



2015 URBAN WATER MANAGEMENT PLAN City of Torrance



Final Report



2015

URBAN WATER MANAGEMENT PLAN



City of Torrance, CA

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ACRONYMS

Act	Urban Water Management Planning Act
AF	Acre-feet
AFY	Acre-feet per year
BDCP	Bay Delta Conservation Plan
BMP	Best Management Practice
CII	Commercial, Industrial, Institutional
CIMIS	California Irrigation Management Information System
City	City of Torrance
CRA	Colorado River Aqueduct
CRWRF	Carson Regional Water Recycling Facility
CU	California Conductive Use
CUWCC	California Urban Water Conservation Council
CVP	Central Valley Project
DBPs	Disinfection Byproducts
DDW	State Water Resources Control Board Division of Drinking Water
DMM	Demand Management Measure
DOF	California Department of Finance
DWR	Department of Water Resources
EIR	Environmental Impact Report
EIS	Environmental Impact Statement
ECLWRF	Edward C. Little Water Recycling Facility
EPA	U.S. Environmental Protection Agency
ETo	Evapotranspiration
GPCD	Gallons per capita per day
GSWC	Golden State Water Company
HSEPS	Hyperion Secondary Effluent Pump Station
IRP	Integrated Resource Plan
ISTEA	Intermodal Surface Transportation Efficiency Act
JWPCP	Joint Water Pollution Control Plant
LACDPW	Los Angeles County Department of Public Works
LACSD	Sanitation Districts of Los Angeles County
MAF	Million Acre-feet
MARS	Member Agency Response System
MCL	Maximum Contaminant Level
MG	Million Gallons
MGD	Million Gallons per Day



mg/L	Milligrams per liter (parts per million)
MHFP	Multi-Hazard Function Plan
µg/L	Micrograms per liter (parts per billion)
MOU	Memorandum of Understanding
MSL	Mean Sea Level
MTBE	Methyl Tertiary Butyl Ether
MWD	Metropolitan Water District of Southern California
NDMA	N-nitrosodimethylamine
OEHHA	Office of Environmental Health Hazard Assessment
PCE	Tetrachloroethylene
PHET	Premium High-Efficiency Toilet
PCCPs	Pharmaceuticals and Personal Care Products
QSA	Quantification Settlement Agreement
SBx7-7	Senate Bill x7-7
SCAG	Southern California Association of Governments
SDP	Seawater Desalination Plant
SEMS	Standardized Emergency Management System
SMURRF	Santa Monica Urban Runoff Recycling Facility
SWP	State Water Project
TCE	Trichloroethylene
TDS	Total Dissolved Solid
TMW	Torrance Municipal Water
ULFT	Ultra-Low-Flow Toilet
USGS	United States Geological Survey
UWMP	Urban Water Management Plan
WARN	Water Agencies Response Network
WBIC	Weather-Base Irrigation Controller
West Basin	West Basin Municipal Water District
WRD	Water Replenishment District
WSAP	Water Supply Allocation Plan
WSDM	Water Surplus and Drought Management Plan

SECTION 1: INTRODUCTION





SECTION 1: INTRODUCTION

1.1 PURPOSE AND SUMMARY

This is the 2015 Urban Water Management Plan (UWMP) for the City of Torrance Municipal Water Department (City). This plan has been prepared in compliance with the Urban Water Management Planning Act (Act), per Division 6 of the California Water Code, Sections 10610 to 10657 (see **Appendix A**), which has been most recently amended by Assembly Bill 2067 in 2014.

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

The Act requires “every urban water supplier providing water for municipal purposes to more than 3,000 customers or supplying more than 3,000 acre-feet (AF) of water annually, to prepare and adopt, in accordance with prescribed requirements, an urban water management plan.” These plans must be filed with the California Department of Water Resources (DWR) every five years describing and evaluating reasonable and

practical efficient water uses, reclamation, and conservation activities (*See generally* Water Code § 10631).

The Act has been amended on several occasions since its initial passage in 1983. New requirements of the Act due to the Water Conservation Act of 2009 (SBx7-7) state that per capita water use within an urban water supplier's service area must decrease by 20 percent by the year 2020 in order to receive grants or loans administered by DWR or other state agencies. The legislation sets an overall goal of reducing per capita urban water use by 20 percent by December 31, 2020. The state shall make incremental progress towards this goal by reducing per capita water use by at least 10 percent by December 31, 2015. Each urban retail water supplier shall develop water use targets by July 2016. Effective 2016, urban retail water suppliers who do not meet the water conservation requirements established by this bill are not eligible for state water grants or loans. As part of the City's past and current sustainability goals, the City is currently implementing all facets of this plan to achieve its target conservation by 2020.

1.2 COORDINATION

In preparing this 2015 UWMP, the City has encouraged broad community participation. Copies of the City's draft plan were made available for public review at City Hall and the local public libraries in the City. The City noticed a public hearing to review and accept comments on the draft plan two weeks in advance of the hearing. The notice of the public hearing was published in



Table 1.1
Coordination and Public Involvement

	Participated in Plan Preparation	Contacted for Assistance	Commented on Draft	Notified of Public Hearing	Attended Public Hearing
California Water Service Co.				X	
City of Gardena				X	
City of Redondo Beach				X	
LA County Public Works				X	
LA County Public Works, Water Resource Dept.				X	
LA County Dept. of Regional Planning Division				X	
LA County Sanitation District				X	
Torrance City Clerk				X	X
Torrance City Council			X	X	X
Torrance City Manager's Office		X	X	X	X
Torrance Community Dev.			X	X	X
Torrance Public Library				X	X
Torrance Public Works Dept.	X	X	X	X	X
Torrance Water Commission	X	X	X	X	X
Water Replenishment District		X		X	
West Basin MWD		X		X	

the local press and available on the City's website. On June 28, 2016, the City held a noticed public hearing to review and accept comments on the draft plan. The public hearing was continued until July 19, 2016. Notice of the public hearing was published in the local press. Following the consideration of public comments received at the public hearing, the City adopted the 2015 UWMP on July 19, 2016. A copy of the City Council resolution approving the 2015 UWMP is included in **Appendix B**.

As required by the Act, the 2015 UWMP is

being provided by the City to DWR, the California State Library, and any city or county within which it provides water no later than 30 days after adoption. The 2015 UWMP will be available to the public during normal business hours within 30 days of submitting the 2015 UWMP to DWR.

1.3 FORMAT OF THE PLAN

The sections and information contained in this 2015 UWMP correspond to the items in the Act and other amendments to the Water Code, including the Water Conservation Act



of 2009 (SBx7-7), as follows:

Section 1 - Introduction

This section describes the Act, the City's planning process, the history of the development of the City's water supply system, a description of its existing service area, the local climate, population served, and the City's water distribution system.

Section 2 - Water Sources & Supplies

This section describes the existing water supplies available to the City, including imported water from the Metropolitan Water District of Southern California (MWD), local groundwater extracted from the West Coast Basin and recycled water obtained from West Basin Municipal Water District. (WBMWD) In addition, this section discusses potential future water supplies, including transfers and exchanges, recycled water, and desalinated water.

Section 3 – Water Quality

This section discusses the quality of the City's imported and groundwater sources. This section also discusses the effect of water quality on management strategies and supply reliability.

Section 4 – Water Demands

This section describes past, current and projected water usage within the City's service area. This chapter also discusses the requirement of the SBx7-7.

Section 5 – Reliability Planning

This section presents an assessment of the reliability of the City's water supplies by comparing projected future water demands

with expected available water supplies under three different hydrologic conditions: normal year; a single dry year; and multiple dry years. This 2015 UWMP concludes that if projected imported and local supplies are developed as anticipated, no water shortages are anticipated in the City's service area during the planning period.

Section 6 – Conservation Measures

This section addresses the City's implementation of the current seven Demand Management Measures (DMMs), which was previously the 14 DMMs listed in the Act. This section also describes the current Best Management Practices (BMPs) implemented by members of the California Urban Water Conservation Council (CUWCC).

Section 7 – Contingency Planning

This section describes the City's response plan to water shortages (City Ordinance No. 3717), as well as those efforts that will be utilized in the event of a water supply interruption, such as drought. The City's water shortage contingency plan was developed in consultation and coordination with other MWD member agencies. In addition, MWD's Water Surplus and Drought Management Plan (WSDM) is also described.

Section 8 – Water Recycling

This section describes the City's wastewater collection by the Los Angeles County Sanitation District (LACSD), and the uses and benefits to implementing a recycled water system. This section also discusses the future outlook of the City on the possibility of using a recycled water system.



Appendices

The appendices contain references and specific documents that contain the data used to prepare this 2015 Plan.

1.4 UPDATES TO THE 2015 PLAN

In addition to updated data, the City's UWMP has undergone several changes from 2010 to 2015 UWMP years (2011 to 2015 fiscal years). A summary of the changes to the UWMP, by section, are provided below:

- **Section 2:** Updated information on water supplies.
- **Section 4:** Updated information on the City's SBx7-7 targets and its 2020 sustainability goals.
- **Section 5:** Added a discussion on the recent California drought.
- **Section 6:** Updated DWR's list of Demand Management Measures (DMMs).

In addition to the above changes, there are multiple minor changes. The changes reflect both those that are required by the Water Code and those that the City elected to include or modify.

1.5 WATER SYSTEM HISTORY

The City of Torrance was founded in 1912 by Jared Sidney Torrance. The City was officially incorporated in 1921. A portion of the original settlement from 1912 exists to this day and is known as Old Town Torrance as shown in **Figure 1.1**.



Figure 1.1: Old Town Torrance

From its foundation in 1912, the City grew as a residential and industrial community. Due to continued development, the City of Torrance joined the recently formed Metropolitan Water District of Southern California (MWD) in 1931. MWD was originally founded in 1928 to build the Colorado River Aqueduct to supplement the water supplies of the original founding members. In 1972, MWD augmented its supply sources to include deliveries from the State Water Project via the California Aqueduct. Today, MWD serves more than 145 cities and 94 unincorporated communities.

1.6 WATER SERVICE AREA

The Torrance Municipal Water (TMW) service area is approximately 10,350 acres and comprises about 78 percent of the land within City limits. California Water Service Company provides water service to the remaining portion of the City. Although the City's boundaries extend to the Pacific Ocean, TMW does not provide water service to its coastal residents. TMW's service area is bounded by the Cities of Los Angeles, Redondo Beach, Lawndale, Gardena, Lomita, Rolling Hills Estates, Palos Verdes Estates, and unincorporated areas of Los Angeles County. Along the southern edge of the service area are the Palos Verdes Hills, which rise about 450 feet at TMW's southern border.



Table 1.2
Historic Weather Data

Month	Monthly Avg. ETo (inches)	Annual Rainfall (inches)		Average Temperature (°F)	
		1975-2015	2010-2015	1975-2015	2010-2015
Jan.	1.7	3.29	1.85	56.8	58.1
Feb.	2.7	3.55	1.90	57.3	57.3
Mar.	4.3	2.32	1.11	58.8	59.9
Apr.	4.4	0.73	0.68	60.8	61.3
May	4.8	0.30	0.25	63.5	62.8
Jun.	5.4	0.06	0.02	66.3	66.2
Jul.	5.6	0.05	0.10	69.8	69.2
Aug.	6.0	0.10	0.01	70.3	70.2
Sep.	5.2	0.20	0.10	69.8	70.4
Oct.	3.8	0.54	0.45	66.4	68.1
Nov.	2.8	1.02	0.55	60.8	61.7
Dec.	2.1	1.91	2.61	56.8	56.5
Annual	48.8	13.57	9.62	63.1	63.5

Figure 1.6 shows TMW’s service boundaries. Land use within the service area is principally composed of single and multi-family residences, a centralized business and commercial district, and some institutional and industrial areas. Since the municipal service area is essentially at a built-out condition, additional growth will result from re-development of existing parcels. **Figure 1.8** shows the City’s land use map.

1.7 CLIMATE

The City has a Mediterranean climate with moderate, and cool, wet winters. Average summertime temperature is around 77.5°F and average wintertime low temperature is 46.7°F. The average annual rainfall for the region is 13.57 inches. Evapotranspiration (ETo) in the region averages approximately 48.8 inches annually. Historically, the City receives just under average rainfall than other cities in the area (about 1 inch less

than the regional average of 14.6 inches). **Table 1.2** lists the historical average ETo, rainfall, and temperatures for the City.

As the State of California and the Los Angeles region has undergone a several-year drought, rainfall has been much lower in the City. Rainfall has decreased by nearly 4 inches in the past six years. This is accompanied by a temperature increase of 0.4°F from the historical average (see **Figure 1.2**)

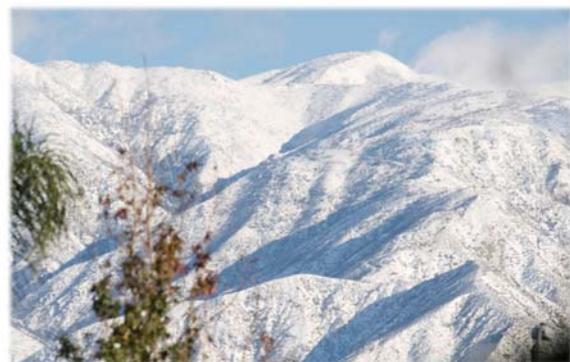


Figure 1.2: Snowfall in San Gabriel Mountains



Figure 1.3: City of Torrance's Madrona Marsh in Wet, Normal, and Dry Seasons.

Water supplies within California have been heavily impacted and resulted in a variety of consumption reductions and enforced water conservation efforts. California is inherently subject to highly variable rainfall patterns (See **Figure 1.3**).

1.8 POPULATION

According to the most recent population figures from the California Department of Finance (DOF), the current 2015 resident population of the City is approximately 148,427 persons. However, Torrance Municipal Water (TMW) accounts for about 71 percent of the City's total residents while the rest is served by other water suppliers. Therefore, TMW currently serves approximately 105,400 persons.

The population was obtained using the

DWR Population Tool. The tool utilizes TMW's service boundaries (see **Figure 1.6**), historic water service accounts, and U.S. Census data.

The tool calculates a "person per connection" and uses current (2015) water accounts to obtain an estimate of the current service area population. The results of the DWR Population Tool are attached in **Appendix F**.

Population growth over the past 15 years is approximately 0.55 percent annually. Population projections using current DOF population estimates in accordance with an annual growth rate of 0.55 percent over the next 25 years are shown in **Table 1.3** below. The service area population that TMW serves in the City is taken as 71 percent of the City's total population.



Table 1.3
Service Area Population Projections

Year	Service Area Population	Citywide Population
2020	108,217	152,569
2025	111,237	156,827
2030	114,341	161,204
2035	117,532	165,703
2040	120,812	170,327

Since Torrance is a major commercial center for the region, daytime population has been estimated slightly over 200,000, due in large part to the number of businesses, facilities, and employment centers located in the City.

1.9 WATER SYSTEM

The City’s Public Works Department manages the health and welfare of the City’s infrastructure and natural resources. To address these responsibilities more effectively, Public Works is organized into two major functional sectors: Engineering/Capital Projects and Operations. The Public Works Department consists of 206.5 staff and an annual operating budget of nearly \$66,000,000. The Public Works Department provides high-quality service for those that live and/or work in the community. The Department is expanding its efforts to include more information on water conservation and refuse recycling to ensure that the City uses resources in a cost effective and environmentally responsible manner.

The Municipal Water Utility, known as "Torrance Municipal Water" or "TMW" has personnel assigned from various Public

Works sections: Water Operations, Engineering, and Administration. The Operations section is responsible for providing high quality drinking water through the operation and maintenance of water production, the water distribution system, water treatment, and storage facilities.

The Engineering Section is responsible for the Capital Improvement Program, which consists of the development and replacement of water system infrastructure and other technical work. The Operations Section is responsible for the operation and maintenance of system facilities, water production and water quality functions. In coordination with Management, the Administrative Staff is responsible for acting as the liaison with outside agencies, most notably state, federal and county agencies departments, other water agencies and regulatory bodies. In addition, the Administrative Services Section, along with management, supports the Torrance Water Commission (which functions as an advisory board to the City Council) and the City’s representative on the MWD Board of Directors. Additional Administrative Staff responsibilities include developing and monitoring the Operations Budget, resource planning, the Capital Improvement Budget, water rates and related financial functions. Administrative Staff also provides customer service, develops and administers water conservation programs and other related water resource planning and management functions.

