide necessary information could result in automatic denial of your request.

I am requesting an exemption from the above mentioned water use restriction(s) for the following reason(s):

Type of exemption from improper water use restrictions:

- ☐ Washing Down Driveway 7511.1c.1 LMC
- ☐ Washing Down Sidewalk 7511.1c.1 LMC
- ☐ Washing Down Parking Lots 7511.1c.1 LMC
- ☐ Washing Down Building Exterior 7511.1c.1 LMC
- ☐ Washing Down Streets and Gutters 7511.1c.1 LMC
- ☐ Washing Vehicles without Shut Off Valve 7511.1c.2 LMC
- ☐ Washing Equipment without Shut Off Valve 7511.1c.2 LMC
- ☐ Non-recirculating Fountains 7511.1c.3 LMC
- ☐ Unrepaired Plumbing Leak 7511.1c.5 LMC
- ☐ Improper Irrigation 7511.1c Water Run-off 7511.1c.7 LMC.6 LMC

I am requesting an exemption from the above mentioned water use restriction(s) for the following reason(s):

- ☐ In the process of testing, adjusting or repairing sprinklers.
- ☐ Health condition that limits ability to conform to water use restrictions. (Please attach a statement from a physician.)
- ☐ Hosing new paved surface for the purpose of curing for up to one month after paving.
- ☐ Hosing hardscape due to unsanitary condition.
- ☐ Dust control due to construction.
- ☐ Public health and safety.
- ☐ Police, fire or other similar emergency service.
- ☐ Other:

Explanation. Please explain the circumstances present at the time you received the "Notice of Improper Water Use" and any other relevant information that would facilitate the processing of this appeal. (Attach additional sheets if necessary.):

I certify that the information contained in this appeal is complete and accurate to the best of my knowledge.

Signature of Customer

Date

LAKEWOOD DEPARTMENTOF WATER RESOURCES USE ONLY
Notice of Improper Water Use Appeal

Approval Date:

Denied Date:

Authorized Personnel:

Name

Title

RESOLUTION NO. 2009-6

A RESOLUTION OF THE CITY COUNCIL OF THE CITY OF LAKEWOOD, ESTABLISHING RULES, REGULATIONS AND CHARGES GOVERNING WATER CONSERVATION AND REPEALING PRIOR ACTIONS.

THE CITY COUNCIL OF THE CITY OF LAKEWOOD DOES HEREBY RESOLVE AS FOLLOWS:

SECTION 1. The document attached hereto as Exhibit "A" is hereby adopted by the City Council as the City's rules, regulations and charges governing water conservation. Such document is intended to function as the City's complete plan regarding the subject matter thereof, superseding all prior related actions, and all such actions, including but not necessarily limited to Resolution No. 3150, as subsequently amended on multiple occasions, are hereby repealed.

SECTION 2. The City Clerk shall certify to the adoption of this Resolution, and the same shall be effective as of the 1st day of June, 2009.

ADOPTED AND APPROVED THIS 24TH DAY OF MARCH, 2009.

Mayor

ATTEST:

City Clerk

WATER SERVICE PROCEDURE MANUAL
CITY OF LAKEWOOD, CA

SECTION 1. Rules, Regulations and Charges Governing Water Service.

The City Council does hereby establish the following rules, regulations and charges governing water service to all customers within and without the City and the Director of Water Resources, under the direction of the City Manager, is hereby authorized and directed to enforce the same in accordance with the provisions of this Resolution, the Revenue Bond Law of 1941, and Division 4 of Article V of the Lakewood Municipal Code.

SECTION 2. Definitions.

a. Applicant. The person or persons, association, corporation, or governmental agency applying for water service.

b. Billing period. The time interval between two consecutive meter-reading dates used for billing purposes.

c. Commercial service. Water service for premises devoted primarily to business or professional activities.

d. Cost. The actual cost to the City including all labor, material, supplies, equipment, and miscellaneous items, together with any applicable indirect overhead and general charges, in accordance with the accounting practices of the Department.

e. Customer. Any person, persons, association, corporation, or governmental agency supplied or entitled to be supplied with water service by the City in accordance with established rates and charges of the City.

f. City Manager. The City Manager of the City of Lakewood.

g. Date of Presentation. The date on which a bill or notice is mailed or delivered by the Department to the customer.

h. Department. The Water Resources Department of the City of Lakewood responsible for operating the City's Water System.

i. Distribution mains. Distribution pipelines located in streets, highways, public ways or private rights of way, exclusive of service connections, which are used to serve the general public with water.

j. Distribution system. The network of conduits used for the delivery of water by the City to the customer's connection.

k. Domestic service. Single or multiple family dwellings predominantly for residential household and related purposes as distinguished from commercial and industrial purposes.

l. Flat rate service. Unmetered service for which the charges are based on the type of service or number of units served.

m. Industrial service. Water service for premises where the use is primarily in manufacturing or processing activities.

n. Main extension. The extension of water mains beyond previously existing facilities, exclusive of service connections.

o. Metered service. Water service for which charges are based on measured quantities of water.

p. Minimum charge. A charge for all types and classes of meters.

q. Premises. Integrated land area including improvements thereon undivided by public thoroughfares or water distribution mains of the Department and where all parts of the premises are operated under the same management and for the same purpose.

r. Private fire protection service. Water service to premises solely for fire protection purposes.

s. Quantitative charge. A charge based on the amount of water used measured in cubic feet.

t. Rates. The rates or amounts established by this Resolution to be charged for water service supplied to customers.

u. Service connection. The pipeline or conduit including valves and other equipment installed in place, necessary for conducting water from the City's water main to the meter or meter location installed on or near the property line, but does not include the meter or meter box.

v. Temporary service. Water service for construction work and other uses such that service is required only for a limited time, generally not to exceed six (6) months.

w. Director of Water Resources. The Director of Water Resources of the City of Lakewood.

x. Water service. The term "water service" includes the availability of water to a premises through facilities of the City and any water supplied through such facilities.

SECTION 3. Character of service

a. Supply and pressure. The Department will endeavor to deliver a dependable supply of potable water from available sources, in quantities adequate to meet the reasonable needs of its customers. The delivery of such supply will be at the service connection.

The Department may suspend temporarily the delivery of water, for the purpose of making repairs or improvements to its system. Such repairs or improvements will be made as rapidly as practicable. Customers dependent on a continuous water supply should provide adequate storage for emergencies.

During any emergency, the Department may apportion the available water supply among its customers in the manner that appears most equitable under the circumstances prevailing and with due consideration for public health and safety.

b. Customers consent to service subject to regulations and all conditions of pressure and supply. Service provided by the Department shall at all times 'be subject to the regulations promulgated by the City Council. All applicants for or receiving water service shall be required to accept and shall be deemed to have consented to accept water service subject to such regulations, conditions of pressure and service as may be provided from time to time by the distribution system at the location served and to hold the City and the Department harmless from any damages arising from low pressure or high pressure, fluctuations of pressure, interruptions of service, shortage, insufficiency of supply or condition not within the Department's control.

c. Impairment of service to other customers. Where the use of water is unusually intermittent or is subject to violent fluctuations of a character that may impair service to other customers, the Department may require that the customer provide, at his own expense, suitable equipment to reasonably limit fluctuations in use and pressure caused by the customer's equipment or operations.

SECTION 4. Application for service.

a. Application for service. The Department may require each prospective customer to sign, as applicant, or his agent to sigh as such, an application for the service desire and also to establish his credit. Application may be made at the business office of the Department or to a duly authorized employee.

The Department's requirements for the type of service desired must be met before an application will be approved. If main, service connection and meter required for service to the premises have not been installed, the applicant will be informed of the terms and conditions which must be met before an application for service will be approved.

When an application for service is made by a former customer who has failed to pay charges owed by him to the Department, service may be refused until such charges are paid.

b. Use of water without application for service. Any person who takes possession of a remises where water supply has been shut off by the Department and uses water without making application for water service shall be responsible for all charges for the water service. The amount of such charges shall be at a rate to be determined by the Department either by meter readings or on the basis of the estimated consumption for the time water was used.

When water is being used without application for service the service may be disconnected without notice.

SECTION 5. Establishment and re-establishment of credit.

a. Establishment and maintenance of credit. An applicant for water service may be required to furnish and maintain a satisfactory guaranty, by deposit or otherwise, for payment of charges in connection with such service, provided that such guaranty may not be required where it shall appear to the Department that the applicant's credit is sufficient to assure payment of any such charges as they become due. Each applicant's credit shall be deemed to be established and thereafter to be maintained until any bill rendered by the Department for service shall have been allowed to become delinquent or until information is obtained which indicates that the customer's credit has been impaired. Whenever it is deemed necessary because of delinquency in payment, or otherwise, that the customer be required to re-establish his credit, the Department will mail or deliver to the customer a suitable written notice.

b. Re-establishment of credit. Any customer may be required to re-establish his credit in any of the following cases:

- If his deposit has been applied, in whole or in part- to the payment of any bills or bills for service.
- If the applicant shall have been a water customer of the Department and its service to him has been discontinued for cause.
- If the customer's credit has not been maintained as required by this section.
- If, for any reason, the guaranty furnished by the applicant becomes inadequate under the provisions of this section.

SECTION 6. Deposits.

a. Amount of deposits. Where the applicant is required to make a deposit or guaranty either for guaranteeing payment of charges for service, or for re-establishment of credit, the amount thereof shall be a sum equal to two times the maximum bi-monthly bill for comparable service, but shall be not less than Ten ($10.00) Dollars.

b. Return of deposit. When the Department holds a deposit guaranteeing bills for water service that has been discontinued, such deposit without interest will be refunded except that any unpaid final charges shall be and any other indebtedness to the Department may be deducted from the deposit and any excess portion of the de- posit returned.

Deposits or guarantees made pursuant to this Section may be refunded without interest to the customer when credit satisfactory to the Department has been established.

SECTION 7. Discontinuance of service.

a. Discontinuance of service at customer's request.

- A customer may have service discontinued by giving not less than forty-eight (48) hours' advance notice thereof to the Department. Charges for service may be required to be paid until the requested date of discontinuance or such later date as will provide not less than the required two day advance notice.

- When such notice is not given, the customer will be required to pay for service until one day after the Department has knowledge that the customer has vacated the premises or otherwise has discontinued water service.

b. Discontinuance of service by Department.

- Nonpayment of Bills. A customer's water service may be discontinued for the nonpayment of a bill for water service rendered, if the bill has not been paid within the time prescribed by this Resolution.

- Noncompliance with the Department's Regulations. If a customer fails to comply with any of the City's regulations, the Department shall advise the customer of such failure in the manner prescribed in Division 4, Article V of the Lakewood Municipal Code, and if the customer fails to comply within the time specified in the Lakewood Municipal Code, the Department shall discontinue service to the customer.

- Conditions detrimental or damaging to the water system or its customers. If an unsafe or hazardous condition is found to exist on the customer's premises in the use of water thereon by apparatus, appliances and equipment, or Otherwise is detrimental or damaging to the water system or its customers, the service may be shut off without notice. The Department shall notify the customer of the reasons for the discontinuance and the corrective action to be taken, if any, by the customer before service can be restored.

c. Service restoration charge.

- Where service is again requested after the same has been discontinued at the customer's request, the Department shall charge Five Dollars ($5.00) for restoration of service.

- Where service has been discontinued or department employee has arrived at consumer's residence or place of business for the purpose of discontinuing service because of failure to comply with the regulations prescribed by this Resolution, the Department shall charge Twenty ($20.00) Dollars for restoration of service.*(Amended by R82-114, R89-108)*

- In the event a customer turns on the water service or allows or causes it to be turned on after it has been turned off for the above reason, the Department shall again turn off the water service and shall charge and collect Ten ($10.00) Dollars in addition to other amounts due from the customer before the water service is restored.

- If a customer turns on a service or allows or causes it to be turned on after it has been discontinued because of sanitary hazard, the Department shall remove the meter and shall not reinstall it until such hazard is abated and shall charge cost for restoration of service.

SECTION 8. Rendering and payment of bills.

a. Meter reading and billing.

- General. Regular bills shall be rendered at intervals of one month or multiples thereof, as may be established from time to time by the Council. Except as provided in the water rate schedule, the quantitative charge for water will be based upon delivery as indicated upon the meter register. Insofar as is practicable, meters will be read at regular intervals for the preparation of regular bills, and meters will be read as required for the preparation of opening, closing, and special bills. If for any reason service is unmetered except as provided in the water rate schedule or if the meter is inaccessible and cannot be read, or if the meter fails to register correctly, the water consumption will be estimated by the Department as follows:

  ~ Previous consumption by metered service to the premises, for a like period of time, or

  ~ The average consumption of similar metered services of the area during the period in question, or

  ~ By giving consideration to the nature of use, volume of business, seasonal demand, and any other factors that may assist in determining such consumption.

- Proration of bills. Rate schedules stated on a monthly basis are related to a thirty-day (30-day) consumption interval as a standard month. Whenever actual meter read intervals differ from standard thirty-day (30-day) period, bills related

thereto computed from monthly schedules are subject to proration on a thirty-day (30-day) basis.

However, at the discretion of the Department, in computing and rendering regular bills, minor variances between actual read intervals and any established regular read interval need not be considered, in accordance with the following:

- ~ Where bills are regularly rendered monthly, computation from monthly rate schedules may be made directly whenever actual read intervals do not vary by more than three days (greater or lesser) from the standard thirty- (30) day interval.

- ~ Where bills are regularly rendered for multiples of a month, computation from monthly rate schedules may be made on the basis of similar multiples of the stated rate schedules whenever actual read intervals do not vary by more than six days (greater or lesser) from the established regular read interval.

- Individual liability for joint service. Two or more parties who join in one application for service shall be jointly and severally liable for payment of bills and shall be billed by means of single periodic bills.

- Payment of bills. Bills for service are due and payable upon presentation and payment may be made at the office of the Administrative Services Department or the office of the City Treasurer. Collection of closing bills may be made at the time of presentation.

- Notices. Except for emergencies, notices from the Department to a customer shall be given in writing, either delivered to him or mailed to him at his last known address in the manner prescribed by Division 4, Article V of the Lakewood Municipal Code. Notice from any customer to the Department pursuant to the regulations of this Resolution may be given in person or by his authorized agent, at the Department office or by written notice enclosed in a sealed envelope and addressed to the Department deposited in the United States mail, postage prepaid.

SECTION 9. Disputed or erroneous bills.

a. Disputed or erroneous bills. Whenever the correctness of any bill for water service is questioned, the Department will cause an investigation to be made.

Inaccurate recording of water use or clerical or meter errors shall be adjusted to a correct basis as determined by the Department's investigation, and in the case of a slow or fast meter in accordance with this Section.

In cases where the amount of water used, dates, or other factors required for application of rate schedules or other provisions are not subject to exact determination

or are in question, or in case of dispute relative to service or rate application, the Department shall establish such factors by tests, analyses and investigations to determine the proper basis for making an adjustment, if any. Adjustments in the billing shall then be authorized by the Director of Water Resources, as shown to be proper. When requested by the customer, such adjustments shall be subject to review by the City Manager. Each customer shall have the right of appeal to the City Council as provided in the Lakewood Municipal Code.

b. Meter test. When the accuracy of a water meter is questioned by a customer, the Department will, upon request, cause an official test to be made. A customer shall have the right to require the Department to conduct the test in his presence, or if he so desires, in the presence of an expert of other representative appointed by him.

A customer, requiring such a test shall first deposit with the Department a sum based on the size of the meter to be tested as follows:

Meter Size	Commencing November 1, 2003
1-inch or less	$10.00
1 ½-inch or less	$12.00
2-inch meter	$15.00
3-inch meter	$25.00

Should the meter be found by test to be more than two (2%) percent fast, the Department shall refund the customer's deposit; otherwise, the deposit shall be forfeited to compensate for the cost of such testing.

c. Adjustment of bills for meter errors.

- Fast meters. When, as a result of any test, a meter is found to be more than two (2%) percent fast, the Department will render a corrected bill for the period in which the meter was in use, not exceeding six months, unless it can be shown that the error occurred on a date which can be fixed, in which case the over-charge shall be corrected to that date.

- Slow meters. When, as a result of any test, a meter is found to be more than five (5%) percent slow, the Department will render a corrected bill for the period in which the meter was in use, not exceeding four months, unless it can be shown that the error occurred on a date which can be fixed, in which case the billing may be corrected to that date

SECTION 10. Rates.

a. Schedule I. General Water Service

- Applicability. Applicable to Domestic, Commercial and Industrial water service and to water service for any other purposes.

- Territory. All areas to which water is served by the Department.

- Monthly Rates. Monthly rates are adjusted annually, per Proposition 218.

  ~ Minimum charge entitlement. The minimum charge for all single-family residential meters shall be 350 cubic feet regardless of meter size. For all other users, the minimum charge will entitle the consumer to the quantity of water set forth opposite the meter size.
  (Amended by R78-73, R99-20)

  ~ Quantitative charges.

  • Normal Quantitative Rate. The quantitative rate for all water delivered in excess of the Minimum Charge Entitlement is $1.91 per 100 cubic feet per meter per month to all services billed commencing September 1, 2008.

  • Quantitative Charge – Conservation. The quantitative rate for all water delivered in excess of the Minimum Charge Entitlement shall be as follows:

  a) Voluntary Phase of Conservation Plan

  1) Single Family Residential
  a. Tier 1: Water used in excess of 350 cubic feet but under 5,400 cubic feet per month is charged at the normal quantitative rate.
  b. Tier 2: Water used in excess of 5,400 cubic feet per month is charged at one and one-half (1.5) times the normal quantitative rate.

  2) Duplex Residential Units
  a. Tier 1: Water used under 4,800 cubic feet per month is charged at the normal quantitative rate.
  b. Tier 2: Water used in excess of 4,800 cubic feet per month is charged at one and one-half (1.5) times the normal quantitative rate.

  3) Multiple Residential Units
  a. Tier 1: Water used under 2,400 cubic feet per unit per month is charged at the normal quantitative rate.
  b. Tier 2: Water used in excess of 2,400 cubic feet per unit per month is charged at one and one-half (1.5) times the normal quantitative rate.

  4) Commercial, Industrial or Use Other Than Residential
  a. Auto Related Business.
  1. Tier 1: Water used under 7,900 cubic feet per month is charged at the normal quantitative rate.

2. Tier 2: Water used in excess of 7,900 cubic feet per month is charged at one and one-half (1.5) times the normal quantitative rate.

b. Church.
   1. Tier 1: Water used under 15,000 cubic feet per month is charged at the normal quantitative rate.
   2. Tier 2: Water used in excess of 15,000 cubic feet per month is charged at one and one-half (1.5) times the normal quantitative rate.

c. Medical/Dental Facility.
   1. Tier 1: Water used under 20,400 cubic feet per month is charged at the normal quantitative rate.
   2. Tier 2: Water used in excess of 20,400 cubic feet per month is charged at one and one-half (1.5) times the normal quantitative rate.

d. Commercial Nurseries and Growers.
   1. Tier 1: Water used under 66,750 cubic feet per month is charged at the normal quantitative rate.
   2. Tier 2: Water used in excess of 66,750 cubic feet per month is charged at one and one-half (1.5) times the normal quantitative rate.

e. Restaurant, Lounge, Tavern.
   1. Tier 1: Water used under 34,400 cubic feet per month is charged at the normal quantitative rate.
   2. Tier 2: Water used in excess of 34,400 cubic feet per month is charged at one and one-half (1.5) times the normal quantitative rate.

f. School: Elementary School.
   1. Tier 1: Water used under 55,400 cubic feet per month is charged at the normal quantitative rate.
   2. Tier 2: Water used in excess of 55,400 cubic feet per month is charged at one and one-half (1.5) times the normal quantitative rate.

g. School: High School.
   1. Tier 1: Water used under 325,400 cubic feet per month is charged at the normal quantitative rate.
   2. Tier 2: Water used in excess of 325,400 cubic feet per month is charged at one and one-half (1.5) times the normal quantitative rate.

h. Small Food Store.

1. Tier 1: Water used under 5,500 cubic feet per month is charged at the normal quantitative rate.
2. Tier 2: Water used in excess of 5,500 cubic feet per month is charged at one and one-half (1.5) times the normal quantitative rate.

i. Supermarket.

1. Tier 1: Water used under 137,500 cubic feet per month is charged at the normal quantitative rate.
2. Tier 2: Water used in excess of 137,500 cubic feet per month is charged at one and one-half (1.5) times the normal quantitative rate.

j. Theaters.

1. Tier 1: Water used under 31,400 cubic feet per month is charged at the normal quantitative rate.
2. Tier 2: Water used in excess of 31,400 cubic feet per month is charged at one and one-half (1.5) times the normal quantitative rate.

k. Auto/Car Wash.

1. Tier 1: Water used under 66,250 cubic feet per month is charged at the normal quantitative rate.
2. Tier 2: Water used in excess of 66,250 cubic feet per month is charged at one and one-half (1.5) times the normal quantitative rate.

l. Fast Food: High Volume.

1. Tier 1: Water used under 21,000 cubic feet per month is charged at the normal quantitative rate.
2. Tier 2: Water used in excess of 21,000 cubic feet per month is charged at one and one-half (1.5) times the normal quantitative rate.

m. Fast Food: Small.

1. Tier 1: Water used under 4,250 cubic feet per month is charged at the normal quantitative rate.
2. Tier 2: Water used in excess of 4,250 cubic feet per month is charged at one and one-half (1.5) times the normal quantitative rate.

n. Department Store.

1. Tier 1: Water used under 70,650 cubic feet per month is charged at the normal quantitative rate.

2. Tier 2: Water used in excess of 70,650 cubic feet per month is charged at one and one-half (1.5) times the normal quantitative rate.

o. Commercial Storefront.
1. Tier 1: Water used under 1,125 cubic feet per month is charged at the normal quantitative rate.
2. Tier 2: Water used in excess of 1,125 cubic feet per month is charged at one and one-half (1.5) times the normal quantitative rate.

p. Commercial Small.
1. Tier 1: Water used under 2,500 cubic feet per month is charged at the normal quantitative rate.
2. Tier 2: Water used in excess of 2,500 cubic feet per month is charged at one and one-half (1.5) times the normal quantitative rate.

q. Commercial Large.
1. Tier 1: Water used under 22,900 cubic feet per month is charged at the normal quantitative rate.
2. Tier 2: Water used in excess of 22,900 cubic feet per month is charged at one and one-half (1.5) times the normal quantitative rate.

r. Motels.
1. Tier 1: Water used under 1,150 cubic feet per unit per month is charged at the normal quantitative rate.
2. Tier 2: Water used in excess of 1,150 cubic feet per unit per month is charged at one and one-half (1.5) times the normal quantitative rate.

s. Coin Operated Laundry.
1. Tier 1: Water used under 30,555 cubic feet per month is charged at the normal quantitative rate.
2. Tier 2: Water used in excess of 30,555 cubic feet per month is charged at one and one-half (1.5) times the normal quantitative rate.

t. Hair and Nail Salon.
1. Tier 1: Water used under 4,725 cubic feet per month is charged at the normal quantitative rate.
2. Tier 2: Water used in excess of 4,725 cubic feet per month is charged at one and one-half (1.5) times the normal quantitative rate.

u. Ice Rink.
   1. Tier 1: Water used under 72,000 cubic feet per month is charged at the normal quantitative rate.
   2. Tier 2: Water used in excess of 72,000 cubic feet per month is charged at one and one-half (1.5) times the normal quantitative rate.

v. Landscape Irrigation Small Area.
   1. Tier 1: Water used under 11,250 cubic feet per month is charged at the normal quantitative rate.
   2. Tier 2: Water used in excess of 11,250 cubic feet per month is charged at one and one-half (1.5) times the normal quantitative rate.

w. Landscape Irrigation Medium Area.
   1. Tier 1: Water used under 81,000 cubic feet per month is charged at the normal quantitative rate.
   2. Tier 2: Water used in excess of 81,000 cubic feet per month is charged at one and one-half (1.5) times the normal quantitative rate.

x. Landscape Irrigation Large Area.
   1. Tier 1: Water used under 441,000 cubic feet per month is charged at the normal quantitative rate.
   2. Tier 2: Water used in excess of 441,000 cubic feet per month is charged at one and one-half (1.5) times the normal quantitative rate.

y. Exemptions from the Water Conservation Rate Structure.
   1. Car washes with properly operating recycling equipment.
   2. Hospitals.
   3. Facilities using reclaimed water for irrigation of landscape.

z. Water Conservation Rate Structure for Failing to Connect to the City's Reclaimed Water System. Commercial water customers whose property line is located within a reasonable distance from the City's reclaimed water system that fail to connect to the aforementioned system shall be charged a water conservation rate of four (4) times the normal quantitative rate.

b) Phase I Mandatory Conservation

1) Single Family Residential
   a. Tier 1: Water used in excess of 350 cubic feet but under 4,050 cubic feet per month is charged at the normal quantitative rate.

b. Tier 2: Water used in excess of 4,050 cubic feet per month is charged at one and one-half (1.5) times the normal quantitative rate.

2) Duplex Residential Units
   a. Tier 1: Water used under 3,600 cubic feet per month is charged at the normal quantitative rate.
   b. Tier 2: Water used in excess of 3,600 cubic feet per month is charged at one and one-half (1.5) times the normal quantitative rate.

3) Multiple Residential Units
   a. Tier 1: Water used under 1,800 cubic feet per unit per month is charged at the normal quantitative rate.
   b. Tier 2: Water used in excess of 1,800 cubic feet per unit per month is charged at one and one-half (1.5) times the normal quantitative rate.

4) Commercial, Industrial or Use Other Than Residential
   a. Auto Related Business.
      1. Tier 1: Water used under 6,300 cubic feet per month is charged at the normal quantitative rate.
      2. Tier 2: Water used in excess of 6,300 cubic feet per month is charged at one and one-half (1.5) times the normal quantitative rate.

   b. Church.
      1. Tier 1: Water used under 12,000 cubic feet per month is charged at the normal quantitative rate.
      2. Tier 2: Water used in excess of 12,000 cubic feet per month is charged at one and one-half (1.5) times the normal quantitative rate.

   c. Medical/Dental Facility.
      1. Tier 1: Water used under 16,300 cubic feet per month is charged at the normal quantitative rate.
      2. Tier 2: Water used in excess of 16,300 cubic feet per month is charged at one and one-half (1.5) times the normal quantitative rate.

   d. Commercial Nurseries and Growers.
      1. Tier 1: Water used under 53,400 cubic feet per month is charged at the normal quantitative rate.
      2. Tier 2: Water used in excess of 53,400 cubic feet per month is charged at one and one-half (1.5) times the normal quantitative rate.

e. Restaurant, Lounge, Tavern.
   1. Tier 1: Water used under 27,500 cubic feet per month is charged at the normal quantitative rate.
   2. Tier 2: Water used in excess of 27,500 cubic feet per month is charged at one and one-half (1.5) times the normal quantitative rate.

f. School: Elementary School.
   1. Tier 1: Water used under 44,300 cubic feet per month is charged at the normal quantitative rate.
   2. Tier 2: Water used in excess of 44,300 cubic feet per month is charged at one and one-half (1.5) times the normal quantitative rate.

g. School: High School.
   1. Tier 1: Water used under 260,300 cubic feet per month is charged at the normal quantitative rate.
   2. Tier 2: Water used in excess of 260,300 cubic feet per month is charged at one and one-half (1.5) times the normal quantitative rate.

h. Small Food Store.
   1. Tier 1: Water used under 4,400 cubic feet per month is charged at the normal quantitative rate.
   2. Tier 2: Water used in excess of 4,400 cubic feet per month is charged at one and one-half (1.5) times the normal quantitative rate.

i. Supermarket.
   1. Tier 1: Water used under 110,000 cubic feet per month is charged at the normal quantitative rate.
   2. Tier 2: Water used in excess of 110,000 cubic feet per month is charged at one and one-half (1.5) times the normal quantitative rate.

j. Theaters.
   1. Tier 1: Water used under 25,100 cubic feet per month is charged at the normal quantitative rate.
   2. Tier 2: Water used in excess of 25,100 cubic feet per month is charged at one and one-half (1.5) times the normal quantitative rate.

k. Auto/Car Wash.
   1. Tier 1: Water used under 53,000 cubic feet per month is charged at the normal quantitative rate.

2. Tier 2: Water used in excess of 53,000 cubic feet per month is charged at one and one-half (1.5) times the normal quantitative rate.

l. Fast Food: High Volume.
1. Tier 1: Water used under 16,800 cubic feet per month is charged at the normal quantitative rate.
2. Tier 2: Water used in excess of 16,800 cubic feet per month is charged at one and one-half (1.5) times the normal quantitative rate.

m. Fast Food: Small.
1. Tier 1: Water used under 3,400 cubic feet per month is charged at the normal quantitative rate.
2. Tier 2: Water used in excess of 3,400 cubic feet per month is charged at one and one-half (1.5) times the normal quantitative rate.

n. Department Store.
1. Tier 1: Water used under 56,500 cubic feet per month is charged at the normal quantitative rate.
2. Tier 2: Water used in excess of 56,500 cubic feet per month is charged at one and one-half (1.5) times the normal quantitative rate.

o. Commercial Storefront.
1. Tier 1: Water used under 1,000 cubic feet per month is charged at the normal quantitative rate.
2. Tier 2: Water used in excess of 1,000 cubic feet per month is charged at one and one-half (1.5) times the normal quantitative rate.

p. Commercial Small.
1. Tier 1: Water used under 2,000 cubic feet per month is charged at the normal quantitative rate.
2. Tier 2: Water used in excess of 2,000 cubic feet per month is charged at one and one-half (1.5) times the normal quantitative rate.

q. Commercial Large.
1. Tier 1: Water used under 18,300 cubic feet per month is charged at the normal quantitative rate.
2. Tier 2: Water used in excess of 18,300 cubic feet per month is charged at one and one-half (1.5) times the normal quantitative rate.

r. Motels.
1. Tier 1: Water used under 900 cubic feet per unit per month is charged at the normal quantitative rate.
2. Tier 2: Water used in excess of 900 cubic feet per unit per month is charged at one and one-half (1.5) times the normal quantitative rate.

s. Coin Operated Laundry.
1. Tier 1: Water used under 27,160 cubic feet per month is charged at the normal quantitative rate.
2. Tier 2: Water used in excess of 27,160 cubic feet per month is charged at one and one-half (1.5) times the normal quantitative rate.

t. Hair and Nail Salon.
1. Tier 1: Water used under 4,200 cubic feet per month is charged at the normal quantitative rate.
2. Tier 2: Water used in excess of 4,200 cubic feet per month is charged at one and one-half (1.5) times the normal quantitative rate.

u. Ice Rink.
1. Tier 1: Water used under 64,000 cubic feet per month is charged at the normal quantitative rate.
2. Tier 2: Water used in excess of 64,000 cubic feet per month is charged at one and one-half (1.5) times the normal quantitative rate.

v. Landscape Irrigation Small Area.
1. Tier 1: Water used under 10,000 cubic feet per month is charged at the normal quantitative rate.
2. Tier 2: Water used in excess of 10,000 cubic feet per month is charged at one and one-half (1.5) times the normal quantitative rate.

w. Landscape Irrigation Medium Area.
1. Tier 1: Water used under 72,000 cubic feet per month is charged at the normal quantitative rate.
2. Tier 2: Water used in excess of 72,000 cubic feet per month is charged at one and one-half (1.5) times the normal quantitative rate.

x. Landscape Irrigation Large Area.
1. Tier 1: Water used under 392,000 cubic feet per month is charged at the normal quantitative rate.

2. Tier 2: Water used in excess of 392,000 cubic feet per month is charged at one and one-half (1.5) times the normal quantitative rate.

y. Exemptions from the Water Conservation Rate Structure.
1. Car washes with properly operating recycling equipment.
2. Hospitals.
3. Facilities using reclaimed water for irrigation of landscape.

z. Water Conservation Rate Structure for Failing to Connect to the City's Reclaimed Water System. Commercial water customers whose property line is located within a reasonable distance from the City's reclaimed water system that fail to connect to the aforementioned system shall be charged a water conservation rate of four (4) times the normal quantitative rate.

c) Phase II Mandatory Phase

1) Single Family Residential
a. Tier 1: Water used in excess of 350 cubic feet but under 2,700 cubic feet per month is charged at the normal quantitative rate.
b. Tier 2: Water used in excess of 2,700 cubic feet but under 4,050 cubic feet per month is charged at one and one-quarter (1.25) times the normal quantitative rate.
c. Tier 3: Water used in excess of 4,050 cubic feet per month is charged at one and one-half (1.5) times the normal quantitative rate.

2) Duplex Residential Units
a. Tier 1: Water used under 2,400 cubic feet per month is charged at the normal quantitative rate.
b. Tier 2: Water used in excess of 2,400 cubic feet but under 3,600 cubic feet per month is charged at one and one-quarter (1.25) times the normal quantitative rate.
c. Tier 3: Water used in excess of 3,600 cubic feet per month is charged at one and one-half (1.5) times the normal quantitative rate.

3) Multiple Residential Units
a. Tier 1: Water used under 1,200 cubic feet per unit per month is charged at the normal quantitative rate.
b. Tier 2: Water used in excess of 1,200 cubic feet but under 1,800 cubic feet per unit per month is charged at one and one-quarter (1.25) times the normal quantitative rate.
c. Tier 3: Water used in excess of 1,800 cubic feet per unit per month is charged at one and one-half (1.5) times the normal quantitative rate.

4) Commercial, Industrial or Use Other Than Residential

a. Auto Related Business.

1. Tier 1: Water used under 4,750 cubic feet per month is charged at the normal quantitative rate.
2. Tier 2: Water used in excess of 4,750 cubic feet but under 6,300 cubic feet per month is charged at one and one-quarter (1.25) times the normal quantitative rate.
3. Tier 3: Water used in excess of 6,300 cubic feet per month is charged at one and one-half (1.5) times the normal quantitative rate.

b. Church.

1. Tier 1: Water used under 9,000 cubic feet per month is charged at the normal quantitative rate.
2. Tier 2: Water used in excess of 9,000 cubic feet but under 12,000 cubic feet per month is charged at one and one-quarter (1.25) times the normal quantitative rate.
3. Tier 3: Water used in excess of 12,000 cubic feet per month is charged at one and one-half (1.5) times the normal quantitative rate.

c. Medical/Dental Facility.

1. Tier 1: Water used under 12,250 cubic feet per month is charged at the normal quantitative rate.
2. Tier 2: Water used in excess of 12,250 cubic feet but under 16,300 cubic feet per month is charged at one and one-quarter (1.25) times the normal quantitative rate.
3. Tier 3: Water used in excess of 16,300 cubic feet per month is charged at one and one-half (1.5) times the normal quantitative rate.

d. Commercial Nurseries and Growers.

1. Tier 1: Water used under 40,050 cubic feet per month is charged at the normal quantitative rate.
2. Tier 2: Water used in excess of 40,050 cubic feet but under 53,400 cubic feet per month is charged at one and one-quarter (1.25) times the normal quantitative rate.
3. Tier 3: Water used in excess of 53,400 cubic feet per month is charged at one and one-half (1.5) times the normal quantitative rate.

e. Restaurant, Lounge, Tavern.

1. Tier 1: Water used under 20,650 cubic feet per month is charged at the normal quantitative rate.
2. Tier 2: Water used in excess of 20,650 cubic feet but under 27,500 cubic feet per month is charged at one and one-quarter (1.25) times the normal quantitative rate.

3. Tier 3: Water used in excess of 27,500 cubic feet per month is charged at one and one-half (1.5) times the normal quantitative rate.

f. School: Elementary School.
   1. Tier 1: Water used under 33,250 cubic feet per month is charged at the normal quantitative rate.
   2. Tier 2: Water used in excess of 33,250 cubic feet but under 44,300 cubic feet per month is charged at one and one-quarter (1.25) times the normal quantitative rate.
   3. Tier 3: Water used in excess of 44,300 cubic feet per month is charged at one and one-half (1.5) times the normal quantitative rate.

g. School: High School.
   1. Tier 1: Water used under 195,250 cubic feet per month is charged at the normal quantitative rate.
   2. Tier 2: Water used in excess of 195,350 cubic feet but under 260,300 cubic feet per month is charged at one and one-quarter (1.25) times the normal quantitative rate.
   3. Tier 3: Water used in excess of 260,300 cubic feet per month is charged at one and one-half (1.5) times the normal quantitative rate.

h. Small Food Store.
   1. Tier 1: Water used under 3,300 cubic feet per month is charged at the normal quantitative rate.
   2. Tier 2: Water used in excess of 3,300 cubic feet but under 4,400 cubic feet per month is charged at one and one-quarter (1.25) times the normal quantitative rate.
   3. Tier 3: Water used in excess of 4,400 cubic feet per month is charged at one and one-half (1.5) times the normal quantitative rate.

i. Supermarket.