TMW distributes its water to over 26,500 service customers through a 320-mile network of distribution mains with pipeline sizes ranging from 4 to 24 inches. The water system consists of three pressure zones that provide sufficient water pressure to customers. The water service area, water pressure map, and land use map are shown in **Figures 1.6, 1.7, and 1.8.**



1.9.1 Imported Water

TMW has five imported water connections with a total capacity of 33,666 gallons per minute, or 54,300 acre-feet per year (AFY) to receive imported water from MWD. The City typically imports up to its Tier 1 limit of 20,967 AFY in order to avoid additional costs of MWD's Tier 2 pricing.

1.9.2 Groundwater

In addition to imported water, The City currently maintains one active well (Well #9) and one standby well (Well #7) for groundwater extraction. Well #9 replaced an older Well #6 in 2010 and has a yield capacity of approximately 2,000 gallons per minute (gpm). Well #7 would be used only on an as-needed basis for fire flow demands or other emergencies.

1.9.3 Desalinated & Recycled Water

TMW also receives desalinated water (brackish groundwater) from its Robert W. Goldsworthy Desalter facility, (see **Figure 1.5**). This Desalter is owned by the Water Replenishment District of Southern California (WRD) and operated by TMW personnel. The desalinated water produced from the plant is for the exclusive use by TMW and the plant can currently provide up to 10 percent of TMW's total water supply (2.0 million gallons per day) and has room for future expansion. The facility is in the process of being expanded to 5.0 million gallons per day (mgd) and the expanded Desalter is scheduled to be on-line by late 2017.

Finally, TMW receives recycled water from West Basin Municipal Water District. WBMWD receives secondary effluent from the City of Los Angeles Hyperion Wastewater Treatment Plant and provides tertiary treatment to meet Title 22 standards.

TMW purchases recycled water from WBMWD's Water Recycling Project. The recycled water comes from the West Basin Water Recycling Plant located in El Segundo.

1.9.4 Water Storage

For storage needs, TMW maintains four water storage reservoirs ranging in capacity from 0.9 million gallons (MG) to 18.7 MG with a total capacity of 30.6 MG. Two of these reservoirs are large underground reservoirs and two are standard above ground tanks. **Figure 1.4** shows the 1.0 MG North Torrance Reservoir at the City's McMaster Park.



Figure 1.4: North Torrance Reservoir

TMW's reservoir statistics are listed in **Table 1.4**.

Table 1.4
TMW Water Storage Facilities

Reservoir	Description	Capacity (MG)
Walteria	Underground	18.7
Ben Haggot	Underground	10.0
North Torrance	Above Ground	1.0
Border Avenue	Above Ground	0.9
Total Capacity:		30.6



1.9.5 Emergency Interconnections

TMW maintains four, two-way emergency inter-connections to adjacent water purveyor systems. These connections have the ability to transfer approximately 9,900 gpm into TMW’s distribution system.

There are two 8-inch connections to the City of Lomita, one 8-inch connection to California Water Service Company

(CWSC), and one 12-inch connection to the CWSC system. Each has a two-way interconnection, allowing water transfers to and from TMW, depending on the emergency situation. There are also two 10-inch one way metered interconnections that can only flow from TMW to CWSC.

A list of the water system interconnections is provided in **Table 1.5**.

Table 1.5
Water Purveyor Interconnections^[1]

Interconnection	Size (in.)	Pressure (psi)			Capacity 100 cubic feet (cfs)	Location
		Normal	Low	High		
TMW - CWSC	8	70	50	90	4	Ellinwood Drive and Sepulveda Boulevard
TMW - Lomita ^[2]	8	75	60	100	4	Near 239th Street and Arlington Avenue
TMW - Lomita ^[2]	8	75	60	100	4	Near 240th Street and Pennsylvania Avenue
TMW - CWSC	12	NA ^[3]	NA ^[3]	NA ^[3]	NA ^[3]	Walnut Street near 230th Street
TMW - CWSC ^[4]	(2)-10	70	60	90	10	Del Amo Boulevard and Maple Street

[1] Data provided by City of Torrance

[2] City of Lomita

[3] Data not available

[4] One way flow only from TMW to CWSC

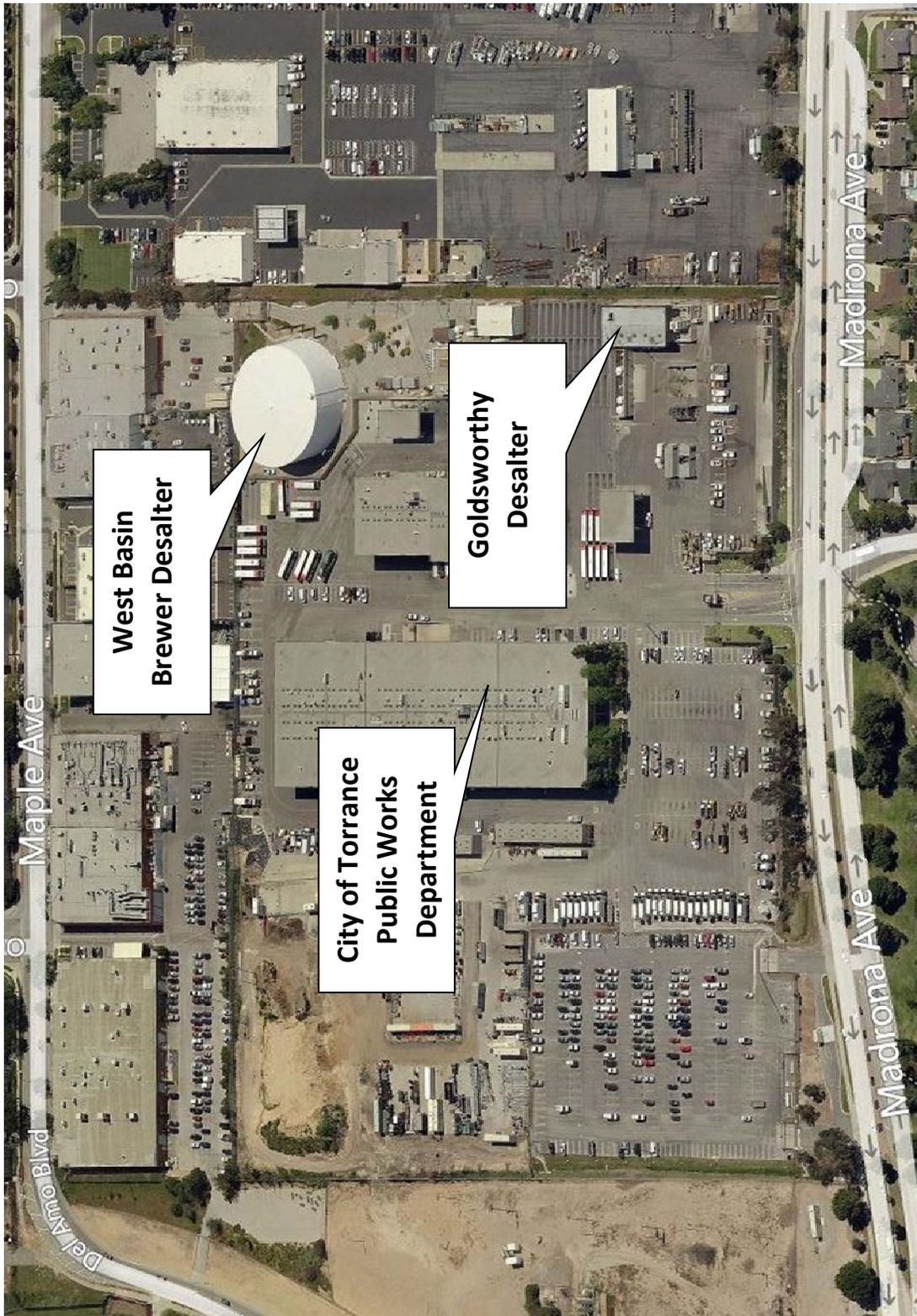


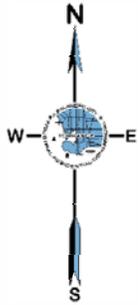
Figure 1.5: City Services Facility



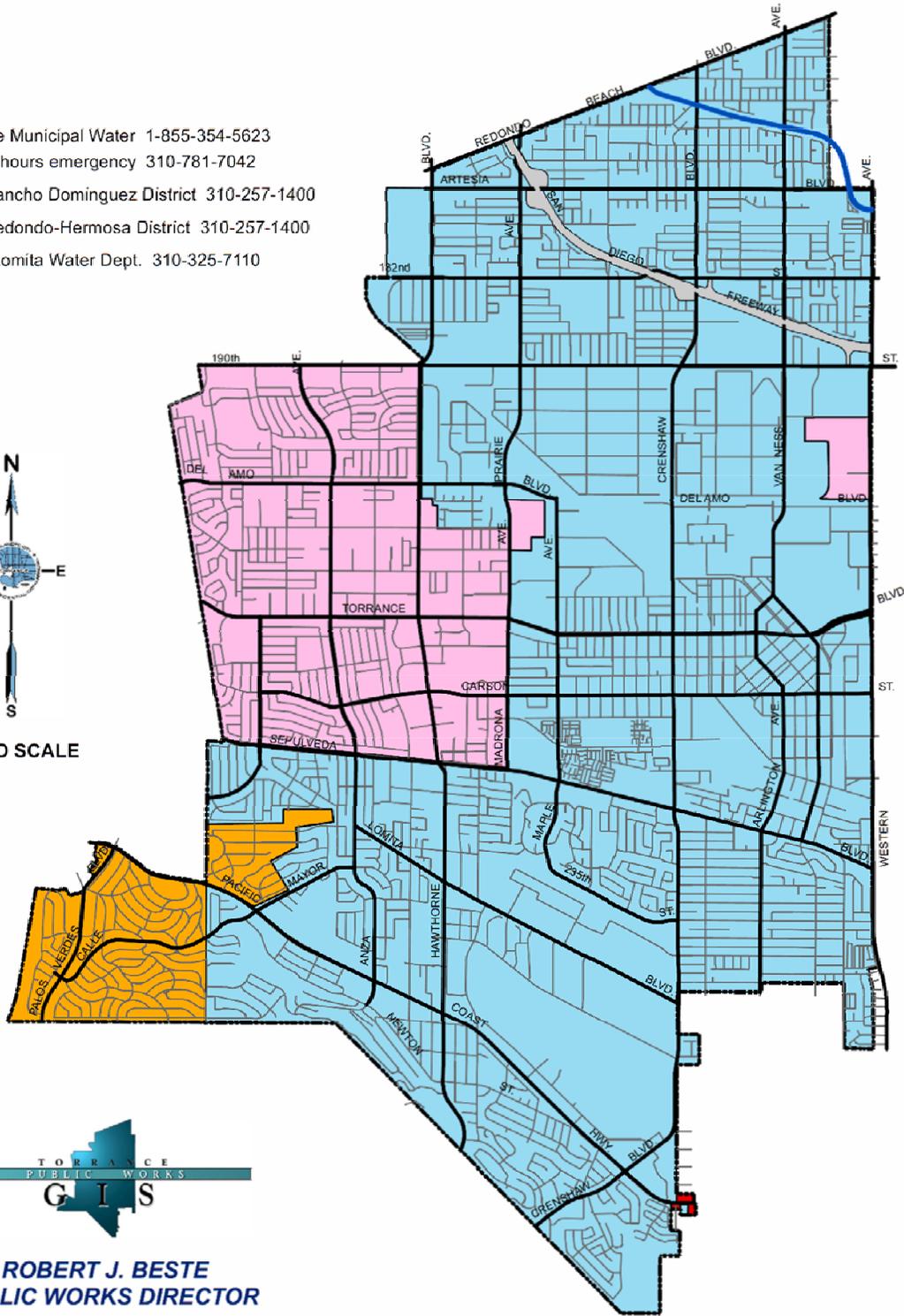
CITY OF TORRANCE WATER PURVEYORS

LEGEND

-  Torrance Municipal Water 1-855-354-5623
After hours emergency 310-781-7042
-  CWS Rancho Dominguez District 310-257-1400
-  CWS Redondo-Hermosa District 310-257-1400
-  City of Lomita Water Dept. 310-325-7110



NOT TO SCALE



ROBERT J. BESTE
PUBLIC WORKS DIRECTOR

Figure 1.6: TMW Service Area



TORRANCE MUNICIPAL WATER WATER PRESSURE MAP

LEGEND
74 WATER PRESSURE IN PSI
(POUND PER SQUARE INCH)

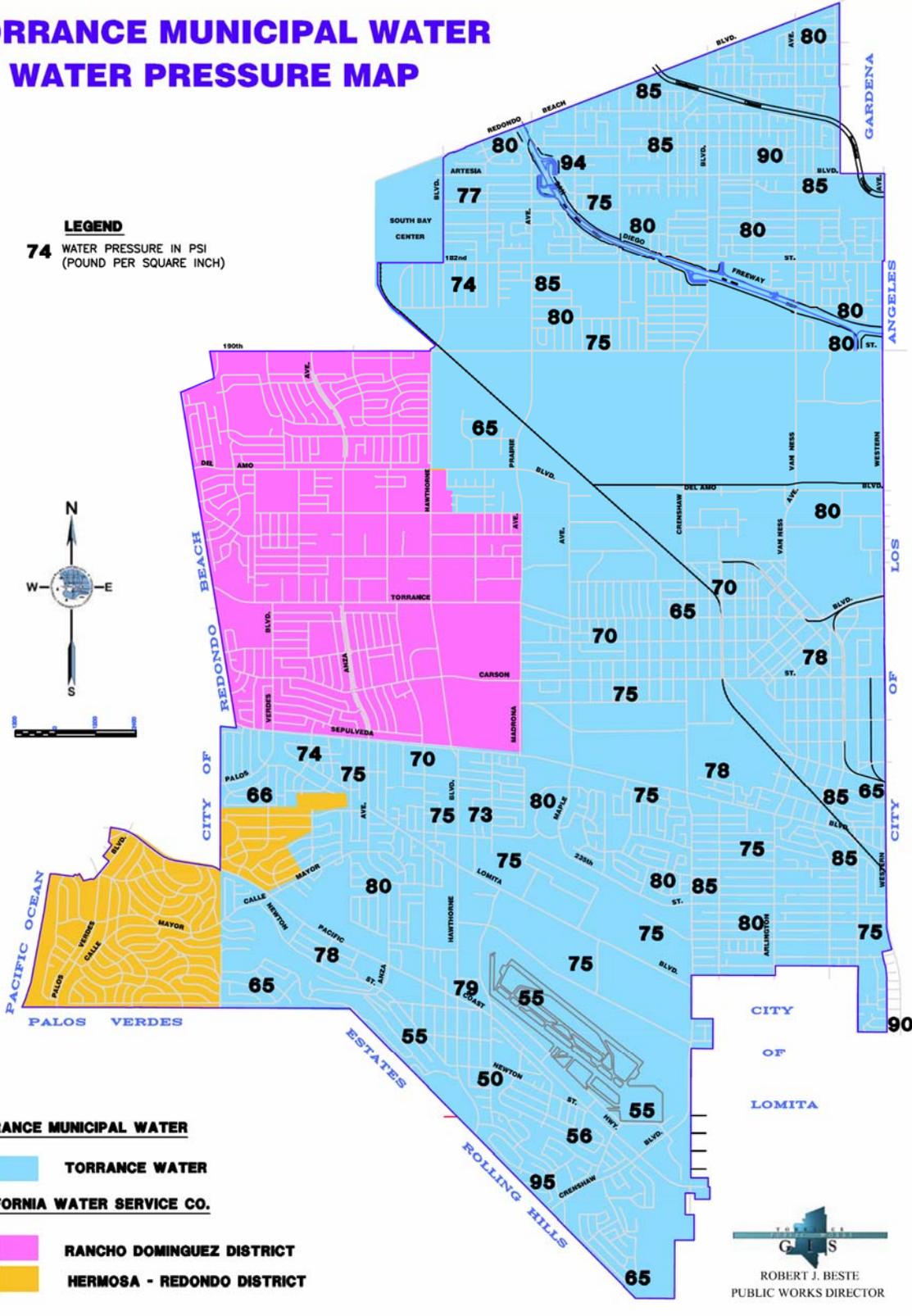


Figure 1.7: TMW Pressure Zones Map

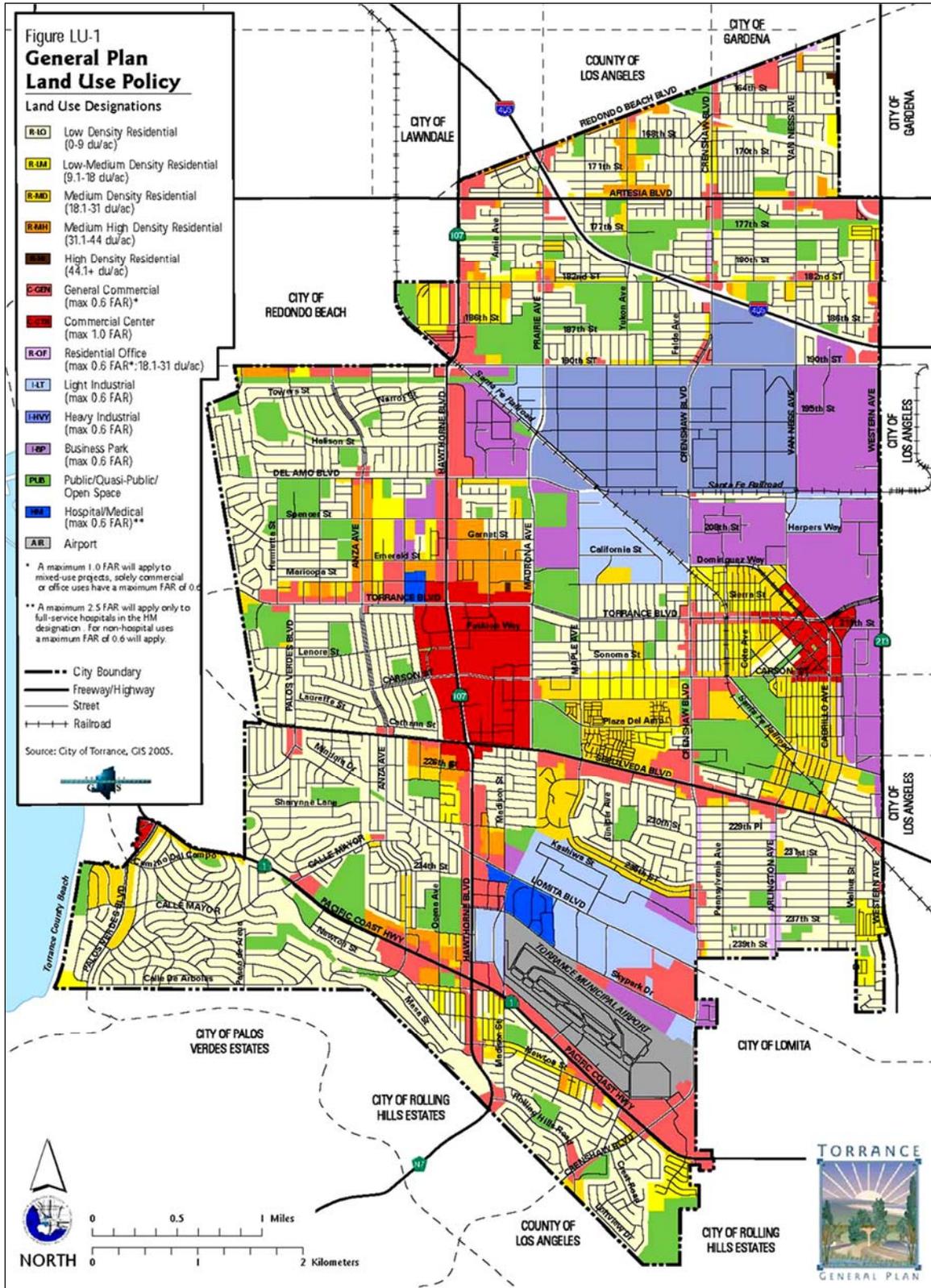


Figure 1.8: City of Torrance Land Use Map



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SECTION 2: WATER SOURCES & SUPPLIES





SECTION 2: WATER SOURCES & SUPPLIES

2.1 INTRODUCTION

TMW's water supply sources consist of imported water from MWD, groundwater produced from the West Coast Basin, water produced from the Goldsworthy Groundwater Desalter and recycled water produced at WBMWD's Edward C. Little Water Recycling Facility in El Segundo.

2.2 WATER SUPPLY SOURCES

2.2.1 Imported Water

The City has access to imported water from the Colorado River and the Sacramento-San Joaquin River Delta in Northern California. These two water systems provide Southern California with over 2 million acre feet (MAF) of water annually for urban uses.

Colorado River

The Colorado River supplies several states with a valuable source of water including Colorado, Utah, Nevada, Arizona, and California. Approximately 40 million people are dependent on water from the Colorado River for agricultural, industrial, or domestic needs. From a State legislative act in 1929, California's allotment from the Colorado River is about 4.4 MAF annually, and is used for agricultural and urban uses with approximately 3.85 MAF used for agriculture in Imperial and Riverside Counties. MWD has a firm annual entitlement to approximately 550,000 AF of Colorado River water supply, but augments this supply by numerous transfer and exchange agreements, which increase MWD's effective use of the Colorado River water to 900,000 AF to 1.2 MAF annually, which is used for urban purposes in MWD's

service area. MWD was established to provide supplemental imported water to Southern California and obtain an allotment of Colorado River water for this purpose. Its first mission was to construct and operate the Colorado River Aqueduct.

The Colorado River Basin has been experiencing a prolonged drought where runoff above Lake Powell has been below average for 12 of the last 16 years. Within those 16 years, runoff in the Colorado River Basin above Lake Powell from 2000 through 2007 was the lowest eight-year runoff on record. While runoff returned to near normal conditions during 2008-2010, drought returned in 2012 with runoff in 2012 being among the four driest in history. During these drought conditions, Colorado River system storage has decreased to 50 percent of capacity (see **Figure 2.1**).



Figure 2.1: Parker Dam at Colorado River

Bay Delta

In addition to the Colorado River, the Sacramento-San Joaquin River Delta provides a significant amount of supply annually to Southern California. The Delta is located at the confluence of the Sacramento and San Joaquin Rivers east of



Figure 2.2: Sacramento-San Joaquin Bay Delta

the San Francisco Bay and is the West Coast's largest estuary (see **Figure 2.2**).

The Delta is often considered the nexus of California's statewide water system. About half the total river flow in the state passes through this region, from which water is exported to the San Joaquin Valley, Southern California and portions of the Bay area to supply some 1,130,000 acres of farmland and 23 million people in central and Southern California. The Delta provides an estimated 7 million acre feet of water per year, of which about 100,000 AF are exported to the San Francisco Bay Area, 1.7 MAF are used locally, and over 5 MAF are exported to the San Joaquin Valley, coastal Central and Southern California via the State Water Project and federal Central Valley Project.

Aqueduct Systems

In order to provide Southern California imported water, two separate aqueduct systems (one for each source of supply) are utilized to obtain supplies. These two aqueduct systems convey water from each source into separate reservoirs whereupon the water is pumped to one of several treatment facilities before entering MWD's distribution system. One of these aqueduct systems is known as the Colorado River Aqueduct (CRA), and the other is known as the California Aqueduct or the State Water Project (SWP). The CRA is managed by MWD and the SWP (see **Figure 2.3**) is managed by the California Department of Water Resources (DWR).



Figure 2.3: State Water Project Main Aqueduct

The idea for the CRA initially began in the early 1920s. As a result of the growing water needs of the Los Angeles area, MWD was formed in 1928. The CRA was considered to be the first order of business shortly after MWD's incorporation. MWD initially considered eight different routes for the CRA, but ultimately, the existing route was chosen since it was the safest and most economical. Construction began in 1933 after a \$220 million bond was approved in 1931. The CRA is 242 miles long and consists of open channels, tunnels, and pipeline, two reservoirs, and five pumping stations. At the pumping stations, water is lifted in some cases by over 400 feet in order to account for the elevation differences. The CRA carries water from the Colorado River at the Parker Dam (see **Figure 2.1**) to Lake Matthews.

In addition to the CRA, MWD receives water from northern California via the California Aqueduct, also known as the State Water Project (SWP). The SWP is a

444 miles long water storage and delivery system of reservoirs, aqueducts, power-plants and pumping plants and carries water from the Delta to Southern California and is operated by DWR. Its main purpose is to store water and distribute it to 29 urban and agricultural water suppliers, also known as "contractors" in Northern California, the San Francisco Bay Area, the San Joaquin Valley, the Central Coast, and Southern California. Of the contracted water supply, 70 percent goes to urban users and 30 percent goes to agricultural users.

Financing for the construction of SWP facilities was authorized in 1959 when the State Legislature enacted the California Water Resources Development Act (known as the Burns-Porter Act). The Burns-Porter Act, formally known as the California Water Resources Development Bond Act, was placed on the November 1960 ballot. Also known as Proposition One, its chances for passage were unpredictable. Heated and continuous negotiations were still ongoing,



with MWD withholding its endorsement until days before the election. The San Francisco Chronicle strongly opposed the proposition. California’s North-South regional rivalry was a strong factor in the election. The voters approved the measure.

The first SWP water deliveries were made in 1962, two years after construction began. The DWR and MWD signed the first water supply contract in 1960. Today, 29 agencies have long-term water supply contracts with DWR. The service areas of these long-term water supply contractors vary widely in size, location, climate, and population. The contractors’ uses for SWP water also differ. In the San Joaquin Valley, SWP water is used primarily for agriculture; in the Feather River area, San Francisco South Bay, the North Bay areas, and in Southern California, SWP water is used primarily for urban and industrial needs.

Today, the SWP includes 34 storage facilities, reservoirs and lakes, 20 pumping plants, 4 pumping-generating plants, 5 hydroelectric power plants, and about 701 miles of open canals and pipelines.

The previously mentioned aqueducts supply Southern California with a significant amount of its water and are crucial to its sustainability. In addition to these two water systems, there are also several other aqueducts that are vital to the State, including the Los Angeles Aqueduct (managed by Los Angeles Department of Water and Power-LADWP). The major aqueducts in California are shown in **Figure 2.4** on the following page.

Imported Water Purchases

As a wholesale agency, MWD distributes imported water to its 26 member agencies throughout Southern California as shown in

Figure 2.5. TMW is one of 15 primarily retail agencies served by MWD and receives imported water from five interconnections ranging in capacity from 2,245 gpm to 11,220 gpm. The interconnections are capable of serving up to 100 percent of TMW's water needs if necessary. **Table 2.1** presents TMW's recent imported water purchases from fiscal year 2010-2015. Imported water over this time period has accounted for approximately 84 percent of TMW's potable water supply total.

Table 2.1
Imported Water Supply 2010-2015
(Purchases from MWD)

Year	Purchases (AF)
2015	16,206
2014	17,209
2013	16,855
2012	16,086
2011	17,377
2010	16,471
Average:	16,701
2005-2009 Avg. (2010 UWMP)	20,228
Change from 2010 UWMP	-3,527 (17%)

The City's tier 1 rate allocation from MWD in 2010 was 20,967 AFY and the current (2015) limit is 19,204 AFY.

TMW’s imported water purchases are well under the tier 1 limit during the last five years due to reduced demand with continued water conservation and the drilling of Well #9 located at McMaster Park. The new well was made to replace an older well (Well #6).