   1. Tier 1: Water used under 82,500 cubic feet per month is charged at the normal quantitative rate.
   2. Tier 2: Water used in excess of 82,500 cubic feet but under 110,000 cubic feet per month is charged at one and one-quarter (1.25) times the normal quantitative rate.
   3. Tier 3: Water used in excess of 110,000 cubic feet per month is charged at one and one-half (1.5) times the normal quantitative rate.

j. Theaters.
   1. Tier 1: Water used under 18,850 cubic feet per month is charged at the normal quantitative rate.
   2. Tier 2: Water used in excess of 18,850 cubic feet but under 25,100 cubic feet per month is charged at one and one-quarter (1.25) times the normal quantitative rate.
   3. Tier 3: Water used in excess of 25,100 cubic feet per month is charged at one and one-half (1.5) times the normal quantitative rate.

k. Auto/Car Wash.
   1. Tier 1: Water used under 39,750 cubic feet per month is charged at the normal quantitative rate.
   2. Tier 2: Water used in excess of 39,750 cubic feet but under 53,000 cubic feet per month is charged at one and one-quarter (1.25) times the normal quantitative rate.
   3. Tier 3: Water used in excess of 53,000 cubic feet per month is charged at one and one-half (1.5) times the normal quantitative rate.

l. Fast Food: High Volume.
   1. Tier 1: Water used under 12,600 cubic feet per month is charged at the normal quantitative rate.
   2. Tier 2: Water used in excess of 12,600 cubic feet but under 16,800 cubic feet per month is charged at one and one-quarter (1.25) times the normal quantitative rate.
   3. Tier 3: Water used in excess of 16,800 cubic feet per month is charged at one and one-half (1.5) times the normal quantitative rate.

m. Fast Food: Small.
   1. Tier 1: Water used under 2,550 cubic feet per month is charged at the normal quantitative rate.
   2. Tier 2: Water used in excess of 2,550 cubic feet but under 3,400 cubic feet per month is charged at one and one-quarter (1.25) times the normal quantitative rate.
   3. Tier 3: Water used in excess of 3,400 cubic feet per month is charged at one and one-half (1.5) times the normal quantitative rate.

n. Department Store.
   1. Tier 1: Water used under 42,400 cubic feet per month is charged at the normal quantitative rate.
   2. Tier 2: Water used in excess of 42,400 cubic feet but under 56,500 cubic feet per month is charged at one and one-quarter (1.25) times the normal quantitative rate.

3. Tier 3: Water used in excess of 56,500 cubic feet per month is charged at one and one-half (1.5) times the normal quantitative rate.

o. Commercial Storefront.
1. Tier 1: Water used under 750 cubic feet per month is charged at the normal quantitative rate.
2. Tier 2: Water used in excess of 750 cubic feet but under 1,000 cubic feet per month is charged at one and one-quarter (1.25) times the normal quantitative rate.
3. Tier 3: Water used in excess of 1,000 cubic feet per month is charged at one and one-half (1.5) times the normal quantitative rate.

p. Commercial Small.
1. Tier 1: Water used under 1,500 cubic feet per month is charged at the normal quantitative rate.
2. Tier 2: Water used in excess of 1,500 cubic feet but under 2,000 cubic feet per month is charged at one and one-quarter (1.25) times the normal quantitative rate.
3. Tier 3: Water used in excess of 2,000 cubic feet per month is charged at one and one-half (1.5) times the normal quantitative rate.

q. Commercial Large.
1. Tier 1: Water used under 13,750 cubic feet per month is charged at the normal quantitative rate.
2. Tier 2: Water used in excess of 13,750 cubic feet but under 18,300 cubic feet per month is charged at one and one-quarter (1.25) times the normal quantitative rate.
3. Tier 3: Water used in excess of 18,300 cubic feet per month is charged at one and one-half (1.5) times the normal quantitative rate.

r. Motels.
1. Tier 1: Water used under 700 cubic feet per unit per month is charged at the normal quantitative rate.
2. Tier 2: Water used in excess of 700 cubic feet but under 900 cubic feet per unit per month is charged at one and one-quarter (1.25) times the normal quantitative rate.
3. Tier 3: Water used in excess of 900 cubic feet per unit per month is charged at one and one-half (1.5) times the normal quantitative rate.

s. Coin Operated Laundry.
1. Tier 1: Water used under 20,370 cubic feet per month is charged at the normal quantitative rate.

2. Tier 2: Water used in excess of 20,370 cubic feet but under 27,160 cubic feet per month is charged at one and one-quarter (1.25) times the normal quantitative rate.
3. Tier 3: Water used in excess of 27,160 cubic feet per month is charged at one and one-half (1.5) times the normal quantitative rate.

t. Hair and Nail Salon.
1. Tier 1: Water used under 3,150 cubic feet per month is charged at the normal quantitative rate.
2. Tier 2: Water used in excess of 3,150 cubic feet but under 4,200 cubic feet per month is charged at one and one-quarter (1.25) times the normal quantitative rate.
3. Tier 3: Water used in excess of 4,200 cubic feet per month is charged at one and one-half (1.5) times the normal quantitative rate.

u. Ice Rink.
1. Tier 1: Water used under 48,000 cubic feet per month is charged at the normal quantitative rate.
2. Tier 2: Water used in excess of 48,000 cubic feet but under 64,000 cubic feet per month is charged at one and one-quarter (1.25) times the normal quantitative rate.
3. Tier 3: Water used in excess of 64,000 cubic feet per month is charged at one and one-half (1.5) times the normal quantitative rate.

v. Landscape Irrigation Small Area.
1. Tier 1: Water used under 7,500 cubic feet per month is charged at the normal quantitative rate.
2. Tier 2: Water used in excess of 7,500 cubic feet but under 10,000 cubic feet per month is charged at one and one-quarter (1.25) times the normal quantitative rate.
3. Tier 3: Water used in excess of 10,000 cubic feet per month is charged at one and one-half (1.5) times the normal quantitative rate.

w. Landscape Irrigation Medium Area.
1. Tier 1: Water used under 54,000 cubic feet per month is charged at the normal quantitative rate.
2. Tier 2: Water used in excess of 54,000 cubic feet but under 72,000 cubic feet per month is charged at one and one-quarter (1.25) times the normal quantitative rate.
3. Tier 3: Water used in excess of 72,000 cubic feet per month is charged at one and one-half (1.5) times the normal quantitative rate.

x. Landscape Irrigation Large Area.
   1. Tier 1: Water used under 294,000 cubic feet per month is charged at the normal quantitative rate.
   2. Tier 2: Water used in excess of 294,000 cubic feet but under 392,000 cubic feet per month is charged at one and one-quarter (1.25) times the normal quantitative rate.
   3. Tier 3: Water used in excess of 392,000 cubic feet per month is charged at one and one-half (1.5) times the normal quantitative rate.

y. Exemptions from the Water Conservation Rate Structure.
   1. Car washes with properly operating recycling equipment.
   2. Hospitals.
   3. Facilities using reclaimed water for irrigation of landscape.

z. Water Conservation Rate Structure for Failing to Connect to the City's Reclaimed Water System. Commercial water customers whose property line is located within a reasonable distance from the City's reclaimed water system that fail to connect to the aforementioned system shall be charged a water conservation rate of four (4) times the normal quantitative rate.

d) Phase III Mandatory Phase

1) Single Family Residential
   a. Tier 1: Water used in excess of 350 cubic feet but under 1,350 cubic feet per month is charged at the normal quantitative rate.
   b. Tier 2: Water used in excess of 1,350 cubic feet but under 2,700 cubic feet per month is charged at one and one-quarter (1.25) times the normal quantitative rate.
   c. Tier 3: Water used in excess of 2,700 cubic feet but under 4,050 per month is charged at one and one-half (1.5) times the normal quantitative rate.
   d. Tier 4: Water used in excess of 4,050 cubic feet but under 5,400 cubic feet per month is charged at two (2) times the normal quantitative rate.
   e. Tier 5: Water used in excess of 5,400 per month is charged at two and one-half (2.5) times the normal quantitative rate.

2) Duplex Residential Units
   a. Tier 1: Water used under 1,200 cubic feet per month is charged at the normal quantitative rate.
   b. Tier 2: Water used in excess of 1,200 cubic feet but under 2,400 cubic feet per month is charged at one and one-quarter (1.25) times the normal quantitative rate.

c. Tier 3: Water used in excess of 2,400 cubic feet but under 3,600 per month is charged at one and one-half (1.5) times the normal quantitative rate.
d. Tier 4: Water used in excess of 3,600 cubic feet but under 4,800 cubic feet per month is charged at two (2) times the normal quantitative rate.
e. Tier 5: Water used in excess of 4,800 per month is charged at two and one-half (2.5) times the normal quantitative rate.

3) Multiple Residential Units
a. Tier 1: Water used under 600 cubic feet per unit per month is charged at the normal quantitative rate.
b. Tier 2: Water used in excess of 600 cubic feet but under 1,200 cubic feet per unit per month is charged at one and one-quarter (1.25) times the normal quantitative rate.
c. Tier 3: Water used in excess of 1,200 cubic feet but under 1,800 per unit per month is charged at one and one-half (1.5) times the normal quantitative rate.
d. Tier 4: Water used in excess of 1,800 cubic feet but under 2,400 cubic feet per unit per month is charged at two (2) times the normal quantitative rate.
e. Tier 5: Water used in excess of 2,400 per unit per month is charged at two and one-half (2.5) times the normal quantitative rate.

4) Commercial, Industrial or Use Other Than Residential

a. Auto Related Business.
1. Tier 1: Water used under 3,150 cubic feet per month is charged at the normal quantitative rate.
2. Tier 2: Water used in excess of 3,150 cubic feet but under 4,750 cubic feet per month is charged at one and one-quarter (1.25) times the normal quantitative rate.
3. Tier 3: Water used in excess of 4,750 cubic feet but under 6,300 per month is charged at one and one-half (1.5) times the normal quantitative rate.
4. Tier 4: Water used in excess of 6,300 cubic feet but under 7,900 cubic feet per month is charged at two (2) times the normal quantitative rate.
5. Tier 5: Water used in excess of 7,900 per month is charged at two and one-half (2.5) times the normal quantitative rate.

b. Church.
1. Tier 1: Water used under 6,000 cubic feet per month is charged at the normal quantitative rate.

2. Tier 2: Water used in excess of 6,000 cubic feet but under 9,000 cubic feet per month is charged at one and one-quarter (1.25) times the normal quantitative rate.
3. Tier 3: Water used in excess of 9,000 cubic feet but under 1,200 per month is charged at one and one-half (1.5) times the normal quantitative rate.
4. Tier 4: Water used in excess of 1,200 cubic feet but under 1,500 cubic feet per month is charged at two (2) times the normal quantitative rate.
5. Tier 5: Water used in excess of 1,500 per month is charged at two and one-half (2.5) times the normal quantitative rate.

c. Medical/Dental Facility.
1. Tier 1: Water used under 8,150 cubic feet per month is charged at the normal quantitative rate.
2. Tier 2: Water used in excess of 8,150 cubic feet but under 12,250 cubic feet per month is charged at one and one-quarter (1.25) times the normal quantitative rate.
3. Tier 3: Water used in excess of 12,250 cubic feet but under 16,300 per month is charged at one and one-half (1.5) times the normal quantitative rate.
4. Tier 4: Water used in excess of 16,300 cubic feet but under 20,400 cubic feet per month is charged at two (2) times the normal quantitative rate.
5. Tier 5: Water used in excess of 20,400 per month is charged at two and one-half (2.5) times the normal quantitative rate.

d. Commercial Nurseries and Growers.

1. Tier 1: Water used under 26,700 cubic feet per month is charged at the normal quantitative rate.
2. Tier 2: Water used in excess of 26,700 cubic feet but under 40,050 cubic feet per month is charged at one and one-quarter (1.25) times the normal quantitative rate.
3. Tier 3: Water used in excess of 40,050 cubic feet but under 53,400 per month is charged at one and one-half (1.5) times the normal quantitative rate.
4. Tier 4: Water used in excess of 53,400 cubic feet but under 66,750 cubic feet per month is charged at two (2) times the normal quantitative rate.
5. Tier 5: Water used in excess of 66,750 per month is charged at two and one-half (2.5) times the normal quantitative rate.

e. Restaurant, Lounge, Tavern.
   1. Tier 1: Water used under 13,750 cubic feet per month is charged at the normal quantitative rate.
   2. Tier 2: Water used in excess of 13,750 cubic feet but under 20,650 cubic feet per month is charged at one and one-quarter (1.25) times the normal quantitative rate.
   3. Tier 3: Water used in excess of 20,650 cubic feet but under 27,500 per month is charged at one and one-half (1.5) times the normal quantitative rate.
   4. Tier 4: Water used in excess of 27,500 cubic feet but under 34,400 cubic feet per month is charged at two (2) times the normal quantitative rate.
   5. Tier 5: Water used in excess of 34,400 per month is charged at two and one-half (2.5) times the normal quantitative rate.

f. School: Elementary School.
   1. Tier 1: Water used under 22,150 cubic feet per month is charged at the normal quantitative rate.
   2. Tier 2: Water used in excess of 22,150 cubic feet but under 33,250 cubic feet per month is charged at one and one-quarter (1.25) times the normal quantitative rate.
   3. Tier 3: Water used in excess of 33,250 cubic feet but under 44,300 per month is charged at one and one-half (1.5) times the normal quantitative rate.
   4. Tier 4: Water used in excess of 44,300 cubic feet but under 55,400 cubic feet per month is charged at two (2) times the normal quantitative rate.
   5. Tier 5: Water used in excess of 55,400 per month is charged at two and one-half (2.5) times the normal quantitative rate.

g. School: High School.
   1. Tier 1: Water used under 130,150 cubic feet per month is charged at the normal quantitative rate.
   2. Tier 2: Water used in excess of 130,150 cubic feet but under 195,250 cubic feet per month is charged at one and one-quarter (1.25) times the normal quantitative rate.
   3. Tier 3: Water used in excess of 195,250 cubic feet but under 260,300 per month is charged at one and one-half (1.5) times the normal quantitative rate.
   4. Tier 4: Water used in excess of 260,300 cubic feet but under 325,400 cubic feet per month is charged at two (2) times the normal quantitative rate.
   5. Tier 5: Water used in excess of 325,400 per month is charged at two and one-half (2.5) times the normal quantitative rate.

h. Small Food Store.
   1. Tier 1: Water used under 2,200 cubic feet per month is charged at the normal quantitative rate.
   2. Tier 2: Water used in excess of 2,200 cubic feet but under 3,300 cubic feet per month is charged at one and one-quarter (1.25) times the normal quantitative rate.
   3. Tier 3: Water used in excess of 3,300 cubic feet but under 4,400 per month is charged at one and one-half (1.5) times the normal quantitative rate.
   4. Tier 4: Water used in excess of 4,400 cubic feet but under 5,500 cubic feet per month is charged at two (2) times the normal quantitative rate.
   5. Tier 5: Water used in excess of 5,500 per month is charged at two and one-half (2.5) times the normal quantitative rate.

i. Supermarket.
   1. Tier 1: Water used under 55,000 cubic feet per month is charged at the normal quantitative rate.
   2. Tier 2: Water used in excess of 55,000 cubic feet but under 82,500 cubic feet per month is charged at one and one-quarter (1.25) times the normal quantitative rate.
   3. Tier 3: Water used in excess of 82,500 cubic feet but under 110,000 per month is charged at one and one-half (1.5) times the normal quantitative rate.
   4. Tier 4: Water used in excess of 110,000 cubic feet but under 137,500 cubic feet per month is charged at two (2) times the normal quantitative rate.
   5. Tier 5: Water used in excess of 137,500 per month is charged at two and one-half (2.5) times the normal quantitative rate.

j. Theaters.
   1. Tier 1: Water used under 12,550 cubic feet per month is charged at the normal quantitative rate.
   2. Tier 2: Water used in excess of 12,550 cubic feet but under 18,850 cubic feet per month is charged at one and one-quarter (1.25) times the normal quantitative rate.
   3. Tier 3: Water used in excess of 18,850 cubic feet but under 25,100 per month is charged at one and one-half (1.5) times the normal quantitative rate.
   4. Tier 4: Water used in excess of 25,100 cubic feet but under 31,400 cubic feet per month is charged at two (2) times the normal quantitative rate.
   5. Tier 5: Water used in excess of 31,400 per month is charged at two and one-half (2.5) times the normal quantitative rate.

k. Auto/Car Wash.
   1. Tier 1: Water used under 26,500 cubic feet per month is charged at the normal quantitative rate.
   2. Tier 2: Water used in excess of 26,500 cubic feet but under 39,750 cubic feet per month is charged at one and one-quarter (1.25) times the normal quantitative rate.
   3. Tier 3: Water used in excess of 39,750 cubic feet but under 53,000 per month is charged at one and one-half (1.5) times the normal quantitative rate.
   4. Tier 4: Water used in excess of 53,000 cubic feet but under 66,250 cubic feet per month is charged at two (2) times the normal quantitative rate.
   5. Tier 5: Water used in excess of 66,250 cubic feet per month is charged at two and one-half (2.5) times the normal quantitative rate.

l. Fast Food: High Volume.
   1. Tier 1: Water used under 8,400 cubic feet per month is charged at the normal quantitative rate.
   2. Tier 2: Water used in excess of 8,400 cubic feet but under 12,600 cubic feet per month is charged at one and one-quarter (1.25) times the normal quantitative rate.
   3. Tier 3: Water used in excess of 12,600 cubic feet but under 16,800 per month is charged at one and one-half (1.5) times the normal quantitative rate.
   4. Tier 4: Water used in excess of 16,800 cubic feet but under 21,000 cubic feet per month is charged at two (2) times the normal quantitative rate.
   5. Tier 5: Water used in excess of 21,000 per month is charged at two and one-half (2.5) times the normal quantitative rate.

m. Fast Food: Small.
   1. Tier 1: Water used under 1,700 cubic feet per month is charged at the normal quantitative rate.
   2. Tier 2: Water used in excess of 1,700 cubic feet but under 2,550 cubic feet per month is charged at one and one-quarter (1.25) times the normal quantitative rate.
   3. Tier 3: Water used in excess of 2,550 cubic feet but under 3,400 per month is charged at one and one-half (1.5) times the normal quantitative rate.
   4. Tier 4: Water used in excess of 3,400 cubic feet but under 4,250 cubic feet per month is charged at two (2) times the normal quantitative rate.
   5. Tier 5: Water used in excess of 4,250 cubic feet per month is charged at two and one-half (2.5) times the normal quantitative rate.

n. Department Store.
   1. Tier 1: Water used under 28,250 cubic feet per month is charged at the normal quantitative rate.
   2. Tier 2: Water used in excess of 28,250 cubic feet but under 42,400 cubic feet per month is charged at one and one-quarter (1.25) times the normal quantitative rate.
   3. Tier 3: Water used in excess of 42,400 cubic feet but under 56,500 per month is charged at one and one-half (1.5) times the normal quantitative rate.
   4. Tier 4: Water used in excess of 56,500 cubic feet but under 70,650 cubic feet per month is charged at two (2) times the normal quantitative rate.
   5. Tier 5: Water used in excess of 70,650 cubic feet per month is charged at two and one-half (2.5) times the normal quantitative rate.

o. Commercial Storefront.
   1. Tier 1: Water used under 5,000 cubic feet per month is charged at the normal quantitative rate.
   2. Tier 2: Water used in excess of 5,000 cubic feet but under 7,500 cubic feet per month is charged at one and one-quarter (1.25) times the normal quantitative rate.
   3. Tier 3: Water used in excess of 7,500 cubic feet but under 10,000 per month is charged at one and one-half (1.5) times the normal quantitative rate.
   4. Tier 4: Water used in excess of 10,000 cubic feet but under 11,250 cubic feet per month is charged at two (2) times the normal quantitative rate.
   5. Tier 5: Water used in excess of 11,250 cubic feet per month is charged at two and one-half (2.5) times the normal quantitative rate.

p. Commercial Small.
   1. Tier 1: Water used under 1,000 cubic feet per month is charged at the normal quantitative rate.
   2. Tier 2: Water used in excess of 1,000 cubic feet but under 1,500 cubic feet per month is charged at one and one-quarter (1.25) times the normal quantitative rate.
   3. Tier 3: Water used in excess of 1,500 cubic feet but under 2,000 per month is charged at one and one-half (1.5) times the normal quantitative rate.
   4. Tier 4: Water used in excess of 2,000 cubic feet but under 2,500 cubic feet per month is charged at two (2) times the normal quantitative rate.
   5. Tier 5: Water used in excess of 2,500 cubic feet per month is charged at two and one-half (2.5) times the normal quantitative rate.

q. Commercial Large.

1. Tier 1: Water used under 9,150 cubic feet per month is charged at the normal quantitative rate.
2. Tier 2: Water used in excess of 9,150 cubic feet but under 13,750 cubic feet per month is charged at one and one-quarter (1.25) times the normal quantitative rate.
3. Tier 3: Water used in excess of 13,750 cubic feet but under 18,300 cubic feet per month is charged at one and one-half (1.5) times the normal quantitative rate.
4. Tier 4: Water used in excess of 18,300 cubic feet but under 22,900 cubic feet per month is charged at two (2) times the normal quantitative rate.
5. Tier 5: Water used in excess of 22,900 per month is charged at two and one-half (2.5) times the normal quantitative rate.

r. Motels.

1. Tier 1: Water under 450 cubic feet per unit per month is charged at the normal quantitative rate.
2. Tier 2: Water used in excess of 450 cubic feet but under 700 cubic feet per unit per month is charged at one and one-quarter (1.25) times the normal quantitative rate.
3. Tier 3: Water used in excess of 700 cubic feet but under 900 cubic feet per unit per month is charged at one and one-half (1.5) times the normal quantitative rate.
4. Tier 4: Water used in excess of 900 cubic feet but under 1,150 cubic feet per unit per month is charged at two (2) times the normal quantitative rate.
5. Tier 5: Water used in excess of 1,150 per unit per month is charged at two and one-half (2.5) times the normal quantitative rate.

s. Coin Operated Laundry.

1. Tier 1: Water under 13,580 cubic feet per unit per month is charged at the normal quantitative rate.
2. Tier 2: Water used in excess of 13,580 cubic feet but under 20,370 cubic feet per month is charged at one and one-quarter (1.25) times the normal quantitative rate.
3. Tier 3: Water used in excess of 20,370 cubic feet but under 27,160 cubic feet per month is charged at one and one-half (1.5) times the normal quantitative rate.
4. Tier 4: Water used in excess of 27,160 cubic feet but under 30,555 cubic feet per month is charged at two (2) times the normal quantitative rate.
5. Tier 5: Water used in excess of 30,555 per month is charged at two and one-half (2.5) times the normal quantitative rate.

t. Hair and Nail Salon.
   1. Tier 1: Water under 2,100 cubic feet per unit per month is charged at the normal quantitative rate.
   2. Tier 2: Water used in excess of 2,100 cubic feet but under 3,150 cubic feet per month is charged at one and one-quarter (1.25) times the normal quantitative rate.
   3. Tier 3: Water used in excess of 3,150 cubic feet but under 4,200 cubic feet per month is charged at one and one-half (1.5) times the normal quantitative rate.
   4. Tier 4: Water used in excess of 4,200 cubic feet but under 4,725 cubic feet per month is charged at two (2) times the normal quantitative rate.
   5. Tier 5: Water used in excess of 4,725 per month is charged at two and one-half (2.5) times the normal quantitative rate.

u. Ice Rink.
   1. Tier 1: Water under 32,000 cubic feet per unit per month is charged at the normal quantitative rate.
   2. Tier 2: Water used in excess of 32,000 cubic feet but under 48,000 cubic feet per month is charged at one and one-quarter (1.25) times the normal quantitative rate.
   3. Tier 3: Water used in excess of 48,000 cubic feet but under 64,000 cubic feet per month is charged at one and one-half (1.5) times the normal quantitative rate.
   4. Tier 4: Water used in excess of 64,000 cubic feet but under 72,000 cubic feet per month is charged at two (2) times the normal quantitative rate.
   5. Tier 5: Water used in excess of 72,000 per month is charged at two and one-half (2.5) times the normal quantitative rate.

v. Landscape Irrigation Small Area.
   1. Tier 1: Water under 5,000 cubic feet per unit per month is charged at the normal quantitative rate.
   2. Tier 2: Water used in excess of 5,000 cubic feet but under 7,500 cubic feet per month is charged at one and one-quarter (1.25) times the normal quantitative rate.
   3. Tier 3: Water used in excess of 7,500 cubic feet but under 10,000 cubic feet per month is charged at one and one-half (1.5) times the normal quantitative rate.
   4. Tier 4: Water used in excess of 10,000 cubic feet but under 11,250 cubic feet per month is charged at two (2) times the normal quantitative rate.
   5. Tier 5: Water used in excess of 11,250 per month is charged at two and one-half (2.5) times the normal quantitative rate.

w. Landscape Irrigation Medium Area.
   1. Tier 1: Water under 36,000 cubic feet per unit per month is charged at the normal quantitative rate.
   2. Tier 2: Water used in excess of 36,000 cubic feet but under 54,000 cubic feet per month is charged at one and one-quarter (1.25) times the normal quantitative rate.
   3. Tier 3: Water used in excess of 54,000 cubic feet but under 72,000 cubic feet per month is charged at one and one-half (1.5) times the normal quantitative rate.
   4. Tier 4: Water used in excess of 72,000 cubic feet but under 81,000 cubic feet per month is charged at two (2) times the normal quantitative rate.
   5. Tier 5: Water used in excess of 81,000 per month is charged at two and one-half (2.5) times the normal quantitative rate.

x. Landscape Irrigation Large Area.
   1. Tier 1: Water under 196,000 cubic feet per unit per month is charged at the normal quantitative rate.
   2. Tier 2: Water used in excess of 196,000 cubic feet but under 294,000 cubic feet per month is charged at one and one-quarter (1.25) times the normal quantitative rate.
   3. Tier 3: Water used in excess of 294,000 cubic feet but under 392,000 cubic feet per month is charged at one and one-half (1.5) times the normal quantitative rate.
   4. Tier 4: Water used in excess of 392,000 cubic feet but under 441,000 cubic feet per month is charged at two (2) times the normal quantitative rate.
   5. Tier 5: Water used in excess of 441,000 per month is charged at two and one-half (2.5) times the normal quantitative rate.

y. Exemptions from the Water Conservation Rate Structure.
   1. Car washes with properly operating recycling equipment.
   2. Hospitals.
   3. Facilities using reclaimed water for irrigation of landscape.

z. Water Conservation Rate Structure for Failing to Connect to the City's Reclaimed Water System. Commercial water customers whose property line is located within a reasonable distance from the City's reclaimed water system that fail to connect to the aforementioned system shall be charged a water conservation rate of four (4) times the normal quantitative rate.

SECTION 11. Distribution system extensions.

a. General provisions.

- Applicability of regulation. Extensions of the Water System which are necessary to make water service of a permanent character available to applicants, may be made in accordance with the provisions set forth in this section.

- Where facilities will be constructed. The City generally will install distribution system facilities only in public streets, alleys, roads, and highways and on other public and private property where satisfactory rights-of-way can be obtained essentially without involving direct purchase or lease of land by the City.

- Installations in non-dedicated streets. The City will install a water main in a private street or thoroughfare to provide service to premises along such street or thoroughfare only under the following conditions:

  - Approval by the City Council.
  - The street or thoroughfare conforms to applicable ordinances of the City of Lakewood or other applicable laws.
  - Rights-of-way are provided which are satisfactory to the City.
  - Applicant or applicants shall pay the full cost of the installation.
  - The City shall have no obligation for maintenance or repair of the surface of such street or thoroughfare, except for the repair or replacement of surfacing required to be cut or removed by the Department for the purposes of maintaining, repairing, replacing or removing such mains or attachments.

- Condition of streets as prerequisite to construction of mains and related facilities. In order to expedite the installation of mains, service connections and fire hydrants, each applicant for extension of the distribution system shall provide the Department with street plans approved by the Director of Public Works or the City Engineer showing established sewers, paving, curbs and other features.

  It is preferable to install water mains fire hydrants, water service and related facilities after curbs have been constructed. If curbs are not to be constructed at the time or in the near future, applicant must obtain from the Director of Public Works or the City Engineer's office and furnish to the Department the approved location of curbs.

  The Department will not install mains, service connections and fire hydrants or related services in new tracts unless streets are well defined by lot stakes, curb stakes or visible center line stakes properly set at applicant's expense.

  Such streets must be down to a sub-grade approved by the Director of Public Works or the City Engineer before mains, services, fire hydrants or related services are installed. If such facilities are installed and thereafter have to be

raised or lowered or otherwise relocated because of failure of applicant to supply correct information as to location or grade of curbs, property lines, etc., all costs of making such changes must be paid by the applicant.

If an applicant permits streets to be paved before mains, fire hydrants, service connections, or related facilities are installed, he shall pay the costs of cutting and replacing pavement necessitated by installation of such facilities.

- All extensions to be property of City. All extensions of the City's water distribution system, however provided for, shall become property of the City under control of the Water Department.

  Title to any facilities constructed by others shall be transferred to the City upon acceptance of such facilities by the city.

- Special Facilities. When facilities in addition to those required for extension under the Department's normal design standards are required especially to provide capacity, pressure or storage exclusively for the requested service, the applicant shall pay the added cost of such facilities in addition to other regularly applicable charges under these regulations.

- Enlargement for special requirements. When service required by an applicant requires replacing an existing main with one of larger size, the applicant may be required to pay the full cost of such replacement.

- Payment of charges to cover extensions or enlargements. All charges provided by these regulations applicable to an extension or enlargement of water distribution facilities shall be paid in advance by the applicant therefor before such extensions or enlargements are made by the Department except where arrangements for payments have otherwise been made with the City.

- Main extensions. The following charges for main extensions shall be paid in addition to all other applicable charges under the regulations of the City, including charges for service connections, meter installation, etc.

- Extensions to serve individual customers. An applicant for a main extension, other than in a new subdivision or development, from an existing main to a premises to be served, shall pay the current cost to the Department of a main of a size determined by the Department to be adequate to serve the premises.

- Extensions to serve new subdivisions or developments. Applicants for main extensions to serve a new subdivision or development shall pay the full installed cost of mains of adequate size to serve the subdivision or development as determined by the City and in addition may be required to pay the full cost of any extension from the nearest main of adequate size of the City's distribution system.

Any and all service connections, including fire hydrant connections installed or required to be installed, within the new subdivision shall be installed only in the manner, under the circumstances, and upon the payment of any charges therefore as provided in these regulations.

- Water facilities installed under private contract. An applicant for service requiring main extensions may have the extensions and service connections installed by him under private contract, where authorized by the City. Such facilities installed by an applicant must be installed in accordance with the terms and conditions of an agreement between the applicant and the City. All costs of the Department in connection with such facilities installed under private contract shall be paid by the applicant.

  The material installed and the work performed must comply with the plans and specifications furnished by the Department and shall be subject to Department inspection at all times. The applicant shall pay in advance the charges for engineering and inspection services, materials, and general and administrative expenses and other costs in accordance with the accounting practices of the Department.

  Upon completion of the installation in accordance with the agreement, title to the facilities shall be transferred to the City by the applicant upon acceptance of such facilities by the City.

SECTION 12. Service connections, meters and customers facilities.

a. General provisions.

- Applicability. Service connections will be installed by the Department subject to the provisions of this Section, except as otherwise provided in "Temporary service connections," "Temporary supply," and "Distribution system extensions."

- Size and location of service connections. The Department may determine the size and number of the service connections and their locations in relation to boundaries of the premises to be served and the point of connection to the customer's facilities. The Department shall determine in all cases the adequacy of the then existing water system to supply any proposed service. Should the Department determine that the system is inadequate for said service, application shall not be approved until the applicant has provided additional facilities, at his cost, in accordance with the regulations for distribution system extensions. The customer's piping to the service connection location should not be laid until the service connection is installed; in the event the customer's pipe is installed and its location does not correspond to that of the service connection, the customer must provide for connecting to the service connection.

- Ownership and absence of rental obligation. All service connections, meters and valves and housings installed by the Department or conveyed to the City,

however provided for, shall be the sole property of the City under the control of the Department and will be maintained at the Department's expense except as otherwise provided in these regulations. No rent or charge will be paid by the Department where such facilities are located on a customer's premises. The Department may relocate its facilities as required by operating conditions and may remove any and all of its facilities from the customer's premises at the termination of service.

- Responsibility for loss or damage. The customer will be held responsible for loss or damage to the Department's meters or other facilities resulting from the use or operation of appliances and facilities on the customer's premises, including but not limited to damage caused by steam, hot water, or chemicals.

  The Department's control and responsibility ends at its shut-off valve or meter, and the City and the Department will in no case be liable for loss or damage on the premises served, or elsewhere caused by, or in any way arising out of, the running or escape of water from open faucets, burst pipes, or faulty fixtures or appliances on the premises.

  Control valves on the inlet side of the meter shall be operated only by the Department. For convenience and safety the consumer shall install a valve between the meter and the building or first outlet.

b. Service connections.

  - Application for service connection. An application for a service connection shall be made on a form furnished or approved by the Department. This application shall specify the size of the service connection desired, the property to be served and the purpose for which the water is to be used. The information supplied by the applicant shall be considered as authoritative and final. If any error in such application shall cause the installation of a service connection that is improper either in type, size or location, the cost of all changes required shall be paid by the applicant.

    Applicant shall make proper application for service, in accordance with "Application for Service" before water service will be provided. If such application has been made and the applicant requests the water turned on, the billing for water service shall begin when the service connection is installed and meter is set.

  - Domestic, commercial and industrial service connections.

    - Each house or building under separate ownership shall be supplied through a separate service connection or service connections. Two or more houses or buildings under one ownership and on the same lot or parcel of land may be supplied through one service connection, or a separate service connection may be installed for each building.

- The Department may limit the number of houses or buildings or the area of the land under one ownership to be supplied by one service connection.

- The Department may limit the number of service connections to any residential or other structure whether under separate or multiple ownership.

- When property provided with a service connection is subdivided, the service connection shall be considered as supplying the lot or parcel of land which it directly enters.

- A service connection to a premises shall not be used to supply adjoining premises of a different owner or to supply the premises of the same owner for which proper application for service connection was not made.

- Whenever any service connection is authorized to be abandoned or removed, any re-establishment of service shall be considered a new service connection.

- Private fire protection service connections.

  - When a private fire protection service connection is installed, it shall be left closed until an order to turn on the water is received from the customer.

  - If water is used through a private fire protection service connection for any purpose other than the extinguishing of fires, or a purpose related thereto, the Department may either install a meter on the service connection at the customer's expense and charge at applicable rates for all water used, or shut off the entire supply of water to the premises through such service connection.

  - The Department shall have the right to install and connect with the fire protection service connection, at the curb, a service connection for rendering any other type of water service to the same premises served by the fire protection service connection. The charge for such other service connection installation shall be provided in this section.

- Service connection installation charges.

  - The charges for installation of the several kinds and size of service connections are as follows:

    - Domestic, commercial, and industrial service. The service connection installation charges shall be the cost to the Department and shall include meter housing and removal of any existing service if any.

- Private fire protection service connection. The charge for the private fire protection service connection installation including by-pass meter, check valve, housing and removal of existing service if any will be at cost to the Department.

- Where a charge has been fixed for the installation of the size of the service connection desired, the charge shall be paid in advance by the applicant, except as other- wise provided for by "Temporary service connections" and "Temporary supply." Where no such charge is fixed, the Department may require the applicant to deposit an amount equal to the estimated cost of installation of the service connection.

~ Extension of service pipe through basement wall. Where conditions require that the service connection be extended through a basement wall, the applicant shall, at his own expense, provide and seal the entrance way for such pipe and shall assume all responsibility for damage by leakage through such entrance way or by leaking pipes, fittings, or meters.

~ Meters. The Department shall furnish, set, and maintain all meters.

- Meter installation charge. The charge for a meter shall be the cost to the Department.

- Change of meter location. When a meter is relocated at the customer's request, he will be charged for making such relocation. The amount of the charge will be at cost to the Department.

  When the customer requests such a change of meter location because of installing a paved driveway, the Department may at its option install without charge a concrete box equipped with a steel cover plate to house the meter instead of moving the meter. When a charge has been collected for changing the location of meter and the meter is so housed instead of changing its location, the charge collected will be refunded.

~ Protection of public water supply. No water service connection to any premises shall be installed or maintained by this Department unless the public water supply is protected as required by State regulations and this section.

  Backflow prevention devices required hereunder shall be approved by the Director of Water Resources, and shall be installed by and at the expense of the customer.

The customer shall regularly test and service such devices to maintain them in satisfactory operating condition and shall overhaul or replace such devices if they are found to be defective.

Records of such tests, repairs and overhauling shall be kept by the customer and made available to the Department on request.

Service of water to any premises may be discontinued by the Department after notice if a backflow prevention device required by this regulation is not installed, tested, and maintained, or if any defect is found in an installed backflow prevention device, or if it is found that a backflow prevention device has been removed or bypassed, or if unprotected cross-connections exist on the premises; and service will not be restored until such conditions or defects are corrected.

~ Quick-closing valves (or other devices). A customer shall not install any quick-closing valve or other equipment or devices which will cause excessive pressure surges in the Department's water system.

~ Change in customer's equipment or operations. A customer making any material change in the size, character or extent of the equipment or operations for which the Department's service is utilized shall immediately give the Department written notice of the extent and nature of the change.

~ Department's right of ingress to and egress from customer's premises. The Department shall have the right of ingress to and egress from the customer's premises at all reasonable hours in accordance with Division 4, Article V of the Lakewood Municipal Code.

~ Access to facilities. A customer shall provide and maintain reasonable access for Department representatives to all service connections, meters, backflow prevention devices, or other facilities pertinent to water service installed on his premises.

~ Prevention of flow from one service connection through another. If a premises is supplied by more than one service connection, the customer may be required to install a check valve at each service connection to prevent the flow of water from one service through another.

SECTION 13. Installation of public fire hydrants.

The Fire Chief having jurisdiction shall designate the size and location of all public fire hydrants to be installed. The cost of all public fire hydrant installations or changes shall be paid by the applicant.

SECTION 14. Temporary service connections.

a. Establishment of temporary service. The Department shall, if no hardship will result to its existing customers, furnish temporary service when the applicant has requested service on this basis or where the Department reasonably expects the service to be temporary. A temporary service may be disconnected at any time after expiration of the period for which applicant stated it was required or when in the opinion of the Director of Water Resources, the service is no longer temporary in nature or when the use of such temporary service is detrimental. Applicants shall make in advance the payments provided in this section.

- Temporary service from existing connections. An existing inactive connection which is not being used may be used for temporary service, but if it is required at any time to serve the property which it enters, its use for temporary service shall be discontinued. A charge of twelve dollars and fifty cents ($12.50) will be made for arranging such temporary use.

- Installation of temporary service connection. Where installation of a temporary service connection is required, applicant shall pay the estimated cost to the Department.

- Meter may be required. The Department may require that a meter be installed on any temporary service connection and charge the applicable rate for the service provided. The charge for a meter shall be provided in "Service connections, meters, and customer's facilities." If a metered temporary service connection is disconnected and terminated and the meter is removed within two years by the Department, the meter charge will be refunded upon application as follows: if removed within three months, eighty-five (85%) percent; six months, seventy-five (75%) percent; two years, fifty (50%) percent.

SECTION 15. Temporary supply from fire hydrants.

a. General provisions. Temporary supply of water for purposes other than extinguishing fires may be secured from existing fire hydrants on application in accordance with the provision of this section. Applicant shall designate the period of time and purpose for which water is to be used. The Department may discontinue the supply and remove its equipment at the expiration of the period so designated or if the supply is used for any purpose other than designated by applicant. The supply is subject to limitations as to rate of flow of water and on times of use. The Department may require that a meter be installed and charge the applicable rate for the service provided.

The Department will install all equipment necessary to furnish a temporary water supply and no water shall be used until such equipment is installed and arrangements have been made for payment of water to be used. A backflow prevention device may be required.

Applicant shall establish credit as provided by "Establishment and re-establishment of credit" to secure payment of the Department's charges for furnishing, installation, removal, inspection and rental of the equipment installed on a fire hydrant for such securing of water and charges for the water used. If credit is established by making a deposit, the amount thereof shall be sufficient to secure payment for water used and the other charges by the Department.

Applicant shall not operate the main fire hydrant valve except in an emergency.

- Charges. In addition to the applicable rate for water service, applicants for temporary supply from fire hydrants shall pay the following charges:
  - Installation and removal charge for each application, Twenty ($20.00) Dollars.
- Moving of fire hydrant meter from one location to another, Fifteen ($15.00) Dollars.
- When an employee of the Department is required by the Department, or requested by the applicant, to be present to operate equipment for temporary water supply or to observe water consumption for billing purposes, the costs incurred by the Department for such purposes may be added to other charges to be paid by the applicant.
- Applicant shall post with the Department deposits as follows:

For 2" meter or less	$ 300.00
For 3" meter or greater	$ 500.00

- If the equipment furnished by the Department is damaged through the carelessness or abuse of an applicant, the cost of repairing it shall be charged to the applicant. If any such equipment is removed from the fire hydrant by others and not recovered by the Department, the value thereof shall be charged to the applicant.

SECTION 16. Changes to or adjustment of water facilities caused by others.

Any person, firm, agency, or corporation, public or private, requesting or otherwise necessitating adjustments to any water system facilities or any other service, shall pay the Department the costs of making such changes or adjustments.

SECTION 17. Deferred payment of charges.

a. Deferred payments. Payments may be deferred when required installations, adjustments, replacements or enlargements of water facilities are to be performed at a future time. Such deferred payment shall be secured by a corporate surety bond. The

Department's charges for these facilities shall be paid prior to any investment by the Department for any such installation, adjustment, replacement or enlargement.

b. General provisions. The rate of interest where required under any contract or note Shall be at the rate of seven (7%) percent.

The form of all bonds, contracts, and notes shall be subject to the approval of the City Attorney.

All bonds shall be executed by the applicant as principal and a surety company, acceptable to the City, authorized to write surety bonds in the State of California as surety, and shall provide for full force and effect to continue until the terms are performed.

SECTION 18. Use of average cost. Where these regulations provide that the charge to be made by the Department is the cost to the Department, such charge may be an average determined by the Director of Water Resources from time to time based on cost experienced by the Department for the size and type of facility to be installed or changed and according to conditions of installation or change.

SECTION 19. Customer's Responsibility. The customer shall, at his own risk and expense, furnish, install and keep in good and safe condition all apparatus and appliances which may be required for receiving, controlling, applying and utilizing such water and the City shall not be responsible for any loss or damage caused by the improper installation of such apparatus and appliances, negligence, want of proper care or wrongful act of the customer or any of his agents, employees or licensees in the installation, maintenance, use or operation of such apparatus or appliance.

SECTION 20. Action for Unpaid Deposits and Charges. In accordance with the provisions of Section 54347 and Section 54353 of the Government Code, the City's rights hereunder are cumulative and the City may, in addition to discontinuing services and imposing the other penalties herein provided, bring action in any Court of competent jurisdiction against the person or persons who occupy the property when the service was rendered or the deposit became due or against the person guaranteeing payment of the bill or against any or all of said persons for the collection of the amount of the deposit or the collection of the delinquent charges and penalties thereon.

ATTACHMENT 11

City of Lakewood Department of Water Resources
Residential Water Audit Checklist

Name _____ Telephone _____

Address _____ Own Home ☐ Rent Home ☐

_____ Last Water Bill _____ Hcf

Review Billing History with Customer YES ☐ NO ☐
Comment _____
Instruction on Reading Water Bill YES ☐ NO ☐
Instruction on Reading Water Meter YES ☐ NO ☐
Comment

Leaks

Shut Off All Water on Premises for 15 minutes to check for leaks. YES ☐ NO ☐

Comment _____
Current Read (Including Sweep Hand)
Comment _____
If movement of sweep hand occurs close the house valve. Any apparent movement of sweep hand on water to determine if leak is internal of external.
INTERNAL ☐ EXTERNAL ☐
Comment _____
Meter Read after 15 minutes
Any apparent movement of sweep hand on water meter? YES ☐ NO ☐
Comment _____

OUTSIDE WATER USE

Hardscape

Swimming Pool		YES ☐	NO ☐
	Swimming Pool Cover	YES ☐	NO ☐
	Pool Temperature		
Spa		YES ☐	NO ☐
	Spa Cover	YES ☐	NO ☐
	Spa Temperature		
Fountain		YES ☐	NO ☐
	Recirculating Water	YES ☐	NO ☐

Comment _____

Landscape

Turf	Type	
	% of Property	
	Height of Turf	
	Moisture of Turf	

	Aerated or Dethatched	YES ☐	NO ☐
	Date of Last Aeration or Dethatching	YES ☐	NO ☐
Trees and Shrubs	Type		
	Number on Property		
	Size	Small ____	
		Medium ____	
		Large	
	Mulch at Base of Shrubs	YES ☐	NO ☐
Flowering Plants			
	Type		
	Number on Property		
	Moisture Around Plants	WET ☐	DRY ☐
	Mulch at Base of Plants	YES ☐	NO ☐

Comment _____

Landscape Maintenance

Irrigation Practices

Automatic Water System	Manual System ☐	Automatic System ☐
Checked Irrigation Timers	YES ☐	NO ☐
Watering Frequency		
Time of Day Watering Occurs		
Length of Watering Time		
Volume of Sprinkler Heads		
Number of Sprinkler Heads		
Checked for Over Spray	YES ☐	NO ☐
Comment		
Checked for Broken Sprinkler Heads	YES ☐	NO ☐
Comment		
Lo Flow Sprinkler Heads	YES ☐	NO ☐
Comment		
Drip Irrigation System	YES ☐	NO ☐
Comment		
Watering Frequency		
Time of Day Watering Occurs		
Size of Emitters		
Moisture Sensing System	YES ☐	NO ☐
Comment		

INDOOR WATER USE

Kitchen

Faucet Flow Restrictor	YES ☐	NO ☐
Dishwasher	YES ☐	NO ☐
Dishwasher with Short Cycle	YES ☐	NO ☐
Water Filtering System	YES ☐	NO ☐
Garbage Disposal	YES ☐	NO ☐

Comments _____

Laundry

Washing Machine with Short Cycle YES ☐ NO ☐

Water Softener YES ☐ NO ☐

Comments

Bathroom

Toilet

Checked for Leaks YES ☐ NO ☐

Use per Flush 7-5 gals. ☐ 3.5 gals. ☐ 1.3 gals. ☐

Faucet Flow Restrictor YES ☐ NO ☐

Bathtub

Normal Fill _____ Gallons

Shower

Water Conserving Flow Restrictor YES ☐ NO ☐

Bidet YES ☐ NO ☐

Water Used per Use _____ Gallons

Comment _____

Building for tomorrow

■ Increasing Water Reliability

Lakewood strives to provide safe and abundant water to its customers. Water reliability requires the maintenance of the existing water wells and the development of new water wells when a well's yield drops and cannot be recovered through rigorous maintenance. The city rehabilitated two existing water wells to increase water production and well efficiency. In July 2010 the city turned on the switch to a 2,250 gallon per minute well and treatment plant facility. The facility, part of a joint water storage project with the Long Beach Water Department, was partially funded through a grant from the California Department of Water Resources and Metropolitan Water District of Southern California.

■ Improving Water Delivery

Old 4 inch diameter cast iron water mains can be a source of rusty water. Lakewood replaces these mains with new 8 inch lines to improve water quality and increase water volume and pressure for fire suppression activities. In addition to the city's annual water main flushing program, the Department of Water Resources replaced three miles of water mains in 2010. The project included replacing 452 customer service lines, installing 33 new fire hydrants and 41 new operating valves. Lakewood plans to replace another two miles of water mains in 2011.

■ Need more water quality information? Interested in sharing views on water quality issues? Contact Leon de los Reyes, Water Operations Superintendent, or Nancy van der Linden, Water Administration Manager at 866-9771, extension 2700.

Opinions on the water supply can also be expressed at Lakewood City Council meetings held the second and fourth Tuesday of each month at 7:30 p.m. in the City Council Chambers, 5000 Clark Avenue.

■ About 6,000 Lakewood households east of the San Gabriel River are served by Golden State Water Company, an investor-owned water company. For information on Golden State's water quality report, call 1-800-999-4033.

Save $ with Lakewood's water rebate program

While California emerges from a three-year drought, our city government is already committed to preparing Lakewood to make it through the NEXT one. Future water shortages are inevitable given California's history of recurring drought.

To help, the city is offering residents up to $195 back on their water bills if they take voluntary steps to reduce outdoor water use.

Starting May 1, the city will accept applications for rebates, but simple projects like installing more efficient sprinkler heads and hose timers can be done now. Receipts should be saved for turning in with a device rebate application. More complex projects like turf removal and landscape makeovers need to be planned prior to submitting them for approval starting May 1. Interested homeowners can use the time prior to May 1 to settle on a design and/or attend free water wise workshops as they firm up their plans.

Rebate applications are available online at www.lakewoodcity.org/waterrebates — along with a list of accepted water efficiency devices, extensive FAQs and how-to documents. Forms should be filled out, printed and signed for submission to the city.

Lakewood rebates fall into two categories: devices and turf projects. Device rebates run from $5 to $50 towards the purchase cost of water-saving irrigation devices like low-waste "rotor" sprinkler heads, drip irrigation kits and hose timers. Additional rebates are available for irrigation timers/controllers and moisture sensors. Turf removal and landscape makeovers are another rebate option. The program offers up to $80 for the removal of thirsty grass landscaping and the cost of water-wise re-landscaping, irrigation or installation of water-permeable surfaces. This can be done in conjunction with a device rebate.

"We're hoping that nearly $200 in incentives per household will give our residents the means to take their water-saving efforts to the next level," said Nancy van der Linden, who coordinates the city program. "The initial rebates will reduce up-front yard project costs. Then, over a year's time a typical Lakewood home might also save $40 to $65 on their water bills from reduced water usage. Those annual savings will repeat every year."

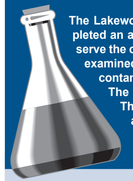
The rebate program covers single-family residential customers of the Lakewood city water system. Commercial buildings, apartments and multi-family residential units are not covered by the program, but may be eligible for similar rebates through the Metropolitan Water District at www.bewaterwise.com. Lakewood residents in zip code 90715 are customers of the Golden State Water Company, which is also offering a rebate program. Those customers should consult www.bewaterwise.com for details on that program.

LAKEWOOD Water Quality Report
5050 Clark Avenue
Lakewood, CA 90712

PRESORTED STANDARD
U.S. POSTAGE
PAID
CITY OF LAKEWOOD

**** ECRWSS

Postal Customer

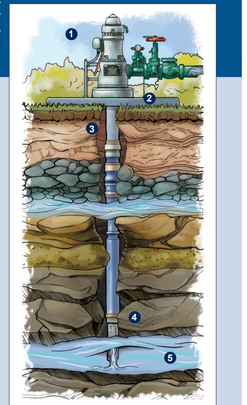


The Lakewood Department of Water Resources completed an assessment of all drinking water wells that serve the city's drinking water system. These studies examined the potential vulnerability of each well to contaminants that could enter the water supply. The table on this page indicates the results. The checks indicate the type of business or activity that could potentially contaminate the groundwater supply. To learn more about the constituents found in the city's drinking water supply, please refer to the charts located on the center pages of this report.

A copy of the complete assessment is available at the Lakewood City Clerk's Office at 5050 Clark Avenue. You may request a summary of the assessment by contacting the Lakewood Department of Water Resources, at 562-866-9771, extension 2700.

City of Lakewood Groundwater Vulnerability Assessment

		POTENTIAL SOURCES OF GROUNDWATER CONTAMINATION			
WELL NUMBER	ASSESSMENT COMPLETION DATE	GAS STATIONS & REPAIR SHOPS	HISTORIC GAS STATION LOCATIONS	STORAGE TANKS	DRY CLEANERS
2A	April, 2003		✓	✓	
4	April, 2003	✓	✓	✓	
8	April, 2003	✓	✓	✓	✓
10	April, 2003	✓	✓	✓	✓
12	April, 2003			✓	✓
13A	July, 2003		✓		
14	April, 2003	✓	✓	✓	
15A	April, 2003	✓	✓		
17	April, 2003	✓	✓	✓	✓
18	April, 2003	✓		✓	✓
22	April, 2003	✓			
27	October, 2006	✓	✓	✓	✓



How a city well works. The wellhead pump ❶ sits on a concrete base ❷ that protects the well casing and keeps out surface contaminants. Depending on the location and the age of the well, the casing may extend more than 1,000 feet below ground ❸. A deep well may draw on several water-bearing zones along the well's length. The underground casing is grouted until it reaches a water-bearing aquifer ❹ where the casing is perforated to allow water to be drawn into the well ❺.

LAKEWOOD Water Quality Report

News from the City of Lakewood

www.lakewoodcity.org
CityLine: 925-4357

March 2011 • Volume 33 • No. 2

Lakewood's 2010 water quality report shows that the city's drinking water meets all state and federal drinking water quality standards.

The city's annual water quality report may look highly technical, but it's designed to provide you with a lot of information in a form that can easily be compared. The report lists the results of analyses that describe and quantify the constituents found in Lakewood's water samples.

If you look at all the possible sources of drinking water (including tap water and bottled water), you'll find that water comes from rivers, lakes, streams, ponds, reservoirs, springs, and wells. As water travels over the surface of the land or underground through aquifers, it dissolves naturally occurring minerals (and in some cases, radioactive material) and can pick up substances resulting from the presence of animals or human activity.

All drinking water, including bottled water, can reasonably be expected to contain at least small amounts of some constituents. The presence of any of these constituents in drinking water does not necessarily indicate that the water poses a health risk.

To ensure that tap water is safe to drink, the United States Environmental Protection Agency and the California Department of Public Health set regulations that limit the amount of certain constituents in the water provided by public water systems.

Health department regulations also establish limits for contaminants in bottled water to provide the same protection for public health.

Constituents that may be present in source water include:

■ **Microbial contaminants, such as viruses and bacteria,** which may come from sewage treatment plants, septic systems, agricultural livestock operations, and wildlife.

■ **Inorganic contaminants, such as salts and metals, which** can be naturally occurring or result from urban storm water runoff, industrial or domestic wastewater discharges, oil and gas production, mining, or farming.

■ **Pesticides and herbicides, which may come from a variety** of sources, such as agriculture, urban storm water runoff, and residential uses.

■ **Organic chemical contaminants, including synthetic** and volatile organic chemicals that are by-products of industrial processes and petroleum production, can come from gas stations, urban storm water runoff, agricultural applications, and septic systems.

■ **Radioactive** contaminants, which can be naturally occurring, or the result of oil and gas production or mining activities.

A significant share of the city's water supply comes from the spreading grounds in the upper San Gabriel River Basin. Rain water and snow melt are allowed to settle into the layers of underground aquifers that transport water south and east to Lakewood. In dry years, however, the amount of water that can be spread to recharge the aquifers is limited.

More information

More information about constituents in drinking water and their potential health effects is available by calling the U. S. Environmental Protection Agency's Safe Drinking Water Hotline at 1-800-426-4791 or logging onto the USEPA's website at **www.epa.gov/safewater/**.

(Continues on flap)

Lakewood's 2010 water quality report is available on the city's website, **www.lakewoodcity.org**, as a PDF document.

You can also get additional information about the city's water system by calling CityLine at 925-4357 and pressing 652.

Call city hall at 562-866-9771 to voice water quality concerns or schedule a free appointment for a water shutdown to make plumbing repairs or locate a water leak.

Water department staff members provide Lakewood water customers with service 24 hours a day, seven days a week. If you need assistance after normal business hours, call and follow the directions for a water emergency. A department representative will respond to your request.

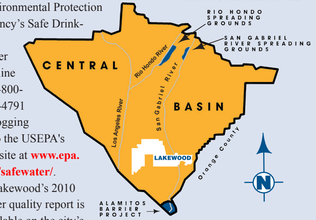
A note on lead

If present, elevated levels of lead can cause serious health problems, especially for pregnant women and young children. Lead in drinking water is primarily from materials and components associated with service lines and home plumbing. Lakewood is responsible for providing high quality drinking water, but cannot control the variety of materials used in home plumbing.

When your water has been sitting for several hours, you can minimize the potential for lead exposure by flushing your tap for 30 seconds to 2 minutes before using water for drinking or cooking.

If you are concerned about lead in your water, you may wish to have your water tested.

Information on lead in drinking water, testing methods, and steps you can take to minimize exposure is available from the Safe Drinking Water Hotline at 1-800-426-4791 or online at **http://www.epa.gov/safewater/lead**. ❑



Lakewood's water is drawn from the Central Basin. Spreading grounds north of Lakewood allow recharge of the aquifers in wet years. The freshwater barrier south of Lakewood holds back the inflow of seawater.

■ Este informe contiene información muy importante sobre su agua potable. Tradúzcalo o hable con alguien que lo entienda bien. Para ayuda en Espanol, por favor llama Alma Varela, 562-866-9771, extensión 2103.

■ Mahalaga ang impormasyong ito. Mangyaring ipasalin ito. Kung gusto ninyong makausap sa Tagalog ang kinatawan ng lungsod ng Lakewood, tawagan si Leon de los Reyes sa 562-866-9771, extension 2700.

City of Lakewood Department of Water Resources 2010 Annual Water Quality Report

DISTRIBUTION SYSTEM ANALYSES (a)

PRIMARY DRINKING WATER STANDARDS (b) — HEALTH RELATED STANDARDS

CONSTITUENT (c)	UNIT OF MEASURE	MAXIMUM CONTAMINANT LEVEL (MCL) (d) OR MAXIMUM RESIDUAL DISINFECTANT LEVEL (MRDL) (e)	PHG (f), (MCLG) (g) OR MRDLG (h)	RANGE	AVERAGE	MAJOR SOURCE IN LAKEWOOD'S DRINKING WATER (i)	HEALTH EFFECTS (j)
MICROBIOLOGICAL							
Total Coliform Bacteria (Non-Fecal Coliform)	% Positive (k)	5%	(0)	0% - 1%	0.3%	Naturally present in the environment	
DISINFECTION BY-PRODUCTS & DISINFECTANT RESIDUALS							
Chlorine	ppm	MRDL=4 as CL_2	MRDLG=4 as CL_2	0.1 - 2	1	Drinking water disinfectant added for treatment	
Haloacetic Acids	ppb	60	NA	ND (l) - 18	7	By-product of drinking water disinfection	
Total Trihalomethanes (TTHMs)	ppb	80	NA	ND - 45	17	By-product of drinking water disinfection	

ppb=parts per billion, or micrograms per liter (ug/l) • ppm=parts per million, or milligrams per liter (mg/l) • NA=Not Applicable

SECONDARY DRINKING WATER STANDARDS (m) — AESTHETIC STANDARDS

CONSTITUENT	UNIT OF MEASURE	MCL	PHG OR (MCLG)	RANGE	AVERAGE	MAJOR SOURCE IN LAKEWOOD'S DRINKING WATER
GENERAL PHYSICAL CHARACTERISTICS OF WATER SUPPLY						
Color	units	15	NA	<5	<5	Naturally occurring organic materials
Odor-Threshold	units	3	NA	ND - 1	0.03	Naturally occurring organic materials
Turbidity (n)	units	5	NA	0.06 - 0.4	0.2	Soil runoff

NA=Not Applicable

SOURCE OF SUPPLY ANALYSES (a)

PRIMARY DRINKING WATER STANDARDS (b) — HEALTH RELATED STANDARDS

CONSTITUENT	UNIT OF MEASURE	MCL	PHG OR (MCLG)	RANGE	AVERAGE	MAJOR SOURCE IN LAKEWOOD'S DRINKING WATER	HEALTH EFFECTS
RADIOACTIVE							
Gross Alpha particle activity	pCi/l	15	(0)	ND - 5	2	Erosion of natural deposits	
INORGANIC CHEMICALS							
Aluminum	ppm	1	0.6	ND - 0.07	0.01	Erosion of natural deposits	
Arsenic	**ppb**	**10**	**0.004**	**2 - 7**	**5**	**Erosion of natural deposits**	
Arsenic: While your drinking water meets the federal and state standard for arsenic, it does contain low levels of arsenic. The arsenic standard balances the current understanding of arsenic's possible health effects against the costs of removing arsenic from drinking water. The USEPA continues to research the health effects of low levels of arsenic, which is a mineral known to cause cancer in humans at high concentrations and is linked to other health effects, such as skin damage and circulatory problems.							
Barium	ppm	1	2	ND - 0.2	0.1	Erosion of natural deposits	
Fluoride	ppm	2	1	0.3 - 0.5	0.4	Erosion of natural deposits	
Nitrate (as N03)	ppm	45	45	ND - 6	1	Erosion of natural deposits	

pCi/L= picocuries per liter (a measure of radioactivity) • ppb=parts per billion, or micrograms per liter (ug/l) • ppm=parts per million, or milligrams per liter (mg/l)

SECONDARY DRINKING WATER STANDARDS (m) — AESTHETIC STANDARDS

CONSTITUENT	UNIT OF MEASURE	MCL	PHG OR (MCLG)	RANGE	AVERAGE	MAJOR SOURCE IN LAKEWOOD'S DRINKING WATER
INORGANIC CHEMICALS						
Chloride	ppm	500	NA	7 - 34	17	Runoff/leaching from natural deposits
Iron	ppb	300	NA	ND - 140	23	Leaching from natural deposits
Manganese	ppb	50	NA	ND - 46	9	Leaching from natural deposits
Specific Conductance	micromhos	1,600	NA	296 - 600	423	Substances that form ions when in water
Sulfate	ppm	500	NA	13 - 79	36	Runoff/leaching from natural deposits
Total Dissolved Solids (TDS)	ppm	1,000	NA	179 - 400	264	Runoff/leaching from natural deposits

ppb=parts per billion, or micrograms per liter (ug/l) • ppm=parts per million, or milligrams per liter (mg/l) • micromhos=micromhos per centimeter (umho/cm) • NA=Not Applicable

UNREGULATED CONSTITUENTS (o)

CONSTITUENT	UNIT OF MEASURE	NOTIFICATION LEVEL (NL) (p)	PHG OR (MCLG)	RANGE	AVERAGE
Tert-Butyl Alcohol (TBA)	ppb	12	NA	ND - 3.7	0.5

ppb=parts per billion, or micrograms per liter (ug/l) • NA=Not Applicable

ADDITIONAL PARAMETERS

CONSTITUENT	UNIT OF MEASURE	MCL	PHG OR (MCLG)	RANGE	AVERAGE	MAJOR SOURCE IN LAKEWOOD'S DRINKING WATER
Alkalinity, Total (as CaCo3)	ppm	NS (q)	NA	130 - 200	165	Natural or industrially influenced balance of hydrogen, carbon and oxygen in the water, affected by temperature and other factors
Calcium	ppm	NS	NA	25 - 73	49	
Corrosivity	SI Units	Non-corrosive	NA	12 - 13	12	
Hardness (CaCo3) (r)	ppm	NS	NA	80 - 240	153	
Magnesium	ppm	NS	NA	3 - 14	7	
pH	units	6.5 - 8.5	NA	7.82 - 8.39	8.1	
Potassium	ppm	NS	NA	2 - 3	3	
Sodium (s)	ppm	NS	NA	22 - 42	30	

SI Units= Saturation Index Units • ppm=parts per million, or milligrams per liter (mg/l) • NA=Not Applicable

AT-THE-TAP MONITORING PROGRAM (t)

CONSTITUENT	UNIT OF MEASURE	REGULATORY ACTION LEVEL (AL) (u)	PHG OR (MCLG)	HIGHEST LEVEL DETECTED	90TH PERCENTILE VALUE (v)	# OF SITES WITH ANALYSES ABOVE THE AL	MAJOR SOURCE IN LAKEWOOD'S DRINKING WATER
Copper	ppm	1.3	0.3	0.36	0.256	0 of 31	Internal corrosion of household plumbing systems
Lead	ppb	15	0.2	6	0	0 of 31	Internal corrosion of household plumbing systems

ppb=parts per billion, or micrograms per liter (ug/l) • ppm=parts per million, or milligrams per liter (mg/l)

DEFINITIONS

(a) **Distribution System and Source of Supply Analyses:** The city draws most water quality samples from 12 wells, the source of the city's water supply. The California EPA also requires water quality monitoring throughout the city's 167 miles of water mains each week. Those constituents listed in the section entitled Distribution System Analyses are monitored quarterly or weekly. The city conducts over 3,100 water quality tests on water in the distribution system annually. The remaining constituents are sampled at the city's well sites. The results of these analyses are listed in the section entitled Source of Supply Analyses.

(b) **Primary Drinking Water Standards:** Maximum Contaminant Levels (MCLs) and Maximum Residual Disinfectant Levels (MRDLs) for constituents that affect health along with monitoring and reporting requirements, and water treatment requirements. The city tested for 96 additional regulated chemicals in 2010.

(c) **Constituent:** A constituent is any naturally occurring or manmade substance found in drinking water. The USEPA and the California EPA establish the list of constituents that require testing and the frequency of each test. Some data, though representative of current water quality conditions, are five years old. The state allows water utilities to monitor some constituents less than once per year, because the concentrations of these constituents do not change frequently. All data included in this report was collected between January 1, 2006 and December 31, 2010. Only samples with detectable levels of a constituent are listed in the tables. The California Department of Public Health waived groundwater monitoring requirements for 37 additional chemicals.

(d) **Maximum Contaminant Level (MCL):** Highest level of a constituent allowed in drinking water. Primary MCLs are set as close to Maximum Contaminant Level Goals (MCLGs) and Public Health Goals (PHGs) as technically and economically feasible. (See definitions (f) and (g) for further information on MCLGs and PHGs.)

(e) **Maximum Residual Disinfectant Level (MRDL):** The highest level of a disinfectant allowed in drinking water. There is convincing evidence that addition of a disinfectant is necessary for control of microbial contaminants.

(f) **Public Health Goal (PHG):** The level of a constituent in drinking water below which there is no known or expected risk to health. The California EPA establishes PHGs.

(g) **Maximum Contaminant Level Goal (MCLG):** The level of a constituent in drinking water below which there is no known or expected risk to health. The USEPA establishes MCLGs. MCLGs are indicated in ( )s.

(h) **Maximum Residual Disinfectant Level Goal (MRDLG):** The level of a drinking water disinfectant below which there is no known or expected risk to health. MRDLGs do not reflect the benefits of the use of disinfectants to control microbial contaminants.

(i) **Major Source in Lakewood's Drinking Water:** This column indicates the likely source of the constituent listed.

(j) **Health Effects:** The USEPA and the California EPA require water utilities exceeding an MCL to list potential health effects caused by the ingestion of any constituent that fails to meet a primary drinking water standard.

(k) **% Positive:** Laboratory analysis for coliform bacteria measures the presence or absence of bacteria. The MCL is exceeded when over 5 percent of the samples drawn in a distribution system during a month detect the presence of coliform bacteria.

(l) **Non Detectable (ND):** Laboratory analyses cannot confirm zero detection of a constituent in drinking water. A non detectable result indicates that the constituent is not contained in the sample or the amount of a constituent found in drinking water is lower than the testing procedure can detect.

(m) **Secondary Drinking Water Standard:** The USEPA and the California EPA set guidelines for constituents found in drinking water that may cause aesthetic or cosmetic effects. Secondary MCLs are set to protect the odor, taste and appearance of drinking water.

(n) **Turbidity:** A measure of the cloudiness of water. Turbidity serves as an indicator of water quality. High turbidity can hinder the effectiveness of disinfectants.

(o) **Unregulated Constituents:** Monitoring unregulated constituents helps the USEPA and the California Department of Public Health determine where certain constituents occur and whether the constituents need to be regulated. The city tested for 58 additional non-regulated chemicals in 2010.

(p) **Notification Level (NL):** The concentration of a constituent which, if exceeded, triggers notification to the public.

(q) **No Standard (NS):** Constituent for which no regulation established by the USEPA and the California EPA exists.

(r) **Hardness:** Hardness is the sum of polyvalent cations present in the water, generally magnesium and calcium. The cations are usually naturally-occurring. Hardness is also measured in grains per gallon. This form is used when calculating hardness levels to operate irons and dishwashers. Hardness levels in Lakewood's water average 10 grains per gallon.

(s) **Sodium:** Sodium refers to the salt present in the water and is generally naturally occurring. Intake from drinking water is not considered a factor for healthy individuals. However, the American Heart Association recommends a sodium intake of 20 ppm in drinking water for high risk populations, e.g. a person on a low-sodium diet. Home water softeners that use the ion-exchange method increase the amount of sodium in water.

(t) **At-the-Tap Monitoring:** The California Department of Public Health and the USEPA require water utilities to conduct at-the-tap monitoring for lead and copper. The results from 31 samples drawn by customers indicate that levels of both lead and copper are below the state and federal standards.

(u) **Regulatory Action Level (AL):** The concentration of a constituent which, if exceeded, triggers treatment or other requirements that a water system must follow.

(v) **90th Percentile Value:** The Action Level for Lead and Copper is exceeded if 10% of the sample results are greater than 15 ppb for lead and 1.3 ppm for copper.

Don't flush pharmaceuticals!

It was common at one time to flush old medications (also known as pharmaceuticals) down the toilet. In the past doctors and pharmacists may even have recommended this as the best way to keep old drugs from being misused.

Now we know that these substances can reappear as water contamination that may possibly get into drinking water supplies.

So, what should you do?

One important first step is to take all medications as directed and to finish the prescription under a doctor's guidance. That way, there'll be less chance of unused medications needing disposal.

If you have unused medications, they can be left in the drop box at the entrance to the Lakewood Sheriff's Station (5130 Clark Avenue at Hardwick Street). The drop boxes also accept medical "sharps."

Medications also can be taken to a county-sponsored household hazardous waste roundup. Information is available by calling 888-CLEAN-LA or from **www.888cleanla.com**.

Some medications are "controlled substances" (such as codeine, Phenobarbital, and anabolic steroids). These cannot be taken to a roundup, but they can be put in your regular trash if you follow some precautions:

- **Remove the** patient's name, drug name, prescription number, and other personal information before disposal.
- **"Spoil" the** medications – add water to a container of pills; put salt in a container of liquid mediation. Put the containers in a sturdy box and tape it shut. Put the box in the trash where children and animals can't easily reach it. ❑

Sensitive populations may be more vulnerable

Some people may be more vulnerable to constituents in drinking water than the general population. Immuno-compromised persons, such as persons with cancer undergoing chemotherapy, persons who have undergone organ transplants, people with HIV/AIDS or other immune system disorders, some elderly, and infants can be particularly at risk from infections. These people should seek advice about drinking water from their health care provider.

The United States Environmental Protection Agency and the national Centers for Disease Control have guidelines on appropriate means to lessen the risk of infection by Cryptosporidium and other microbial constituents. These are available by calling the Safe Drinking Water Hotline at 1-800-426-4791.

WATERWISE
CONSULTING, INC.

City of Lakewood

Facility Details

April 1, 2009

The City of Lakewood

Individual Site Reports

City of Lakewood

Simon Bolivar Park

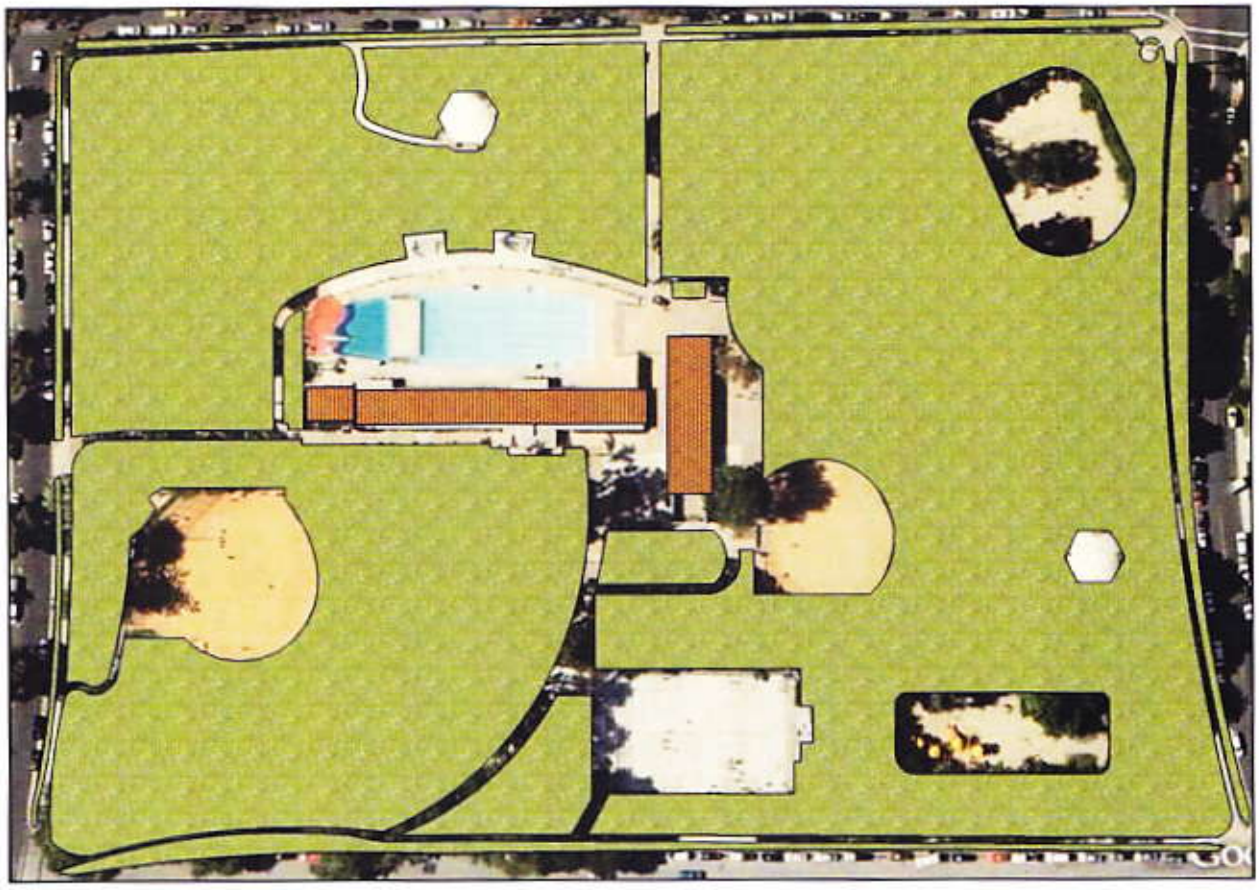
3300 Del Amo Boulevard
Lakewood, CA 90712

Audit Date:	November 13, 2008
Auditor:	Enrique Zanetti
Assistant:	Chris Jackson
Building Area:	9,382 sq ft
Landscape Irrigated Area:	333,996 sq ft
Total Area:	343,378 sq ft

City of Lakewood

Simon Bolivar Park

3300 Del Amo Boulevard
Lakewood, CA 90712



Building Area: 9,382 sq ft

Landscape Irrigated Area: 333,996 sq ft

Simon Bolivar Park

November 13, 2008

Sprinklers that are installed too low cause spray/stream blockage and create dry circles around the sprinklers.