Figure 2.4: Aqueduct Systems in California

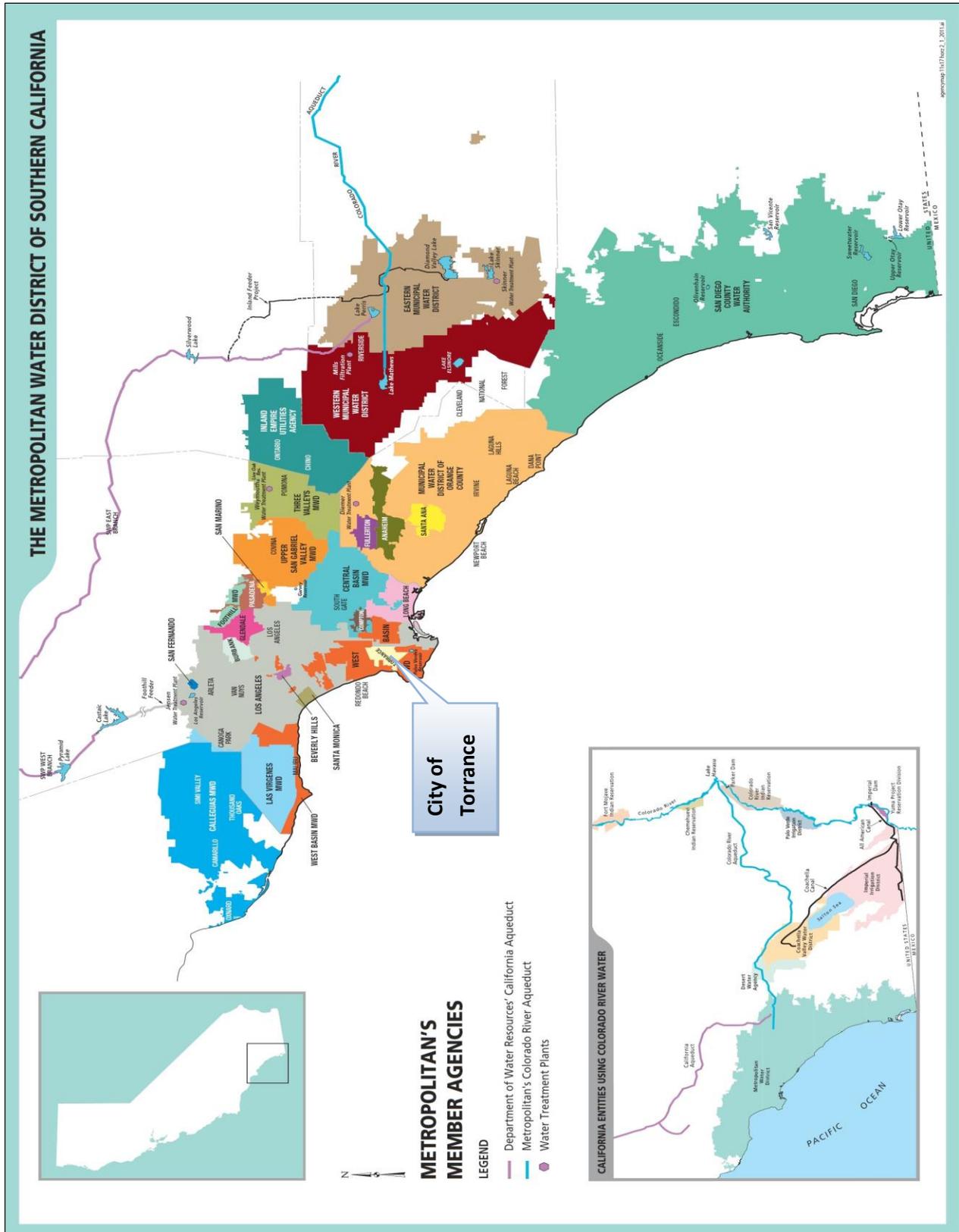


Figure 2.5: MWD Service Area Map

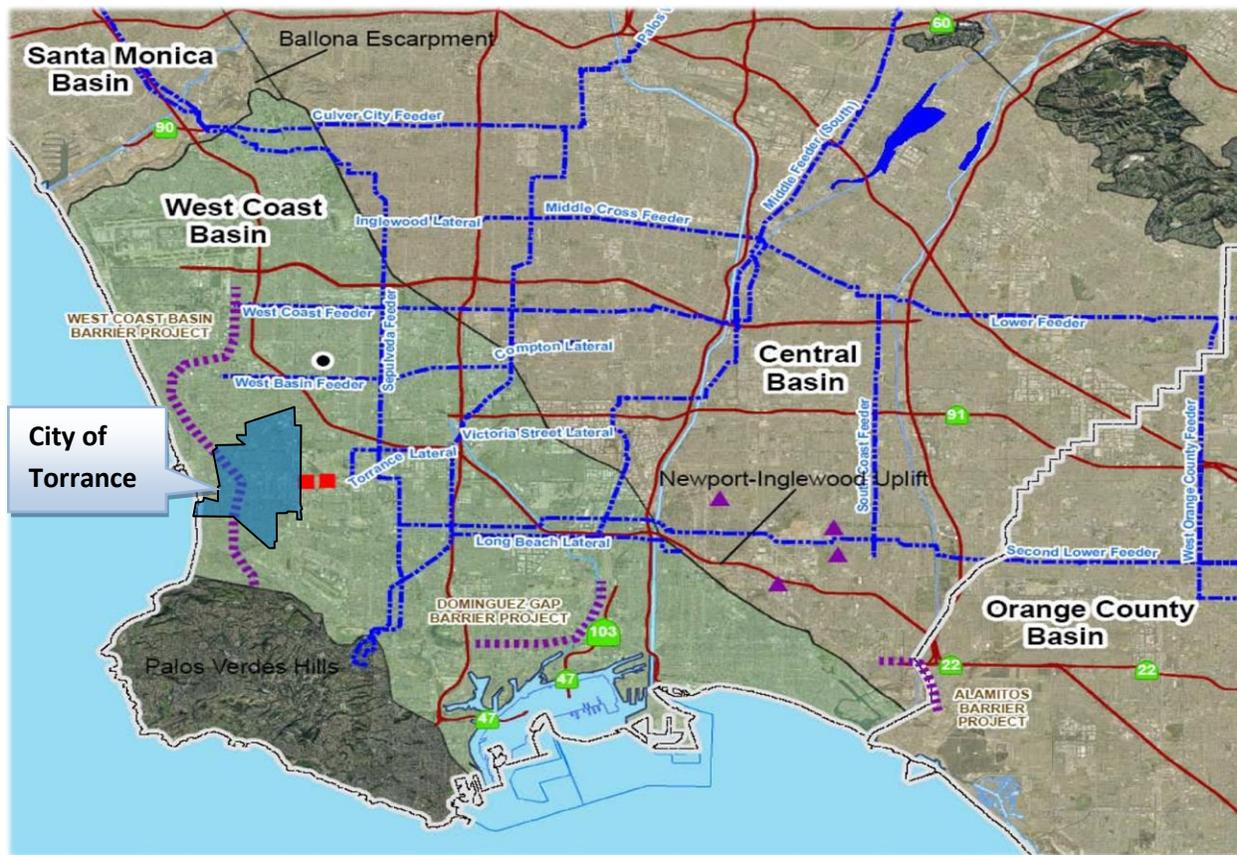


Figure 2.6: West Coast Groundwater Basin

2.2.2 Groundwater

TMW obtains its groundwater supply from the West Coast Groundwater Basin (Basin) and has an adjudicated right of about 5,640 AFY. The Basin is located in western Los Angeles County and overlies the entire City of Torrance and all or portions of 11 other cities in the region. The Basin has a surface area of 142 square miles of flat to hilly terrain. The Basin is bounded by the Ballona Escarpment to the North, consolidated rocks of the Palos Verdes Hills and the Pacific Ocean to the South, the Newport-Inglewood fault to the East, and the Pacific Ocean to the West. Adjacent groundwater basins include the Santa Monica, Central, and Orange County Basins as shown in **Figure 2.6** above.

Water-bearing deposits of the West Coast

Basin include unconsolidated and semi-consolidated marine and alluvial sediments deposited over time. Key production aquifers include the Gardena, Gage, Lynwood, and Silverado aquifers. Groundwater is mainly confined, although the Gage and Gardena aquifers are unconfined where water levels have dropped below the Bellflower aquiclude (a protective imperious layer). The Silverado aquifer, which underlies most of the Basin, is the most productive aquifer in the Basin yielding up to 90 percent of the groundwater extracted annually with a thickness of 250-500 feet. No domestic supplies are produced by TMW from the upper two aquifers due to potential contamination in this zone.

Groundwater in the Basin is replenished naturally by percolation from precipitation



Figure 2.7: Ballona Creek (Northern Border of the West Coast Groundwater Basin)

receiving an average annual precipitation of about 14 inches by subsurface inflows from the Central Basin to the East and by infiltration of surface inflows from the Los Angeles and San Gabriel Rivers. Since the Basin is mostly urbanized and soil surfaces have been paved to construct roads, buildings, and flood channels, natural replenishment to the basin's water-bearing formations is limited to only a small portion of basin soils; however, the Basin receives additional replenishment provided by artificial re-charge from the Water Replenishment District's (WRD) injection wells from the protective West Coast Seawater Barrier. Approximately 90 to 95 percent of the water injected into the barrier flows eastward and is a major source of the basins replenishment.

Groundwater flow in the Basin is generally from the Ballona Escarpment (see **Figure 2.7**) in the North and the Central Basin to

the East towards the Pacific Ocean in the West and Palos Verdes Hills in the South (see **Figure 2.8** on the following page).

The total storage in the basin is estimated to be approximately 6.5 MAF. Unused storage is estimated to be approximately 1.1 MAF. Each year WRD determines the amount of supplemental recharge that is needed for the Basin based upon annual groundwater extractions and groundwater levels. As a result of artificial recharge activities, the adjudicated rights stand at 64,468.25 AFY.

Groundwater levels in the basin are generally at or above mean sea level (MSL), although low water levels in portions of aquifers underlying the Pacific Ocean allow for seawater intrusion to occur.

Due to seawater intrusion, there are two seawater intrusion barriers in the West Coast Basin: the West Coast Basin Barrier Project



and the Dominguez Gap Barrier Project. These seawater intrusion barriers inject a combined average of 32,300 AFY along the coastline and the Dominguez Channel to protect the basin from seawater intrusion.



Figure 2.8: Palos Verdes Hills (Southern Border of the West Coast Basin)

Due to the natural replenishment of the basin and existing additional artificial recharge by WRD, there are no spreading basins in the West Coast Basin. In an effort to eliminate long-term overdraft conditions, WRD closely monitors the groundwater basins for fluctuations in groundwater levels. WRD utilizes a groundwater model developed by the United States Geological Survey (USGS) to study and better understand the Basin’s reaction to pumping and recharge. WRD works closely with the Los Angeles County Department of Public Works (LACDPW), MWD, and the County Sanitation Districts of Los Angeles County (LACSD) on the status of current and future replenishment supplies.

The West Coast Basin is an adjudicated basin and the management of water resources and operations in the basin is provided by WRD, DWR, LACDPW, and the Regional Water Quality Control Board. The State Water Resource Control Board (SWRCB) and the Division of Drinking Water (formerly the California Department

of Health Services) provides additional oversight of the Basin's groundwater quality and help monitor contaminant levels.

A copy of the Judgment of the West Coast Basin is attached in **Appendix G**.

The key characteristics of the West Coast Basin are summarized below in **Table 2.2**:

**Table 2.2
West Coast Basin
Summary of Characteristics**

Item	Amount
Max. Depth to Groundwater	2,000 ft.
Thickness of Groundwater Table	180-1,050 ft.
Storage	6.5 MAF
Adjudicated Rights	64,468 AFY
Spreading Basins (Total)	0
Seawater Protective Intrusion Barriers	2
Desalters*	2

*Goldsworthy and West Basin Municipal Desalter

Groundwater Production

The City currently maintains one active well (Well #9) and one standby well (Well #7) for groundwater extraction. Well #9 replaced an older Well #6 in 2010 and has a yield capacity of 2,000 gpm. Well #7 would be used only on an as-needed basis for fire flow demands or other emergencies.

Each of TMW’s wells is equipped with a flow meter to measure water production. Water production is recorded monthly by City water staff and reported annually to DWR. Over the past six years, groundwater extraction has ranged from 1,106 AF to 2,520 AF (average of 1,761 AF). **Table 2.3** displays the City's groundwater supplies for years 2010 to 2015.



Table 2.3
Groundwater Production

Year	Production (AF)
2015	1,367
2014	2,350
2013	2,189
2012	2,520
2011	1,032
2010	1,106
Average:	1,761
2005-2009 Avg. (2010 UWMP)	856
Change from 2010 UWMP	+905

2.2.3 Goldsworthy Desalter

The Robert W. Goldsworthy Desalter began operation in 2001 under the direction of WRD. The desalter facility was constructed to treat brackish groundwater resulting from a saline plume located in the Basin and currently treats approximately 1.5 MGD. The plant treats saline water using microfiltration and reverse osmosis. The product water meets all state and federal drinking water standards and is used as drinking water for the City. As of February 2010, the City operates the facility under an agreement with WRD.

Desalter Production

The desalted water received by the City is used as a supplemental potable water supply source. Over the past five years, TMW has received an average of 1,304 AF of groundwater annually from the desalter. **Table 2.4** summarizes the past sales to City from 2010-2015.

The decrease in production from the desalter

is primarily attributable to a permanent reduction in the capacity of the current single source well supplying saline water to the facility. With the desalter expansion project, two additional wells are being drilled to provide sufficient source capacity to keep the facility operational at optimum capacity.

Table 2.4
Desalter Groundwater Production

Year	Production (AF)
2015	829
2014	1,369
2013	1,390
2012	1,837
2011	1,261
2010	1,135
Average:	1,304
2005-2009 Avg. (2010 UWMP)	1,556
Change from 2010 UWMP	-252

The pumping and treatment of this groundwater aids in halting the migration of saline plumes. In addition, the utilization of this groundwater creates a new source of supply, expands the availability of local water supplies, reduces the City’s reliance on imported supplies from MWD, and further drought-proofs the community. The Desalter is currently being expanded to a capacity of approximately 5 MGD, which is over three times its current effective yield.

2.2.4 Recycled Water

TMW has significant industrial and commercial water customers which cannot alter their water consumption characteristics during drought periods. To enhance water



Figure 2.9: Edward C. Little Recycling Facility (WBMWD Recycling Project)

supply reliability in the City and the region, TMW contracts with the West Basin Municipal Water District (WBMWD) for the delivery of recycled water for non-potable industrial and landscape irrigation uses to supplement its water supply. WBMWD developed a regional water recycling program known as the West Basin Water Recycling Project. West Basin's transformation from imported water wholesaler to a leader in conservation and water recycling can be traced back to California's severe drought period between the late '80s and early '90s. In 1992, West Basin received state and federal funding to design and build a world-class, state-of-the-art water recycling treatment facility in the City of El Segundo with its own visitor's education center. The facility is shown in **Figure 2.9** above.

West Basin's water recycling facility, the Edward C. Little Water Recycling Facility (ECLWRF), receives secondary effluent from the Hyperion Wastewater Treatment Plant. Secondary effluent is pumped from Hyperion to the ECLWRF via the Hyperion Secondary Effluent Pump Station (HSEPS), which is owned and maintained by West

Basin. The ECLWRF was completed in 1995 and has been expanded several times to meet the increasing needs of the region. The facility currently has the capacity to provide approximately 40 million gallons per day (MGD) of useable water to various customers in WBMWD's service area, including several cities and private industrial customers. The ECLWRF is one of the largest water recycling facility of its kind in the United States and was recognized by the National Water Research Institute in 2002 as one of only six National Centers for Water Treatment Technologies.

The ECLWRF is the only treatment facility in the country that produces five different qualities of "designer" or custom-made recycled water that meet the unique needs of West Basin's municipal, commercial, and industrial customers. The five types of designer water include: Tertiary Water (Title 22), Nitrified Water, Softened Reverse Osmosis Water, Pure Reverse Osmosis Water, and Ultra-Pure Reverse Osmosis Water. West Basin's customers use recycled water for a wide variety of industrial and irrigation needs.



Figure 2.10: Clarifier Treating Wastewater

To meet the increasing needs of its customers and to provide additional supply capacity to the region, WBMWD developed the Phase V Expansion for the ECLWRF. In May 2013, the project was completed and increased treatment capacity from about 30 MGD to approximately 40 MGD. The project expanded the Title 22 (pretreatment and filtration processes) recycled water system, the microfiltration (MF) treatment system, the reverse osmosis (RO) treatment system and ultraviolet (UV) disinfection treatment systems, installation of ozone pretreatment process for the MF treatment system, and the upgrade to the support facilities that manage the waste-handling processes and various ancillary process capacities (see **Figure 2.10**).

Recycled Water Purchases

TMW purchases recycled water produced at the ECLWRF from WBMWD through the Water Recycling Project. Recycled water purchases in the City include direct purchases by the City for use at landscape irrigation sites and by ExxonMobil Refinery.

About 95 percent of the recycled water used within the City is attributable to ExxonMobil. **Table 2.5** lists the past recycled water purchases in the City from 2010-2015:

**Table 2.5
Recycled Water Purchases from WBMWD
2010-2015**

Year	ExxonMobil (AF)	Other (AF)
2015	4,937	333
2014	6,183	346
2013	6,314	271
2012	6,069	283
2011	5,550	234
2010	6,173	272
Average:	5,871	290
2005-2009 Avg. (2010 UWMP)	6,069	263
Change from 2010 UWMP	-198	+27



Over the past five years, recycled water has accounted for approximately 24 percent of the overall water supply in the City's TMW service area.

2.3 WATER SUPPLY SUMMARY

Over the past five years, the City's lack of groundwater pumping facilities has limited their groundwater supplies to less than one third (31 percent to be exact) of their adjudicated pumping right. Imported water, therefore, has accounted for over 84 percent of the City's total potable water supply. Overall water use in the City, however, is balanced by the use of recycled water used by the City and ExxonMobil. The City benefits immensely from ExxonMobil's use of recycled water purchased and received directly from WBMWD as this saves about 6,000 AFY today of potable water which would have otherwise been used to support ExxonMobil's industrial processes. This could increase to 6,500 AFY depending on refinery production.

2.4 PROJECTED WATER SUPPLY

The City recognizes the need to identify, support and implement local water supply projects to augment imported supplies and help drought proof the municipal water service area. As part of this process, the City intends to upgrade its groundwater supply facilities to include the addition of up to five new wells in the northern part of the City. The North Torrance Wellfield Project consisting of two new wells along with new treatment, storage and pumping facilities to be constructed at a 1.5-acre site located west of Yukon Avenue. This will increase TMW's groundwater capacity to reach their adjudicated right of 5,639 AFY. The first phase of the project has been completed, and the final two phases are expected to be completed by 2018.

Additionally, the WRD, in partnership with the City, is currently in the process of implementing the expansion of the Goldsworthy Desalter. The expansion will include an additional capacity of approximately 3,500 AFY to the City. The expansion will increase the output of the Desalter up to approximately 5,000 AFY. The expanded Desalter is expected to be on line by late 2017. As a result of these improvements, TMW expects to reduce its dependency on imported water substantially within the next three to five years. While TMW expects MWD to maintain its Tier 1 limit of 19,204 AFY allocation to TMW, it is understood that this limit may change in the future.

The use of recycled water is also expected to increase gradually over time as WBMWD extends recycled pipelines in the City and with additional conversions of landscape customers to recycled supplies. Over time recycled supplies are expected to provide 27 to 30 percent of TMW's total water supply portfolio.

Table 2.6
Projected Water Supply Availability

Year	Potable (AF)	Recycled (AF)
2020	31,607	6,650
2025	31,607	7,150
2030	31,607	7,150
2035	31,607	7,150
2040	31,607	7,150

Overall, TMW's supply reliability is expected to increase through the implementation of planned improvements to its groundwater facilities, WRD's Goldsworthy Desalter expansion, through continued access to imported water, and through continued and augmented use of recycled water. TMW will also continue to benefit indirectly from regional conservation



efforts and also through MWD's efforts to augment its supplies and improve storage capacities. **Section 5** discusses reliability issues and compares the City's projected water supply availability to projected demands for normal, dry, and multiple dry years through 2040.