Poor distribution uniformity may be a result of having tipped heads in the irrigation system. Correcting uniformity issues could result in water savings through decreases in run times.

The above photos are examples of leaking and broken heads that are creating major water losses. A broken/leaking head can lead to reduced pressure over an entire station.

Here is an example of a clogged nozzle. Clogged nozzles at Simon Bolivar Park can be easily reduced by routine maintenance.

Arc misalignment is a problem that is easy to solve during maintenance. On spray stations, this is causing wasted water and on rotor stations it is also affecting the distribution uniformity.

Overspray is often a problem on sidewalks and parkways. We recommend adjusting the radius of throw or replacing the nozzles with strip series nozzles types.

Landscape Data - Active Stations By Controller

Facility: Simon Bolivar Park	Address: 3300 Del Amo Blvd., Lakewood, CA 90712	Location: See map	Work Order:

Irrigation Controller Make & Model: Aqua Dial Ace 11 (Controller I)	WBIC?: N	Total Stations: 11	Active Stations: 9	Area Description: South & East Side of Park

				Sprinkler Type								Sprinkler Condition								System Condition										
Station No.	Microclimate	Plant Material	Plant Density	Sprinkler Make	Rotor	Spray	Stream Rotor	Rotary Nozzle	Bubbler	Micro Spray	Drip	Low	Tipped	Arc Misaligned	Clogged	Leaking	Broken Head	Non-rotating Head	Overspray	Spray Blocked	Effective	Head-Head Spacing	Pressure Reading	High/Low Pressure	Broken Irr. Line	Valve Malfunction	Photograph	Replace Nozzles	Planter Area	Quantity	Notes
1	H	T Tr	H	T		25							6						4		Y	Y		OK					S M L		
2	M	T Tr	H	T-O		19							2	2					1		Y	Y		OK			7		S M L		
3	M	T Tr	H	T		44						4	2	6		3					Y	Y		OK			12		S M L		
4	M	T Tr	H	T-O		37						2	8	1		2			1		Y	Y		OK	1		15		S M L		sprikler in the roots of a big tree
5	M	T	H	T-O		51							5	4		5	2		51		N	Y		OK			23		S M L		severe broken head, 6 gpm, mixed heads
6	M	T Tr	M	T-O		36							6		3	2	1		5		Y	Y		OK			32		S M L		1 is clogged, low & jammed, mixed heads
7	H	T	H	T-O		49						19	3	7	1	1	1		47		N	Y		OK			38		S M L		Major Runoff!
8	M	T Tr	H	T		22							5	3		2					Y	Y		OK					S M L		
9	M	T Tr	M	T-O		47							3	3	1	2			7		Y	Y		OK					S M L		Really bad design

Reference Codes

Microclimate		Plant Material H/M/L		Density		Sprinkler Make		Area	
H	High	T	Turf	H	High	R	Rainbird	S	25 sq ft
M	Medium	S	Shrubs	M	Medium	T	Toro	M	50 sq ft
L	Low	G	Ground Cover	L	Low	H	Hunter	L	100 sq ft
		M	Mixed			I	Irritrol		
		Tr	Trees			O	Other		

Soil Type		Water Source	
Clay		Potable	O
Loam	O	Recycled	
Sand			

Turf Information	
Existing Synthetic Turf:	N

System Information	
Booster Pump:	N
Pressure Regulator:	N

Auditor Name: Enrique Zanetti

Auditor Name: Chris Jackson

Time In:

Appointment:

Landscape Data - Active Stations By Controller

Facility: Simon Bolivar Park	Address: 3300 Del Amo Blvd., Lakewood, CA			Location: See map	Work Order:
Irrigation Controller Make & Model: Aqua Dial Ace 23 (Controller II)	WBIC?: N	Total Stations: 23	Active Stations: 21	Area Description: east side of park	

				Sprinkler Type								Sprinkler Condition									System Condition											
Station No.	Microclimate	Plant Material	Plant Density	Sprinkler Make	Rotor	Spray	Stream Rotor	Rotary Nozzle	Bubbler	Micro Spray	Drip	Low	Tipped	Arc Misaligned	Clogged	Leaking	Broken Head	Non-rotating Head	Overspray	Spray Blocked	Effective	Head-Head Spacing	Pressure Reading	High/Low Pressure	Broken Irr. Line	Valve Malfunction	Photograph	Replace Nozzles	Planter Area	Quantity	Notes
1	H	T Tr	H	T		26						1	2	10	2	2					N	Y		OK					S M L		Bad design
2	H	T Tr	H	T		15							2	2		2					Y	Y		OK			46		S M L		Mixed nozzles
4	H	T Tr	H	H R	13							3	5	5					3		Y	Y	45	OK			52		S M L		bad design, mixed nozzles
5	H	T	H	H O	7							4	1	2		1			4		Y	Y	45	L			56		S M L		O means Thompson
6	M	T Tr	H	H O	6								2	5				1	4		Y	Y	40	L			62		S M L		bad design
7	M	T Tr	H	H T	4								1	2					2		Y	Y	35	L					S M L		Old sprinklers toro, sidewalk is irrigated from one side
8	H	T Tr	H	H O	9							3	2	3					3	1	Y	Y	30	L			67		S M L		Mixed sprinklers, different nozzles in the same area
9	H	T	H	T O		28						10	8	9	1	5			28		N	Y		OK			71		S M L		All are overspray
10	L	T	M	T		10						1	3	1	1						Y	N		OK					S M L		
11	H	T Tr	H	H T O	9							5	1						1		Y	Y	30	L			75		S M L		irrigating the picnic area
12	M	T Tr	H	H O	4							2									Y	Y	40	L					S M L		irrigating the picnic area

Reference Codes

Microclimate		Plant Material H/M/L		Density		Sprinkler Make		Area	
H	High	T	Turf	H	High	R	Rainbird	S	25 sq ft
M	Medium	S	Shrubs	M	Medium	T	Toro	M	50 sq ft
L	Low	G	Ground Cover	L	Low	H	Hunter	L	100 sq ft
		M	Mixed			I	Irritrol		
		Tr	Trees			O	Other		

Soil Type		Water Source	
Clay		Potable	O
Loam	O	Recycled	
Sand			

Turf Information	
Existing Synthetic Turf:	N
System Information	
Booster Pump:	N
Pressure Regulator:	N

Auditor Name: Enrique Zanetti

Auditor Name: Chris Jackson

Time In:

Appointment:

Landscape Data - Active Stations By Controller

Facility: Simon Bolivar Park	Address: 3300 Del Amo Blvd., Lakewood, CA	Location: See map	Work Order:

Irrigation Controller Make & Model: Aqua Dial Ace 23 (Controller II)	WBIC?: N	Total Stations: 23	Active Stations: 21	Area Description: east side of park

				Sprinkler Type								Sprinkler Condition								System Condition							Replace Nozzles	Planter Area	Quantity	Notes
Station No.	Microclimate	Plant Material	Plant Density	Sprinkler Make	Rotor	Spray	Stream Rotor	Rotary Nozzle	Bubbler	Micro Spray	Drip	Low	Tipped	Arc Misaligned	Clogged	Leaking	Broken Head	Non-rotating Head	Overspray	Spray Blocked	Effective	Head-Head Spacing	Pressure Reading	High/Low Pressure	Broken Irr. Line	Valve Malfunction	Photograph				
13	H	T Tr	H	H R O	10							7	2						1		Y	Y	30	L			82		S M L		irrigating the picnic area
14	H	T Tr	H	H R	9								3	5		1			2		Y	Y	35	L					S M L		
15	H	T Tr	H	H T O	10							4	3	5				1	2	2	Y	Y	35	L					S M L		
16	M	T Tr	H	T O		32							5	8	2	1					Y	Y		OK					S M L		
17	M	T Tr	H	T O		22						1	9			2			1		Y	Y		OK					S M L		
18	M	T Tr	H	T		26						2	6	5		2			1		Y	Y		OK			91		S M L		
19	L	T Tr	M	T		24							1	2	5	2	1		2		Y	Y		OK			105		S M L		bad design inside playground
20	M	T	H	T O		41						2	4	15		8					Y	Y		OK			95		S M L		bad design on sidewalk, 1 leak
21	M	T Tr	H	H O	9							4	1			1			4		Y	Y	35	L					S M L		bad design, mixed heads
22	M	T Tr	H	T		32						9	9	13		4					Y	Y		OK			103		S M L		sidewalk bad design

Reference Codes

Microclimate		Plant Material H/M/L		Density		Sprinkler Make		Area	
H	High	T	Turf	H	High	R	Rainbird	S	25 sq ft
M	Medium	S	Shrubs	M	Medium	T	Toro	M	50 sq ft
L	Low	G	Ground Cover	L	Low	H	Hunter	L	100 sq ft
		M	Mixed			I	Irritrol		
		Tr	Trees			O	Other		

Soil Type		Water Source	
Clay		Potable	O
Loam	O	Recycled	
Sand			

Turf Information	
Existing Synthetic Turf:	N
System Information	
Booster Pump:	N
Pressure Regulator:	N

Auditor Name: Enrique Zanetti

Auditor Name: Chris Jackson

Time In:

Appointment:

Landscape Data - Active Stations By Controller

Facility: Simon Bolivar Park	Address: 3300 Del Amo Blvd., Lakewood, CA	Location: See map	Work Order:

Irrigation Controller Make & Model: Rain Master Sentar II (Controller III)	WBIC?: N	Total Stations: 24	Active Stations: 22	Area Description: west & south side

				Sprinkler Type								Sprinkler Condition								System Condition							Replace Nozzles	Planter Area	Quantity	Notes
Station No.	Microclimate	Plant Material	Plant Density	Sprinkler Make	Rotor	Spray	Stream Rotor	Rotary Nozzle	Bubbler	Micro Spray	Drip	Low	Tipped	Arc Misaligned	Clogged	Leaking	Broken Head	Non-rotating Head	Overspray	Spray Blocked	Effective	Head-Head Spacing	Pressure Reading	High/Low Pressure	Broken Irr. Line	Valve Malfunction	Photograph				
1	M	T Tr	H	H O	7								1	2					1		Y	Y	40	L			110		S M L		Thompson heads
3	H	T	M	H	12							1	4	2							Y	Y	20	L					S M L		
4	M	T Tr	H	H O	5							3	1								Y	Y	30	L					S M L		
5	H	T	H	H R	2																Y	Y	40	L					S M L		
6	M	T Tr	H	H O	3							2									Y	Y	35	L			111		S M L		
7	H	T	H	T		38						6	3	2		12			38		N	Y		OK			117		S M L		a lot of old leaking heads
8	M	T	H	H O	3							3		1							Y	Y	38	L			118		S M L		
9	H	T	H	H O	2									1							Y	Y	45	OK			119		S M L		
10	M	T Tr	H	H O	8								2	1		1				1	Y	Y	30	L					S M L		
11	M	T Tr	H	H O	6							3		1							Y	Y	35	L					S M L		
12	M	T Tr	H	H R O	7							3	2		2						Y	Y	35	L					S M L		1 is not rotating

Reference Codes

Microclimate		Plant Material H/M/L		Density		Sprinkler Make		Area	
H	High	T	Turf	H	High	R	Rainbird	S	25 sq ft
M	Medium	S	Shrubs	M	Medium	T	Toro	M	50 sq ft
L	Low	G	Ground Cover	L	Low	H	Hunter	L	100 sq ft
		M	Mixed			I	Irritrol		
		Tr	Trees			O	Other		

Soil Type		Water Source	
Clay		Potable	O
Loam	O	Recycled	
Sand			

Turf Information	
Existing Synthetic Turf:	N

System Information	
Booster Pump:	N
Pressure Regulator:	N

Auditor Name: Enrique Zanetti

Auditor Name: Chris Jackson

Time In:

Appointment:

Landscape Data - Active Stations By Controller

Facility: Simon Bolivar Park	Address: 3300 Del Amo Blvd., Lakewood, CA	Location: See map	Work Order:

Irrigation Controller Make & Model: Rain Master Sentar II (Controller III)	WBIC?: N	Total Stations: 24	Active Stations: 22	Area Description: west & south side

				Sprinkler Type								Sprinkler Condition									System Condition										
Station No.	Microclimate	Plant Material	Plant Density	Sprinkler Make	Rotor	Spray	Stream Rotor	Rotary Nozzle	Bubbler	Micro Spray	Drip	Low	Tipped	Arc Misaligned	Clogged	Leaking	Broken Head	Non-rotating Head	Overspray	Spray Blocked	Effective	Head-Head Spacing	Pressure Reading	High/Low Pressure	Broken Irr. Line	Valve Malfunction	Photograph	Replace Nozzles	Planter Area	Quantity	Notes
13	M	T Tr	H	H	6							1		2					1	1	Y	Y	35	L			122		S M L		1 is not rotating
14	H	T	H	H O	5							3	1								Y	Y	40	L			125		S M L		
15	H	T	H	T O		58						5	3	1		20					N	Y		OK			130		S M L		old leaking heads & a Major broken head 6 gpm
16	M	T Tr	H	T O		39						3	3	2	1	2			5		Y	Y		OK			132		S M L		
17	H	T Tr	H	H T	7							4	1								Y	Y	40	L					S M L		
18	M	T Tr	H	H	7							3		3					1		Y	Y	45	OK			133		S M L		1 is not rotating, is over watering
19	H	T Tr	H	H R	8							2	3	1							Y	Y	40	L					S M L		
20	H	T	H	T O		40						2	4	6		14			40		N	Y		OK			139		S M L		
21	M	T Tr	H	T O		37							5	6	2	2			8		Y	Y		OK			140		S M L		
23	M	T Tr	H	R H	6														1		Y	Y	45	OK					S M L		
24	M	T	H	R	6														1		Y	Y	45	OK					S M L		

Reference Codes

Microclimate		Plant Material H/M/L		Density		Sprinkler Make		Area	
H	High	T	Turf	H	High	R	Rainbird	S	25 sq ft
M	Medium	S	Shrubs	M	Medium	T	Toro	M	50 sq ft
L	Low	G	Ground Cover	L	Low	H	Hunter	L	100 sq ft
		M	Mixed			I	Irritrol		
		Tr	Trees			O	Other		

Soil Type		Water Source	
Clay		Potable	O
Loam	O	Recycled	
Sand			

Turf Information	
Existing Synthetic Turf:	N
System Information	
Booster Pump:	N
Pressure Regulator:	N

Auditor Name: Enrique Zanetti

Auditor Name: Chris Jackson

Time In:

Appointment:

Landscape Data - Active Stations By Controller

Facility: Simon Bolivar Park	Address: 3300 Del Amo Blvd., Lakewood, CA	Location: See map	Work Order:

Irrigation Controller Make & Model: Manual	WBIC?: N	Total Stations: 1	Active Stations: 1	Area Description: west side of the swimming pool

				Sprinkler Type								Sprinkler Condition								System Condition										
Station No.	Microclimate	Plant Material	Plant Density	Sprinkler Make	Rotor	Spray	Stream Rotor	Rotary Nozzle	Bubbler	Micro Spray	Drip	Low	Tipped	Arc Misaligned	Clogged	Leaking	Broken Head	Non-rotating Head	Overspray	Spray Blocked	Effective	Head-Head Spacing	Pressure Reading	High/Low Pressure	Broken Irr. Line	Valve Malfunction	Photograph	Replace Nozzles	Planter Area	Quantity	Notes
1	M	TS	H	T		14							2						3		Y	Y		OK					S M L		

Reference Codes

Microclimate		Plant Material H/M/L		Density		Sprinkler Make		Area	
H	High	T	Turf	H	High	R	Rainbird	S	25 sq ft
M	Medium	S	Shrubs	M	Medium	T	Toro	M	50 sq ft
L	Low	G	Ground Cover	L	Low	H	Hunter	L	100 sq ft
		M	Mixed			I	Irritrol		
		Tr	Trees			O	Other		

Soil Type		Water Source	
Clay		Potable	O
Loam	O	Recycled	
Sand			

Turf Information	
Existing Synthetic Turf:	N

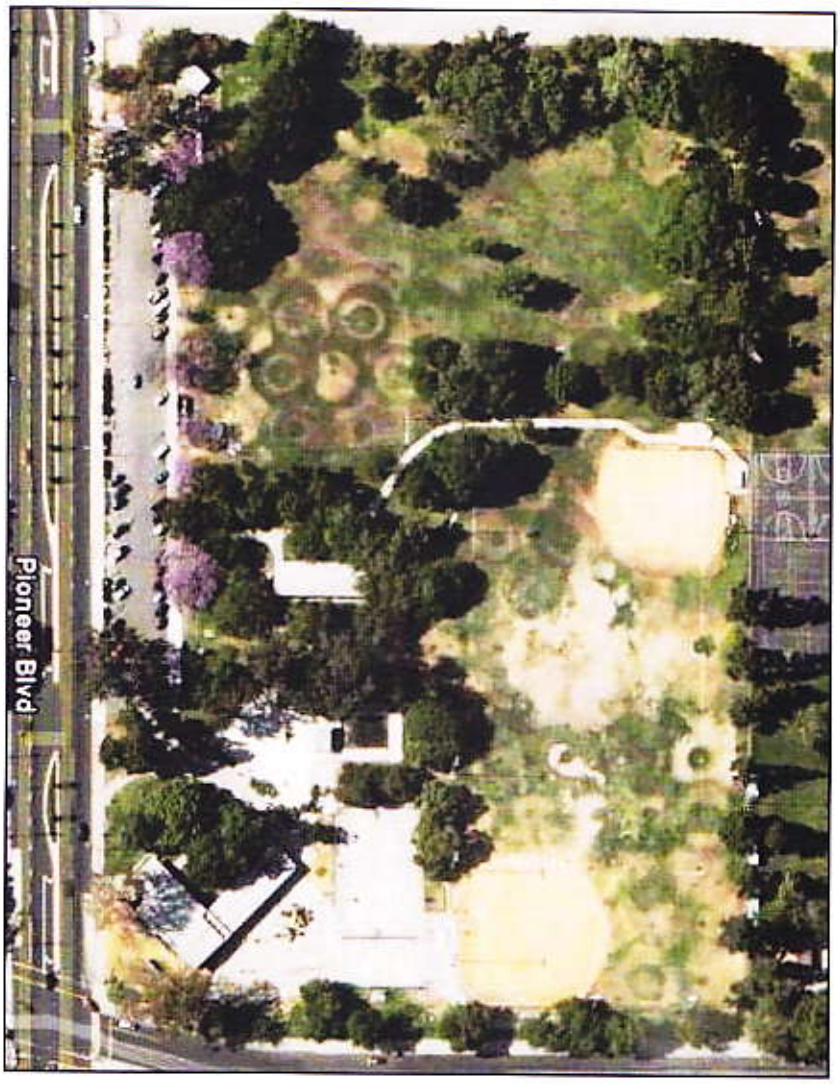
System Information	
Booster Pump:	N
Pressure Regulator:	N

Auditor Name: Enrique Zanetti

Auditor Name: Chris Jackson

Time In:

Appointment:



City of Lakewood

Bloomfield Park

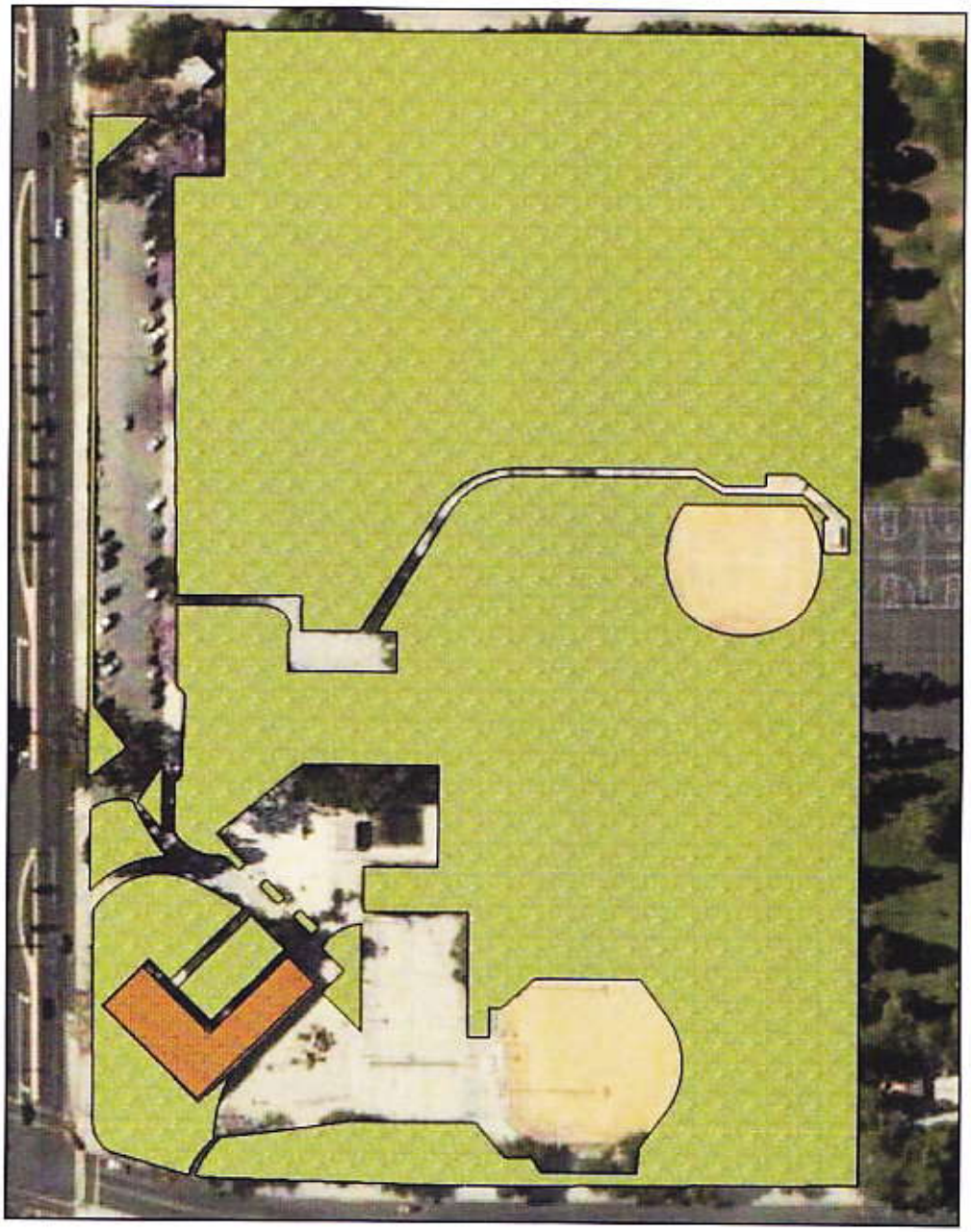
21420 Pioneer Boulevard
Lakewood, CA 90716

Audit Date:	December 4, 2008
Auditor:	Enrique Zanetti
Assistant:	Chris Jackson
Building Area:	7,620 sq ft
Landscape Irrigated Area:	426,719 sq ft
Total Area:	434,339 sq ft

City of Lakewood

Bloomfield Park

21420 Pioneer Boulevard
Lakewood, CA 90716



Building Area: 7,620 sq ft

Landscape Irrigated Area: 426,719 sq ft

Bloomfield Park

December 4, 2008

This is an example of a low rotor. Of the 152 rotors that we audited, 14% were low which causes pooling around the base of the rotor and poor distribution uniformity.

Over 10% of the sprinklers were tipped. Tipped sprinkler heads cause uneven distribution of water.

Here are two examples of arc misalignment. The arc on these rotor heads should be rotated to water the lawn area instead of the sidewalks.

Here is an example of a blocked rotor of 14 blocked rotors we found. This is not only unhealthy for the tree but, inefficient for the uniformity of water being distributed.

Station 5, was battery operated and overspraying onto a hardscape. We recommend either adjusting the radius of throw or downsizing nozzles.

Of the 11 active stations at Controller I which were irrigating large lawn areas, 8 stations were operating at lower than optimum pressure. Check the control valves or downsize the nozzles.

Landscape Data - Active Stations By Controller

Facility: Bloomfield Park	Address: 21420 Pioneer Blvd. Lakewood, CA, 90716	Location: See map	Work Order:

Irrigation Controller Make & Model: Rain Master Sentor II (Controller I)	WBIC?: N	Total Stations: 24	Active Stations: 13	Area Description: Sport Field, sidewaks & recreation area

				Sprinkler Type								Sprinkler Condition								System Condition							Replace Nozzles	Planter Area	Quantity	Notes
Station No.	Microclimate	Plant Material	Plant Density	Sprinkler Make	Rotor	Spray	Stream Rotor	Rotary Nozzle	Bubbler	Micro Spray	Drip	Low	Tipped	Arc Misaligned	Clogged	Leaking	Broken Head	Non-rotating Head	Overspray	Spray Blocked	Effective	Head-Head Spacing	Pressure Reading	High/Low Pressure	Broken Irr. Line	Valve Malfunction	Photograph				
5	H	T Tr	H	H R O	16							2	5	1					2		Y	N	30	L	1		1		S M L		
6	H	T Tr	H	H R O	15							2	1	1							Y	N	25	L			5		S M L		
7	M	T Tr	H	H	4								1								Y	N	45	L			8		S M L		
9	H	S	M	T		17									13						N	N		L					S M L		Many are completely clogged
11	M	T Tr	H	H	10							2	1	1				2			Y	N	25	L					S M L		2 heads are not rotating
12	H	T Tr	H	H	14							3	1								Y	N	30	L					S M L		
13	H	T Tr	H	H O	12											1					Y	N	30	L					S M L		
15	H	T Tr	H	H R O	16								2	1				3			Y	N	40	H			22		S M L		Misting
16	M	T Tr	4	H R O	14							4	2			1					Y	N	50	OK					S M L		
17	H	T Tr	H	H R O	14								1								Y	N	30	L			24		S M L		
19	M	T Tr	H	R	16								1						1	1	Y	Y	20	L			28		S M L		

Reference Codes

Microclimate		Plant Material H/M/L		Density		Sprinkler Make		Area	
H	High	T	Turf	H	High	R	Rainbird	S	25 sq ft
M	Medium	S	Shrubs	M	Medium	T	Toro	M	50 sq ft
L	Low	G	Ground Cover	L	Low	H	Hunter	L	100 sq ft
		M	Mixed			I	Irritrol		
		Tr	Trees			O	Other		

Soil Type		Water Source
Clay		Potable
Loam	O	Recycled
Sand		

Turf Information	
Existing Synthetic Turf:	N
System Information	
Booster Pump:	Y
Pressure Regulator:	Y

Auditor Name: Enrique Zanetti

Auditor Name: Chris Jackson

Time In:

Appointment:

Landscape Data - Active Stations By Controller

Facility: Bloomfield Park	Address: 21420 Pioneer Blvd. Lakewood, CA, 90716	Location: See map	Work Order:

Irrigation Controller Make & Model: Rain Master Sentor II (Controller I)	WBIC?: N	Total Stations: 24	Active Stations: 13	Area Description: Sport Field, sidewaks & recreation area

				Sprinkler Type								Sprinkler Condition								System Condition										
Station No.	Microclimate	Plant Material	Plant Density	Sprinkler Make	Rotor	Spray	Stream Rotor	Rotary Nozzle	Bubbler	Micro Spray	Drip	Low	Tipped	Arc Misaligned	Clogged	Leaking	Broken Head	Non-rotating Head	Overspray	Spray Blocked	Effective	Head-Head Spacing	Pressure Reading	High/Low Pressure	Broken Irr. Line	Valve Malfunction	Photograph	Replace Nozzles	Planter Area	Quantity	Notes
22	M	T Tr	H	R	20								2						3		Y	Y	40	OK			30		S M L		
23	M	T Tr	H	T	1	47	1					8						1			Y	N		OK			33		S M L		Bad Design

Reference Codes

Microclimate		Plant Material H/M/L		Density		Sprinkler Make		Area	
H	High	T	Turf	H	High	R	Rainbird	S	25 sq ft
M	Medium	S	Shrubs	M	Medium	T	Toro	M	50 sq ft
L	Low	G	Ground Cover	L	Low	H	Hunter	L	100 sq ft
		M	Mixed			I	Irritrol		
		Tr	Trees			O	Other		

Soil Type		Water Source
Clay		Potable
Loam	O	Recycled
Sand		

Turf Information	
Existing Synthetic Turf:	N
System Information	
Booster Pump:	Y
Pressure Regulator:	Y

Auditor Name: Enrique Zanetti

Auditor Name: Chris Jackson

Time In:

Appointment:

Landscape Data - Active Stations By Controller

Facility: Bloomfield Park	Address: 21420 Pioneer Blvd., Lakewood, Ca.	Location: See map	Work Order:

Irrigation Controller Make & Model: Manual Valves - Unik (battery operated)	WBIC?: N	Total Stations: 11	Active Stations: 10	Area Description: Sidewalks & planters

				Sprinkler Type								Sprinkler Condition								System Condition							Replace Nozzles	Planter Area	Quantity	Notes
Station No.	Microclimate	Plant Material	Plant Density	Sprinkler Make	Rotor	Spray	Stream Rotor	Rotary Nozzle	Bubbler	Micro Spray	Drip	Low	Tipped	Arc Misaligned	Clogged	Leaking	Broken Head	Non-rotating Head	Overspray	Spray Blocked	Effective	Head-Head Spacing	Pressure Reading	High/Low Pressure	Broken Irr. Line	Valve Malfunction	Photograph				
1	M	T Tr	H	O T		17						5		2							Y	N		OK			35		S M L		A lot of run off. Stations 1 & 2 work at same time
2	M	T Tr	H	O T																	Y	N		OK					S M L		Stations 1 & 2 work at same time
3	M	S T	H	O		8														8	Y	N		OK			36		S M L		
4	M	T Tr	H	T	6																Y	Y	35	OK			37		S M L		
5	M	T Tr	H	O			10							2	1	1			3		Y	Y		H			41		S M L		
6	M	S Tr	H	T		4														4	Y	N		H			42		S M L		2 Planters
7	M	T	H	T		18															Y	N		OK					S M L		
8	M	T Tr	H	H O	15								1			1		1			Y	N	30	OK			43		S M L		
9	H	T Tr	H	H R O	16																Y	N	25	L					S M L		
10	H	T Tr	H	T R O	16							1				1		1			Y	N	40	OK					S M L		
11	M	T Tr	H	H R O	9									1						1	Y	N	35	OK					S M L		

Reference Codes

Microclimate		Plant Material H/M/L		Density		Sprinkler Make		Area	
H	High	T	Turf	H	High	R	Rainbird	S	25 sq ft
M	Medium	S	Shrubs	M	Medium	T	Toro	M	50 sq ft
L	Low	G	Ground Cover	L	Low	H	Hunter	L	100 sq ft
		M	Mixed			I	Irritrol		
		Tr	Trees			O	Other		

Soil Type		Water Source
Clay		Potable
Loam	O	Recycled
Sand		

Turf Information	
Existing Synthetic Turf:	N
System Information	
Booster Pump:	Y
Pressure Regulator:	Y

Auditor Name: Enrique Zanetti

Auditor Name: Chris Jackson

Time In:

Appointment:

City of Lakewood

Biscailuz Park

2601 Dollar Street
Lakewood, CA 90712

Audit Date:	December 4, 2008
Auditor:	Enrique Zanetti
Assistant:	Chris Jackson
Building Area:	1,304 sq ft
Landscape Irrigated Area:	123,702 sq ft
Total Area:	125,006 sq ft

City of Lakewood

Biscailuz Park

2601 Dollar Street
Lakewood, CA 90712

Building Area: 1,304 sq ft

Landscape Irrigated Area: 123,702 sq ft

Biscailuz Park

December 4, 2008

About 14% of the sprinklers were tipped. Tipped sprinkler heads cause uneven distribution of water.

Here is an example of a rotor with arc misalignment. A total of 34 sprinklers at Biscailuz Park were out of alignment.

Over 25% of the sprinklers at Controller I were found broken. Broken sprinklers should be kept to a minimum with maintenance, these broken sprinklers are creating major water losses.

The above photo shows low sprinkler heads with high water pressure resulting in misting. Misting can be fixed by adding pressure regulators.

This photo shows a low rotor. Low sprinklers produce poor water distribution uniformity and pooling at the base of the sprinkler.

Overspray is often a problem on sidewalks and parkways. We recommend replace the nozzles with strip series nozzle types at stations 4 and 10 Controller I and manual station 5.

Landscape Data - Active Stations By Controller

Facility: Biscailuz Park	Address: 2601 Dollar St., Lakewood, Ca.	Location: See map	Work Order:

Irrigation Controller Make & Model: Aqua Dial 523A (Controller I)	WBIC?: N	Total Stations: 24	Active Stations: 19	Area Description: Field

				Sprinkler Type								Sprinkler Condition								System Condition										
Station No.	Microclimate	Plant Material	Plant Density	Sprinkler Make	Rotor	Spray	Stream Rotor	Rotary Nozzle	Bubbler	Micro Spray	Drip	Low	Tipped	Arc Misaligned	Clogged	Leaking	Broken Head	Non-rotating Head	Overspray	Spray Blocked	Effective	Head-Head Spacing	Pressure Reading	High/Low Pressure	Broken Irr. Line	Valve Malfunction	Photograph	Replace Nozzles	Planter Area	Quantity	Notes
1	H	T	H	H O	3											1			1		Y	Y	40	L			47		S M L		
2	H	T Tr	H	H O	2																Y	Y	35	L					S M L		
3	H	T Tr	H	H O		30						6	2	2	1	1	10		9		N	Y		OK			67		S M L		
4	H	T	H	T		21							15			2			21		Y	Y		OK			57		S M L		ALL SPRAYS ARE OVERSPRAYING
5	H	T	H	T O		14						11			1	1					Y	Y		OK			58		S M L		LOW PRESSURE AT END OF LINE... BAD DESIGN
6	H	T	H	T O		16						7	3	3			2				Y	Y		H					S M L		ALL SPRAYS ARE OVERSPRAYING
7	H	T	H	H O		14							2			1	12				N	Y		L			80		S M L		3 SPRINKLERS ARE MISSING
8	H	T Tr	H	H T	1		3							1		1	1		2		Y	Y	30	L					S M L		BAD DESIGN.. MIXING ROTOR TYPES
9	H	S Tr	M	O		?																			1	1			S M L		PLANTERS. STATION NOT WORKING
10	H	T	H	T O		42							1	2			28		14		N	Y		L			75		S M L		ALL SPRAYS ARE OVERSPRAYING
12	H	T	H	H O	5							1	2						2		Y	Y	40	L			61		S M L		

Reference Codes

Microclimate		Plant Material H/M/L		Density		Sprinkler Make		Area	
H	High	T	Turf	H	High	R	Rainbird	S	25 sq ft
M	Medium	S	Shrubs	M	Medium	T	Toro	M	50 sq ft
L	Low	G	Ground Cover	L	Low	H	Hunter	L	100 sq ft
		M	Mixed			I	Irritrol		
		Tr	Trees			O	Other		

Soil Type		Water Source	
Clay		Potable	O
Loam	O	Recycled	
Sand			

Turf Information	
Existing Synthetic Turf:	N
System Information	
Booster Pump:	N
Pressure Regulator:	N

Auditor Name: Enrique Zanetti

Auditor Name: Chris Jackson

Time In:

Appointment:

Landscape Data - Active Stations By Controller

Facility: Biscailuz Park	Address: 2601 Dollar St., Lakewood, Ca.	Location: See map	Work Order:

Irrigation Controller Make & Model: Aqua Dial 523A (Controller I)	WBIC?: N	Total Stations: 24	Active Stations: 19	Area Description: Field

				Sprinkler Type								Sprinkler Condition								System Condition										
Station No.	Microclimate	Plant Material	Plant Density	Sprinkler Make	Rotor	Spray	Stream Rotor	Rotary Nozzle	Bubbler	Micro Spray	Drip	Low	Tipped	Arc Misaligned	Clogged	Leaking	Broken Head	Non-rotating Head	Overspray	Spray Blocked	Effective	Head-Head Spacing	Pressure Reading	High/Low Pressure	Broken Irr. Line	Valve Malfunction	Photograph	Replace Nozzles	Planter Area	Quantity	Notes
13	H	T	H	TO		28						11	2	6	1		1				Y	Y		H			51		S M L		
15	H	T Tr	H	HO	3									1		1					Y	Y	40	L					S M L		
17	H	T Tr	H	HO	8									1		2	1		2		Y	Y	30	L			53		S M L		
18	H	T	H	HO	6									2		1					Y	Y	30	L			59		S M L		
19	H	T	H	HO	1											1		1			Y	N	40	L					S M L		
20	H	T Tr	H	HO	4									1		1			2		Y	Y	40	L			46		S M L		
21	H	T Tr	H	HO	5								1	2						2	Y	Y	35	L					S M L		MIXED SPRINKLERS
22	H	T Tr	H	RO	4								1	2					1		Y	Y	35	L			69		S M L		

Reference Codes

Microclimate		Plant Material H/M/L		Density		Sprinkler Make		Area	
H	High	T	Turf	H	High	R	Rainbird	S	25 sq ft
M	Medium	S	Shrubs	M	Medium	T	Toro	M	50 sq ft
L	Low	G	Ground Cover	L	Low	H	Hunter	L	100 sq ft
		M	Mixed			I	Irritrol		
		Tr	Trees			O	Other		

Soil Type		Water Source	
Clay		Potable	O
Loam	O	Recycled	
Sand			

Turf Information	
Existing Synthetic Turf:	N
System Information	
Booster Pump:	N
Pressure Regulator:	N

Auditor Name: Enrique Zanetti

Auditor Name: Chris Jackson

Time In:

Appointment:

Landscape Data - Active Stations By Controller

Facility: Biscailuz Park	Address: 2601 Dollar St., Lakewood, CA, 90712	Location: See map	Work Order:

Irrigation Controller Make & Model: Manual Stations	WBIC?: N	Total Stations: 5	Active Stations: 5	Area Description: Field

				Sprinkler Type								Sprinkler Condition								System Condition										
Station No.	Microclimate	Plant Material	Plant Density	Sprinkler Make	Rotor	Spray	Stream Rotor	Rotary Nozzle	Bubbler	Micro Spray	Drip	Low	Tipped	Arc Misaligned	Clogged	Leaking	Broken Head	Non-rotating Head	Overspray	Spray Blocked	Effective	Head-Head Spacing	Pressure Reading	High/Low Pressure	Broken Irr. Line	Valve Malfunction	Photograph	Replace Nozzles	Planter Area	Quantity	Notes
1	M	T Tr	H	T		11							2	3	3	1			2		Y	Y		L					S M L		
2	H	S	H	T O		7							1	1					1	3	Y	Y		H					S M L		
3	H	T Tr	H	H T O	6								1			1		1			Y	Y	35	L					S M L		
4	H	T	H	H O	5							1	2	5					1		Y	Y	35	L					S M L		
5	M	S	L	O		24						1	2	2	3				24	2	Y	Y		H					S M L		

Reference Codes									
Microclimate		Plant Material H/M/L		Density		Sprinkler Make		Area	
H	High	T	Turf	H	High	R	Rainbird	S	25 sq ft
M	Medium	S	Shrubs	M	Medium	T	Toro	M	50 sq ft
L	Low	G	Ground Cover	L	Low	H	Hunter	L	100 sq ft
		M	Mixed			I	Irritrol		
		Tr	Trees			O	Other		

Soil Type		Water Source	
Clay		Potable	O
Loam	O	Recycled	
Sand			

Turf Information	
Existing Synthetic Turf:	N
System Information	
Booster Pump:	N
Pressure Regulator:	N

Auditor Name: Enrique Zanetti

Auditor Name: Chris Jackson

Time In:

Appointment:

City of Lakewood

Candle Verde Park

6300 Candle Wood Street
Lakewood, CA 90713

Audit Date:	November 19, 2008
Auditor:	Kelly Takai
Assistant:	Kosta Duncan
Landscape Irrigated Area:	87,705 sq ft
Total Area:	87,705 sq ft

City of Lakewood

Candle Verde Park

6300 Candle Wood Street
Lakewood, CA 90713

Landscape Irrigated Area: 87,705 sq ft

Landscape Data - Active Stations By Controller

Facility: Candle Verde Park	Address: 6300 Candlewood St., Lakewood, CA 90713	Location: See map	Work Order:

Irrigation Controller Make & Model: Rain Master Sentar	WBIC?: N	Total Stations: 12	Active Stations: 9	Area Description: Field

				Sprinkler Type								Sprinkler Condition								System Condition										
Station No.	Microclimate	Plant Material	Plant Density	Sprinkler Make	Rotor	Spray	Stream Rotor	Rotary Nozzle	Bubbler	Micro Spray	Drip	Low	Tipped	Arc Misaligned	Clogged	Leaking	Broken Head	Non-rotating Head	Overspray	Spray Blocked	Effective	Head-Head Spacing	Pressure Reading	High/Low Pressure	Broken Irr. Line	Valve Malfunction	Photograph	Replace Nozzles	Planter Area	Quantity	Notes
1	H	T	H	H	10							1	4			1					Y	Y		OK			21		S M L		
2	H	T	H	H	9							2									Y	Y		OK			22		S M L		
4	H	T	H	H	5																Y	Y		OK					S M L		
5	H	T	H	H	7							4	1								Y	Y		OK			24		S M L		
6	H	T	H	H	8								1	3					1		Y	Y		OK			25		S M L		
7	H	T	H	H	7							2	3	4	1	1					Y	Y		OK			27		S M L		
9	L	T Tr	H	H	4							4				1	1			4	Y	Y		OK					S M L		
10	M	T Tr	H	H	2							2									Y	Y		OK			28		S M L		
11	H	T	H	H R	7	5						1			1						Y	Y		OK			32		S M L		

Reference Codes

Microclimate		Plant Material H/M/L		Density		Sprinkler Make		Area	
H	High	T	Turf	H	High	R	Rainbird	S	25 sq ft
M	Medium	S	Shrubs	M	Medium	T	Toro	M	50 sq ft
L	Low	G	Ground Cover	L	Low	H	Hunter	L	100 sq ft
		M	Mixed			I	Irritrol		
		Tr	Trees			O	Other		

Soil Type		Water Source	
Clay		Potable	O
Loam	O	Recycled	
Sand			

Turf Information	
Existing Synthetic Turf:	N
System Information	
Booster Pump:	N
Pressure Regulator:	N

Auditor Name: Kelly Takai

Auditor Name: Kosta Duncan

Time In:

Appointment:

City of Lakewood

Cherry Cove Park

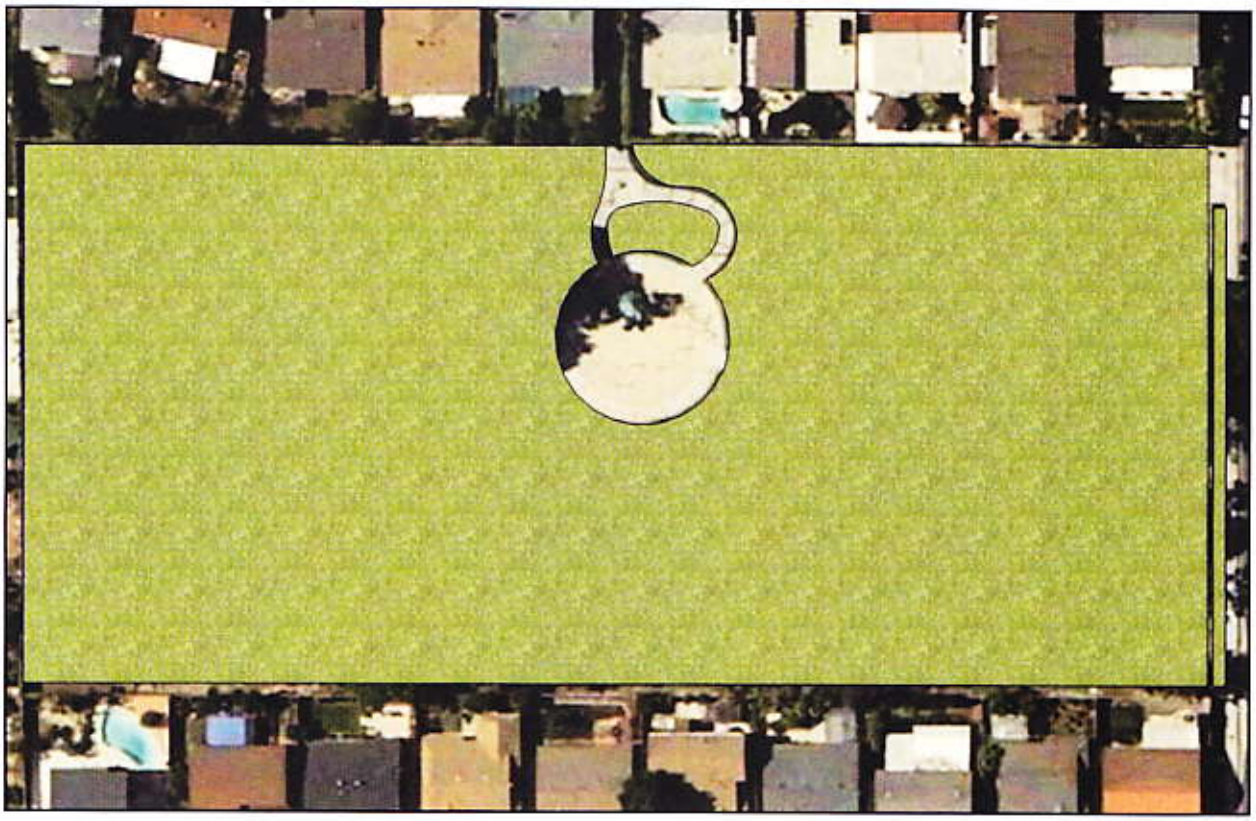
5149 Meadow Wood Avenue
Lakewood, CA 90712

Audit Date:	December 19, 2008
Auditor:	Kelly Takai
Assistant:	Kosta Duncan
Landscape Irrigated Area:	119,374 sq ft
Total Area:	119,374 sq ft

City of Lakewood

Cherry Cove Park

5149 Meadow Wood Avenue
Lakewood, CA 90712



Landscape Irrigated Area: 119,374 sq ft

Landscape Data - Active Stations By Controller

Facility: Cherry Cove Park	Address: 5149 Meadow Wood Ave., Lakewood, CA 90712	Location: See map	Work Order:

Irrigation Controller Make & Model: Aqua-Dial	WBIC?: N	Total Stations: 12	Active Stations: 11	Area Description: Field

Station No.	Microclimate	Plant Material	Plant Density	Sprinkler Type: Sprinkler Make	Rotor	Spray	Stream Rotor	Rotary Nozzle	Bubbler	Micro Spray	Drip	Sprinkler Condition: Low	Tipped	Arc Misaligned	Clogged	Leaking	Broken Head	Non-rotating Head	Overspray	Spray Blocked	System Condition: Effective	Head-Head Spacing	Pressure Reading	High/Low Pressure	Broken Irr. Line	Valve Malfunction	Photograph	Replace Nozzles	Planter Area	Quantity	Notes
1	H	T	H	R		22							7	2	1	1					Y	Y		OK					S M L		
2	L	T Tr	H	T	3	1	17					1			1			1			Y	Y		OK			34		S M L		Mixed heads
3	L	T Tr	H	T			21					5			2						Y	Y		OK			35		S M L		
4	L	T Tr	H	T		17	2						2			1					Y	Y		OK					S M L		Mixed heads
5	H	T	H	T	6													1	1		Y	Y		OK			36		S M L		
6	M	T Tr	H	T	1		16					8	1							1	Y	Y		OK					S M L		Mixed heads
7	M	T Tr	H	T	9							9				1				5	Y	Y		OK			38		S M L		
8	H	T	H	T	6							6	2							1	Y	Y		OK					S M L		
9	H	T	H	T	6							6									Y	Y		OK					S M L		
10	M	T	H	T	8							7	1								Y	Y		OK					S M L		
11	H	T	H	T	3							2	1							1	Y	Y		OK					S M L		

Reference Codes

Microclimate		Plant Material H/M/L		Density		Sprinkler Make		Area	
H	High	T	Turf	H	High	R	Rainbird	S	25 sq ft
M	Medium	S	Shrubs	M	Medium	T	Toro	M	50 sq ft
L	Low	G	Ground Cover	L	Low	H	Hunter	L	100 sq ft
		M	Mixed			I	Irritrol		
		Tr	Trees			O	Other		

Soil Type		Water Source	
Clay		Potable	O
Loam	O	Recycled	
Sand			

Turf Information	
Existing Synthetic Turf:	N

System Information	
Booster Pump:	N
Pressure Regulator:	N

Auditor Name: Kelly Takai

Auditor Name: Kosta Duncan

Time In:

Appointment:

Lakewood Indoor Details

Urinals

Recommendation	Number of Replacements Recommended	Valve Mfg	Valve Concealed	Sensor	Bowl Mfg	Trap	Urinal Size	Height Bottom to Floor	Spud from top	Spud from back	GPF	Location
Replace old 1.5+ GPF with Ultra Low Volume models	1	Sloan	No	No	Kohler	2"	38" X 18"	-	9.5"	3.5"	2	Biscailuz Park, floor 1, Public, Male(1)
	1	Sloan	No	No	Crane	2"	24" X 18.5"	18"	9.5"	2.5"	3.5	Simon Bolivar Park, floor 1, Public, Male(1)
	1	Sloan	No	No	Crane	2"	24" X 18.5"	22.5"	9.5"	3"	5.5	Simon Bolivar Park, floor 1, Public, Male(1)
Upgrade old 1.0 GPF with Ultra Low Volume models	1	Sloan	No	No	AmStd	1.5"	22" X 14"	17.5"	11.5"	2.5"	1	Bloomfield Park, floor 1, Public, Male(1)
	1	Sloan	No	No	AmStd	1.5"	22" X 14"	23"	11.5"	2.5"	1	Bloomfield Park, floor 1, Public, Male(1)
	2	Sloan	No	No	AmStd	2"	18" X 11"	17"	10"	3"	1	Simon Bolivar Park, floor 1, Pool, Male(2)
	2	Sloan	No	No	AmStd	2"	18" X 11"	24"	11"	3"	1	Simon Bolivar Park, floor 1, Pool, Male(2)

Total Urinals 9

Toilets

Recommendation	Number of Replacements Recommended	Tank or Valve	Valve Mfg	Valve Concealed	Sensor	Bowl Type	Bowl Tank Mfg	Mounted	Rough In	ADA	GPF	Location
Replace old 3.5+ GPF with High Efficiency, Flush-valve, Wall-mounted Model	1	Valve	Sloan	No	No	Elongated	Crane	Wall	-	Yes	5	Biscailuz Park, floor 1, Public, Female(1)
	1	Valve	Sloan	No	No	Elongated	Crane	Wall	-	Yes	3.5	Simon Bolivar Park, floor 1, Public, Female(1)
	2	Valve	Sloan	No	No	Elongated	AmStd	Wall	-	No	3.5	Simon Bolivar Park, floor 1, Public, Female(2)
Upgrade old 1.6 GPF with High Efficiency, Flush-valve, Wall-mounted Model	1	Valve	Sloan	No	No	Elongated	AmStd	Wall	-	No	1.6	Biscailuz Park, floor 1, Public, Female(1)
	1	Valve	Sloan	No	No	Elongated	AmStd	Wall	-	Yes	1.6	Simon Bolivar Park, floor 1, Public, Male(1)
	1	Valve	Sloan	No	No	Elongated	AmStd	Wall	-	Yes	1.6	Simon Bolivar Park, floor 1, Pool, Male(1)
	1	Valve	Sloan	No	No	Elongated	AmStd	Wall	-	Yes	1.6	Simon Bolivar Park, floor 1, Pool, Female(1)
	3	Valve	Sloan	No	No	Elongated	AmStd	Wall	-	No	1.6	Simon Bolivar Park, floor 1, Pool, Male(3)
	5	Valve	Sloan	No	No	Elongated	AmStd	Wall	-	No	1.6	Simon Bolivar Park, floor 1, Pool, Female(5)
Upgrade old 1.6 GPF with High Efficiency, Flush-valve, Floor-mounted Model	1	Valve	Sloan	No	No	Elongated	AmStd	Floor	12	Yes	1.6	Bloomfield Park, floor 1, Public, Male(1)
	1	Valve	Sloan	No	No	Elongated	AmStd	Floor	12	Yes	1.6	Bloomfield Park, floor 1, Public, Female(1)
	1	Valve	Sloan	No	No	Elongated	AmStd	Floor	14	No	1.6	Bloomfield Park, floor 1, Public, Male(1)
	2	Valve	Sloan	No	No	Elongated	AmStd	Floor	14	No	1.6	Bloomfield Park, floor 1, Public, Female(2)

Total Toilets 21

CHAPTER 6
WATER CONSERVATION IN LANDSCAPING
(Added by Ord. 93-11)
(Amended by Ord. 2009-9)

8600. INTENT AND PURPOSES. The purpose of this Chapter is to establish standards and procedures for the design, installation, and management of water conserving landscapes in order to utilize available plant, water, and land resources to avoid excessive landscape water demands while ensuring high quality landscape design.

8601. APPLICABILITY.

A. These requirements shall be applicable to:

1. Installation of new and rehabilitated landscaping for industrial, commercial, office and institutional developments; parks and other public recreational areas; multi-family residential; Planned Development (PD) common areas and to road medians and corridors with a landscape area equal to or greater than 2,500 square feet.

2. Installation of new landscaping at single family dwellings, which are developer-installed with a landscape area equal to or greater than 2,500 square feet.

3. Installation of new landscaping at single family dwellings, which are home-owner installed, with a landscape area equal to or greater than 5,000 square feet.

B. These requirements shall not be applicable to:

1. Any residential project with a lot size of 7,000 square feet or less.
2. Private open space areas in multiple family residential developments.
3. Cemeteries
4. Registered Historical Sites
5. Ecological restoration projects that do not require a permanent irrigation system
6. Mined-land reclamation projects that do not require a permanent irrigation system
7. Any project utilizing reclaimed water

8602. DEFINITIONS. Unless the context specifically indicates otherwise, the meaning of terms used in this Chapter shall be as defined in this section.

A. APPLIED WATER. The portion of water supplied by the irrigation system to the landscape.

B. AUTOMATIC IRRIGATION CONTROLLER. An automatic timing device used to remotely control valves that operate an irrigation system. Automatic irrigation controllers schedule irrigation events using either evapotranspiration (weather-based) or soil moisture data.

C. AUTOMATIC IRRIGATION SYSTEM. An irrigation system that can be controlled without manual manipulation and which operates on a pre-set program.

D. CONTOUR. A line drawn on a plan which connects all points of equal elevation above or below a known or assumed reference point.

E. CONTROL VALVE. A valve in an irrigation system which is manually or automatically actuated using electric or hydraulic controls.

F. CYCLE. The complete operation of a controller station.

G. DESIGNER. A person qualified to design landscape and irrigation systems, including one qualified to practice landscape architecture and/or irrigation design.

H. DIRECTOR. The Director of Community Development.

I. ESTIMATED TOTAL WATER USE. The calculation to determine the total water used for the landscaped area including water features. The estimated total water use shall not exceed the maximum applied water allowance.

J. ET ADJUSTMENT FACTOR. The ET adjustment factor is 0.70. It is applied to the local evapotransporation factor to adjust for plant factors and irrigation efficiency, the two factors in determining the amount of water required to maintain a landscape area.

K. GRADING. Earthwork performed to alter the natural contours of an area to be planted.

L. HYDROZONE. A portion of the planting area having plants with similar water needs. A hydrozone may be irrigated or non-irrigated.

M. INFILTRATION RATE. The rate of water entry into the soil expressed as a depth of water per unit of time (e.g., inches per hour).

N. IRRIGATION SYSTEM. A complete connection of system components, including the water distribution network and the necessary irrigation equipment downstream from the backflow prevention device.

O. MAXIMUM APPLIED WATER ALLOWANCE. The annual maximum amount of water that can be applied to a landscaped area. The maximum applied water allowance is based on local evapotranspiration, the ET Adjustment Factor and the size of the landscape area.

P. PLANT FACTOR. The amount of water required to maintain the health of the plant. Low water use plants have a plant factor between 0 and 0.3, moderate water use plants have a plant factor between 0.4 and 0.6, and high water use plants have a plant factor between 0.7 and 1.0.

Q. PLANTING AREA. The parcel area less building pad(s), driveway(s), patio(s), deck(s), walkway(s) and parking area(s). Planting area includes water bodies (i.e. fountains, ponds, lakes) and natural areas.

R. PLANTING PLAN. A plan showing the location, spacing, numbers, container sizes of all plant materials including common and botanical names.

S. RECLAIMED WATER. A treated or recycled waste water of quality suitable for nonpotable uses such as landscape irrigation and water features; not intended for human consumption.

T. REHABILITATED LANDSCAPE. Any planting area in which more than 50 percent of the existing landscape material is replaced or modified from original plans as approved by the City, which is equal to or greater than 2,500 square feet and meets the provisions in Section 8601. Replacing and rehabilitating irrigation systems only is not considered rehabilitated landscape provided the same or equivalent parts are used in the replacement and there is no increase in the estimated total water use.

U. SPECIAL LANDSCAPE AREA. Any area of the landscape dedicated solely to edible plants, water features using reclaimed water, and areas dedicated to active play such as parks, sports fields, golf courses and any other area where turf provides a playing surface.

V. STATION. An area served by one valve or by a set of valves that operate simultaneously.

W. TURF. A ground cover surface of mowed grass.

8603. PROCEDURES FOR IMPLEMENTATION OF WATER CONSERVATION LANDSCAPING PROVISIONS. The City Council shall adopt a resolution which establishes the procedures for the implementation of the provisions herein. The City shall make the provisions herein and the procedures of implementation of the water conservation in landscaping ordinance available to the public.

8604. LANDSCAPE PLAN - REQUIRED. Landscape plans shall be prepared in accordance with the standards set forth herein and with the procedures developed to help implement the provisions of this chapter; said procedures are on file in the office of the Director of Community Development. Such plans shall be submitted and approved prior to the issuance of building permits to comply with the requirements of this Chapter.

8605. LANDSCAPE PERMIT - REQUIRED. A permit for the installation of all new and rehabilitated landscape is required. Prior to the issuance of the permit, a Landscape Plan Application shall be submitted and approved in accordance with this Chapter.

8606. LANDSCAPE PLAN - APPLICATION. Prior to the issuance of a landscape permit, a Landscape Plan Application shall be submitted, reviewed and approved in accordance with this Chapter. Applications for Landscape Plan approval shall be filed by the owner of the affected property or his agent, or by a public entity to which the provisions of the Chapter apply. At the time the landscape plans are submitted the applicant shall pay a fee in accordance with City Council Resolution.

8607. LANDSCAPE PLAN - APPROVAL. No Landscape Plan Application shall be approved unless the Director finds that the plan compliments the design of the project, is consistent with the provisions of this chapter and applicable landscape procedures; compatible with adjacent existing or future public landscaped areas, and with the elevations and appearances with existing structures located upon lots within the immediate vicinity of the lot which is the subject of such application.

8608. LANDSCAPE PLAN - CONTENT. Each Landscape Plan submittal requires the completion of a Landscape Documentation Package as outlined in the procedures, and shall consist of the following elements including, but not limited to the following:

A. WATER EFFICIENT LANDSCAPE WORKSHEET. Each landscape plan shall include a Water Efficient Landscape Worksheet, which shall include calculations of the project's:

1. Maximum Applied Water Allowance.
2. Estimated Total Water Use.

B. PLANTING PLAN. The planting plan shall identify location, spacing, numbers, and container sizes of all plant materials including common and botanical names, plant factor, and size of hydrozone areas. Planting plan shall be drawn to scale on project base sheets in a clear and legible fashion in accordance with the procedures established to implement the provisions of this Chapter.

C. IRRIGATION PLAN. The irrigation plan shall identify all components of the irrigation system drawn to scale on project base sheets in a clear and legible fashion in accordance with the procedures established to implement the provisions of this Chapter. Irrigation systems shall be designed and maintained in a manner that meets or exceeds an average landscape irrigation efficiency of 0.71.

D. SOILS ASSESSMENT. The landscape plan shall include an assessment of the soils which evaluates soil infiltration rate, soil texture, and agricultural suitability. Projects that do not require significant mass grading shall submit a soils assessment with the Landscape Plan prior to the commencement of work. Projects that require significant mass grading shall submit the soils assessment with the Certificate of Completion.

E. GRADING DESIGN PLAN. Grading of a project site shall be designed to minimize soil erosion, runoff and water waste. Grading plans shall be prepared in accordance with the procedures established to implement the provisions of this Chapter.

F. ANNUAL IRRIGATION SCHEDULE. Irrigation schedules shall be developed, managed and evaluated to utilize the minimum amount of water required to maintain plant health and in accordance with the procedures established to implement the provisions of this Chapter. The annual irrigation schedule shall be prepared with a minimum four-season water schedule. The irrigation schedule shall include run time and frequency of irrigation for each station and shall be posted at the site.

8609. WATER FEATURES. Decorative water features such as ponds, and waterfalls used in landscaped areas shall incorporate water recirculation systems, and shall be designed and operated to minimize water loss, and use reclaimed water if available and approved by the State of California Department of Public Health and the Los Angeles County Department of Public Health. Recreational pools and spas shall be designed to minimize water loss. All water features shall be included in the project's Estimated Total Water Use in accordance with the procedures established to implement the provisions of this Chapter.

8610. WATER METERS. Each landscape irrigation system for new developments shall be metered for water use, separately from domestic and other non-landscape uses, except for single family homes or any project with a landscaped area of less than 3,000 square feet.

8611. RECLAIMED WATER. The installation of a separate water irrigation systems from domestic water supply (dual distribution systems) shall be required for new developments to allow for the current and future use of reclaimed water, unless during the plan check process it is determined that reclaimed water meeting all health standards is not available in the foreseeable future. The reclaimed water irrigation systems shall be designated and operated in accordance with local and state codes.

8612. STORMWATER MANAGEMENT. The use of stormwater best management practices into the landscape and grading design plans, which minimize runoff and increase on-site water retention and infiltration are strongly encouraged. Applicants shall follow stormwater regulations promulgated by the city and the Regional Water Quality Control Board. Landscape features that capture rainwater such as rain gardens and cisterns are encouraged.

8613. IRRIGATION AND LANDSCAPE MAINTENANCE. Landscapes shall be maintained to ensure water use efficiency. A regular maintenance schedule shall be prepared in accordance with the procedures established to implement the provisions of this Chapter and submitted with the Certificate of Completion. The property owner shall permanently and continuously maintain all landscaping and irrigation in a neat, clean and healthy condition, including removal of litter, proper pruning, mowing of lawns, weeding, fertilizing, and watering; and replacement of diseased and/or dead plants; and repair of malfunctioning, missing irrigation system components, and maintenance of sprinkler heads to eliminate overspray. All landscape irrigation shall meet the provisions of the City of Lakewood Water Conservation Ordinance Section 7511.1 of the Lakewood Municipal Code.

8614. IRRIGATION AUDIT, IRRIGATION SURVEY AND IRRIGATION WATER USE ANALYSIS. A certified landscape irrigation auditor shall conduct an irrigation audit in accordance with the procedures established to implement the provisions of this Chapter. The results of the irrigation audit shall be submitted with the Certificate of Completion.

8615. CERTIFICATE OF COMPLETION. Upon completion of the installation of the landscaping, the designer shall certify that the landscape complies with all requirements of this Chapter. Certification shall be accomplished by completion of a Certificate of Completion on a form approved by the Director prior to final approval. Failure to submit a complete and accurate Certificate of Completion will delay final approval of the project and/or require the water utility to discontinue water service.

8616. RELATIVE WATER REQUIREMENTS OF COMMONLY USED PLANTS. The Director shall develop and maintain a list of plants that are commonly used in landscape designs with water requirement classifications of low, medium, and high to assist landscape designers to choose species of appropriate water demands to comply with this Chapter and to group species of similar water demands to facilitate efficient irrigation.

8617. EXISTING LANDSCAPES. Landscape areas installed prior to January 1, 2010 and are equal to or greater than one acre shall be required to conduct an irrigation water use audit. Such water use analysis shall be conducted by the property owner upon written notification by the City or the water utility serving the property. All landscape audits shall be conducted by a certified landscape irrigation auditor.

RESOLUTION NO. 2009-59

A RESOLUTION OF THE CITY COUNCIL OF THE CITY OF LAKEWOOD, ESTABLISHING RULES, REGULATIONS AND PROCEDURES GOVERNING THE IMPLEMENTATION OF THE WATER CONSERVATION IN LANDSCAPING ORDINANCE

THE CITY COUNCIL OF THE CITY OF LAKEWOOD DOES HEREBY RESOLVE AS FOLLOWS:

SECTION 1. The document attached hereto as Exhibit "A" is hereby adopted by the City Council as the City's rules, regulations and procedures governing the implementation of the Water Conservation in Landscaping Ordinance.

SECTION 2. The City Clerk shall certify to the adoption of the Resolution, and the same shall be effective as of the 1st day of January, 2010.

ADOPTED AND APPROVED THIS 10TH DAY OF NOVEMBER, 2009.

Mayor

ATTEST:

City Clerk

WATER CONSERVATION IN LANDSCAPING
RULES, REGULATIONS AND PROCEDURES

INTRODUCTION

The purpose of these rules, regulations and procedures is to identify the suggested minimum requirements for implementing the provisions of the City of Lakewood Water Conservation in Landscaping Ordinance, Section 8600 et seq. of the Lakewood Municipal Code, as required by California Government Code Section 65591 et seq.

The provisions in these procedures shall apply to the following:

1. Installation of new and rehabilitated landscaping for industrial, commercial, office and institutional developments; parks and other public recreational areas; multi-family residential; Planned Development (PD) common areas and to road medians and corridors with a landscape area equal to or greater than 2,500 square feet.

2. Installation of new landscaping at single family dwellings, which are developer-installed with a landscape area equal to or greater than 2,500 square feet.

3. Installation of new landscaping at single family dwellings, which are home-owner installed, with a landscape area equal to or greater than 5,000 square feet.

These requirements do not apply to:

1. Any residential project with a lot size of 7,000 square feet or less.

2. Private open space areas in multiple family residential developments.

3. Cemeteries.

4. Registered Historical Sites.

5. Ecological restoration projects that do not require a permanent irrigation system.

6. Mined-land reclamation projects that do not require a permanent irrigation system.

7. Any project utilizing reclaimed water. Projects that plan to use reclaimed/recycled water shall meet with the water purveyor to determine supply availability, proximity to recycled water distribution system, associated costs and operating regulations. Recycled water must meet all state and local regulations. Projects adjacent to a recycled water distribution system must meet the applicable provisions regarding connection as stated in the City of Lakewood Water Conservation Ordinance.

Landscape projects subject to the provisions in the City of Lakewood Water Conservation in Landscaping Ordinance shall prepare a Landscape Plan Application which includes the preparation of a Landscape Documentation Package and Certificate of Completion. Directions for the preparation of the Landscape Documentation Package and Certification of Completion are provided in the Water Conservation in Landscaping Rules, Regulations and Procedures contained herein. A completed Landscape Documentation Package must be submitted to the Community Development Department.

The Landscape Documentation Package will be reviewed to ensure completeness and compliance with the submittal requirements contained herein. The Landscape Documentation Package will be approved, approved with conditions, or denied. Applications receiving conditional approval will be required to revise the Landscape Documentation Package and resubmit to the City.

Upon approval the applicant must obtain all appropriate permits from City of Lakewood Building and Safety Department prior to starting work. The applicant must also forward a copy of the Water Efficient Landscape Worksheet to the local water purveyor: Lakewood Department of Water Resources or Golden State Water Company.

The **Landscape Documentation Package** shall contain:

1. Water Conservation in Landscaping Application Form;
2. Water Efficient Landscape Worksheet;
3. Landscape Plan;
4. Irrigation Plan;
5. Soil Assessment;
6. Grading Design Plan;
7. Stormwater Management Plan if applicable;
8. Annual Irrigation Schedule.

Upon completion of the project the applicant shall submit a **Certificate of Completion** to the City of Lakewood Community Development Department. The Certificate of Completion includes:

1. Certificate of Completion Form;
2. Submittal of revised Landscape Documentation Package, which includes as-built plans, if significant alterations were made to the original plans; and
3. Water Audit Results.

LANDSCAPE PLAN APPLICATION REQUIRMENTS

LANDSCAPE DOCUMENTATION PACKAGE

LANDSCAPE PLAN PREPARATION

Landscape Plan and Details. For the efficient use of water, a landscape should be carefully designed and planned for the intended function of the project. Landscape design plans meeting the following criteria shall be submitted as part of the Landscape Documentation Package:

I. Plant Materials. Any plant may be used in the landscape, providing the Estimated Total Water Use (ETWU) in the landscape area does not exceed the Maximum Applied Water Allowance (MAWA). See instructions on page 16 regarding the calculations of Estimated Total Water Use and Maximum Applied Water Allowance.

A. Hydrozones. The landscape area shall be divided into hydrozones. Each hydrozone shall be selected and planted appropriately based upon their adaptability to the climate, soil conditions, and site topography. Each hydrozone shall have plant materials with similar water use, with the following exception: hydrozones may mix plants with different water needs provided that individual hydrozones mix plants of moderate and low water use, or moderate and high water use. Hydrozones that mix low and high water use plants shall not be permitted. The water use calculation for mixed hydrzones must be based on one of the following:

1. Plant factor calculation is based on the proportions of the respective plant water uses and their plant factor; or

2. Plant factor of the highest water using plant is used for the calculation.

B. Turf. Turf is not allowed on slopes greater than 25% where the toe of the slope is adjacent to an impermeable hardscape.

C. Fire Prone Areas. A landscape design plan for projects in fire-prone areas shall address fire safety and prevention. A defensible space or zone around a building or structure is required pursuant to California Public Resource Code Section 4291(a) and (b).

D. Invasive or Noxious Plant Species. The use of invasive and/or noxious plant species is discouraged.

E. Low Water Use Plants. Architectural guidelines of a common interest development, including community apartment projects, condominiums, planned developments, and stock cooperatives, shall not prohibit or include conditions that have the effect of prohibiting the use of low-water plants as a group, pursuant to California Civil Code Section 1353.8.

II. Water Features. Water features such as ponds, and waterfalls used in landscaped areas shall meet the following criteria:

A. Recirculating water systems shall be used for water features;

B. Water features shall be designed and operated to minimize water loss; and

C. Water features shall use reclaimed water if available and approved by the State of California Department of Public Health and the Los Angeles County Department of Public Health.

D. Recreational pools and spas shall be designed to minimize water loss.

E. All water features shall be included in the project's Estimated Total Water Use. Water features shall be calculated as a high water use hydrozone.

III. Mulch and Amendments. The Landscape Plan shall include the use of mulch to retain moisture and minimize water runoff.

A. The following criteria shall be used for the installation of mulch into the landscape area:

1. Depth of Mulch. A minimum depth of three inches (3") of mulch shall be applied to all exposed soil surfaces of planting areas except in turf areas, creeping or rooting groundcovers, or direct seeding applications where mulch placement impedes plant growth.

2. Use of Mulch on Landscape Slopes. Stabilizing mulch products shall be used on landscape slopes.

3. Seed/Mulch Slurry. The mulching portion of the seed/mulch slurry in hydro-seeded applications shall comply with the above mulching standards.

B. Soil Amendments. Soil amendments shall be incorporated according to the findings of the soil report and in a manner appropriate for the selected plants.

IV. Landscape Design Plan. The Landscape Design Plan shall include:

A. Landscape Design Plan. The landscape design plan shall be drawn to scale on project base sheets in a clear and legible fashion. The plans shall be drawn to a scale which is appropriate for the size of the project and adequate to clearly identify each component of the plan. The smallest scale that may be used is one inch equal to 20 feet (1" = 20').

B. Elements Required on the Landscape Design Plan. The following elements shall be detailed on the project plans:

1. Project Base Sheet Elements. The project base sheets shall include dimensioned property lines, building footprints, and pervious and non-pervious hardscape areas including parking areas, paving, and sidewalks.

2. Natural Features and Plantings to Remain in Landscaped Areas. Landscape plans shall include natural features, including rock out-cropping, streams, existing mature and ornamental trees and shrubs proposed to remain on the subject site.

3. Hydrozone Delineation. The landscape plan shall delineate and label each hydrozone by number, letter, or other method. The plan shall identify each hydrozone as low, medium, high water, or mixed water use. Areas that are expected to receive temporary irrigation must be included in the low water use hydrozone for the water budget calculations.

4. Location of Plants. The landscape plan shall indicate each species of tree, shrub, groundcover, turf, and vine using a unique symbol for each.

5. Table of Plants. The landscape plan shall include a table of plants corresponding to the planting plan. The table shall include the botanical name, common name, container size, spacing, quantity, and the level of water use for each group of plants indicated.

6. Tree Staking and Soil Preparation Details. Landscape plan shall include tree staking details, soil preparation details and specifications, planting specifications, and any other applicable details. The landscape plan shall identify the type and quantity of soil amendments.

7. Recreation Areas. The landscape plan shall identify recreation areas.

8. Edible Plants. Identify areas dedicated permanently and solely to edible plants.

9. **Mulch Application.** The landscape plan shall identify the type of mulch and application depth. A minimum depth of three inches (3") is required.