2.5 ALTERNATE WATER SOURCES

This section provides an overview of alternative water sources and their potential uses. Alternative water sources include recycled water, recycled stormwater, greywater, and desalinated seawater.

Recycled Wastewater

Although the City does not currently have the capability to construct a wastewater treatment facility within its limits, the City currently benefits indirectly from regional uses of recycled water in the West Coast Basin and in its service area. As a result of using recycled wastewater for non-potable industrial and landscape irrigation purposes, TMW has saved over 130,000 AF of potable water, since the inception of the WBMWD recycled water plant in 1995. In addition, the City has identified potential recycled water users. If the City were to expand its use of recycled water, the City would receive additional benefit.

Stormwater

Although a small westerly area of the City extends to the Pacific Ocean, this area is served by the California Water Service Company (CWSC), not TMW. Currently, there is little potential or available land for construction of a recycled stormwater facility similar to the Santa Monica Urban Runoff Recycling Facility (SMURRF).

The City currently captures stormwater

runoff from retention basins (sumps) located throughout the City to prevent contaminants from polluting Santa Monica Bay and the Dominguez Channel watersheds. The primary purpose of these basins is to prevent localized flooding of low lying areas and mitigate any exceedance in NPDES limitations on stormwater discharges within the three watershed areas within the City.

In 2015, three of these retention basins (Entradero, Henrietta, and Amie) were enhanced and reconstructed by converting them to high capacity infiltration basins to prevent discharges to Santa Monica Bay. The basins were also transformed into environmental habitat areas by replanting native plant species and creation of seasonal wetland areas.

Due to the hydrogeology of the West Coast Basin and the presence of relatively thick clay aquicludes that separate the groundwater aquifers from the surface, relatively little of the water retained and percolated in retention basins replenishes the groundwater basin.

Greywater

Greywater systems (see **Figure 2.11**) have been used in California to provide a source of water supply for subsurface irrigation and also as a means to reduce overall water use. Greywater consists of water discharged from sinks, bathtubs, dishwashers, and washing machines. Greywater systems sometimes consist of an underground tank and pumping system. Greywater is currently legal for subsurface irrigation in the State of California; however, strict regulations and high installation costs have impeded installation of professional greywater systems and have the unintended consequence of undocumented and noncompliant use of greywater.

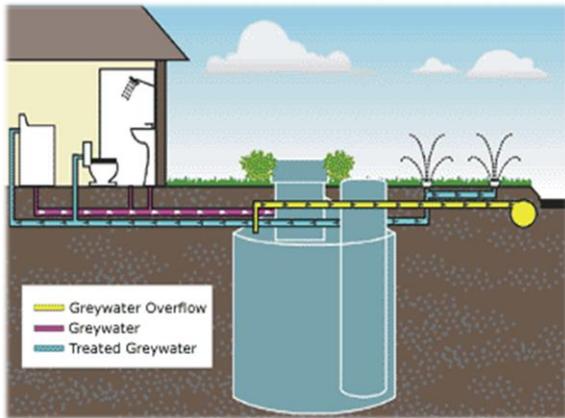


Figure 2.11: Greywater System

The promotion of greywater systems as a means to reduce the City's overall water use is regarded as marginal since the use of greywater is currently limited to subsurface irrigation and therefore the overall service area-wide reduction in water use (in AF) would be minimal at best. With the recent passage of SB 1258, it may have its place as a potential future, limited water supply for certain landscape irrigation purposes.

The City does not currently have a formal program in place to support greywater use. Currently, its use is restricted to reuse of laundry water only for subsurface irrigation of plants and trees. However the City is planning to offer workshops on this limited application of greywater for plants and trees.

Desalinated Seawater

Seawater desalination is a process whereby seawater is treated to remove salts and other constituents to develop both potable and non-potable supplies. There are over 10,000 desalination facilities worldwide that produce over 13 million AFY. Desalinated water can add to Southern California's supply reliability by diversifying its water supply sources and mitigating against possible supply reductions due to water shortage conditions. With its Local Resource Programs (LRP), the MWD facilitates

implementation and provides financial incentives for the development of seawater desalination facilities within its service area.

Since the City is not located adjacent to the ocean, there are no plans to incorporate desalinated seawater into its supply sources at this time. The economics of building and operating an oceanfront desalination plant would prohibit its construction in the City, as most oceanfront plants are constructed adjacent to existing power plants, and take advantage of the existing infrastructure.

Recently the San Diego Water Authority completed a 50 million per day (mgd) ocean desalination facility located in Carlsbad, California (see **Figure 2.12**). In addition, the development of another ocean desalination facility in Southern California is in the planning stage and would be located in the City of Huntington Beach adjacent to a power plant.



Figure 2.12: Carlsbad Desalination Plant

Since early part of this century, WBMWD has been investigating the development of full scale ocean desalination facility that would produce between 20 to 50 million gallons of fresh water per day. WBMWD has conducted extensive pilot testing at the El Segundo Power Generating Station in El Segundo, California for over an eight-year period to assess the feasibility of converting seawater to fresh water. In addition, WBMWD constructed a larger desalination



Figure 2.13: SEA Lab in Redondo Beach

demonstration facility in 2010 located at SEA Lab in Redondo Beach (see **Figure 2.13**) to more extensively determine full scale plant requirements for energy use, comprehensively address environmental issues associated with water intake and brine discharges, determine optimum operating protocols, address target water quality goals and evaluate alternatives to reduce capital and operating costs. WBMWD has completed its demonstration plant testing last year and is currently completing a comprehensive Environmental Impact Report (EIR) on the proposed project, and is initiating preliminary steps for permitting the facility, which is tentatively to be sited at the NRG Power Plant in El Segundo.

Although West Basin Municipal Water District is in the environmental review phase of the project, the district still has a number of technical, environmental, siting, institutional and financial challenges to overcome before a decision is made to construct the facility. The desalination plant could either be constructed solely by WBMWD at a smaller scale of

approximately 20 MGD or in a potential regional partnership with the Metropolitan Water District at 50 MGD. It is unlikely this facility would be constructed until the mid-2020s. If the ocean desalination plant becomes a regional water source, TMW may choose in the future to purchase a portion of desalinated water supply as an MWD regional supply source.

2.6 TRANSFERS OR EXCHANGES

The City owns rights to extract 5,639 AF of groundwater annually. However, the City currently uses only approximately 2,000 to 2,500 AFY of its annual adjudicated water rights groundwater pumping due to water quality problems with older wells. As a result, the City has in the past leased some of its rights to the Roman Catholic Archdiocese of Los Angeles beginning in 2004, in the amount of 400-600 AFY. However, with approval of the Conjunctive Use Storage program in the West Coast Groundwater Basin in December 2014, TMW will convert its excess pumping rights to "banked" storages account and no longer



lease out pumping rights. Due to logistic constraints, water transfers are not regarded as significant opportunity at this time.

The City maintains four 2-way emergency inter-connections to adjacent water purveyor systems. These connections have the ability to transfer approximately 9,900 gpm into the City's distribution system. There are two 8-inch connections to the City of Lomita, one 8-inch connection to California Water Service Company (CWSC), and one 12-inch connection to the CWSC system. Each has a two-way interconnection, allowing water transfers to and from the City, depending on the emergency situation. However, records show that these connections have not been used recently. There are also two 10-inch one way metered interconnections that can only flow from the City to CWSC.

2.7 PLANNED SUPPLY PROJECTS

The City continually reviews options that have potential to provide its customers with adequate and reliable supplies. Trained experienced staff continues to ensure the City's water quality is safe and the quantity of water supply meets present demands and will meet future needs. The City's planning approach to water supply projects is performed such that projects are implemented in an environmentally and economically responsible manner. The City consistently coordinates its long-term water shortage planning with MWD, WRD and other agencies that are involved with the development or implementation of the project.

The City's water demand within its service area could remain relatively constant over the next 20 years due to minimal growth combined with water use efficiency measures and the potential use of recycled water. Water conservation measures described in **Section 6** and possible increased use of recycled water

use as described in **Section 8** have the potential to reduce potable demand. Any new water supply projects will be to replace or upgrade existing facilities and capacities, rather than to support population growth and new development.



Figure 2.14: Drilling Well #9 at McMaster Park

Projects that have been identified to improve the City's water supply reliability and enhance the operations of the City's facilities include distribution system enhancements and improvements; development of new local water supply sources; security improvements; and water treatment and storage enhancements. The improvement projects identified for these purposes include:

- **Walteria and Ben Haggott Reservoir Rehabilitation:** Both reservoirs were completely rehabilitated several years ago to improve water quality and water circulation. Both facilities are inspected on an annual basis and any necessary



restoration is performed at that time. This ensures that adequate supply reserves are maintained in storage.

- **North Torrance Groundwater Well Development Project:** In 2011, a new groundwater well - Well # 9 - was drilled to replace a 50-year-old deteriorated well (Well#6) located at McMaster Park in north Torrance (see **Figure 2.14**). The new well increased groundwater extraction capacity by approximately 1,000 AF annually.

This well is the first component of a comprehensive well field, groundwater treatment and storage project that is currently under construction on a parcel located approximately one-half mile south of McMaster Park. The project consists of two additional high capacity groundwater wells (Wells #10 and #11) a new 3-million gallon storage tank, new treatment facilities, pumping plant facilities, related ancillary facilities and various equipment.

Existing Well #9 will remain at McMaster Park but the well discharge pipeline will be rerouted to the new facility where the water from this well will be treated and pumped into the distribution system. A design/build contract is scheduled to be awarded for the North Torrance Project by the end of 2016, and the facility is expected on line by mid to late 2018.

Once the North Torrance Project is completed, TMW will have effective groundwater extraction and treatment capacity of 6,000 to 7,500 AF annually. This will not only enable the City to fully pump its full groundwater rights, it may also facilitate an increase in local groundwater production beyond its

adjudicated entitlement by leasing in or purchasing additional pumping rights.

- **Van Ness Wellfield Project:** In addition to the North Torrance Groundwater Development Project, TMW is also planning an additional groundwater development project in northeast Torrance adjacent to Van Ness Avenue. This project consists of drilling two or three additional wells – one on a City owned parcel next to Hamilton Adult School, the other in La Carretera Park, and a possible third well in Descanso Park. These wells would be connected to a new dedicated transmission pipeline to be constructed in Van Ness Avenue, which would deliver groundwater from these facilities to an existing groundwater treatment and pumping plant located approximately 3 miles south in the central east area of the City (known as the Border Avenue Plant). This production facility is currently not in operation due to the shutdown of wells that formerly provided groundwater to this facility.

Successful pilot wells were drilled on both Van Ness sites and both met quality and yield requirements. A third well approximately one-half mile north of the planned Van Ness wells located on Descanso Park may be developed, if the project receives approval from the State Water Resources Control Board (SWRCB) Division of Drinking Water. Currently, the City is in discussion with the Division of Drinking Water (DDW) regarding the permitting requirements for the Hamilton School well, La Carretera Park well, and the proposed well at Descanso Park. Assuming the regulatory issues are resolved, it is expected that at least two additional groundwater wells, and possibly a third well, will be in operation at the Van Ness Well Field Project. The Van



Ness wells would further increase TMW's groundwater capacity by an additional 4,000 to 6,000 AFY, and further reduce reliance on imported water supplies purchased from MWD by replacing this demand with local drought resilient sources.

- **Groundwater Wells #7 and #8:** Due to significant aesthetic water quality problems associated with taste, odor and color, TMW is not producing water from either of these facilities. Pilot studies have indicated that the only viable treatment alternative would be reverse osmosis, which is not cost effective at this time. These facilities will remain as a standby emergency water source for the foreseeable future. However, the Border Avenue groundwater production/pumping plant is envisioned to be utilized for the planned Van Ness WellField Project.
- **Goldsworthy Desalter Expansion Project:** The Desalter was originally designed to be expanded to more than twice its current capacity. WRD, in concert with Torrance, is currently expanding the facility with the addition of two new saline supply wells, additional new treatment facilities and other infrastructure improvements. The expansion project is scheduled for completion by the end of 2017, and the expanded desalter is expected to produce up to 5,000 AFY of high quality potable water. The current desalter will be operated by TMW personnel and its yield is expected to temporarily decrease due to intermittent shutdowns during the construction phase of the expansion project.
- **Conjunctive Use Program (CU):** Conjunctive Use broadly refers to the

coordinated use of both surface (imported) and local groundwater resources to enhance the overall water reliability of an area. Within the local West Coast Groundwater Basin, the most common application would be the storage of surplus groundwater (not pumped) into the local basin for later retrieval and use during a shortfall in normal supplies. Conjunctive use can provide multiple benefits to participating parties and to the basin itself including: mitigation of impacts during droughts; gradual restoration of basin groundwater levels; and the preservation of groundwater rights into individual storage accounts, which would normally be forfeited without this program.

In December 2014, the Superior Court approved an amendment to the West Coast Basin Judgment permitting parties with groundwater pumping rights to store water in the basin under a form of conjunctive use for future use. In addition, the amended judgment also transferred the Watermaster function from the State Department of Water Resources to panels of local pumpers and the Water Replenishment District.

Prior to the amended judgment, parties could only carryover a total maximum total of 20 percent of their unused pumping rights. Any unused rights over that amount were forfeited. Under the new judgment, TMW could store as much an estimated 11,000 AF of unused groundwater pumping rights over time on a phased basis, in accordance with the administrative rules of the program. The advent of the conjunctive use program, in concert with the development of additional groundwater extraction capacity, will vastly enhance the TMW's ability to pump substantially above its



adjudicated groundwater pumping rights during emergencies or droughts that curtail other sources of supply.

- Metropolitan Water District and Sanitation Districts of Los Angeles County Regional Recycled Water Supply Program:** The Metropolitan Water District in partnership with Los Angeles County Sanitation District (LACSD) is exploring the potential of an advanced water purification project to beneficially reuse water currently discharged by the District to the Pacific Ocean. Under this program, MWD would purify water in a multi-phased program at the LACSD Joint Water Pollution Control Plant located in the City of Carson (see **Figure 2.15**). The initial program calls for the construction of a 1 MGD demonstration project at the plant site, which is scheduled to be completed in 2017. If this pilot proves successful, the program may be expanded to ultimately produce over 200,000 AFY of highly treated recycled water, which would be distributed to groundwater basins throughout Los Angeles and Orange County for

groundwater replenishment purposes, and possibly for other indirect potable uses. This would help provide a major drought-proof source supply for groundwater basins, including for the local Central and West Coast Basins.

- Water Source Diversification:** The development of additional local drought resistant water supply sources including: new potable groundwater capacity; the expanded Goldsworthy Desalter Project; the implementation of the recently approved Conjunctive Use Storage Program; and incremental increase in recycled water use are part of a core strategy to enhance water supply reliability, ensure sustainability of supplies in the future, and reduce dependence on imported water sources. In concert with sustained conservation efforts, the local supply source diversification program substantially protects the City from the risks associated with possible future severe drought conditions. If all planned projects are implemented, TMW's current 80 percent reliance on imported water could be reduced to 35-40 percent or less by 2025.



Figure 2.15: Joint Water Pollution Control Plant (Outlined in Yellow) Located in Carson, CA

SECTION 3: WATER QUALITY





SECTION 3: WATER QUALITY

3.1 WATER QUALITY STANDARDS

In 1974, Congress passed the Safe Drinking Water Act in order to protect public health by regulating the nation's drinking water supply. As required by the Safe Drinking Water Act, the City provides annual Water Quality Reports to its customers. The quality of water delivered to the City's customers is directly related to the quality of the supply sources from which the City obtains its water. Since the majority of the City's water supply is obtained from MWD, the quality of water within the City is closely related to the quality of the supply sources from which MWD obtains its water.