10. **Water Features.** The landscape plan shall identify type and surface area of water features.

11. **Stormwater Retention and Infiltration Facilities.** The landscape plan shall identify location and installation depths of any applicable stormwater best management practices (BMPs) that encourage on-site retention and infiltration of stormwater. Stormwater BMPs are encouraged in the landscape design plan.

12. **Rain Harvesting Facilities.** The landscape plan shall identify any applicable rain harvesting or catchment technologies.

IRRIGATION PLAN PREPARATION

Irrigation Plan and Details. An irrigation system shall meet all the requirements listed in this section to obtain the most efficient use of water. The applicant shall design the irrigation system using the manufacturers' recommendations. The irrigation system and its related components shall be planned and designed to allow for proper installation, management, and maintenance. An irrigation design plan meeting the following design criteria shall be submitted as part of the Landscape Documentation Package:

I. **Irrigation System Design.** The irrigation system must be designed and installed to comply with the Irrigation Efficiency criteria and the Maximum Applied Water Allowance as found on the Water Efficient Landscape Worksheet.

A. **Water Meter.** Each landscape irrigation system for new developments shall be metered for water use separately from domestic and other non-landscape uses except for single family homes or any project with a landscape area of less than 3,000 square feet.

B. **Automatic Irrigation Controllers.** Automatic irrigation controllers utilizing either evapotranspiration or soil moisture sensor data shall be required for all irrigation systems.

C. **Water Pressure.** The irrigation system shall be designed to ensure that the dynamic pressure at each emission device is within the manufacturer's recommended pressure range for optimal performance.

1. **Measuring Water Pressure.** Static water pressure, dynamic or operating pressure and flow reading of the water supply shall be measured at the point of connection by the applicant during the design stage. If the measurements are not available at the design stage, the measurements shall be conducted upon initial installation of the irrigation system.

2. **Pressure Regulating Devices.** If the static pressure is above or below the required dynamic pressure of the irrigation system, pressure-regulating devices such as inline pressure regulators, booster pumps, or other devices shall be installed to meet the required dynamic pressure of the irrigation system.

D. **Sensors.** Sensors (rain, wind, etc.), either integral or auxiliary, that suspend or alter irrigation operation during unfavorable weather conditions shall be required on all irrigation systems, as appropriate.

E. **Shut Off Valve.** Manual shut-off valves shall be installed as close as possible to the point of connection of the water supply to minimize water loss in the event of a pipeline break or routine repair.

F. **Backflow Prevention Device.** Backflow prevention devices shall be installed to protect the water supply from contamination by the irrigation system. The water purveyor shall approve the location of the backflow device prior to installation. The backflow prevention device shall be tested upon approval of the Certificate of Completion or the commencement of water service whichever comes first. The backflow device shall be tested by a Los Angeles County Department of Public Health certified tester.

G. **Check Valves.** Check valves or anti-drain valves are required for all irrigation systems.

H. **Water Runoff and Overspray.** The irrigation system shall be designed to prevent runoff, low head drainage, overspray or other similar conditions where irrigation water flows onto non-targeted areas, such as adjacent property, non-irrigated areas, hardscapes, roadways or structures.

I. **Soil Management.** Relevant information from the soil management plan, such as soil type and infiltration rate, shall be utilized when designing irrigation systems.

J. Irrigation Devices. Sprinkler heads and other emission devices shall have matched precipitation rates, unless otherwise directed by the manufacturer's recommendations. The following criteria shall be used in determining the type, and location of irrigation sprinklers and emitters:

1. Irrigation of Mulched Areas. In mulched planting areas, the use of low volume irrigation is encouraged to maximize water infiltration into the root zone.

2. Sprinkler Heads and Emitters. Sprinkler spacing shall be designed to provide head to head coverage while achieving the highest possible distribution uniformity using the manufacturer's recommendations.

a) High Traffic Areas. Swing joints or other riser-protection components are required on all risers subject to damage that are adjacent to high traffic areas.

b) Narrow or Irregularly Shaped Areas. Narrow or irregularly shaped areas, including turf, less than eight feet in width in any direction shall be irrigated in a manner that precludes overspray.

c) Slopes. Slopes greater than 25% shall not be irrigated with an irrigation system with a precipitation rate exceeding 0.75 inches per hour. This restriction may be modified if the landscape designer specifies an alternative design or technology, as part of the Landscape Documentation Package, and clearly demonstrates that no runoff or erosion will occur. Prevention of runoff and erosion must be confirmed during the irrigation audit.

d) Overhead Irrigation. Overhead irrigation shall not be permitted within 24 inches of any non-permeable surface unless:

(1) The landscape area is adjacent to permeable surfacing and no runoff occurs; or

(2) The adjacent non-permeable surfaces are designed and constructed to drain entirely to landscaping; or

(3) The irrigation designer specifies an alternative design or technology, as part of the Landscape Documentation Package, that clearly demonstrates how the irrigation system will be designed to prevent runoff, low head drainage, overspray, or other similar conditions where irrigation water flows onto non-targeted areas, such as adjacent property, non-irrigated areas, hardscapes, roadways or structures. Prevention of overspray and runoff must be confirmed during the irrigation audit.

K. Hydrozones. The design of the irrigation system shall conform to the hydrozones of the landscape design plan.

1. Installation of a Separate Valve for Each Hydrozone. Each valve should irrigate a hydrozone with similar site, slope, sun exposure, soil conditions and plant materials with similar water use. On the landscape and irrigation design plans, hydrozone areas shall be designated by number, letter, or other designation. On the irrigation design plan, designate the areas irrigated by each valve, and assign a number to each valve. Use this valve number in the Hydrozone Information Table found on the Water Efficient Landscape Worksheet.

2. Sprinkler Head/Emitter Selection. Sprinkler heads and other emission devices shall be selected based on the needs of the plant types within each hydrozone.

3. **Tree Irrigation.** Trees should be placed on separate valves from shrubs, groundcovers, and turf.

4. **Mixed Hydrozones.** Individual hydrozones that mix plants of moderate and low water use, or moderate and high water use, may be allowed if:

a) Plant factor calculations are based on the proportions of the respective plant water uses and their plant factor; or

b) The plant factor of the higher water using plant is used for calculations.

c) Individual hydrozones that mix high and low water use plants shall not be permitted.

II. **Irrigation Plan Submittal.** The Irrigation Design Plan, at a minimum, shall:

A. Irrigation Design Plan. The irrigation design plan shall be drawn to scale on project base sheets in a clear and legible fashion. The plans shall be drawn to a scale which is appropriate for the size of the project and adequate to clearly identify each component of the plan. The smallest scale that may be used is one inch equal to 20 feet (1" = 20').

B. Elements Required on the Irrigation Design Plan. The following elements shall be detailed on the project plans:

1. **Water Meter.** Identify the location and size of water meters, which will be connected to the irrigation system;

2. **Irrigation System Components.** Identify the location, type and size of all components of the irrigation system; and

3. **Water Use by Station.** Identify the flow rate (gallons per minute), application rate (inches per hour), and design operating pressure (pressure per square inch) for each station.

SOILS ASSESSMENT

Soil Management Report. In order to reduce water runoff and encourage healthy plant growth, a soil management report shall be submitted by the project applicant or his/her designee, as follows:

I. Soil Analysis.

A. Collection of Soil Samples. Soil sampling shall be conducted in accordance with laboratory protocol, including protocols regarding adequate sampling depth for the intended plants.

B. Certified Soils Laboratory. Soil samples from the proposed planting areas shall be submitted to a certified soils laboratory for analysis and recommendations.

GRADING PLAN

Grading Design Plan. For the efficient use of water, grading of a project site shall be designed to minimize soil erosion, runoff, and water waste. A grading plan shall be submitted as part of the Landscape Documentation Package. A grading plan prepared by a civil engineer for other local agency permits satisfies this requirement.

I. Grading Plan Detail. The grading plan shall indicate finished configurations and elevations of the landscape. The grading plan shall be drawn to scale on project base sheets in a clear and legible fashion. The plans shall be drawn to a scale which is appropriate for the size of the project and adequate to clearly identify each component of the plan. The smallest scale that may be used is one inch equal to 20 feet (1"=20').

A. Grading Plan Design. To prevent excessive erosion and runoff, grading plans shall be designed:

1. To a finished grade that eliminate the potential of runoff from irrigation and rainfall, and does not allow drainage to adjacent private properties;

2. To avoid to the extent feasible the disruption of natural drainage patterns and undisturbed soil; and

3. To avoid to the extent feasible soil compaction in landscape areas.

B. Elements Required on the Grading Plan. The elements shall be detailed on the project plan:

1. Height of graded slopes;

2. Contour elevations with spacing shown at no greater than five feet (5');

3. Drainage patterns;

4. Pad elevations;

5. Finish grade; and

6. Stormwater retention improvements, if applicable.

STORMWATER MANAGEMENT

Stormwater Management. Stormwater management practices are implemented to minimize runoff and increase infiltration which recharges groundwater and improves water quality.

I. Stormwater Best Management Practices. The incorporation of stormwater best management practices into the landscape and grading design plans is encouraged. These best management practices are implemented to minimize runoff and to increase on-site retention and infiltration into the groundwater table.

A. Types of Stormwater Management Elements.

1. Rain gardens,

2. Cisterns, and

3. Other landscapes features and practices that increase rainwater capture and create opportunities for infiltration and/or onsite water storage.

B. Stormwater Management Facilities Plan. The stormwater management facilities plan shall be drawn to scale on project base sheets in a clean and legible fashion. The plans shall be drawn to a scale which is appropriate for the size of the project and adequate to clearly identify each component of the plan. The smallest scale that may be used is one inch equal to 20 feet (1"=20').

ANNUAL IRRIGATION SCHEDULE

Irrigation Schedule. An irrigation schedule shall be submitted with the Landscape Documentation Package. The irrigation schedule shall provide at a minimum: an annual irrigation program with a minimum four-season water schedule; and run time and frequency (days per week) of irrigation for each station. A copy of the irrigation schedule shall be maintained at the subject site.

I. **Establishing an Irrigation Schedule.** For the efficient use of water, all irrigation schedules shall be developed, managed and evaluated to utilize the minimum amount of water required to maintain plant health.

A. **Irrigation Schedule Criteria.** Irrigation schedules shall meet the following criteria:

1. **Automatic Irrigation Controller.** Irrigation scheduling shall be regulated by automatic irrigation controllers that operate using either evapotranspiration or soil moisture data. Parameters used to set the automatic controller shall be developed and submitted for each of the following:
   - **a)** The plant establishment period;
   - **b)** The established landscape; and
   - **c)** Temporarily irrigated areas.

2. **Schedule for Overhead Irrigation.** Overhead irrigation should be scheduled based on the watering times established in the City of Lakewood Water Conservation Ordinance and the existing water supply stage determined by the Lakewood City Council.

3. **Irrigation Schedule Compliance with Estimated Total Water Use.** The implementation of the irrigation schedule requires consideration of irrigation run times, emission device, flow rate, and current reference evapotranspiration, so that applied water meets the Estimated Total Water Use. Total annual applied water shall be less than or equal to the Maximum Applied Water Allowance (MAWA). Actual irrigation schedules shall be regulated by automatic irrigation controllers using current reference evapotranspiration data (e.g., CIMIS) or soil moisture sensor data.

4. **Station Setting Criteria.** Each irrigation schedule shall consider for each station all of the following:
   - **a)** Irrigation interval (days between irrigation) or days to irrigate;
   - **b)** Irrigation run times (hours or minutes per irrigation event.) Run time shall be limited to avoid runoff;
   - **c)** Number of cycle starts required for each irrigation event to avoid runoff;
   - **d)** Amount of applied water scheduled to be applied on a monthly basis;
   - **e)** Application rate setting;
   - **f)** Root depth setting;
   - **g)** Plant type setting;
   - **h)** Soil type;
   - **i)** Slope factor setting;
   - **j)** Shade factor setting; and
   - **k)** Irrigation uniformity or efficiency setting.

IRRIGATION AUDIT

Irrigation Audit.

I. **Irrigation Audit Report.** An irrigation audit must be conducted prior to the submittal of the Certificate of Completion. The irrigation audit includes a system test with distribution uniformity and an evaluation of Irrigation Efficiency.

A. **Irrigation Efficiency.** Irrigation Efficiency (IE) is defined as the measurement of the amount of water beneficially used by plants, divided by the amount of water applied. Not all water applied to landscapes is used by plants. Some water is lost due to runoff, wind spray, or deep percolation. IE is derived from the measurements and estimates of irrigation system characteristics and management practices. The minimum acceptable IE for the purposes of these submittal procedures is 0.71. Greater irrigation efficiency may be achieved from irrigations systems that are well designed and that well maintained. For more information on IE, see Chapter 5 of A Guide to Estimating Irrigation Water Needs of Landscape Plantings in California August 2000 published by University of California Cooperative Extension, California Department of Water Resources.

B. **Conducting a Landscape Audit.** All landscape irrigation audits shall be conducted by a certified landscape irrigation auditor. The project applicant shall submit an Irrigation Audit Report with the Certificate of Completion to the Community Development Department.

CERTIFICATE OF COMPLETION

Certificate of Completion. Upon completion of the installation of the landscape, the designer shall certify that the landscape complies with all the requirements of the City of Lakewood Water Conservation in Landscaping Ordinance and the requirements as stated in the Rules, Regulations and Procedures for the Implementation of the ordinance.

I. Submittal of the Certificate of Completion. The Certificate of Completion shall be submitted to the City of Lakewood Community Development Department.

A. Certificate of Completion Supporting Documents. The certificate and the supporting documents listed below shall be submitted prior to the final approval of the project completion.

1. Irrigation Schedule. Submit irrigation scheduling parameters used to set the controller (may be included with the Irrigation Plan and Details).

2. Landscape and Irrigation Maintenance Schedule.

a) Landscapes shall be maintained to ensure water use efficiency.

b) A regular maintenance schedule shall include, but not be limited to, routine inspection; adjustment and repair of the irrigation system and its components; aerating and dethatching of turf areas; replenishing mulch; fertilizing; pruning; weeding in all landscape areas, and removing obstructions to sprinklers and emitters.

c) Repair of all irrigation equipment shall be done with the originally installed components or their equivalents.

d) Project applicants are encouraged to implement sustainable or environmentally-friendly practices for overall landscape maintenance.

3. Soil Management Report. The results of the soils assessment shall be submitted with the Certificate of Completion, if not initially submitted with the Landscape Documentation Package.

4. As-Built Conditions. If significant changes occurred in the field during construction, a Landscape Documentation Package that reflects the "as-built" conditions must be submitted with the Certificate of Completion for review and approval.

WATER EFFICIENT LANDSCAPE WORKSHEET INSTRUCTIONS

The Water Efficient Landscape Worksheet is a required element of the Landscape Documentation Package. This worksheet will assist the applicant in determining the Maximum Applied Water Allowance and the Estimated Total Water Use for the proposed landscape project. The Water Efficient Landscape Worksheet is located in the Appendices. Instructions for completing the Water Efficient Landscape Worksheet are shown below. Complete the Hydrozone Information Table. The information obtained from the table shall be used to calculate the Maximum Applied Water Allowance and the Estimated Total Water Use. These forms can be found on the City of Lakewood website at www.lakewoodcity.org.

STEP 1: Complete the Hydrozone Information Table

Complete the hydrozone information table for each hydrozone. A Hydrozone is a portion of the landscaped area having plants with similar water needs: low; medium; high; or mixed- low and medium, and medium and high. Enter the Plant Water Use Factor for each hydrozone. If you are unsure specifically which Plant Water Use Factor number to cite within a range, use the average number.

Water needs of plants in hydrozone	Plant Factor Range	Plant Factor Average
Low Water Use	0 to 0.3	0.2
Medium Water Use	0.4 to 0.6	0.5
High Water Use	0.7 to 1.0	0.8
Special Landscape Areas	(shall not exceed 1.0)	Varies

Refer to A Guide to Estimating Irrigation Water Needs of Landscape Plantings in California August 2000 published by University of California Cooperative Extension, California Department of Water Resources to determine if a plant's water usage is low, medium, or high. This publication is available at http://www.water.ca.gov/wateruseefficiency/publications/ or by writing the California Department of Water Resources:

California Department of Water Resources
Bulletins and Reports
P. O. Box 942836
Sacramento, California 94236-0001

Hydrozones that include a mix plants of moderate and low water use, or moderate and high water use, are allowed if:

1) Plant factor calculation is based on the proportions of the respective plant water uses and their plant factor; or

2) The plant factor of the highest water using plant is used for the calculation.

Hydrozones that mix low and high water use plants cannot be approved.

Special Landscape Areas (SLA) are areas of the landscape dedicated solely to edible plants, water features using recycled water, and areas dedicated to active play such as parks, sports fields, golf courses and where turf provides a playing surface. The Hydrozone Information Table also requires information on the method of irrigation (such as spray, rotor, bubbler, drip irrigation, etc.) for each hydrozone.

STEP 2: Calculate the Maximum Applied Water Allowance (MAWA)

These water calculations apply to certain new and rehabilitation projects, as well as landscapes installed prior to January 1, 2010 and which are over one (1) acre in area (upon written notice to conduct a water audit on the landscape area).

Formula to calculate Maximum Applied Water Allowance (MAWA):

$$\mathbf{MAWA = (ETo) \times (CF) \times ((ETAF \times LA) + (0.3 \times SLA))}$$

Formula to calculate Maximum Applied Water Allowance (MAWA) inserting factors:

$$\mathbf{MAWA = (47.37) \times (0.62) \times ((0.7 \times LA) + (0.3 \times SLA))}$$

ETo for Lakewood

TERMS			
Abbreviation	**Definition**	**Factor**	**Comments**
MAWA	Maximum Applied Water Allowance		
ETo	Reference Evapotranspiration	47.37	See Appendices
CF	Conversion Factor to gallons	0.62	
ETAF	Evapotranspiration Adjustment Factor	0.7	
LA	Landscape Area	square footage of the landscape project	
SLA	Special Landscape Area	square footage of special landscape areas in project	See step 1 for list
Additional Water Allowance for SLA		0.3	

Example:
A landscape project is 48,000 square feet in area includes additional 2,000 square feet of Special Landscape Area (See list in step 1). Using this example, the MAWA is calculated as follows:

MAWA = (47.37) x (0.62) x ((0.7 x 48,000) + (0.3 x 2,000))
MAWA = 987,412 gallons per year

STEP 3: Calculate the Estimated Total Water Use (ETWU)

These water calculations apply to certain new and rehabilitation projects, as well as landscapes installed prior to January 1, 2010 and which are over one (1) acre in area (upon written notice to conduct a water audit on the landscape area).

Formula to calculate Estimated Total Water Use (ETWU):

$$\mathbf{ETWU = (ETo) \times (CF) \times ((Sum\ of\ (PF\ X\ HA)/IE) + SLA)}$$

Formula to calculate Total Water Use (ETWU) inserting factors:

$$\mathbf{ETWU = (47.37) \times (0.62) \times ((Sum\ of\ (PF\ X\ HA)/IE) + SLA)}$$

ETo for Lakewood

TERMS			
Abbreviation	**Definition**	**Factor**	**Comments**
ETWU	Estimated Total Water Use		
ETo	Reference Evapotranspiration	47.37	See Appendices
CF	Conversion Factor to gallons	0.62	
PF	Plant Factor	Varies	
HA	Hydrozone Area	square footage of the landscape project	
IE[1]	Irrigation Efficiency	0.71	minimum required
SLA	Special Landscape Area	square footage of special landscape areas in project	See step 1 for list

[1]Irrigation Efficiency (IE) is defined as the measurement of the amount of water beneficially used by plants, divided by the amount of water applied. Not all water applied to landscapes is used by plants. Some water is lost due to runoff, wind spray, or deep percolation. IE is derived from the measurements and estimates of irrigation system characteristics and management practices. The minimum acceptable IE for the purposes of these submittal procedures is 0.71. Greater irrigation efficiency may be achieved from irrigations systems that are well designed and that well maintained. For more information on IE, see Chapter 5 of A Guide to Estimating Irrigation Water Needs of Landscape Plantings in California August 2000.

Example:

Calculating for plant factor by hydrozone area is dependent on the number of hydrozones in a landscape project, plant factors, hydrozone square footage, and any Special Landscape Areas. In sample table below the sum of PF x HA is 21,700. SLA is added after the sum of PF x HA is calculated.

Sample Hydrozone Table: Plant Factor Calculation by Hydrozone Area

Hydrozone Number	Plant Water Use (Low, Medium, High)	Plant Factor (PF)	Hydrozone Area (HA)	PF x HA
1	High	0.8	7,000	5,600
2	Medium	0.5	9,000	4,500
3	Medium	0.5	15,000	7,500
4	Low	0.3	7,000	2,100
5	Low	0.2	10,000	2,000
			Sum of PF x HA:	21,700
6	SLA	1.0	2,000	2,000

Using this sample the ETWU formula appears as:

ETWU = (47.37) x (0.62) x ((21,700)/0.71) + 2,000)
ETWU = 956,367 gallons per year

STEP 4: Comparing the Estimated Total Water Use with the Maximum Applied Water Allowance

Any plant may be used in the landscape, providing the Estimated Total Water Use (ETWU) in the landscape area does not exceed the Maximum Applied Water Allowance (MAWA). Compare the project's Maximum Applied Water Allowance to the Estimated Total Water Use. The plant plan is acceptable, if the Estimated Total Water Use is less than the Maximum Applied Allowance. If the estimated water use is higher than the allowance, then the applicant shall alter the plant plan to lower the estimated total water use.

The example above would meet the Water Conservation in Landscaping Ordinance criteria, because the Estimated Total Water Use of 956,367 gallons per year is 31,045 gallons lower than the Maximum Applied Water Allowance of 987,412 gallons per year.

FORMS FOR SUBMITTAL OF THE LANDSCAPE DOCUMENT PACKAGE & CERTIFICATE OF COMPLETION

WATER EFFICIENT LANDSCAPE WORKSHEET

Project Address_____Date_____

Hydrozone Information Table

Hydrozone Plant Factor[1]		Valve/zone Number	Irrigation Method[2]	Landscape Area (Sq. Ft.)	% of Landscape Area
1					
2					
3					
4					
5					
6					
Totals			-		**100%**

[1]Hydrozone Key
LW = Low Water Use Plants (Plant Water Use Factor range=0 to 0.3)
MW = Medium Water Use Plants(Plant Water Use Factor range=0.4 to 0.6)
HW = High Water Use Plants (Plant Water Use Factor range=0.7 to 1.0)
SLA = Special Landscape Area
If project area contains more than 6 hydrozones, duplicate this table on a separate sheet.
[2]Indicate the method of irrigation (such as spray, rotor, bubbler, drip irrigation, etc.).

Maximum Applied Water Allowance Calculation
MAWA = (47.37) x (0.62) x ((0.7 x LA) + (0.3 x SLA))
Insert your MAWA calculation in the box below:

Maximum Applied Water Allowance: _____gallons per year.

Estimated Total Water Use Calculation
ETWU = (47.37) x (0.62) x ((Sum of (PF X HA)/IE) + SLA)
Insert your ETWU calculations in the boxes below (create a larger table if necessary):

Hydrozone Number	Plant Water Use (Low, Med, Hi)	Plant Factor (PF) (varies)	Hydrozone Area (HA)	PF x HA
1				
2				
3				
4				
5				
			Sum of PF x HA:	
6	SLA (if applicable)			

Estimated Total Water Use: _____gallons per year.

Difference between Maximum Applied Water Allowance &
Maximum Applied Water Allowance: _____gallons per year

WATER CONSERVATION IN LANDSCAPING
APPLICATION FORM

Project Address_____ Submittal Date_____

Applicant's Name_____

Applicant's Address_____

Applicant's City/State/Zip Code_____

Applicant's Telephone_____E-Mail_____

Landscape Architect or Designer's Name_____

Designer's Address_____

Designer's City/State/Zip Code_____

Designer's Telephone_____E-Mail_____

Property Owner's Name_____

Owner's Address_____

Owner's City/State/Zip Code_____

Owner's Telephone_____E-Mail_____

Total Landscape Area (sq. ft.)_____ Landscape Type (check one): ___New ___Rehabilitated

Land Use Type (check one):
__Single Family __Planned Development __Multi-Family __Commercial __other (specify)

Irrigation Water Supply (check one): __Potable __Reclaimed (Recycled) __Well __Gray Water __other (specify)

Water Purveyor (check one):
__City of Lakewood Water Resources Department __Golden State Water Company

I agree to comply with the requirements of the water efficient landscape ordinance and that this Landscape Documentation Package is complete. I have complied with the criteria of the water efficient landscape ordinance and applied them for the efficient use of water in the landscape design plan.

_____
Applicant Signature Date

For City Use Only
Fee Paid: $ Planner:

Date:

WATER CONSERVATION IN LANDSCAPING
CERTIFICATE OF COMPLETION

Project Address_____ Project Completion Date_____

Applicant's Name_____

Applicant's Address_____

Applicant's City/State/Zip Code_____

Applicant's Telephone_____E-Mail_____

Landscape Architect or Designer's Name_____

Designer's Address_____

Designer's City/State/Zip Code_____

Designer's Telephone_____E-Mail_____

Property Owner's Name_____

Owner's Address_____

Owner's City/State/Zip Code_____

Owner's Telephone_____E-Mail_____

I certify that the landscape project for the above property has been installed per the approved Landscape Documentation Package.

_____

Applicant Signature Date

(check one: ___Landscape Designer, ___Irrigation Designer, or ___Licensed Landscape Contractor)

_____

City Use Only

___Final landscape inspection
___Certification of Completion Checklist
___Approved landscape and irrigation maintenance schedule
___Irrigation audit report
___Soil analysis report
___Send a copy of this approved Certificate of Completion to the water purveyor and the property owner.

_____

Approved - Planner Date

Appendix 1
City of Lakewood Water Conservation in Landscaping Ordinance

Appendix 2
City of Lakewood Water Conservation Ordinance

LONG BEACH CIMIS STATION DATA 2008-2009

ETo (Reference Evapotranspiration) is based on data provided by the California Department of Water Resources, California Irrigation Management Information System (CIMIS). The Long Beach CIMIS station (station #174) is the station of reference used in Lakewood.

2008-2009 Data for the Long Beach CIMIS Station:

Los Angeles Basin - Long Beach - #174

Month Year	Tot ETo (in)	Tot Precip (in)	Avg Sol Rad (Ly/Day)	Avg Vap Pres (mBars)	Avg Max Air Tmp (F)	Avg Min Air Tmp (F)	Avg Air Tmp (F)	Avg Max Rel Hum (%)	Avg Min Rel Hum (%)	Avg Rel Hum (%)	Avg Dew Point (F)	Avg Wind Speed (mph)	Avg Soil Temp (F)
Oct 2008	4.03 K	0.04	400 K	12.9 K	81.0 K	51.9 K	64.7	92	33	62 K	50.3 K	2.5 K	68.0
Nov 2008	2.25 K	2.12	276	12.2	74.4 K	48.6	59.7	92	44	71	49.3	2.2 K	63.0 K
Dec 2008	1.53 K	2.76	205	9.6	63.4 K	41.5	51.3	93 K	47 K	73	42.8	2.3 K	58.4 L
Jan 2009	2.37 K	0.18	268 K	8.6	71.8 K	42.2	55.4 K	88 K	32 K	59	39.9	2.3	-M
Feb 2009	2.25 K	3.70 K	304 K	9.7	65.2 K	42.6 K	53.4	92	46	70	43.2	2.8 K	52.8 K
Mar 2009	3.80 K	0.28	436	10.5 K	68.2 K	45.2	55.4	92	48	70 K	45.4 K	3.0 K	60.7
Apr 2009	4.87 K	0.00	538 K	10.7 K	69.8 K	47.1	58.5 K	90 K	43 K	66 K	45.9 K	3.4 K	63.7
May 2009	4.96	0.00	528	14.8	71.0 K	56.6	62.8	89	61	76	55.1	3.4	69.9
Jun 2009	4.68	0.02	502	15.2	72.0	57.4 K	64.1	90	58	74	55.7	3.3 K	70.8
Jul 2009	6.37	0.00	611	17.4	80.2	60.6 K	69.0	91	50	72	59.4	3.0	75.1
Aug 2009	5.61 K	0.00	531 L	16.6 K	81.4 K	59.8 K	63.7 K	87 K	43 K	70 K	58.7 K	2.8 K	74.4 K
Sep 2009	4.55 K	0.01 K	465 K	17.8 K	82.5 K	60.2 K	69.7 K	92 K	46 K	72 K	60.1 K	2.6 K	74.4 K
Totals Avgs	47.37	9.11	422	13.0	73.2	51.1	60.8	91	46	69	50.5	2.8	66.5

Source: http://wwwcimis.water.ca.gov/

GLOSSARY

ANTI-DRAIN VALVE. See check valve.

APPLIED WATER. The portion of water supplied by the irrigation system to the landscape.

AUTOMATIC IRRIGATION CONTROLLER. An automatic timing device used to remotely control valves that operate an irrigation system. Automatic irrigation controllers schedule irrigation events using either evapotranspiration (weather-based) or soil moisture data.

BACKFLOW PREVENTION DEVICE. A safety device used to prevent pollution or contamination of the water supply due to the reverse flow of water from the irrigation system.

CERTIFICATE OF COMPLETION. The document required under Section 8651 of the Lakewood Municipal Code.

CERTIFIED IRRIGATION DESIGNER. A person qualified to design irrigation systems by an accredited academic institution a professional trade organization or other program such as the US Environmental Protection Agency's WaterSense irrigation designer certification program and Irrigation Association's Certified Irrigation Designer program.

CERTIFIED LANDSCAPE IRRIGATION AUDITOR. A person qualified to perform landscape irrigation audits by an accredited academic institution, a professional trade organization or other program such as the US Environmental Protection Agency's WaterSense irrigation auditor certification program and Irrigation Association's Certified Landscape Irrigation Auditor program.

CHECK VALVE or ANTI-DRAIN VALVE. A valve located under a sprinkler head, or other location in the irrigation system, to hold water in the system to prevent drainage from sprinkler heads when the sprinkler is off.

COMMON INTEREST DEVELOPMENTS. Community apartment projects, condominium projects, planned developments, and stock cooperatives per California Civil Code Section 1351.

CONTOUR. A line drawn on a plan which connects all points of equal elevation above or below a known or assumed reference point.

CONTROL VALVE. A valve in an irrigation system which is manually or automatically actuated using electric or hydraulic controls.

CONVERSION FACTOR. The conversion factor is (0.62). This is the number that converts acre-inches per acre per year to gallons per square foot per year.

CYCLE. The complete operation of a controller station.

DESIGNER. A person qualified to practice landscape architecture and/or irrigation design.

DIRECTOR. Director of Community Development for the City of Lakewood.

DRIP IRRIGATION. Any non-spray low volume irrigation system utilizing emission devices with a flow rate measured in gallons per hour. Low volume irrigation systems are specifically designed to apply small volumes of water slowly at or near the root zone of plants. The City of Lakewood Water Conservation Ordinance (Appendix 2) requires drip irrigation emitters to supply no more than two (2) gallons per hour.

ECOLOGICAL RESTORATION PROJECT. A project where the site is intentionally altered to establish a defined, indigenous, historic ecosystem.

EMITTER. A drip irrigation emission device that delivers water slowly from the system to the soil.

ESTABLISHED LANDSCAPE. The point at which plants in the landscape have developed significant root growth into the soil. Typically, most plants are established after one or two years of growth.

ESTABLISHMENT PERIOD OF THE PLANTS. The first year after installing the plant in the landscape or the first two years if irrigation will be terminated after establishment. Typically, most plants are established after one or two years of growth.

ESTIMATED TOTAL WATER USE (ETWU). The calculation to determine the total water used for the landscaped area including water features. The estimated total water use shall not exceed the maximum applied water allowance. See Section 8608.1 of the Lakewood Municipal Code.

ET ADJUSTMENT FACTOR (ETAF). The ET Adjustment factor of 0.7. It is applied to the local evapotranspiration factor to adjust for plant factors and irrigation efficiency, two factors in determining the amount of water required to maintain a landscaped area. A combined plant mix with a site-wide average of 0.5 is the basis of the plant factor portion of this calculation. For purposes of the ETAF, the average irrigation efficiency is 0.71. Therefore, the ET Adjustment Factor is (0.7)=(0.5/0.71). ETAF for a Special Landscape Area shall not exceed 1.0. ETAF for existing non-rehabilitated landscapes is 0.8.

EVAPOTRANSPIRATION RATE. The quantity of water evaporated from adjacent soil and other surfaces and transpired by plants during a specified time.

FLOW RATE. The rate at which water flows through pipes, valves and emission devices, measured in gallons per minute, gallons per hour, or cubic feet per second.

GRADING. Earthwork performed to alter the natural contours of an area to be planted.

HARDSCAPE. Any durable material (pervious and non-pervious).

HOME-OWNER INSTALLED LANDSCAPE. Any landscaping either installed by a private individual for a single family residence or installed by a licensed contractor hired by a homeowner. A homeowner, for purposes of this ordinance, is a person who occupies the dwelling he or she owns. This excludes speculative homes, which are not owner-occupied dwellings.

HYDROZONE. A portion of the landscaped area having plants with similar water needs. A hydrozone may be irrigated or non-irrigated.

INFILTRATION RATE. The rate of water entry into the soil expressed as a depth of water per unit of time (e.g., inches per hour).

INVASIVE or NOXIOUS PLANT SPECIES. Species of plants not historically found in California that spread outside cultivated areas and can damage environmental or economic resources. Invasive species may be regulated by county agricultural agencies as noxious species. "Noxious weeds" means any weed designated by the Weed Control Regulations in the Weed Control Act and identified on a Regional District noxious weed control list. Lists of invasive plants are maintained at the California Invasive Plant Inventory and USDA invasive and noxious weeds database.

IRRIGATION AUDIT. An in-depth evaluation of the performance of an irrigation system conducted by a Certified Landscape Irrigation Auditor. An irrigation audit includes, but is not limited to: inspection, system tune-up, system test with distribution uniformity or emission uniformity, reporting overspray or runoff that causes overland flow, and preparation of an irrigation schedule.

IRRIGATION EFFICIENCY (IE). The measurement of the amount of water beneficially used divided by the amount of water applied. Irrigation efficiency is derived from measurements and estimates of irrigation system characteristics and management practices. The minimum average irrigation efficiency for purposes of this ordinance is 0.71. Greater irrigation efficiency can be expected from well designed and maintained systems.

IRRIGATION SYSTEM. A complete connection of system components, including the water distribution network and the necessary equipment downstream from the backflow prevention device.

LANDSCAPE ARCHITECT. A person who holds a license to practice landscape architecture in the state of California Business and Professions Code, Section 5615.

LANDSCAPE AREA. All the planting areas, turf areas and water features in a landscape design plan subject to the Maximum Applied Water Allowance calculation. The landscape area does not include footprints of buildings or structures, sidewalks, driveways, parking lots, decks, patios, gravel or stone walks, other pervious or non-pervious hardscapes, and other non-irrigated areas designated for non-development (e.g., open spaces and existing native vegetation).

LANDSCAPE CONTRACTOR. A person licensed by the State of California to construct, maintain, repair, install or subcontract the development of landscape systems.

LANDSCAPE DOCUMENTATION PACKAGE. The documents required in the Water Conservation in Landscaping Rules, Regulations and Procedures.

LANDSCAPE PROJECT. The total area of landscape in a project as defined in "landscape area" for the purposes of this ordinance, meeting requirements under Section 8601 of the Lakewood Municipal Code.

LATERAL LINE. The water delivery pipeline that supplies water to the emitters or sprinklers from the valve.
LOCAL WATER PURVEYOR. The City of Lakewood and Golden State Water Company Provide retail water service to Lakewood.

LOW VOLUME IRRIGATION. The application of irrigation water at low pressure through a system of tubing or lateral lines and low-volume emitters such as drip, drip lines, and bubblers. Low volume irrigation systems are specifically designed to apply small volumes of water slowly at or near the root zone of plants.

MAIN LINE. The pressurized pipeline that delivers water from the water source to the valve or outlet.

MAXIMUM APPLIED WATER ALLOWANCE. The annual maximum amount of water that can be applied to a landscaped area. See Section 8608 of the Lakewood Municipal Code. The maximum applied water allowance is based on local evapotranspiration, the ET Adjustment Factor, and the size of the landscape area. The Estimated Total Water Use shall not exceed the Maximum Applied Water Allowance. Special Landscape Areas, including recreation areas, areas permanently and solely dedicated to edible plants such as orchards and vegetable gardens, and areas irrigated with recycled water are subject to the MAWA with an ETAF not to exceed 1.0.

MICROCLIMATE. The climate of a small, specific area that may contrast with the climate of the overall landscape area due to factors such as wind, sun exposure, plant density, or proximity to reflective surfaces.

MINED-LAND RECLAMATION PROJECTS. Any surface mining operation with a reclamation plan approved in accordance with the Surface Mining and Reclamation Act of 1975.

MULCH. Any organic material such as leaves, bark, straw, compost, or inorganic mineral materials such as rocks, gravel, and decomposed granite left loose and applied to the soil surface for the beneficial purposes of reducing evaporation, suppressing weeds, moderating soil temperature, and preventing soil erosion.