To ensure quality of its water, the City is concerned with a number of threats to drinking water, including: turbidity, microbiological content, organic and inorganic chemical concentration, radionuclide content, and disinfection by-product concentration (see **Figure 3.1**).



Figure 3.1: Health Standards Protect Drinking Water

Adverse health effects from these contaminants include not only acute effects but also chronic effects that may occur if contaminants are ingested at unsafe levels over many years.

The two main sources of the City's water supply, as mentioned in **Section 2**, are imported water from MWD and groundwater from the West Coast Basin. Since MWD draws the majority of its water from the CRA and the SWP, the quality of the City's water supply is closely related to the quality of these two sources.

3.1.1 Transfer of Authority

The California Department of Public Health (CDPH) previously oversaw the water quality of the State's drinking water program and the environmental laboratory accreditation program. As of July 2014, those programs were transferred to the State Water Resources Control Board (SWRCB). Under the SWRCB, the Division of Drinking Water (DDW) regulates public drinking water systems, including setting the maximum contaminant levels (MCLs) and regulating the operation of water systems.

3.2 QUALITY OF SOURCES

Water received by MWD is treated at five separate treatment plants and tests its water for contaminants. MWD recognizes that water quality is a concern to not only public health but also to their future water supply. Due to these concerns, MWD has identified a number of water quality issues with its two main sources in their 2015 UWMP. In addition to its imported water, the City also manages its groundwater quality by treating all groundwater pumped from the City's wells, including the groundwater desalter. The resulting quality of water delivered to the City's customers is a result of the efforts of both the City and MWD.



3.3 WATER QUALITY CONCERNS

MWD's two main supply sources have different water quality issues. Water obtained from the Colorado River tends to have high salinity and total dissolved solids (TDS) and also has been known to contain metallic elements (see **Figure 3.2**). Water from the Sacramento-San Joaquin Delta, on the other hand, tends to have high biological loads due to farming activities in the San Joaquin Valley. Water containing high biological loads tends to have higher treatment costs than water with low biological loads. Since pumping rights to the Colorado River continues to be a contentious issue, SWP water quality is a salient issue. This section describes some of the major water quality issues facing the City.

3.3.1 General Water Quality Concerns

In nearly every source of water, microbiological contaminants exist that require treatment. Microbiological contaminants include parasites, bacteria, and viruses, which live in surface waters and in groundwater. Most microbiological contaminants have acute health effects, which include gastrointestinal and respiratory illnesses. Treatment such as filtration and disinfection removes or destroys microbiological contaminants. Drinking water that is treated to meet the United States Environmental Protection Agency (EPA) requirements is associated with little to no health risks and is considered safe.

3.3.2 Colorado River Quality Concerns

Salinity

Water imported from the Colorado River via the CRA has the highest level of salinity and TDS of all of MWD's sources of supply, averaging around 630 milligrams per liter

(mg/L), which equates to 630 parts per million or ppm. The salts in the Colorado River system are indigenous and pervasive, mostly resulting from saline sediments in the Basin that were deposited in prehistoric marine environments. They are easily eroded, dissolved, and transported into the river system. To offset these salinity levels, CRA water must be blended (mixed) with lower-salinity water from the SWP to meet MWD's flow-weighted secondary TDS standard of 500 mg/L for blended imported water. Due to severe drought conditions in northern California watersheds, there has not been adequate SWP supply for blending in most of the MWD service area, and the City has been receiving predominately CRA supplies for the last several years with TDS levels of 600 ppm or more.



Figure 3.2: Colorado River & Sedimentary Rock

Concern over salinity levels in the Colorado River has existed for many years. To foster interstate cooperation on this issue, the seven basin states formed the Colorado River Basin Salinity Control Forum (Forum).

In 1975, the Forum proposed, the states adopted, and the EPA approved water quality standards, including numeric criteria and a plan for controlling salinity increases. The standards require that the plan ensure that the flow-weighted average annual salinity remain at or below the 1972 levels,



while the Basin states continue to develop their 1922 Colorado River Compact-apportioned water supply. The Forum selected three stations on the main stream of the lower Colorado River as appropriate points to measure the river's salinity. These stations and numeric criteria are (1) below Hoover Dam, 723 mg/L; (2) below Parker Dam, 747 milligrams per liter (mg/L); and (3) at Imperial Dam, 879 mg/L. The numeric criteria are flow-weighted average annual salinity values.

By some estimates, concentrations of salts in the Colorado River cause approximately \$353 million in quantified damages in the lower Colorado River Basin each year. To mitigate these issues, salinity control programs have been implemented to reduce the salinity of water in the CRA. Salinity control programs have proven to be very successful and cost-effective in reducing salinity levels of water in the CRA. Salinity control projects have reduced salinity concentrations of Colorado River water on average by over 100 mg/L or \$264 million per year (2005 dollars) in avoided damages.

Perchlorate

Perchlorate is both a naturally occurring and manmade contaminant increasingly found in groundwater, surface water, and soil. Perchlorate is known to inhibit the thyroid's ability to produce growth and development hormones. Perchlorate was first detected in Colorado River water in June of 1997 and was traced back to the Las Vegas Wash.

Perchlorate, unlike other contaminants, does not tend to interact readily with the soil and also does not degrade in natural environments. Conventional drinking water treatment (which is used at MWD's water treatment facilities) is not effective in removing perchlorate. Mitigation efforts are

the most viable option for keeping perchlorate from entering drinking water. To facilitate perchlorate remediation of the Colorado River, MWD and other federal and state agencies partnered to reduce and prevent perchlorate contamination in the Colorado River. According to MWD's Annual Report 2015, mitigation efforts have been successful in reducing perchlorate loading into the Las Vegas Wash by more than 90 percent since 1998.

As of October 2007, DDW has established a perchlorate MCL of 6 micrograms per liter ($\mu\text{g/L}$). DDW is currently in the process of reviewing the updated public health goal MCL of 1 $\mu\text{g/L}$ established in 2015 by EPA's Office of Environmental Health Hazard Assessment (OEHHA). MWD routinely monitors perchlorate within its system, and levels currently remain at non-detectable levels (below 2 $\mu\text{g/L}$). MWD has not detected perchlorate in the SWP since monitoring began in 1997.

Uranium

Uranium is a naturally occurring radioactive material that has known cancer risks. Uranium can infiltrate a water source either directly or indirectly through groundwater seepage. Due to past uranium mill activities near the Colorado River, a 16 million ton pile of uranium mill tailings exists that has the potential for contamination. Ongoing remediation actions have been successful at removing the tailings and contaminated groundwater from the site. Although uranium levels measured at MWD's intake are below State MCL levels, MWD has only limited ability to remove uranium through traditional treatment, and thus mitigation methods are crucial to avoiding uranium contamination.



3.3.3 Bay-Delta Quality Concerns

Total Organic Carbon and Bromide

Water containing high levels of Total Organic Carbon and Bromide, once treated with disinfectants such as chlorine or ozone, can lead to the production of Disinfection By-Products (DBPs). DBPs are known to cause certain cancers and pose a significant concern to the City's imported water supply. The EPA currently regulates DBPs with strict standards. MWD manages DBP concentration by participating in a cooperative Bay-Delta Program to safeguard SWP source water and also by providing advanced treatment operations.

Nutrients (Algal Productivity)

Elevated nutrient levels in the SWP can adversely affect the City's imported water quality by stimulating biomass growth such as algae and aquatic weeds (see **Figure 3.3**). Nutrients can also provide a source of food leading to the growth of nuisance biological species. This can lead to taste and odor concerns and can impede normal treatment operations.



Figure 3.3: Algal Growth in State Water Project

MWD offsets the nutrient rich SWP water by blending it with CRA water in MWD's blend reservoirs. Although nutrient loading is a concern, MWD does not anticipate any effects on its supplies from the SWP.

Arsenic

Arsenic is a naturally occurring element found in rocks, soil, water, and air. It is used in wood preservatives, alloying agents, certain agricultural applications, semi-conductors, paints, dyes, and soaps. Arsenic can get into water from the natural erosion of rocks, dissolution of ores and minerals, runoff from agricultural fields, and discharges from industrial processes. Long-term exposure to elevated levels of arsenic in drinking water has been linked to certain cancers, skin pigmentation changes, and hyperkeratosis (skin thickening).

In April 2004, OEHHA set a public health goal for arsenic of 0.004 µg/L. The MCL for arsenic in domestic water supplies was lowered from 50 µg/L to 10 µg/L on January 2006 in the federal regulations and on November 2008 in the California regulations. The standard impacts both groundwater and surface water supplies. Historically, MWD's water supplies have had low levels of this contaminant and would not require treatment changes or capital investment to comply with this new standard.

3.3.4 Other Imported Quality Concerns

The City faces ongoing threats to its drinking water as new contaminants are discovered and existing contaminants are more readily detected due to advances in technology to discover contaminants. Some of the current contaminants not previously mentioned that could pose a threat to the City's imported water supplies include, but are not limited to: Chromium VI; N-nitrosodimethylamine (NDMA); and Pharmaceuticals & Personal Care Products (PPCPs). Continued mitigation efforts may, however, lead to a decrease in the threat level of these contaminants, as has been demonstrated through past mitigation efforts.



Figure 3.4: Water Treatment at MWD's F.E. Weymouth Treatment Plant

3.3.5 Summary of Imported Quality

Although MWD water meets all regulatory requirements, MWD understands the need for diligent testing and quality assurance for its customers. To achieve this, MWD maintains five treatment plants, which serve Southern California (see **Figure 3.4**). Three of the five treatment plants blend a mix of water from both sources to achieve maximum water quality. MWD uses a state-of-the-art laboratory to ensure the safety of its water and to maintain compliance with federal and state water quality regulations. In addition to the central laboratory, there are five satellite facilities at MWD's water treatment plants.

3.3.6 West Coast Basin Groundwater Quality

In addition to imported water quality concerns, the City is also concerned with groundwater quality pumped from the West Coast Basin. In general, groundwater in the main producing aquifers of the basins is of good quality with

average TDS concentrations around 500 to 600 mg/L. Localized areas of marginal to poor water quality exist primarily on the basin margins and in the shallower and deeper aquifers impacted by seawater intrusion.

As part of the Basin's groundwater quality monitoring, WRD and the United States Geological Survey (USGS) began a cooperative study in 1995 to improve the understanding of the geohydrology and geochemistry of Central and West Coast Basins. Out of this effort came WRD's geographic information system (GIS) and the Regional Groundwater Monitoring Program. Twenty-one depth-specific, nested monitoring wells located throughout the basin allow water quality and groundwater levels to be evaluated on an aquifer-specific basis. Regional Groundwater Monitoring Reports are published by WRD for each water year. Constituents monitored include: TDS, iron, manganese, nitrate, trichloroethylene (TCE), tetrachloroethylene (PCE), arsenic, chromium, including



hexavalent chromium, methyl tertiary butyl ether (MTBE), and perchlorate.

West Coast Basin Constituents of Concern

Most production wells in the West Coast Basin have TDS concentrations less than 750 mg/L with a range of 150 to 13,600 mg/L in the monitoring wells measured by WRD. Higher TDS concentrations found in production wells in Torrance/Hawthorne area and in monitoring wells within the brackish plume.

Organic constituents of concern (TCE, PCE, or perchlorate) were not detected in concentrations above applicable MCLs in the West Coast Basin. Neither TCE nor PCE were detected in any production well in the

West Coast Basin. TCE was detected in three monitoring wells and PCE was detected in one monitoring well. Nitrate (as nitrogen) concentrations range from non-detect to 12 mg/L in the monitoring wells in the West Coast Basin. Production wells have nitrate concentrations less than 3 mg/L. Iron and manganese were detected in concentrations above the secondary MCL for these constituents in both monitoring wells and production wells in the basin. Nearly one-third of all production wells in northwestern portion of West Coast Basin have concentrations that exceed secondary MCL for iron. Seventeen (17) out of thirty (30) production wells tested had concentrations above secondary MCL for manganese. **Table 3.1** summarizes the Basin's groundwater constituents of concern:

Table 3.1
West Coast Groundwater Basin Constituents of Concern

Constituent	Units	Range	Description
TDS Secondary MCL = 500	mg/L	150 to 13,600 Average: 500	Most production wells have TDS less than 750 mg/L. Higher TDS concentrations found in production wells in Torrance/Hawthorne area and in monitoring wells within saline plume.
VOCs (TCE and PCE) Primary MCL for TCE = 5 Primary MCL for PCE = 5	µg/L	ND to 18 for TCE ND to 0.8 for PCE	TCE nor PCE is detected in production wells. TCE detected in three monitoring wells. PCE detected in one monitoring well.
Perchlorate Notification level = 6	µg/L	Data not available	Detected in three monitoring wells below action level in shallow zones
Nitrate (as N) Primary MCL = 10	mg/L	ND to 12 mg/L	Higher concentrations tend to be limited to the uppermost zones and are likely due to localized infiltration and leaching. Production wells have concentrations less than three mg/L.
Iron and manganese Secondary MCL for iron: 0.3 Secondary MCL for Mn: 0.05	mg/L	ND to 1.2 for iron and manganese	Nearly 1/3 of all production wells in northwestern portion of West Coast Basin exceed secondary MCL for iron. 17 of 30 production wells tested had concentrations above secondary MCL for manganese
Chloride Secondary MCL = 500	mg/L	5.8 to 6,180 mg/L	Chloride concentrations exceed chloride MCL in five of 15 nested monitoring wells due to seawater intrusion. One production well had concentrations above MCL.



Other Special Interest Constituents

In addition to the above constituents, WRD has identified special interest constituents including arsenic, hexavalent chromium, MTBE, total organic carbon, apparent color, and perchlorate as additional water quality issues.

Arsenic

As of January 2006, the federal arsenic MCL for domestic water supplies is 10 µg/L. Three monitoring wells have had past arsenic concentrations between 10 and 50 µg/L and one monitoring well had an arsenic concentration of 68 µg/L.

Hexavalent Chromium

Hexavalent chromium, or chromium 6, is an oxidized form of chromium 3 that is a known carcinogen when inhaled. In July 2014, a MCL of 10 µg/L for hexavalent chromium became effective for drinking water. Hexavalent chromium was not detected in any of the production wells in the Basin.

Methyl Tertiary-Butyl Ether (MTBE)

The health effects of MTBE are uncertain. The EPA currently classifies MTBE as a possible human carcinogen. The MCL for MTBE is 13 µg/L. The WRD monitoring wells have not shown detection of MTBE.

Total Organic Carbon

Total organic carbon is the measure of the organics in water and provides an indication of the potential formation of disinfectant by-products. There is no MCL for total organic carbon; however, seven of the 15 production wells tested greater than 5 mg/L for total organic carbon.

Apparent Color

Although apparent color in groundwater is not harmful, an MCL of 15 apparent color units has been established for aesthetic reasons. City Well #7 and #8 have been observed to produce excessive water color.

Perchlorate

As of 2007, the public health goal for perchlorate is 6 µg/L. To date, however, DDW has not set a regulatory drinking water standard. Perchlorate has been detected in three monitoring wells in the Basin at levels below the Public Health Goal.

Saline Water Intrusion

A plume of brackish saline water was trapped east of the protective seawater intrusion barriers that were constructed beginning in the 1960's to prevent the further migration of seawater into fresh water aquifers in the West Coast Basin. Although the current barriers are very effective in preventing additional intrusion of seawater into the basin, the trapped plume that could not be contained by the barrier continues to migrate through the basin primarily affecting local groundwater supplies in the beach cities and parts of Torrance. The further spreading of saline water from this plume is a major concern of all water purveyors in the West Coast Basin because potable water generally cannot exceed 500 ppm (parts per million) of chloride. WRD, in partnership with Torrance, is in the process of constructing an expansion to the Goldsworthy Desalter to help mitigate the further migration of the saline plume.