NEW CONSTRUCTION. A new building with a landscape or other new landscape, such as a park, playground, or greenbelt without an associated building.

OPERATING PRESSURE. The pressure at which the parts of an irrigation system are designed by the manufacturer to operate.

OVERHEAD SPRINKLER IRRIGATION SYSTEM. A system that deliver water through the air (e.g., spray heads and rotors).

OVERSPRAY. The irrigation water which is delivered beyond the target area.

PERMIT. An authorizing document issued by the City of Lakewood for new construction or rehabilitated landscapes.

PERVIOUS. Any surface or material that allows the passage of water through the material and into the underlying

soil.

PLANT FACTOR or PLANT WATER USE FACTOR. The amount of water required to maintain a health plant. Low water use plants have a plant factor between 0 and 0.3, moderate water use plants have a plant factor between 0.4 and 0.6, and high water use plants have a plant factor between 0.7 and 1.0. A factor , when multiplied by ETo, estimates the amount of water needed by plants. Plant factors cited in this ordinance are derived from the Department of Water Resources 2000 publication "Water Use Classification of Landscape Species."

PLANTING AREA. The parcel area less building pad(s), driveway(s), patio(s), deck(s), walkway(s) and parking area(s). Planting area includes water bodies (i.e. fountains, ponds, lakes) and natural areas.

PLANTING PLAN. A plan showing the location, spacing, numbers, container sizes of all plant materials including common and botanical names.

PRECIPITATION RATE. The rate of application of water measured in inches per hour.

PROJECT APPLICANT. The individual or entity submitting a Landscape Plan Application required under Chapter 6 of the Lakewood Municipal Code. A project applicant may be the property owner or his or her designee.

RAIN SENSOR or RAIN SENSING SHUTOFF DEVICE. A component which automatically suspends an irrigation event when it rains.

RECORD DRAWING or AS-BUILTS. A set of reproducible drawings which show significant changes in the work made during construction and which are usually based on drawings marked up in the field and other data furnished by the contractor.

RECREATIONAL AREA. Areas dedicated to active play such as parks, sports fields, golf courses and any other area where turf provides a playing surface.

RECLAIMED WATER. Treated or recycled waste water of a quality suitable for non-potable uses such as landscape irrigation and water features; not intended for human consumption.

REFERENCE EVAPOTRANSPIRATION (ETo). A standard measurement of environmental parameters which affect the water use of plants. ETo is expressed in inches per day, month, or year as represented in Section 495.1, and is an estimate of the evapotranspiration of a large field of four- to seven-inch tall, cool-season grass that is well watered. Reference evapotranspiration is used as the basis of determining the Maximum Applied Water Allowance so that regional differences in climate can be accommodated.

REHABILITATED LANDSCAPE. Any planting area in which more than 50 percent of the existing landscape material is replaced or modified within a 12-month period in more than 50 percent of the planting area, which is greater than 2,500 square feet and meets the provisions in Section 8601 of the Lakewood Municipal Code.

RUNOFF. Water which is not absorbed by the soil or landscape to which it is applied and flows from the landscape area. For example, runoff may result from water that is applied at too great a rate (application rate exceeds infiltration rate) or when there is a slope.

SOIL MOISTURE SENSING DEVICE or SOIL MOISTURE SENSOR. A device that measures the amount of water in the soil. The device may also suspend or initiate an irrigation event.

SOIL TEXTURE. The classification of soil based on its percentage of sand, silt and clay.

SPECIAL LANDSCAPE AREA. Any area of the landscape dedicated solely to edible plants, water features using reclaimed water, and areas dedicated to active play such as parks, sports fields, golf courses and any other area where turf provides a playing surface.

SPRINKLER HEAD. A device which delivers water through a nozzle.

STATIC WATER PRESSURE. The pipeline or municipal water supply pressure when water is not flowing.

STATION. An area served by one valve or by a set of valves that operate simultaneously.

SWING JOINT. An irrigation component that provides a flexible, leak-free connection between the emission device and lateral pipeline to allow movement in any direction and to prevent equipment damage.

TURF. A ground cover surface of mowed grass.

VALVE. A device used to control the flow of water in the irrigation system.

WATER CONSERVING PLANT SPECIES. A plant species identified as having a low plant factor.

WATER FEATURE. A design element where open water perfoms an aesthetic or recreational function. Water features include ponds, lakes, waterfalls, fountains, artificial streams, spas, and swimming pools (where water is artificially supplied). The surface area of water features is included in the high water usehydrozone of the landscape area. Constructed wetlands used for on-site wastewater treatment or stormwater best management practices that are not irrigated and used solely for water treatment or stormwater retention are not water features and, therefore, ae not subject to the water budget calculation.

WATERING WINDOW. The time of day irrigation is allowed.

WUCOLS or WATER USE CLASSIFICATION OF LANDSCAPE SPECIES. Water Use Classification of Landscape Species is published by the University of California Cooperative Extension, the Department of Water Resources and the Bureau of Reclamation, 2000.

LAKEWOOD
News from the City of Lakewood
www.lakewoodcity.org
562-866-9771

Water conservation...is your home water tight?
Connect with your city and get help 24/7...by computer or phone.
Meals on Wheels...one way you can help your community.

Briefs

Saving H2O

It's up to us!

Lots of water goes down the drain because of perceptions that water is plentiful and cheap--certainly not the case. Become conscious of the amount of water you use, and look for ways to use less whenever you can. You'll be helping your city, your environment…and your pocketbook!

Here are some tips on how to conserve water.

1. Attend a 'Smart Gardening' class. They're offered throughout the county. Most are free. Classes cover ways to get a great looking yard while using less water and energy and wasting fewer resources. Basic and advanced workshops cover composting, landscape design, organic gardening, landscaping with native plants, and installing a water-efficient irrigation system. You can find class schedules at **www.dpw.lacounty.gov/epd/sg** or by calling 888-CLEAN LA.

2. Make your lawn a water miser. The average homeowner uses more than four times the amount of water needed to keep a lawn healthy and green. Before you water, step on your grass. If it springs back when you lift your foot, it doesn't need water. Reset sprinkler timers to water every third day and for fewer minutes. Result: Savings from 750 to 1,500 gallons per month.

3. Use a broom instead of a hose to clean driveways and sidewalks. Adjust sprinklers so that water lands on your lawn or garden - and only there. Result: Savings of 600 gallons a month.

4. Run only full loads, and set the water level for the size of load you are using. More than 10 percent of water used in the home is for washing clothes and dishes. Result: Savings of 300 to 800 gallons per month.

5. Use a low-flow showerhead and take shorter showers. Every minute of your shower uses 2.5 gallons of

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Get connected

Thousands of Lakewood residents stay connected to their city each week through Lakewood Connect's eSubscriptions, personal service accounts, and online tools. Every week, the Lakewood Connect team updates the Lakewood Online website and e-mails a free eMagazine to more than 13,000 subscribers.

eMagazine subscribers get the latest Lakewood news, complete listings of city-sponsored activities and events, next-day summaries of city council meetings, and highlights of virtually everything that's new at Lakewood Online.

Hit the "Subscribe" button and give it a try at **www.lakewoodcity.org/emagazines**.

Lakewood Connect is also a one-stop, one-click portal for making online service requests at **www.lakewoodcity.org/contactus.** The "Contact Us" button lets the visitor fill out an online form monitored by service staff during business hours. Or, simply e-mail us at **service1@lakewoodcity.org**.

Personal service accounts can also be created that allow residents to submit a request and then log back in and check on their request's status – similar to tracking a package. Click "About Accounts" to learn more.

Links to request RV/trailer parking permits, eCatalog recreation signups, and search tools like the Lakewood Service Guide or a collection of essential city documents are also featured.

Prefer to speak to a city staff member? Lakewood's customer service team can be reached at 562-866-9771, extension 2140. They are available during normal business hours: 7:30 a.m. to 5:30 p.m. Monday through Thursday and 7:30 a.m. to 5:00 p.m. on alternate Fridays. City hall is closed every other Friday.

After-hours service requests can be made using CityLine – 562-925-4357. Fol-

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LAKEWOOD
Connect
www.lakewoodcity.org/service • 562-866-9771

It's up to us!

water. A low-flow showerhead only costs $10.00 but will save 50 gallons of water during a 10-minute shower. Most models have a shut off valve that also saves water by stopping the water while you lather up. Result: Savings up to 700 gallons a month.

6. Repair leaks. If a faucet drips at a rate of just one drop per second, you can expect to waste 2,700 gallons of water per year. Result: Savings of 20 gallons per day for every leak stopped. As an extra saving step, retrofit all household faucets by installing aerators with flow restrictors to slow the flow of water.

Get connected

low the recorded instructions to leave a message. We'll retrieve it on our next business day.

Emergency service requests made after normal business hours or on a closed Friday should use 562-866-9771 and use the city's paging service. A city crew member will return your call. Remember that for a fire, medical, or law enforcement emergency, always call 911.

There are many ways to learn more about Lakewood at **www.lakewoodcity.org/findoutmore**.

Meals on Wheels

One way you can give back to your community

Lakewood Meals on Wheels delivers a hot, noon meal and sack dinner to each client. Meals on Wheels makes it possible for Lakewood residents who can no longer cook for themselves to remain in their homes and their familiar community.

Meals on Wheels always needs more volunteers. Volunteers can range in age from teens to seniors, and they help with everything from driving and delivering meals to making sandwiches and packaging the meals. So you don't have to drive to help out. Volunteers are needed for as little as two hours for one day a week between Monday and Friday, or on a substitute basis.

"A lot of middle and high school students volunteer during the summer," says Rosemarie Shepperson, Volunteer Coordinator for Lakewood Meals on Wheels. "The students often remind our clients of their grandchildren. And the students learn a lot from talking with our clients. It allows students to fulfill their community service requirements for school too. So it's a win-win program for everyone."

You can help financially too. Lakewood Meals on Wheels is a non-profit, community agency sponsored by many private contributors and the Lakewood/Long Beach Soroptimist Club, Project Shepherd, and the City of Lakewood. Contributions are tax deductible. To learn more about donating, volunteering, or becoming a client, call Lakewood Meals on Wheels at 562-925-8747.

Are you using the right envelope? **Use the large, white envelope to pay your bill. That way, your payment will go directly to the city's payment processing center. To volunteer or donate to Meals on Wheels, please use the small, colored envelope.**

Meals on Wheels is a volunteer, non-profit community organization that aids the elderly and homebound with nutritious meals. Meals on Wheels needs your help as a volunteer or with a cash donation.

Please fill out, stamp, and return this card. Or call 925-8747 for more information. Your donation is tax deductible: 501 (c) (3) ID #95-2929207. State ID #0990353.

❑ I would like to contribute $_____

❑ I would like to volunteer. Please call me.

Name _____

Address _____

Phone (home) _____ (work) _____

Email _____ @ _____

Please make your donation with a separate check payable to Meals on Wheels (and mail in the Meals on Wheels envelope).

LAKEWOOD

News from the City of Lakewood

www.lakewoodcity.org
CityLine: 925-4357

Water conservation is critical this summer.
How to read your new bill.
Connect to all of Lakewood with a single click.
Wait! Are you using the right envelope?

Briefs

It's up to us!

Court rulings protecting the endangered Delta smelt (a tiny fish) have mostly shut the tap that brings water from the Sacramento-San Joaquin Delta – water that had been allocated for aquifer replenishment in the Los Angeles Basin. And that affects Lakewood, whose water comes entirely from the aquifers below the city.

The lingering drought and water reductions from northern California have led some cities – notably Los Angeles – to impose mandatory water restrictions. Lakewood is currently in the first, voluntary stage of the city's multi-stage water conservation plan.

Voluntary conservation is working. Residents have consistently used 10 percent less water each month in 2009.

What more can you do?

The most important thing to do: Think as you use water! The conservation steps you can take today require almost nothing but a little common sense:

1. Your lawn may be your biggest water user. Typically, up to 60 percent of the water consumed by households is used outdoors. To conserve, water your lawn only when it needs it. Step on your grass. If it springs back when you lift your foot, it doesn't need water. Set your sprinklers for more days in between watering. And when you do water, set your timer for the early mornings, before 7:00 a.m. **Saves 750-1,500 gallons per month.**

2. If a faucet drips at a rate of just one drop per second, you can expect to waste 2,700 gallons of water per year. **Saves 20 gallons per day for every leak stopped.** Retrofit all household faucets by installing aerators with flow restrictors to slow the flow of water. **Saves 500 to 800 gallons per month.**

3. More than 10 percent of all water used in the home is used in the washing machine. Make every load count! Run only full loads. Set the water level for the size of load you are using. **Saves 300 to 800 gallons per month.** Consider replacing old appliances. A front loading washer; uses 1/3 less water than a top loader.

4. A low-flow showerhead will save 50 gallons of water during a 10-minute shower. Most models have a shut off valve that

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Get connected

Thousands of Lakewood residents stay connected each week at the Lakewood Online website and with personal service accounts. Getting connected is as easy as:

1. Go to www.lakewoodcity.org/service.
2. Set up a personal account and password.
3. Make a service request – any time, any day.
4. Return later for an update on the status of every request in your account. (And, if we need more information to serve you better, we'll call you on our next business day.

All your city service requests online, in one place, and easy to track – that's Lakewood Connect. Now, you'll know what city services you've requested, when your requests were made, and what's been done to meet your service needs.

But Lakewood Connect is even more:

■ **On the road?** Call CityLine (925-4357) anytime to record a service request for action on our next business day.

■ **Need to speak to a city staff member?** Our Customer Service Liaisons are ready to be of service during city hall business hours (7:30 a.m. to 5:30 p.m. weekdays, except closed Fridays).

■ **Want lots of information fast?** Lakewood Connect offers phone numbers, program descriptions, and frequently asked questions for hundreds of city and county services. Just click to www.lakewoodcity.org and use our site's search function.

■ **Prefer to drop in?** Our Customer Service staff members are just as friendly in person. They're ready to assist you during city hall business hours.

■ **Ready to watch?** CityTV (cable channel 31) offers 24/7 programming that looks at life in Lakewood. You can tune in for programs about personal safety, water conservation, park activities, and Lakewood's diverse neighborhoods.

eMagazines

Subscribing to Lakewood's weekly eMagazines allows community members to receive e-mails linking them directly to topics of interest – general news, recreation programs, community events, and access to city services. An easy-to-

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LAKEWOOD Connect

www.lakewoodcity.org/service • 562-866-9771

It's up to us!

will save even more water by stopping the water while you lather up. **Saves up to 700 gallons per month.**

5. Under Lakewood's conservation plan, water use for hardscape cleaning is strictly limited. Use a broom instead of a hose to clean driveways and sidewalks. Adjust your sprinklers so that water lands on your lawn or garden and not on the sidewalk or street. Deep soak gardens once weekly rather than sprinkle lightly several times a week. **Saves up 600 gallons a month.**

Get connected

use subscription management page allows Lakewood subscribers to control their account. They can always reach a live person by e-mail or phone if they have a question or request.

Lakewood Online

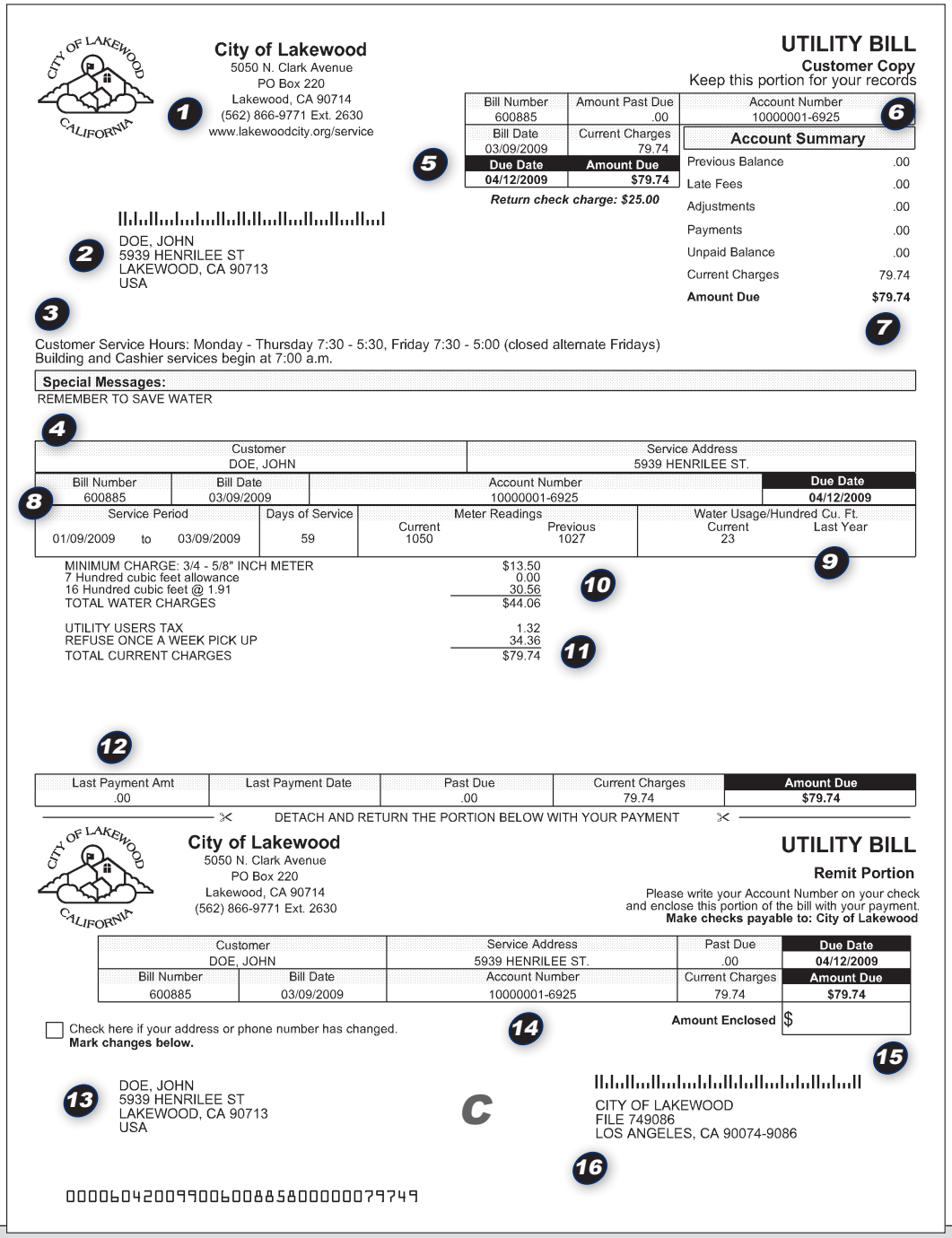
At Lakewood Online, you can create a family account for recreation programs through the eCatalog, get a CityTV program guide, and search a comprehensive guide to city services that even long-time residents will find valuable.

How to read your new Lakewood utility bill

Keep this portion of your bill for your records. ❶ If you need billing help, call the Administrative Services Department at 562-866-9771, extension 2630 during city hall business hours. ❷ If your name or address is incorrect, please update us on the return portion (C) of your bill. ❸ Customer service hours are longer for your convenience. ❹ We'll use this space to tell you about water conservation and other steps your family can take to help protect the environment. ❺ Your bill due date is important. The city no longer sends a past due reminder to customers with a delinquent bill. ❻ Your account number. ❼ Your bill amount – for most residents, it includes both water service and trash collection.

This portion of your bill details your water use (if you are a Lakewood water customer). The information will help you conserve. ❽ Bills are read approximately every 60 days. ❾ Comparing current water use with last year's is a good way of measuring your conservation efforts. ❿ Your bill includes a meter fee and a service charge that covers a minimum water allowance. Water usage above the minimum is charged separately. ⓫ Water customers pay a 3% utility users tax. ⓬ This line summarizes your account activity.

This portion of the bill must be returned with your payment. ⓭ Make changes in your address and telephone number here. ⓮ Remember to write your account number on your check. ⓯ Be sure to fill in the amount you are paying. ⓰ Use the white return envelope and be sure that our return address is showing.



City of Lakewood
5050 N. Clark Avenue
PO Box 220
Lakewood, CA 90714
(562) 866-9771 Ext. 2630
www.lakewoodcity.org/service

UTILITY BILL
Customer Copy
Keep this portion for your records

Bill Number	Amount Past Due	Account Number
600885	.00	10000001-6925
Bill Date	Current Charges	
03/09/2009	79.74	
Due Date	**Amount Due**	
04/12/2009	**$79.74**	

Return check charge: $25.00

Account Summary

Previous Balance	.00
Late Fees	.00
Adjustments	.00
Payments	.00
Unpaid Balance	.00
Current Charges	79.74
Amount Due	**$79.74**

DOE, JOHN
5939 HENRILEE ST
LAKEWOOD, CA 90713
USA

Customer Service Hours: Monday - Thursday 7:30 - 5:30, Friday 7:30 - 5:00 (closed alternate Fridays)
Building and Cashier services begin at 7:00 a.m.

Special Messages:
REMEMBER TO SAVE WATER

Customer	Service Address
DOE, JOHN	5939 HENRILEE ST.

Bill Number	Bill Date	Account Number	Due Date
600885	03/09/2009	10000001-6925	04/12/2009

Service Period		Days of Service	Meter Readings Current	Meter Readings Previous	Water Usage/Hundred Cu. Ft. Current	Water Usage/Hundred Cu. Ft. Last Year
01/09/2009	to 03/09/2009	59	1050	1027	23	

MINIMUM CHARGE: 3/4 - 5/8" INCH METER	$13.50
7 Hundred cubic feet allowance	0.00
16 Hundred cubic feet @ 1.91	30.56
TOTAL WATER CHARGES	$44.06
UTILITY USERS TAX	1.32
REFUSE ONCE A WEEK PICK UP	34.36
TOTAL CURRENT CHARGES	$79.74

Last Payment Amt	Last Payment Date	Past Due	Current Charges	Amount Due
.00		.00	79.74	$79.74

DETACH AND RETURN THE PORTION BELOW WITH YOUR PAYMENT

City of Lakewood
5050 N. Clark Avenue
PO Box 220
Lakewood, CA 90714
(562) 866-9771 Ext. 2630

UTILITY BILL
Remit Portion

Please write your Account Number on your check and enclose this portion of the bill with your payment.
Make checks payable to: City of Lakewood

Customer		Service Address	Past Due	Due Date
DOE, JOHN		5939 HENRILEE ST.	.00	04/12/2009
Bill Number	Bill Date	Account Number	Current Charges	Amount Due
600885	03/09/2009	10000001-6925	79.74	$79.74

Amount Enclosed $

☐ Check here if your address or phone number has changed.
Mark changes below.

DOE, JOHN
5939 HENRILEE ST
LAKEWOOD, CA 90713
USA

C

CITY OF LAKEWOOD
FILE 749086
LOS ANGELES, CA 90074-9086

00006042009900600885800000079749

Wait!

Before you mail your check, are you sure that you're using the right envelope to return your payment?

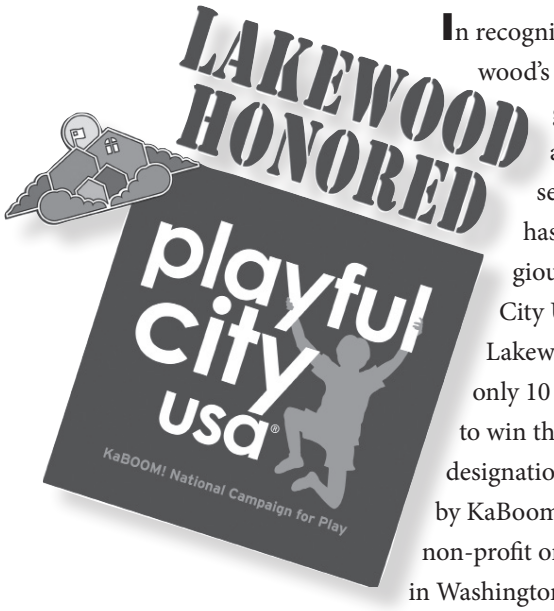
You should be using the white envelope with two clear windows. Your payment stub should be removed from the bill and placed in the white envelope so that the addresses are clearly showing through the envelope windows. That way, your payment will go directly to the city's payment processing center.

Remember: Write your account number on your check! Use the white return envelope! Be sure that both the return and mailing addresses show through the envelope windows!

LAKEWOOD Briefs

News from the City of Lakewood
www.lakewoodcity.org
562-866-9771

Lakewood honored...“Playful City USA”
Be Water Wise...We Can Do This!
Project Shepherd...Neighbors helping neighbors



In recognition of Lakewood’s high quality playgrounds, parks and recreation services, the city has won a prestigious 2010 “Playful City USA” designation. Lakewood was one of only 10 California cities to win the honor. The designation is provided by KaBoom!, a national non-profit organization based in Washington, DC that is dedicated to promoting children’s recreation and creating more places for children to safely play.

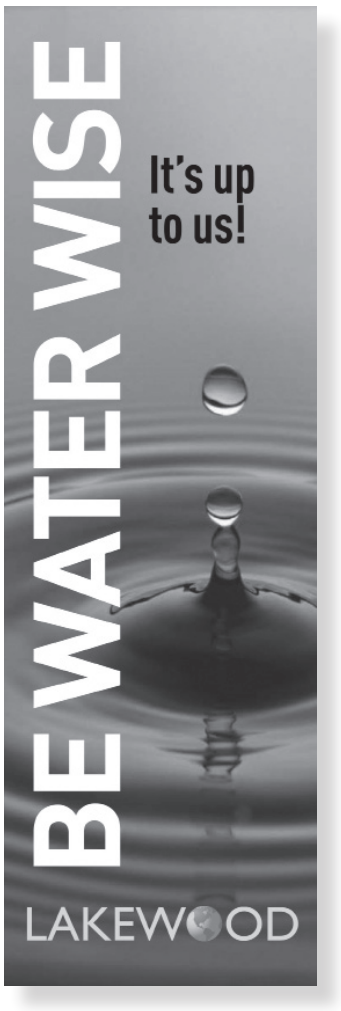
Lakewood’s Playful City USA strengths included the city’s commitment to expanding its Tot Lot program, and the city’s commitment to maintaining and upgrading its parks, such as the new playground equipment the city is currently installing at Palms and Biscailuz parks.

Playful City USA also commended Lakewood for having organized Family Play Day on August 7 at five parks (Bolivar, Boyar, Del Valle, Mayfair and Palms) where over 1,000 children and parents played classic family games like potato sack races, slip-n-slide and softball.

Since Lakewood’s founding in 1954 the city has taken great pride in providing top-notch recreation opportunities for youth. The good work is a testament to the Lakewood parents who volunteer in sports and recreation programs, and to Lakewood residents who support the city parks and programs.

This is the fourth year that KaBoom! has designated communities across the nation as Playful Cities USA. One of the goals of KaBoom! is to help communities create a great place to play within the walking distance of every child.

“An extreme misconception exists in our country that play among children is a luxury when, in fact, it’s an absolute necessity,” said Darell Hammond, KaBOOM! CEO and Co-founder. “For decades, this notion dominated our actions and we continue to see the damaging results: a lack of play spaces for children and sky-rocketing childhood obesity rates. Lakewood refuses to adhere to the status quo and realizes that all children deserve a municipal commitment to the cause of play. The Playful City USA communities serve as beacons for the rest of our nation that an investment in children is an investment in our future.”



New, blue street banners are on Lakewood streets reminding us to do our part to conserve water.

Water conservation continues to be an important issue for Lakewood. It’s not just annual rainfall totals that determine the water situation. Aging infrastructure, environmental protection, population shifts, and the rising energy cost of transporting and treating water all contribute to an ongoing need to reduce water use.

The better Lakewood gets at voluntary water conservation, the better chance the city has of avoiding the mandatory conservation requirements that some cities have faced recently.

One of the best places to look for conservation savings is your yard. That’s because the biggest use of water in most homes (over 60 percent) is outside, either for irrigation or outdoor maintenance.

Here are some water-saving

Continues on back

It's up to us!

tips for your yard and garden:

1. Install California Friendly/water wise plants. Drought tolerant plants use less water and beautify a home in California Friendly style. There are a surprisingly large number of good-looking California Friendly/water wise plants from which to choose. Visit **www.lakewoodcity.org/waterwiseplants** for ideas on individual plants and themes for different parts of your yard, such as front yard, entryway, and walkways. Try your favorite nursery for ideas too.

2. Think about how much lawn you need. Grass requires large amounts of water and constant care. A yard or garden full of California Friendly water wise plants may suit your tastes and your lifestyle just fine.

3. Make your lawn a water miser. Most homeowners use four times the amount of water necessary for a green and healthy lawn. Before you water, step on your grass. If it springs back when you lift your foot, it doesn't need water. Keep lawns aerated and dethatched so water will penetrate to the roots.

4. Group plants with similar water use. This allows you to install sprinklers that match watering requirements.

5. Use mulch and weed barriers. They retain moisture and reduce weed growth. Install three to four inches of mulch in planting beds.

For more water-saving tips, go to **www.lakewoodcity.org/water**.

Project Shepherd needs your help more than ever this year. With the economy still in difficult straits, the 2010 holiday season will be bleak for some Lakewood households, particularly single parents, seniors on limited incomes, and those without work.

Since 1973, Project Shepherd has been a locally-organized way for Lakewood residents to help their neighbors in need.

Won't you help this year?

Project Shepherd is getting ready for the holiday season that is just around the corner. As part of your holiday giving, you can help your fellow Lakewood residents in need by making out a separate check to "Lakewood Project Shepherd" and mailing it in the special, colored enveloped enclosed.

This envelope will go to the Lakewood Rotary Club, so be sure to put your contribution in the Project Shepherd envelope and not with your utility bill payment.

Your contribution is fully deductible on state and federal income tax returns. Project Shepherd's federal tax identification number is 91-2044777. The program's state tax identification number is 22570575.

Project Shepherd also needs non-perishable food items and canned goods. New gifts appropriate for all ages, such as toys for youngsters, store gift cards for teenagers, and practical items or store gift cards for seniors are also needed.

Donations of food items and gifts can be arranged by calling the Burns Community Center at 562-925-7512.

Project Shepherd is the work of volunteers from the Lakewood Rotary Club, Lakewood schools, the city and many Lakewood individuals and organizations.

If you can volunteer your time to work at the Project Shepherd warehouse in December, please call 562-925-7512.

Mail separately in the colored envelope.

Clip out this form, complete it, and return it with your contribution. Call 925-7512 for more information or assistance.

- ❑ **I would like to contribute $ _____ (Check payable to "Lakewood Project Shepherd" enclosed)**
- ❑ **I would like to volunteer. Please call or e-mail me.**
- ❑ **I can donate (circle): food item toy gift card for teens, seniors.**

Name _____

Address _____

Phone (home) _____ **(work)** _____

Email _____ **@** _____

DO NOT return your Project Shepherd contribution in your city utility bill. Use the special, colored envelope to make your contribution (which must be mailed separately). Make your donation with a separate check payable to "Lakewood Project Shepherd."

Thirsty. Hot and dry. That sums up the water situation for this summer and fall months ahead.

Despite near normal rainfall in the Lakewood area, elsewhere in California the story was bleak:

- Some upper dams in the San Gabriel watershed are already empty. Lower dams are less than one-third full. Runoff from the watershed helps replenish the aquifers from which Lakewood draws its own water.
- State water officials say this is shaping up to be the 10th-driest three-year period on record.
- Court rulings protecting the endangered delta smelt (a tiny fish) have turned off the tap that brings water from the Sacramento-San Joaquin Delta. The delta funnels water to about 25 million California residents, most in the southern part of the state. Some of this water had been used for aquifer replenishment, too.

Several cities – notably Los Angeles – have announced mandatory water restrictions and the imposition of conservation fees for excess water use. Lakewood is currently in the first, voluntary stage of the city's water conservation ordinance.

Lakewood's voluntary conservation is working. Compared to April 2008, residents used 10 percent less water in April 2009.

Resolve to become conscious of the amount of water you use, and look for ways to use less whenever you can. The most important thing to do: Think as you use water!

What more can you do?

The planting of drought-resistant landscaping and the use of low-water-use appliances offers the best chance of preserving water supplies that will grow less plentiful as the region's population expands and climate change brings even longer dry spells.

But conservation steps you can take today require almost nothing but a little common sense:

1. Your lawn may be your biggest water user. Typically, more than 50 percent of the water consumed by households is used outdoors. To conserve, water your lawn only when it needs it. Step on your grass. If it springs back when you lift your foot, it doesn't need water. Set your sprinklers for more days in between watering. And when you do water, set your timer for early morning (before 7:00 a.m.). **Saves 750-1,500 gallons per month**.

2. If a faucet drips at a rate of just one drop per second, you can expect to waste 2,700 gallons of water per year. Fix leaky faucets and plumbing joints. **Saves 20 gallons per day for every leak stopped**. As an extra saving step, retrofit all household faucets by installing aerators with flow restrictors to slow the flow of water. **Saves 500-800 gallons per month**.

3. More than 10 percent of all water used in the home is used in the washing machine. An automatic clothes washer, at full cycle and highest water level, uses 30 to 50 gallons of water. (Make every load count!) The dishwasher requires up to 25 gallons for a full cycle. Run only full loads. Set the water level for the size of load you are using. **Saves 300-800 gallons per month**. Consider replacing old appliances. A front loading washer; these use 1/3 less water than top loaders.

4. A low-flow showerhead will save 50 gallons of water during a 10-minute shower. Most models have a shut off valve that will save even more water by stopping the water while you lather up. **Saves up to 700 gallons per month**. And take shorter showers!

5. Under Lakewood's conservation standards, water use for hardscape cleaning is strictly limited. Use a broom instead of a hose to clean driveways and sidewalks. Adjust your sprinklers so that water lands on your lawn or garden and not on the sidewalk or street. Deep soak gardens once weekly rather than sprinkle lightly several times a week. **Saves up 600 gallons a month**. ■

IS YOUR HOME WATER TIGHT?

LAKEWOOD Living
5050 Clark Avenue
Lakewood, CA 90712

**** ECRWSS

Residential Customer

Lakewood Living is printed on post-consumer recycled paper.

Be a water-wise gardener

Summer is not the best season to consider a new landscape scheme. Your established plants are probably already adapted to low water conditions. They won't require as much water as an entirely new landscape plan. This summer, minimize water use with established plant materials, wean your lawn from too much water use, and consider installing more efficient automatic irrigation systems.

You can make changes in the layout of your garden that maximizes the value of irrigation. For example, porous paving materials such as brick, decomposed granite, or gravel used in patios and walkways help keep water in the garden rather than in the gutter.

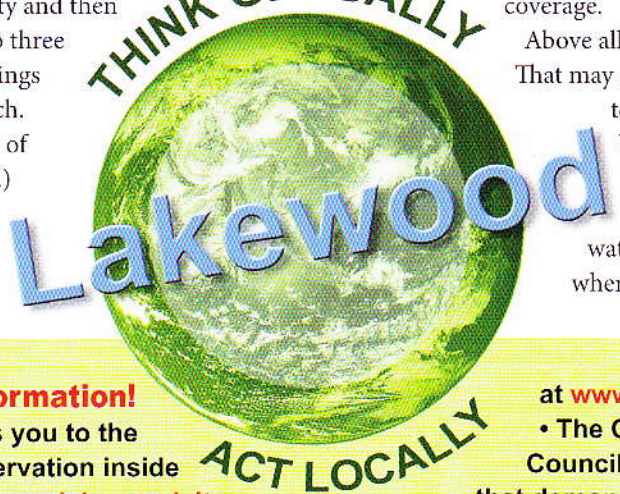
In flower beds, till the soil with compost to improve its water holding capacity and then put down a layer of mulch two to three inches deep. A mix of lawn clippings and leaves is an economical mulch. (Keep mulch away from the base of trunks to allow plants to breathe.) A landscape fabric can be installed under the mulch layer to minimize weed growth and retain moisture.

You can also condition your lawn to use less water. Increase the height of the lawn mowing cut to expand the root system. Keep mower blades sharpened. Rake out the thatch. Replace old sprinkler heads with matched precipitation rate, low gallonage heads that provide uniform spray coverage.

Above all, stop watering whenever runoff occurs! That may mean turning the water on and off in cycles to allow moisture to soak into the ground, but it beats watching the water flow down the street. If you are watering a few potted plants, put down the hose and pick up a watering can. You'll use less water and it will go where you put it. ❑

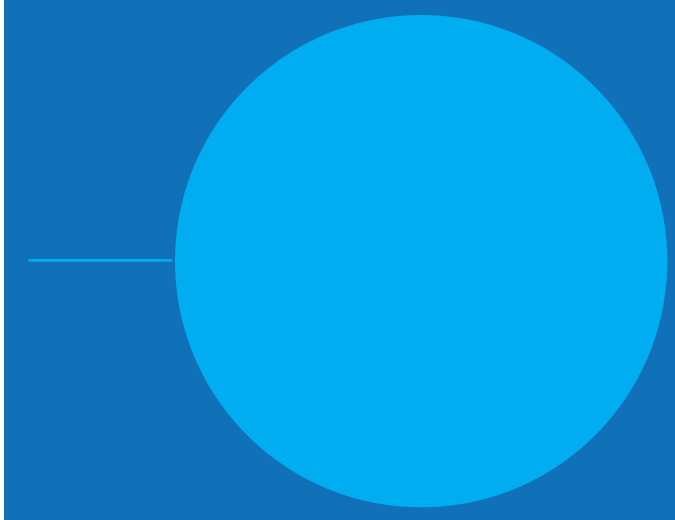
If you do nothing else this summer to save water, at least do these 5 things:

1. **Reset sprinkler timers to water before 7:00 a.m.**
2. **Wash only full loads.**
3. **Fix leaks in faucets, toilet, and hose bibs.**
4. **Use a broom, not a hose.**
5. **Install flow restrictors on showers and faucets.**



More conservation information!