3.4 WATER QUALITY EFFECTS

The previous section summarized the general water quality issues for TMW's water supplies. TMW continues to monitor



its groundwater wells for the first indication of problems as part of their water management strategy. TMW's groundwater management strategy includes the following:

- Well #7 is an inactive well and has been out of service since October 1998 due to increased taste and odor problems and high total organic carbon levels in the well water. Naturally occurring ammonia is present in the well water. The well also contains iron, manganese, and hydrogen sulfide. Pilot studies have indicated that the only viable alternative would be reverse osmosis treatment, which is not cost effective.
- Well #8 was drilled in 1998 and has not yet been equipped. Because it was drilled near Well #7, there is concern over the well's long-term water quality, which is similar to Well #7.
- Well #6 had been in service since 1965 and was recently taken out service and replaced by new Well #9 at the McMaster Park site. TMW uses chloramines for disinfection treatment of the groundwater produced from

Well #9 in order to reduce trihalomethane formation in the distribution system, and so that the type of residual disinfectant would be compatible with chloramines in imported water from MWD.

- The North Torrance Groundwater Well Field Development Project will include possible treatment for iron and manganese with space available for fluoridation and future treatment for possible disinfection by products if necessary.

Due to the mitigation actions undertaken by MWD and TMW, Torrance Municipal Water staff does not anticipate any reductions in its water supplies due to water quality issues. Future regulatory changes enacted by the EPA and/or the State legislature will be met through additional mitigation actions in order to meet the standards and to maintain water supply to TMW's customers. With the exception of possible saline groundwater migration in the West Coast Basin, TMW does not expect water quality to be a major factor in its supply reliability considerations.

SECTION 4: WATER DEMANDS





SECTION 4: WATER DEMANDS

4.1 INTRODUCTION

Water use within the TMW's service area is variable and depends on a number of factors which range from irrigation to industrial use and from inefficient plumbing to water losses. Changes in residential plumbing fixtures and customer usage habits can significantly affect water usage for most agencies. This section explores the water usage trends within the City and quantifies total usage per customer type. In addition, the provisions of the SBx7-7 are explored in detail.

4.2 CURRENT CITY WATER NEEDS

The City of Torrance, like many other cities of Southern California, began as a small, suburban community with some agricultural uses and throughout the years has transformed into an urban City. After the City was incorporated, the City's population growth was spurred by the development of industrial and commercial job opportunities, which were sustained by a reliable source of imported water purchased from MWD in addition to local groundwater supplies.

The City's population growth rate has stabilized in the past 15 years and is currently 0.55 percent annually (higher than the average for Los Angeles County average of 0.42 percent). The City is approaching ultimate "built-out" conditions with remaining expected future water demands primarily attributable to possible land use changes in residential densities and in-fill land development projects. Due in part to this slowed growth, the City's water use over the past 15 years has been fairly consistent. As a result, the City's local groundwater

sources and imported supply capacity put the City in a position of providing a reliable source of quality water for its water users due to this consistency of water demands.



Figure 4.1: Residential Irrigation

TMW actively supports water conservation while maintaining the beauty of its community parks, schools, and recreational facilities both in the private and in the public sector. Since the City is zoned mainly for residential use and a major portion of residential water consumption in the City is used for non-personal purposes (i.e. irrigation, car washing, etc.), the City has a significant number of residential lots which require consistent irrigation to maintain landscapes (see **Figure 4.1**). Of the water used for personal purposes, the majority of water consumed is attributable to toilet flushing, clothes washing and showering.

In order to maintain civic pride and a sense of community, City parks and other City right of ways (medians, etc.) require consistent irrigation. To prevent water waste, TMW follows an irrigation schedule that limits the length of irrigation to avoid overspray runoff and also eliminates evapotranspiration from daytime watering.



In the commercial and industrial sectors, water needs vary as customers range from restaurants to offices and from retail stores to a large refinery. Office buildings which include Toyota Motor Sales and American Honda Motor Company require significantly less water than industrial customers such as ExxonMobil (**Figure 4.2** below). The City's image as a balanced residential, industrial and commercial friendly City is due in part to its dedication to conserving its resources while maintaining the beauty of its community parks, schools, and recreational facilities both in the private and in the public sector.



Figure 4.2: ExxonMobil Refinery

Overall water use characteristics within the City's service area reflect slightly lower than average regional water use characteristics within Southern California. As a result of these water needs, the City has passed a conservation ordinance similar to other agencies which limits or restricts non-personal water use during periods of drought to conserve water use for the more important health and safety needs of its customers. The City's Conservation Ordinance is discussed in greater detail in **Section 7**.

4.3 HISTORIC WATER DEMAND

Past Water Use

Water demands within TMW's service area

over the past five years are met by imported water from MWD, groundwater from the West Coast Basin, desalted groundwater from the West Coast Basin produced by the Goldsworthy Desalter, and recycled water from the ECLWRF. Total annual potable water demand, including system losses, since 2011 has ranged from about 23,700 AF to 27,500 AF as shown below in **Table 4.1**:

Table 4.1
City Past Water Use

Year	Total Consumption (AF)
2015	23,672
2014	27,457
2013	27,019
2012	26,795
2011	25,454
2011-2015 Average	26,079
2006-10 Average: (2010 UWMP)	27,678
Decrease	-1,599

Since the Water Conservation Act of 2009, water use has been trending downward in the City, primarily due to increased awareness of conservation and stricter City ordinances. However, just prior to the recent drought there was a small rise in water use. Consumption increased marginally prior to Governor Brown's State of Emergency Declaration in 2014 and Executive Order in 2015. Starting in early 2015 and continuing through early 2016, water use has decreased significantly by more than 20 percent compared to the 2013 baseline established by the Governor. This reduction in potable use meets the mandated reduction target established by the State Water Resources Control Board for Torrance Municipal Water beginning in June 2015.



4.4 WATER USE STATISTICS

The City maintains records of water consumption and bills its customers on a bi-monthly basis for its water service, with the exception of the largest 600 accounts, who are billed on a monthly basis. The City maintains approximately 26,500 service connections (potable and non-potable) with a mixture of residential, commercial, industrial, agricultural, fire protection and landscape accounts. Approximately 88 percent of the potable service connections are either single family or multi-family residential. Commercial, industrial, and institutional accounts comprise about 8 percent of the total potable accounts. Miscellaneous or “other” accounts comprise the balance of the potable connections. Non-potable accounts utilize recycled water use for landscape irrigation and industrial use. The City maintains about 36 recycled water

accounts that are used for landscape purposes. Additional recycled customers along the recently completed Anza recycled pipeline are in the process of being converted to recycled supplies. The City’s primary industrial recycled water customer, ExxonMobil, uses recycled water for its refinery processes, saving the City a significant portion of its potable water, amounting to more than 6,000 AFY. As of 2015, the current breakdown of accounts is shown in **Table 4.2**.

Nearly 90 percent of the total service connections are either single-family or multi-family residential as over half of the City is zoned for residential use. Commercial and institutional accounts comprise about 7 percent of the total accounts. Landscape irrigation and "other" accounts comprise the remaining portion of the City's metered connections.

Table 4.2
Number of Service Connections 2010-2015

Sector	2010	2011	2012	2013	2014	2015
Single-Family Residential	20,842	20,861	20,859	20,837	20,885	20,944
Multi-Family Residential	2,477	2,474	2,473	2,429	2,440	2,432
Commercial/Institutional	1,777	1,890	1,884	1,885	1,888	1,901
Industrial	274	270	269	261	264	266
Landscape Irrigation	389	392	396	400	398	398
Other	740	577	576	572	571	572
Agricultural/Nursery	5	29	28	25	27	27
Wholesale	4	4	4	4	4	4
Total Potable Connections:	26,508	26,497	26,489	26,413	26,477	26,544
Industrial Recycling	1	1	1	1	1	1
Landscape Irrigation Recycled	31	31	32	31	31	36
Total Recycled Connections:	32	32	33	32	32	37
Total Connections:	26,540	26,529	26,522	26,445	26,509	26,581



Table 4.3
Current and Historic Water Demand by Sector (AF)

Sector	2010	2011	2012	2013	2014	2015
Single-Family Residential	6,963	6,882	6,808	6,924	6,967	6,243
Multi-Family Residential	3,794	4,131	3,679	3,562	3,765	3,656
Commercial/Institutional	2,857	3,468	3,241	3,643	4,035	3,454
Industrial	2,859	3,393	3,383	2,698	3,789	3,126
Landscape Irrigation	810	763	790	830	926	851
Other	155	147	9	50	50	61
Agricultural/Nursery	27	92	84	73	85	78
Wholesale	571	245	1,582	1,495	985	851
Total Potable Sales:	18,035	19,121	19,576	19,275	20,602	18,320
Industrial Recycled	6,173	5,551	6,069	6,314	6,183	4,937
Landscape irrigation Recycled	272	137	312	270	318	348
Total Recycled Sales:	6,445	5,688	6,381	6,584	6,501	5,285
Total Water Sales:	24,481	24,809	25,957	25,859	27,103	23,605
Unaccounted for Water	676	645	838	1,160	354	67
Total Water Consumption (Total Supply Into System):	25,157	25,454	26,795	27,019	27,457	23,672

The City records water use per service connection only and bills customers based on a conservation based tiered water rate structure. Water sales data is compiled by City water staff and recorded on the DWR Form No. 38 (Public Water System Statistics) and submitted to DWR annually. The total water consumption by customer type since 2010 is shown on **Table 4.3**. As noted by **Table 4.3** above, Single-Family Residential accounts are the highest consuming sector in the City, due to the fact that most of the City is zoned mostly for single-family accounts (with higher densities for multi-family accounts). Industrial accounts have a consumption rate at an average of nearly 12 AFY per connection from 2010 to 2015. However, nearly 2/3rd of the industrial demand is attributable to the ExxonMobil Refinery. Conversely, single-

family residential accounts have the lowest consumption rate, at around 0.3 AFY per connection, a decrease from 0.4 AFY as compared to the City's 2010 UWMP.

As indicated by **Table 4.3**, the City's unaccounted for water ranged from 67 AF to 1,160 AF in 2013, which is less than 4.3 percent of the total water supply introduced in the City's distribution system. Unaccounted for water consists of routine flushing, unmetered use, water losses and inaccurate meter registration. Although water losses were at the 4.3 percent range in 2013, they cannot be prevented entirely. Instead, effort is given to controlling the quantity of water losses (to a cost-effective extent) in order to reduce the cost impact of water losses on water operations. For the five year 2011-2015 period unaccounted for water



Figure 4.3: California's 2020 Water Conservation Goals

averaged less than 3 percent, which is substantially below the national and state average. Maintaining very low unaccounted for water is a major priority of TMW.

4.5 WATER CONSERVATION ACT

4.5.1 Act Background (SBx7-7)

Due to reductions of water in the San Joaquin Delta, the Legislature drafted the Water Conservation Act of 2009 to protect statewide water sources. The legislation called for a 20 percent reduction in water use in California by the year 2020. The

legislation amended the water code to call for 2020 and 2015 water use targets in the 2010 UWMPs, updates or revisions to these targets in the 2015 UWMPs, and allows the Department of Water Resources (DWR) to enforce compliance to the new water use standards. Beginning in year 2016 failure to comply with interim and final targets will make the City ineligible for grants and loans from the State needed to attain water self-sufficiency by 2020.

In addition to an overall statewide 20 percent water use reduction, the objective of SBx7-7 is to reduce water use within each



Figure 4.4: South Coast Hydrologic Region

hydrologic region in accordance with the agricultural and urban water needs of each region. Currently, DWR recognizes ten separate hydrologic regions in California as shown in **Figure 4.3**. Each hydrologic region has been established for planning purposes and corresponds to the State's major drainage areas. The City is located in the South Coast Hydrologic Region (HR), which includes all of Orange County, most of San Diego and Los Angeles Counties, parts of Riverside, San Bernardino, and Ventura counties, and a small amount of Kern and Santa Barbara Counties. The South Coast HR is shown in **Figure 4.4**.

Per capita water use, measured in gallons per capita per day (GPCD), in the South Coast HR varies between different water agencies, depending on the geographic and economic conditions of the agency's service area. Regions with more affluence, such as Beverly Hills, typically consume more water and therefore have higher per capita water use numbers. The South Coast HR has an overall baseline per capita water use of 180 GPCD and DWR has established a regional target of 149 GPCD for the region as a compliance target to satisfy SBx-7-7 legislation.

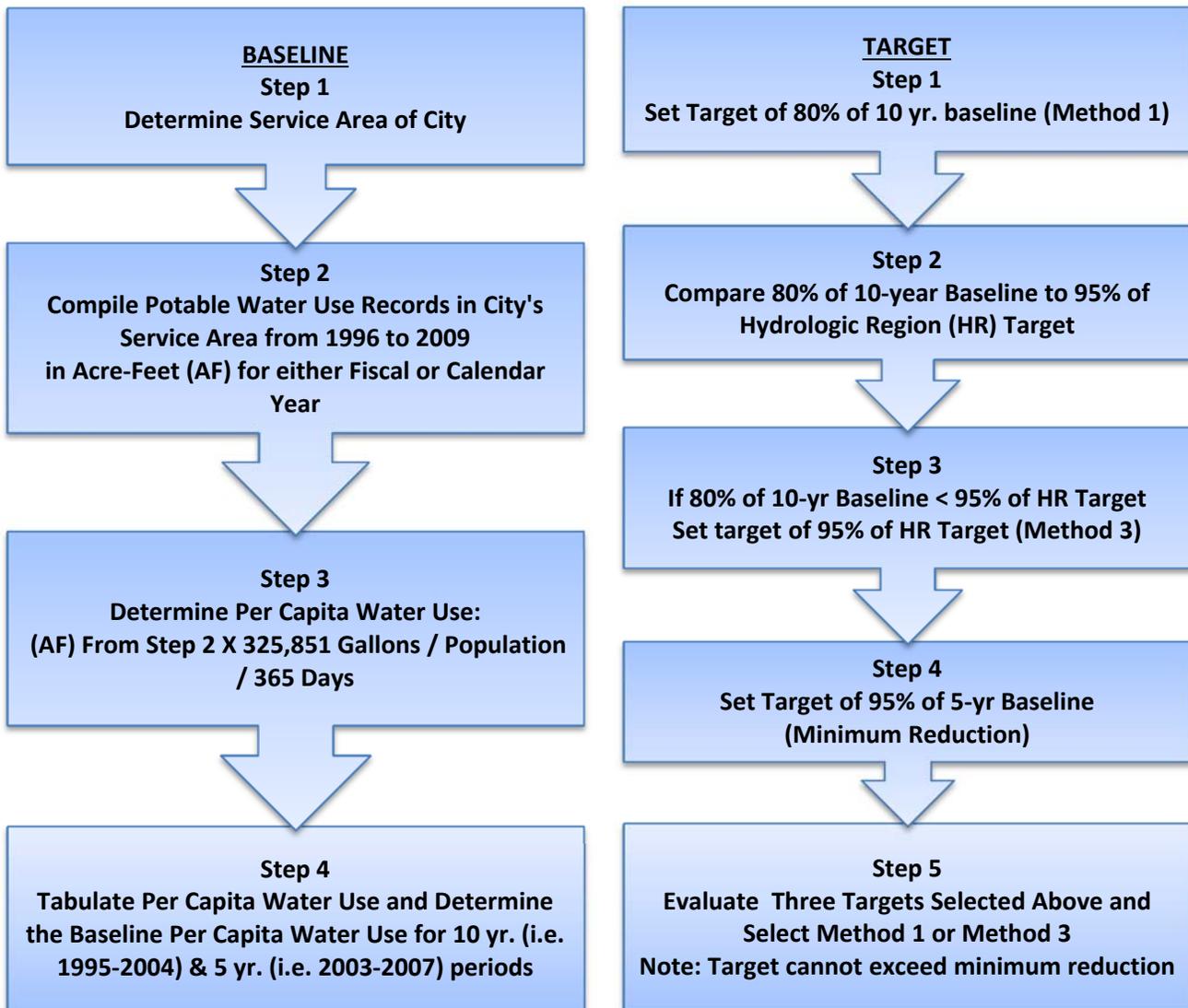


Figure 4.5: Procedure for Determining Baseline and Per Capita Water Use

4.5.2 SBx7-7 Methodologies

To satisfy the provisions of SBx7-7, the City previously established a per capita water use target for the year 2020 as well as an interim target for the year. DWR provided guidelines for determining these targets in its *Methodologies for Calculating Baseline and Compliance Urban Per Capita Water Use* in 2011 and also in the 2010 and 2015 UWMP Guidebooks. In the 2010 UWMP, the City's baseline water use was determined based on the City's historic water use by the procedure

shown in **Figure 4.5**.