Lakewood Online connects you to the whole world of water conservation inside and outside your home at www.lakewoodcity.org/water. Some of the best sites: Shut Your Tap! provides valuable information on ways to use water more efficiently at www.centralbasin.org/shutYourtap.html. • The Central Basin Municipal Water District offers more helpful tips and information on other conservation programs at www.centralbasin.org/conservation.html. • The Watering Calculator estimates the right amount of water to give your lawn and garden every week. Plug in your ZIP code at www.bewaterwise.com/calculator.html. • The California Urban Water Conservation Council has put together a virtual home that demonstrates the many ways you can help conserve water. Take an interactive tour at www.h2ouse.org/tour/index.cfm. • WaterSense, a partnership program sponsored by the U.S. Environmental Protection Agency, identifies products that use less water. For more information, go to www.epa.gov/watersense. • The Natural Resources Conservation Service has simple ways of conserving water in your own backyard. The tips are at www.nrcs.usda.gov/feature/backyard/watercon.htm.



Drip. Drip. Drip. Every drop adds up. The many ways in which water can be wasted around the house add up to a major conservation problem. It's a problem you can help solve.

You may not have noticed, but we have. We've checked off (on the other side) one or more ways you should begin conserving water right now.

Conservation is the law!

The Lakewood City Council adopted a water conservation plan in 1991. The plan includes commonsense conservation measures, as well as penalties for excessive water use during severe drought conditions.

Lakewood is currently in the first, voluntary phase of the conservation plan, and the following water-wise practices should be followed:

- Watering lawns and landscaped areas after 5:00 p.m. and before 7:00 a.m.
- Preventing overspray from lawn irrigations.
- Washing vehicles with a bucket or with a hose equipped with a positive shut off nozzle and used for quick rinses only.
- Repairing leaks in plumbing.
- Strictly limiting sidewalk and driveway wash downs.

In addition, Lakewood encourages:

- Installation of ultra-low-flow toilets and low-flow shower heads and faucets.
- Installation of drip irrigation systems, low-flow lawn sprinklers, and "smart" irrigation controllers.

IS YOUR HOME WATER TIGHT?

You can also request a conservation water audit from the city's Water Resources Department. For assistance in scheduling an audit, call 562-866-9771, extension 2700 during city business hours.

Think as you use!

Lakewood's water supplies are adequate for our needs today, but none of our water should ever be wasted. Becoming conscious of the amount of water you use is the most important conservation step. Think as you use water!

Typically, 50 percent of the water consumed by households is used outdoors. Studies show that the average homeowner uses more than four times the actual amount of water needed to keep a lawn healthy and green – wasted water that runs off into storm drains.

Water your lawn only when it needs it. Step on your grass. If it springs back when you lift your foot, it doesn't need water. Set your sprinklers for more days in between watering. Avoid rigid water schedules that result in wasteful runoff. Deep soak each time you water. Watering deeply and infrequently creates a healthy root system that is better equipped to withstand heat and drought. The soils in Lakewood may require that you water in several short repeat cycles on the same day to avoid runoff.

City of Lakewood Water Resources Department
www.lakewoodcity.org/conserve
562-866-9771, extension 2700

You're wasting water!

Lakewood Water Department personnel have observed water wasting problems at your address.

Please take the indicated steps (below) to help conserve water:

- ❑ Adjust irrigation sprinklers to spray on your lawn and plants.
- ❑ Adjust your irrigation timer to reduce watering duration and/or frequency to eliminate over-watering.
- ❑ Check your sprinkler system for broken sprinkler heads or a sticking valve.
- ❑ Use a broom to clean the sidewalk, driveway, and patio.
- ❑ Your water meter indicates high water use. Check for leaks inside and outside your home. Call 562-866-9771, extension 2700 for a water audit.

Saving water begins in your own garden:

Start saving with these conservation tips:

- Install drip irrigation systems and soaker hoses in flower and vegetable gardens and around trees and shrubs.
- Condition your lawn to use less water. Increase the height of the lawn to expand the root system. Keep mower blades sharpened. Rake out the thatch.
- In flower beds, till the soil with compost to improve its water holding capacity and put down a layer of organic mulch two to three inches deep. A mix of lawn clippings and leaves is an economical mulch. (Keep mulch away from the base of trunks to allow plants to breathe.) Mulch will moderate soil temperatures, reduce moisture loss, and retard weed growth.
- Weeds are notorious for stealing water away from other plants. If you keep weed populations in check, you won't have to water as often.
- Focus on growing drought-tolerant plants. A number of beautiful plants, both native and non-native, can survive with less water once they are established.
- Use porous paving materials such as brick, decomposed granite, or gravel on patio surfaces and walkways to keep water in the garden rather than in the gutter.

Go to www.lakewoodcity.org/greenliving to learn how Lakewood is acting locally to protect the global environment and to learn how you can help.

WATER

Ideas for
wise water
management.
It's up to us.

LAKEWOOD

What's good for the planet is good for Lakewood.

When rain is scarce, water is on everybody's mind. Crisis has a way of focusing our attention. But, the truth is, we can't control how much rain and snow we get. But here's the good news; we can control how much water we use—how much we use wisely vs. how much we waste thoughtlessly. A lot of water goes down the drain because we have always thought of water as being plentiful and cheap.

Lakewood has no immediate water crisis. And most of our conservation goals are voluntary for now. But let's face it; it would be a colossal mistake to ignore the facts. California's water supplies are not predictable. Years of drought can't be easily made up. Worse yet, structural drought is built into the water supply system. If we don't continue to plan, we'll be facing a water shortage sooner or later.

Lakewood is seeking innovative ways to expand future water supplies while updating our wells and water treatment facilities. We're also working on a plan to store more water underground in wet years, to be used later when rainfall is below normal. Storing water for the future is one way we can put off the worst effects of a drought.

But the easiest solution is conservation! Especially when you follow some best practices for making your home or business "water tight". We can alter our behavior. Change our habits. Save instead of spend!

Take a moment to review these water saving tips.

We can do this together!

This booklet is filled with plenty of simple, practical water-wise tips. But we've also included links to some of the best minds at the agencies and organizations that Lakewood partners with so you can learn even more.

We can be water wise or thoughtlessly wasteful.

It's up to us.

WE CAN DO THIS.

You'll be amazed how much water you can save by following these simple tips!

Step one: Economize!

Try running only full washing machine and dishwasher loads, and be sure to set the water level for the size load you are washing. This saves 300 to 899 gallons per month! A low-flow showerhead will save 50 gallons of water during a 10-minute shower and only costs $10! Shorten your showers, and save up to 700 gallons per month. A broom instead of a hose to clean your driveways and sidewalks, and adjusting your sprinklers so water only lands on your lawn or garden saves up to 600 gallons a month.

Step two: Repair leaks!

A leaky faucet dripping at a rate of just one drop per second will waste 2,700 gallons of water per year. Fixing leaky faucets and plumbing joints saves 20 gallons per day for every leak stopped. Retrofitting all household faucets with low flow aerators can save 500 to 800 gallons per month.

Step three: Make your lawn a water miser!

Typically, 50 percent of the water consumed by households is used outdoors. The average homeowner uses more than 4 times the actual amount of water needed to keep a lawn healthy and green—wasted water that runs off into storm drains. Water your lawn only when it needs it. Step on your grass. If it springs back when you lift your foot, it doesn't need water. Set your sprinklers for more days in between watering. This saves 750-1,500 gallons per month.

Step Four: Think globally, act locally.

Our local communities are the natural stewards of the local environment. The benefits of water conservation extend beyond the Individual to the entire neighborhood, and to the world at large. Wise water management is an easy way to make a positive contribution to our environment.

Ideas for wise water management

INDOOR CONSERVATION	Estimated Savings
Run the dishwater only when full.	2-4.5 gallons per load
Don't leave water running while rinsing dishes.	2.5 gallons per minute
Turn off water when brushing teeth.	2 gallons per minute
Shorten showers.	2.5 gallons per minute
Don't use toilet as wastebasket.	1.6 gallons per flush
Wash only full loads of clothes.	15-50 gallons per load
Fix leaky toilets.	35-50 gallons per toilet
Fix leaky faucets.	15-20 gallons per day per leak
Use a high-efficiency clothes washer.	20-30 gallons per load
Replace older, high-volume flushing toilets.	2.2-3.8 gallons per flush

LANDSCAPE IRRIGATION	Estimated Savings
Water your yard only before 9 am to reduce evaporation and interference from wind.	20-25 gallons a day
Don't overwater!	
Reduce each irrigation cycle by 1-3 minutes or eliminate one irrigation cycle per week.	
Use the landscape calculator and watering index at www.BeWaterWise.com	
Water only after the top inch of soil is dry.	
Reset irrigation controllers and replace batteries in the spring.	15-25 gallons per minute; up to 250 gallons per cy
Adjust sprinklers to prevent overspray.	15-25 gallons per day
Repair leaks and broken sprinkler heads.	20 gallons per day per week
Add 2" to 3" of mulch around trees and plants to reduce evaporation.	20-30 gallons per day per 1,000 sq. ft.
Install water-efficient drip irrigation system for trees, shrubs, and flowers to get water to the plant's roots more efficiently.	20-25 gallons per day
Upgrade to a "smart irrigation controller" that automatically adjusts watering times for hotter weather, and shuts down the system when it rains.	40 gallons per day
Replace a portion of the lawn with beautiful native and California friendly plants.	33-60 gallons per day per 1,000 sq.ft.
Group plant species with similar water needs together and adjust water use based on those needs.	

OTHER OUTDOOR IDEAS	Estimated Savings
Use a broom instead of a hose to clean driveways and sidewalks.	8-18 gallons per minute
Adjust your pressure reducer (if you have one) to keep pressure between 40-60 psi.	
Don't leave the hose running while washing your car. Get a self-closing nozzle for your hose.	8-18 gallons per minute
Repair any leaks around pool and spa pumps.	20 gallons per day per leak
Install covers on pool and spas to reduce evaporation.	30 gallons per day
Install pressure reducer if your pressure is greater than 80 psi.	

New conservation rules

Lakewood's water rate structure encourages homeowners and businesses to be water tight. The conservation rate structure tiers costs so that big users pay more and those that conserve pay less.

New requirements for repairing water leaks, and restrictions on cleaning hardscape areas have also been adopted to help preserve our valuable water resources.

A revised conservation in landscaping ordinance will be used to shrink the "water budget" for large landscaped areas.

For more information

You can call the Lakewood Water Resources Department at **562-866-9771, extension 2700** for answers to questions about water conservation, or you can e-mail **Service1@lakewoodcity.org.**

There is a wealth of information about more ways to conserve water. Educate yourself by visiting these websites:

>www.lakewoodcity.org/water_conservation
>www.BeWaterWise.com/savewater
>www.FutureFriendly.com/savewater
>www.StandforLess.com
>www.wateruseitwisely.com
>www.eartheasy.com/live
>www.waterconserve.org
>www.watermiser.com
>www.H2Ouse.org

It's up to us
LAKEWOOD
What's good for the planet is good for Lakewood.

ATTACHMENT 20

BUSINESS WATER CONSERVATION PLAN

Date: _____

Name of Business: _____

Telephone Number: _____

Address: _____
Street

_____
City State Zip Code

Mailing Address (If Different From Above)

Address: _____
Street

_____
City State Zip Code

Type of Business: _____

Contact Person: _____ Title _____

Number of Employees: _____

Normal Hours of Operation: Days _____ Hours _____

Building Size: _____ square feet

Average Bi-Monthly Water Consumption _____ hcf

Domestic Water Service Connections

Number of Domestic Water Service(s): _____

Meter Location: _____ Size _____

Meter Location: _____ Size _____

Meter Location: _____ Size _____

(Attach additional sheet with water meter location and size if served by more than three domestic services.)

Fire Protection Water Service Connections

Number of Fire Protection Water Service(s): _____

Meter Location: _____ Size _____

Meter Location: _____ Size _____

Meter Location: _____ Size _____

(Attach additional sheet with water meter location and size if served by more than three domestic services.)

Irrigation Water Service Connections

Number of Domestic Water Service(s): _____

Meter Location: _____ Size _____

Meter Location: _____ Size _____

Meter Location: _____ Size _____

(Attach additional sheet with water meter location and size if served by more than three domestic services.)

Name of Business: _____

WATER USE SURVEY

INDOOR WATER USE

Water Source	Number	Gallons per Minute Flow	Average Frequency of Use	Daily Use (Gallons)
Toilets				
Urinals				
Restroom Faucets				
Kitchen Faucets				
Shower				
Refrigeration				
Ice Maker				
Other				
			TOTAL INDOOR USE	

OUTDOOR WATER USE

Water Source	Number[1]	Gallons per Minute Flow	Minutes in Use	Gallons per Use	Weekly Use	Average Use per Week
Irrigation[2]						
Hose Bib						
Other						
					OUTDOOR USE TOTAL	

[1]Number of Sprinkler Heads in Irrigation System

[2]Automatic Sprinkler System

Name of Business: _____

ESTIMATED WATER CONSERVATION SAVINGS

INDOOR WATER CONSERVATION SAVINGS

Water Source	Estimated Savings per Use (Gallons)	Estimated Frequency of Use	Previous Daily Average Use[3]	Estimated Total Savings	New Average Daily Use
Toilets					
Urinals					
Restroom Faucets					
Kitchen Faucets					
Shower					
Refrigeration					
Ice Maker					
Other					
TOTAL INDOOR USE					

OUTDOOR WATER CONSERVATION SAVINGS

Water Source	Estimated Savings per Use (Gallons)	Proposed Frequency of Use	Previous Average Weekly Use[4]	Estimated Total Savings	New Average Weekly Use
Irrigation[5]					
Hose Bib					
Other					
OUTDOOR USE TOTAL					

[3]From Water Use Survey

[4]From Water Use Survey

[5]Automatic Sprinkler System

Name of Business: _____

WATER CONSERVATION SAVINGS SUMMARY

CONSERVATION GOAL

	Daily Use	X	Days of Operation	=	Weekly Use
Indoors		X		=	
Outdoors		X		=	
			TOTAL WATER SAVINGS		
					X 8 Weeks
			ESTIMATED CONSERVATION GOAL IN GALLONS		
			Divide by Number of Gallons in one Billing Unit		¸ 748
			TOTAL BI-MONTHLY CONSERVATION GOAL		hcf

LAKEWOOD Living
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Lakewood, CA 90712

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Street improvements continue

Lakewood is known for keeping its streets in top condition. Over 92% of the city's roadways have been repaved since 2000. With projects recently approved by the city council, that figure will climb even more in the months ahead.

The new projects will focus on over three miles of streets. Bellflower Boulevard from Ashworth Street to Del Amo Boulevard, areas around Biscailuz Park, and the entire Cherry Cove neighborhood will see roadways repaved and damaged sidewalks, curbs and gutters repaired. The east service road of Paramount Boulevard between Del Amo Boulevard and Carson Street, along with alleys in the area, will also be repaved.

Project maps are available at **www.lakewoodcity.org/projects**.

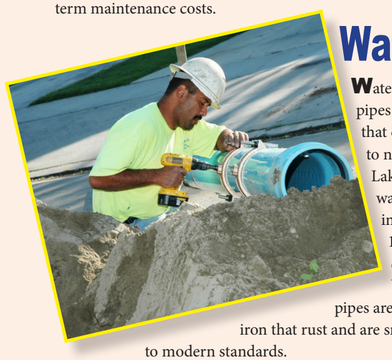
Lakewood uses rubberized asphalt for its repaving. This newer asphalt requires only one-half the thickness of conventional asphalt. Thus, the expense of grinding off the existing pavement to maintain an acceptable "crown" is avoided and there is less disruption to neighborhoods. The use of rubberized asphalt keeps thousands of old tires from being dumped in landfills. The material is more durable than traditional asphalt and saves on long-term maintenance costs.

Rubberized asphalt also reduces skidding and maintains its coloring better over time, which helps keep highway markings more visible. Particularly nice for residential drivers, rubberized asphalt provides a quieter ride for motorists and residents who live nearby.

By keeping its streets in good condition, Lakewood avoids a rash of potholes when rains come. Potholes can form when water seeps into cracks in roadways and undermines the street from below. The news media recently reported that Lakewood had some of the fewest potholes in our region from this winter's heavy rains.

The new Lakewood work is funded by several sources: Lakewood city funds, federal Community Development Block Grants, and Measure R funds approved by L.A. County voters in 2008.

Water upgrades move ahead too



Water mains are the pipes underground that deliver water to neighborhoods. Lakewood's water mains were installed in the 1950s when the city was first built, and the pipes are unlined cast iron that rust and are small according to modern standards.

Lakewood has an ongoing program to double the size of these pipes from 4" to 8" in diameter and to replace the old, unlined cast iron with PVC or other modern materials. The new pipes increase water flow to neighborhoods, which can improve water service to residents and allow the city to install larger fire hydrants for improved fire fighting capacity. Main replacement locations are prioritized using historical data of water quality issues and leaks.

This spring, new mains will be installed under residential roadways in an area bounded by Camerino Street, Michelson Street, Pepperwood Avenue and Sunfield Avenue and Fidler Avenue between Del Amo Boulevard and South Street. In the late spring, work will proceed to Premiere Avenue and Pearce Avenue between Del Amo Boulevard and South Street, and the east/west streets in that area (Hardwick, Michelson and Bieglow). A map of the project area is available at **www.lakewoodcity.org/projects**.

April 2011 Volume 33 No. 3

LAKEWOOD Living

News from the City of Lakewood
www.lakewoodcity.org
City Hall: 562-866-9771

Let's Celebrate!

65th Lakewood Pan American Fiesta

Lakewood's longest-standing community event—the Pan American Fiesta—begins its three-day celebration at Mayfair Park on Friday, May 6 at 5:00 p.m. The family-friendly fiesta continues on Saturday and wraps up Sunday evening.

Lakewood's festival dates back to 1945 when Dr. Walter Montano, former Bolivian consul, and Jesse Solter, a local schoolteacher, shook hands over a backyard fence and pledged to begin a program to foster good relations with Lakewood's Latin American neighbors. Today, Lakewood's fiesta is the nation's only community-wide celebration of pan-americanism outside of Washington, DC.

The fiesta's traditional pancake breakfast, sponsored by the Pan American Association, will be offered on Saturday and Sunday from 7:00 a.m. to 10:30 a.m. for $4.00. On Sunday—Mother's Day—breakfast and a gift are free for all moms, along with live entertainment and fun shopping at the fiesta's craft booths.

Carnival rides, food, art, music and dancing

The fun begins with carnival rides on Friday evening, May 6 from 5:00 p.m. to 10:00 p.m., and continues on Saturday from 11:00 a.m. to 10:00 p.m., and on Sunday from 11:00 a.m. to 9:00 p.m.

Food booths are open from 11:00 a.m. to 6:00 p.m. on Saturday and Sunday.

Over 70 arts and crafts dealers will bring their wares to the fiesta. There will also be an artist demonstration by members of the Lakewood Artist Guild.

In the Children's Cultural Booth, kids can have a free, hands-on cultural experience featuring activities and arts and crafts from across the Americas. Organized activities there run from 11:00 am to 3:00 p.m. on Saturday and Sunday.

Free entertainment begins on Saturday at 11:00 a.m. with Mayfair High School youth bands and choral groups. The fiesta's opening ceremonies are scheduled for noon. Music and dance – from Latin Jazz, Country Western, Rhythm & Blues, to a Polynesian Revue – will continue on the fiesta's main stage throughout the weekend. There will be lots of opportunities for Lakewood

Continues on back of flap

CityTV

For over 25 years, Lakewood's CityTV production unit has created programs that educate, explore and celebrate all things Lakewood. These Lakewood programs consistently win regional and national honors for excellence. The CityTV signal is cablecast on Time Warner cable and Verizon FiosTV on channel 31, is streamed on **www.lakewoodcity.org/streaming**, and has video clips available on YouTube at CityTVLakewoodCA.

Lakewood CityTV is a leader in our region in its innovative coverage of community-oriented issues. CityTV's milestones includes cablecasting city council meetings, coverage of Lakewood Youth Sports leagues, the Cafe 5050 cooking show, and magazine-style programs that focus on public safety, news and community events, transportation and transit, and issues that will shape Lakewood's future.

CityTV has its lighthearted side too, even when the subject has been waste disposal or the year in review. Humor, style and high production values have kept viewers interested from the early days of cablecasting in Lakewood. By innovating new ways of presenting information—from the first government music video to sitcoms, documentaries and game shows—CityTV has become one of the best city channels nationally.

To view CityTV's schedule, go to **www.lakewoodcity.org/citytvschedule**. To receive a monthly schedule by mail, call 562-920-9325.

We invite you to take the online survey to help inform and improve CityTV at **https://www.surveymonkey.com/s/YLQQSKJ**

Continues on back of flap

'Shop Lakewood': Good for you, good for Lakewood

By Lisa Novotny,
Lakewood's Assistant City Manager

Every time you purchase an item at a Lakewood store, dine at a restaurant in town, or even fill up your car with gas in Lakewood, you're not just paying for a product. You're also helping the Lakewood community because a portion of your sales tax comes back to fund improvements here in your hometown.

Sales taxes fund the largest portion of city services. That includes park programs, law enforcement and all the features that make for a good quality of life in Lakewood.

So how easy is it to Shop Lakewood?

Lakewood is fortunate to have the second-largest shopping mall complex in Los Angeles County. With popular retailers like Nordstrom Rack, Costco, Home Depot, Best Buy and Target, there are lots of shopping opportunities at Lakewood Center and many other merchant locations in town.

An expanded Smart & Final "Extra" store (one of the company's largest) is the newest opportunity to Shop Lakewood. Scheduled to open on May 18, the 31,000 square-foot store at the northwest corner of Carson Street and Woodruff Avenue will feature lots of items in regular consumer sizes and far more fresh produce, fresh meat and flowers than a typical Smart & Final.

Later in May, the same shopping center on the west side of Carson and Woodruff will see the grand opening of Sprouts Farmers Market. Sprouts (formerly known as Henry's Farmers Market) will feature natural foods at low prices. Sprouts is well-known for offering locally-grown produce, fresh-off-the-boat seafood, all natural meats and fresh bakery goods.

Having a vibrant central mall and plenty of shopping choices around town has been part of Lakewood's formula for success since the city was founded in the 1950's. Lakewood city staff are working hard with business owners to bring even more shopping opportunities to Lakewood later this year. We want to do everything we can to continually update and expand your ability to Shop Lakewood in order to help you and help our community.

Lisa Novotny is Lakewood's Assistant City Manager

Pan American Fiesta

residents of all ages to try out their dance moves—or just listen—to many kinds of music.

For a complete schedule of fiesta events and times, go to www.lakewoodcity.org/panam or call 562-866-9771, extension 2408.

Save money with pre-sale tickets

Pre-sale carnival ride and breakfast tickets are available now at city hall (and at Mayfair Park beginning May 2). Pre-sale tickets are 10 for $20. Each pre-sale ticket is good for one ride. Advance purchase of a wrist band for $20 gives unlimited rides from noon to 6:00 p.m. on Saturday only.

Ride tickets will be sold at the fiesta too. Tickets will be $1 each, $19 for 20 tickets, and $25 for 32 tickets. Rides generally require three to five tickets when purchased the day of the event. A wrist band purchased on Saturday for $25 will allow you unlimited rides from noon to 6:00 p.m. on that day only.

Parking will be available in the east parking lot of city hall (Clark/Del Amo). A free shuttle will run from city hall to Mayfair Park every 15 minutes from 10:00 a.m. to 7:00 p.m. on Saturday and Sunday.

CityTV

CityTV programs include the following, some of which have excerpts that can be seen at www.lakewoodcity.org/citytv:

- **Lakewood Beautiful - California Friendly**

Lakewood residents transform the look of their front yard with a drought-tolerant garden. With water-wise landscaping and irrigation updates, residents not only achieve a Lakewood Beautiful home but conserve water in the process.

- **Personal Safety: What Would You Do?**

Various scenarios are depicted to demonstrate common crimes and how one handles the situation. Tips and advice are given to prevent becoming a crime victim.

- **Café 5050**

Learn how to prepare gourmet meals. Guest chefs include instructors who teach cooking classes offered by the city's Recreation and Community Services Department.

- **The City...What Good Is It?**

A look at how local government impacts the everyday lives of its citizens. Program focuses on city services and how they benefit the community as a whole.

- **The Lakewood Story**

Take a look back at the beginning of the city with this historical film. The Lakewood Story was made in the early days of the city's infancy and documents the events that lead up to cityhood.

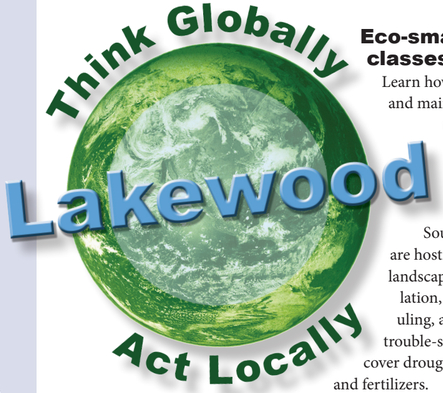
- **It's A Wonderful Town**

Stories and memories as told by Lakewood founders, long-time residents and community leaders. Learn a bit of Lakewood history from those who lived it.

- **City Council**

Coverage of the business portion of all regular city council meetings, including Before the Council, an informative talk show about the issues to be discussed at the city council meetings.

CityTV is your channel for Lakewood television, cablecasting and streaming 24/7. Whether it be specialty history programs, public safety or community events—CityTV is all Lakewood all the time.



Eco-smart gardening classes

Learn how to landscape, irrigate and maintain a yard that is beautiful, water-efficient and environmentally-friendly. The County of Los Angeles and the Water Replenishment District of Southern California (WRD) are hosting free workshops on landscape design, irrigation installation, drip irrigation and scheduling, as well as maintenance and trouble-shooting. The classes also cover drought-tolerant plant selection and fertilizers.

The "Smart Gardening" programs of the County of Los Angeles are for beginning and advanced gardeners. A beginning workshop will be held on Saturday, April 30 from 9:30 a.m. to 11:00 a.m. at Birney Elementary School, 710 W. Spring Street, Long Beach. No reservation is needed. Details and dates for future classes are at http://dpw.lacounty.gov/epd/sg.

The WRD offices at 4040 Paramount Boulevard in Lakewood will be the site of ECO Gardener programs on Saturdays through November. To sign up, go to www.ecogardener.org or call the WRD at 562-275-4234.

Using less water and energy and preserving precious natural resources are essential for the future of our state—and planet. Many people don't realize that 70 percent of residential water consumption is attributed to outdoor uses. Lakewood residents are encouraged to take advantage of these educational programs, as well as the new water rebates the city offers for those who install water-conserving irrigation devices or who plan turf removal projects. For more information, go to www.lakewoodcity.org/waterrebates.

Nominate a home for Lakewood Beautiful

Since 1981, Lakewood has been honoring homeowners who exhibit a deep commitment to home beautification, landscaping and overall property maintenance. The Lakewood Beautiful Home Awards Program has honored thousands of homeowners who have made a significant investment in property maintenance and landscaping and in doing so, have helped to improve property values and a quality of life for all in Lakewood.

Each year, hundreds of homes are nominated, either by friends, neighbors or proud homeowners themselves. With the assistance of photographs of the front-facing portion of each nominated home, landscape and design architects evaluate the home to determine if its owners will receive a special award from the city.

Now in its 30th year, Lakewood Beautiful has added ***a new "Water-Wise" Award category*** for those who have made a concerted effort to update irrigation methods, reduce water usage or landscape with plants and trees that require less water. ***July 15 is the deadline*** for nominations for the 2011 Lakewood Beautiful Home Awards Program. Honorees will be recognized by the city council at a special reception in the fall. For more information or to nominate a home, go to www.lakewoodcity.org/beautiful-home or call 562-866-9771, extension 2160.

Save money and water with new rebate program

As California emerges from a three-year drought, we must remember that future water shortages are inevitable given our state's history of recurring drought. That's why it's important that we continue to think about changes we can make in our homes and yards to permanently reduce our water usage.

To help, the City of Lakewood is offering residents up to $195 back on their water bills if they take voluntary action to curb outdoor water use. Over 70 percent of residential water consumption is attributed to outdoor uses.

Beginning May 1, the city will offer cash-back rebates to residents who voluntarily take steps to reduce water use in their yards. Projects can be as simple as installing a new water-saving device like more efficient "rotor" sprinkler heads or hose timers, or they can include a landscape makeover.

Rebate applications are available at www.lakewoodcity.org/waterrebates.

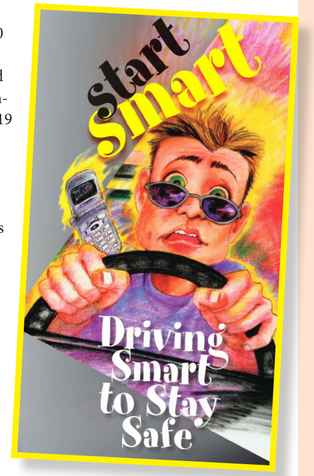
The initial rebates will reduce yard project costs. Afterwards, a typical Lakewood home might save anywhere from $40 to $65 per year from reduced water bills.

The new program covers customers of the City of Lakewood water system. Residents in zip code 90715 are customers of the Golden State Water Company, which operates its own rebate program. Details for that program are at www.bewaterwise.com.

To better understand Lakewood's need to reduce water use, check out the Draft 2010 Urban Water Management Plan online at www.lakewoodcity.org or at the Los Angeles County Libraries. The City Council will consider adoption of the plan at the May 24, 2011 Council meeting.

Teens can learn to drive safely with 'Start Smart'

The California Highway Patrol's free Start Smart driver safety program for teen drivers is returning to Lakewood Center. The Lakewood Sheriff's Community Safety Center hosts the class on Thursday, May 19 from 6:30 p.m. to 8:30 p.m.



The driver safety class is designed to help new and future licensed teenage drivers between the ages of 15 -19 and their parents/guardians. Enroll by calling city hall at 562-866-9771, extension 2408.

Start Smart provides teens with an interactive safe driving awareness class, which illustrates how poor choices behind the wheel can affect their lives and the lives of others.

Due to some of the graphic pictures and videos shown during the class, each teenager under 18 years of age must be accompanied by a parent or guardian, and they must sign a waiver form at the beginning of the class.

Go to www.lakewoodcity.org/eCatalog and search for course number 25694 for the class.

Youth Job Fair

The Lakewood Youth Job Fair is Thursday, May 13 from 3:00 p.m. to 5:30 p.m. at the Lakewood Youth Center (Woodruff Avenue and Arbor Road). The city organizes the fair to help young people between the ages of 16 and 20 find full-time or part-time employment. Attendees will have the opportunity to speak to a number of local employers. The event will also feature sessions to teach youth how to use online tools for seeking jobs.

As a precursor to the job fair, young job seekers are also invited to "Finding That Job," a workshop aimed at teaching job-finding skills. The workshop is scheduled for Friday, May 13 from 5:00 p.m. at 6:00 p.m. at the Lakewood Youth Center. For additional information, call the youth center at 562-429-7472 between 3:00 p.m. and 7:00 p.m. Monday through Friday.

Protect Lakewood from West Nile virus

The return of summer weather is likely to cause the reappearance of West Nile virus throughout Southern California. Mosquito populations will grow as some homeowners over-water lawns or neglect to clean up backyards, notes the Greater Los Angeles County Vector Control District. Standing water means more mosquitoes.

Mosquito activity is greatest now and through early October – a time when Lakewood residents need to be more cautious.

Summer breeding areas for mosquitoes most often result from over-watering. (Over-watering wastes water, too).

Sources of stagnant water created on private property are a property owner's responsibility. Just one cup of water left standing for more than seven days can bear 300 to 500 mosquitoes.

From 2007 to 2010, there were 124 known cases of West Nile disease in Los Angeles County, including five deaths.

Safety tips

- **Clean out and refill water in bird baths and** animal dishes at least once a week
- **Remove or turn over empty plant containers**
- **Clean out rain gutters and eaves**
- **Maintain vegetation to ensure proper drainage**
- **Maintain your swimming pool/spa using** proper filtration and chlorination
- **Untreated swimming pools can be reported to** the city by calling 562-866-9771 or emailing service1@lakewoodcity.org.

ATTACHMENT 21

CITY OF LAKEWOOD
NOTICE OF AVAILABILITY

The Lakewood City Council will be conducting a public hearing to gather testimony regarding the 2010 Urban Water Management Plan Update on Tuesday, May 24, 2011at 7:30PM in the City Council Chambers at 5000 Clark Avenue, Lakewood, California.

The Draft UWMP is available for review at the following locations:

Lakewood City Clerk's office at 5050 Clark Avenue
Mayfair Park, 5720 Clark Avenue
Bloomfield Park, 21420 Pioneer Boulevard
Nye Library, 6600 Del Amo Boulevard
Iacoboni Library, 4990 Clark Avenue
On line at www.lakewoodcity.org.

Katherine J. Lawson, P.E.
Golden State Water Company
3035 Prospect Park, Suite 60
Rancho Cordova, CA 95670

Mr. Joe Holdren
City of Cerritos
18125 Bloomfield Ave.
Cerritos, CA 90703-3130

Mr. Eric Leung
Long Beach Water Department
1800 E. Wardlow Rd.
Long Beach, CA 90807-4994

Mr. Harvey De La Torre
Central Basin Municipal Water District
17140 S. Avalon Blvd., Suite 210
Carson, CA 90746

Mr. Earle Hartling
Los Angeles County Sanitation Districts
P.O. Box 4998
Whittier, CA 90607-4998

Mr. Robb Whitaker, General Manager
Water Replenishment District
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Cerritos, CA 90703

Distribution List for
City of Lakewood
Department of Water Resources
2010 Urban Water Management Plan Update Draft

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Long Beach Water Department
1800 East Wardlow Rd.
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Los Angeles County Sanitation Districts
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Mr. Charles Emig
City of Cerritos
18125 Bloomfield Ave.
Cerritos, CA 90703-3130

Kate Brophy
District Manager
Golden State Water Company
12035 Burke Street, Suite 1
Santa Fe Springs, CA 90670

Ms. Sharon Bunn
Deputy Chief Administrative Officer
County of Los Angeles
Kenneth Hahn Hall of Administration
500 West Temple Street
Los Angeles, CA 90012

AGENDA

REGULAR CITY COUNCIL MEETING
COUNCIL CHAMBERS
5000 CLARK AVENUE
LAKEWOOD, CALIFORNIA

May 24, 2011, 7:30 p.m.

CALL TO ORDER

INVOCATION: Reverend Dr. Bill Cox, Emmanuel Church of Lakewood

PLEDGE OF ALLEGIANCE: Boy Scout Troop 75, Bethany Lutheran Church

ROLL CALL: Mayor Larry Van Nostran
Vice Mayor Diane DuBois
Council Member Steve Croft
Council Member Todd Rogers
Council Member Jeff Wood

ANNOUNCEMENTS AND PRESENTATIONS:

ROUTINE ITEMS:
All items listed within this section of the agenda are considered to be routine and will be enacted by one motion without separate discussion. Any Member of Council may request an item be removed for individual discussion or further explanation. All items removed shall be considered immediately following action on the remaining items.

RI-1 Approval of Minutes of the Meeting held May 10, 2011

RI-2 Approval of Personnel Transactions

RI-3 Approval of Registers of Demands

RI-4 Approval of Application for Bloomfield Outdoor Revitalization Project State Park Development Grant, Resolution No. 2011-21

RI-5 Approval of Report of Monthly Investment Transactions

RI-6 Approval of Adjustment to Low-Income Exemption from Utility Users Tax, Resolution No. 2011-22

RI-7 Approval of Agreement with Diehl, Evans and Co., LLP for Audit Services

RI-8 Approval of Reappointment to the Southeast LA County Workforce Investment Board

PUBLIC HEARINGS:
1.1 2010 Urban Water Management Plan Update, Resolutions No. 2011-23 and No. 2011-24

LEGISLATION:

2.1 Second Reading and Adoption of Ordinance No. 2011-4; Pertaining to the Transient Occupancy Tax Guest Registration Requirement

RECESS

AGENDA
LAKEWOOD REDEVELOPMENT AGENCY

1. Roll Call
2. Approval of Minutes of the Meeting held May 10, 2011
3. Approval of Registers of Demands
4. Approval of Agreement with Diehl, Evans and Co., LLP for Audit Services
5. Adjournment

CITY COUNCIL – RECONVENED

ORAL COMMUNICATIONS:

ADJOURNMENT