In the same fashion, the City was responsible for determining a five-year baseline water use in accordance with DWR's guidelines. The *Methodologies* guidebook made provisions that allowed a water supplier to meet the target requirements by achieving any one of a number of target requirements, provided that the water supplier's per capita water use is low enough relative to the region within which it supplies water. The basic



options included a minimum reduction requirement of 5 percent (Water Code § 10620), a 5 percent reduction from the Regional (South Coast HR) target (Water Code § 10608.20 (b) (3)), or a strict 20 percent reduction.

These options were established in order to avoid placing any undue hardship on water agencies that have already been implementing water conservation measures for some time. The basic procedure for determining the applicable water reduction target is illustrated by **Figure 4.5** on the previous page. If an agency's ten-year baseline is slightly higher than the Hydrologic Region's target, that agency still must achieve a 5 percent reduction from its five-year baseline. If an agency has a per capita water use of 100 GPCD or less, that agency will not have to adhere to any reduction targets as that agency is already considered water efficient.

4.5.3 SBx7-7 Targets

To determine a 10 or 15-year baseline period for water use, it is compared by the amount of total water supplied to the amount of recycled water supplied in 2008. Longer years are applied if recycled water accounts for at least 10 percent of the total water supply.

In 2008, TMW supplied 28,656 AF of water and of that amount, 6,491 AF is recycled water. Recycled water supplied in 2008 accounted for 23 percent. Therefore, a continuous baseline period of 10- to 15-years can be used. In the past UWMP, a 10-year baseline period was used and it will be used for the 2015 UWMP.

For the continuous 10-year baseline, a period from 2001 to 2010 was used. A period from 2006 to 2010 was used for the

5-year baseline.

Table 4.5 shows the GPCD for the baseline years and the 10- and 5-year baseline results.

**Table 4.5
City of Torrance Water Use (GPCD)**

Year	Total Potable Consumption (AF)	Per Capita (GPCD)
2001	19,183	173
2002	18,839	168
2003	19,347	171
2004	17,507	153
2005	17,590	156
2006	18,002	161
2007	18,719	163
2008	17,460	151
2009	16,957	146
2010	15,193	130
10-yr. Baseline (2001-2010) (SB7: 10608.20)		157
5-yr. Baseline (2006-2010) (SB7: 10608.22)		150
South Coast HR:		149

In order to determine the correct compliance target, the City's baseline water use was compared to the regional compliance target to determine the applicable reduction amounts per the SBx7-7 additions to the water code. The legal stipulations applicable to the City and the required target to be enforced by DWR are shown in **Table 4.6**.



Table 4.6
City of Torrance
SBx7-7 2020 Water Use Targets

Min. Reduction Requirement (10608.22)	20% Target (10608.20) (b)(1)	5% Reduction from Regional Target (10608.20) (b)(3)
143	126	142
2020 Per Capita Target:		142
Interim (2015) Target:		150

As indicated in **Table 4.6**, TMW can select a 2020 target of 142 GPCD, which is 95 percent of the regional target. Therefore, TMW is in compliance with 10608.22. In addition, TMW’s 20 percent reduction target (126 GPCD) exceeds 142 GPCD. Therefore, TMW’s compliance target for per capita water consumption is 142 GPCD in accordance with Section (10608.20) (b)(3) of the Water Code.

These baselines and targets are revisions from the 2010 UWMP. Revisions are made due to readjusted population values for those years. New service area population was obtained from the DWR Population tool for 2006 to 2010. From years 2001 to 2005, an average of 71 percent (percent of TMW service area to the City) from the population from California Department of Finance (DOF) was used to determine service area population. Total potable consumption is obtained from the recorded supply from the sum of MWD, half of WBMWD Desalter, and half of groundwater supplies subtracted with wholesale and process water use. Half of desalinated and groundwater was deducted as half of those supplies are from recycled water replenishment. A breakdown of these

calculations is shown in the SBx7-7 Verification Forms in **Appendix H**.

Current Water Use in Relation to SBx7-7

Although the requirements of SBx7-7 seem stringent, it is noteworthy to mention that the City has seen an increase in water efficiency since 2010. This is due mostly to Gov. Brown's mandate in 2015, but also due in part to a greater achievement of conservation measures, saturation of water-saving plumbing fixtures, and overall water conservation awareness. **Table 4.7** displays the City's GPCD.

Table 4.7
City of Torrance Recent Water Use
(including adjustments)

Year	Total Potable Consumption (AF)	Per Capita (GPCD)
2015	14,407	122
2014	15,057	128
2013	15,259	131
2012	14,409	124
2011	14,441	125
2010	15,193	130
Average:		127
2020 Per Capita Target:		142
Interim (2015) Target:		150

As indicated by **Table 4.7** above, the City has already achieved not only its interim 2015 target, but also its final 2020 target.

4.5.4 Impacts on Bay-Delta

By maintaining low consumption rates and achieving a very high degree of local sustainability, the City can contribute in



Figure 4.6: Bay-Delta Water Must Be Preserved

statewide efforts to conserve Sacramento-San Joaquin Bay-Delta water supplies and help protect the ecological habitat of the region. Although some of the ecological motives are debatable, ensuring a reliable supply of water for human use is a top priority. Through conservation measures and the use of renewable, local groundwater supplies, the City can reduce demand for Bay-Delta water (see **Figure 4.6**).

4.6 PROJECTED WATER DEMAND

Future water use projections must consider significant factors on water demand, such as development and/or redevelopment, and climate patterns, among other less significant factors that affect water demand. Although redevelopment is expected to be an ongoing process, it is not expected to significantly impact water use since the City is already in a "built-out" condition.

Rainfall, however, will continue to be a major influence on demand as drought conditions will increase demand at a time when these supplies are limited and may therefore result in water use restrictions in accordance with the City's Water Conservation Plan (Ordinance No. 3717 and Ordinance 3782). As the City's population continues to grow incrementally over time and as water conservation measures continue to be implemented, the City should experience only minor increases in its water consumption over the long term, due mostly to overall population increases along with very limited redevelopment. Per capita consumption rates should be expected to remain under 142 GPCD, in accordance with SBx7-7, and trend further below the 2020 target of 142 GPCD.

For planning purposes, the City's projected water use for 2020-2040 is broken down by



sector in **Table 4.8**. The residential sector includes low-income housing units based on the City’s Draft 2014-2021 Housing Element (2013). The City projects a total of 607 housing units are classified as low-income. The estimated residential per unit water demand is 0.33 acre-feet/unit/year and

thus, approximately 200 AFY is needed to supply these projected lower income housing units. These water demands are included in future water demand projections for single family and multi-family homes listed in **Table 4.8** below.

Table 4.8
Projected Water Demand by Sector Based on SBx7-7 Consumption Requirement of 142 GPCD

Sector	2020	2025	2030	2035	2040
Water Service Area Population	108,217	111,237	114,341	117,532	120,812
Demands					
Single-Family Residential	6,219	6,392	6,571	6,754	6,942
Multi-Family Residential	3,446	3,542	3,641	3,742	3,847
Commercial/Institutional	3,152	3,240	3,330	3,423	3,519
Industrial	2,929	3,011	3,095	3,181	3,270
Landscape Irrigation	759	780	801	824	847
Other	72	74	77	79	81
Agricultural/Nurseries	80	82	84	85	87
Wholesale	1,000	1,000	1,000	1,000	1,000
Total Water Sales:	17,657	18,121	18,598	19,089	19,593
Industrial Recycled	6,200	6,200	6,200	6,200	6,200
Landscape Irrigation Recycled	400	440	480	520	560
Total Recycled Sales	6,600	6,640	6,680	6,720	6,760
Total Sales (including Recycled)	24,257	24,761	25,278	25,809	26,353
Unaccounted for Water	636	654	672	691	711
Total Water Consumption (Total Supply Into System):	24,893	25,415	25,951	26,500	27,063



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SECTION 5: RELIABILITY PLANNING





SECTION 5: RELIABILITY PLANNING

5.1 INTRODUCTION

Drought conditions continue to be a critical issue for Southern California's water supply (see **Figure 5.1**). As the population of Southern California continues to increase and as environmental regulations restrict imported and local water supplies, it is important that each agency manage its water consumption in the face of drought. Even during times of seasonal drought, each agency ought to anticipate a surplus of supply. This can be accomplished through conservation and supply augmentation, and additionally through prohibitions under penalty of law during times of seasonal or catastrophic shortage in accordance with local ordinances.

This section discusses local and regional efforts to ensure a reliable supply of water and compares projected supply to projected demand. Demand and supply projections are provided in **Tables 5.3** through **5.9**.

5.2 HISTORIC DROUGHTS

Climate data has been recorded in California since 1858. Since then, California has experienced several periods of severe drought: 1928-34, 1976-77, 1987-91, 2007-2009, and most recently in 2012-2015. California has also experienced several periods of less severe drought. The year 1977 is considered to be the driest year of record in the Four Rivers Basin by DWR. These rivers flow into the Delta and are the source of water for the SWP. Southern California sustained few adverse impacts from the 1976-77 drought, but the 1987-91 drought created considerably more concern.

As a result of previous droughts, the State legislature has enacted, among other things, the Urban Water Management Act (Act), which requires the preparation of this plan. Subsequent amendments to the Act have been made to ensure the plans are responsive to drought management. In 1991, several water agencies came together to form the California Urban Water Conservation Council (CUWCC) to manage the impacts of drought through the promotion of water conservation.



Figure 5.1: Lake Oroville: Drought Conditions

The drought of 2007-2009 resulted in significant impacts on the State's water supplies. SBx7-7 was signed into law by Governor Schwarzenegger that requires mandatory water conservation up to 20 percent by 2020.

At the local level, water agencies have enacted their own ordinances to deal with the impacts of drought. In March 2009, the City adopted a Water Conservation Ordinance, Ordinance No. 3717, which was amended in May 2015 by Ordinance No. 3782. This ordinance establishes various water use restrictions/regulations, with the main focus on prohibitions of wasteful uses of potable water.



Figure 5.2: Recent Drought

The ordinance provides for four levels of implementation including the baseline permanent measures and three levels of inclining water use restrictions depending on the severity of a water supply shortage situation (Levels 1, 2, and 3). The ordinance applies to the entire City.

5.3 RECENT DROUGHT (2012-2015)

A significant drought has hit the state of California starting 2012 (see **Figure 5.1**). The drought depleted reservoir levels all across the state, as reflected by **Figure 5.2** above. In January of 2014, Governor Brown declared a state of emergency and directed state officials to take all necessary actions to prepare for water shortages. As the drought prolonged into 2015, to help cope with the drought mitigation, Governor Brown issued an Executive Order in April 2015 which mandated a statewide 25 percent reduction in potable water use from a baseline year of 2013.

In January of 2016, the DWR and the U.S. Bureau of Reclamation have finalized the

2016 Drought Contingency Plan that outlines State Water Project and Central Valley Project operations for February 2016 to November 2016. The plan was developed in coordination with staff from State and federal agencies. One of the key purposes of this plan is to communicate goals for 2016 water management and the potential operations needed to achieve those goals for water resources stakeholders and the public.

Although the drought has more significantly impacted surface waters and other agencies that use water for agriculture, the City is still affected by the drought, primarily due to reduced reliability of imported water.

To date, Californians have reduced water use by about 25 percent since emergency conservation regulations took effect in June 2015. This continues to meet Governor Brown's 25 percent mandate despite a decline in the statewide water savings rate for the last few months. TMW was assigned a 20 percent reduction target and has met this goal.



Figure 5.3: MWD's 800,000 AF Diamond Valley Lake

5.4 REGIONAL SUPPLY RELIABILITY

As a result of continued challenges to its water supplies, MWD understands the importance of reliable water supplies. MWD strives to meet the water needs of Southern California by developing new projects to increase the capacity of its supplies while encouraging its member agencies to develop local supply projects to meet the needs of its customers. Also, MWD is committed to developing and maintaining high-capacity storage reservoirs, such as Diamond Valley Lake, to meet the needs of the region during times of drought and emergency.

MWD built and operates Diamond Valley Lake in Hemet, an 800,000 AF reservoir, to avoid the repercussions of reduced supplies from the SWP and CRA (see **Figure 5.3**). In addition, MWD operates several additional storage reservoirs in Riverside, San Bernardino, and San Diego Counties to store water obtained from the SWP and the CRA.

Storage reservoirs like these are a key component of MWD's supply capability and are crucial to MWD's ability to meet projected demand without having to implement the Water Supply Allocation Plan (WSAP), which is a form of rationing limiting the amount of imported water delivered to member agencies. This is crucial since the SWP and CRA have become more restricted, which could render the City's supplies more vulnerable to shortage.

5.4.1 The Colorado River Aqueduct (CRA) Reliability

Water supply from the CRA continues to be a critical issue for Southern California as MWD competes with several agricultural water agencies in California for unused water rights to the Colorado River. This competition has been exacerbated even more by a prolonged drought for most of the last 16 years. Runoff above Lake Powell has



Figure 5.4: Colorado River Aqueduct

been below average for twelve of the last sixteen years. Within those sixteen years, runoff in the Colorado River Basin above Lake Powell from 2000 through 2007 was the lowest eight-year runoff on record. While runoff returned to near normal conditions during the period of 2008 through 2010, drought conditions returned in 2012 with runoff in 2012 being among the four driest in history. During these drought conditions, Colorado River system storage has decreased to 50 percent of capacity. Although California's allocation has been established at 4.4 MAF per year, MWD's allotment stands at 550,000 AFY with additional amounts increasing MWD's allotment to 842,000 AFY if there is any unused water from the agricultural agencies.

MWD recognizes that competition from other states and other agencies, as well as future legal obligations within California has decreased the CRA's supply reliability (see **Figure 5.4**). In 2003, the Quantification Settlement Agreement (QSA) was signed, which facilitated, among other things, the enhanced transfer of water from agricultural agencies to urban uses. This

historic agreement provides California the means to implement transfers and supply programs that will allow California to live within the state's 4.4 MAF basic annual apportionment of the Colorado River.

5.4.2 The State Water Project (SWP) Reliability

The reliability of the SWP impacts MWD's member agencies' ability to plan for future growth and supply. DWR's Bulletin 132-14, November 2015, provides certain SWP reliability information, and in July 2015, the DWR Bay-Delta Office prepared a report specifically addressing the reliability of the SWP. This report, The State Water Project Delivery Capability Report, provides information on the reliability of the SWP to deliver water to its contractors assuming historical precipitation patterns.

On an annual basis, each of the 29 SWP contractors, including MWD, request an amount of SWP water based on their anticipated yearly demand. In most cases, MWD's requested supply is equivalent to its



Figure 5.5: State Water Project

full Table A (maximum) Amount. After receiving the requests, DWR assesses the amount of water supply available based on precipitation, snow pack on northern California watersheds, volume of water in storage, projected carry over storage, and Sacramento-San Joaquin Bay Delta regulatory requirements. For example, the SWP annual delivery of water to contractors has ranged from 552,600 AFY in 1991 to 3.5 MAF in 2000 (see **Figure 5.5**). Due to the uncertainty in water supply, contractors are not typically guaranteed their full Table A Amount, but instead a percentage of that amount based on the available supply.

Each December, DWR provides the contractors with their first estimate of allocation for the following year. As conditions develop throughout the year,

DWR revises the allocations. SWP deliveries in the most recent critically dry years lagged these projections, and were 5 percent of contractual amounts in 2014 and 20 percent of contractual amounts in 2015. Consequently, MWD's key concern is the continual deterioration of water supply reliability. Currently, the 2016 estimate listed in DWR's deliverability report is set at 4.2 MAF.

Due to the variability in supply for any given year, it is important to understand the reliability of the SWP to supply a specific amount of water each year to the contractors.

An ongoing planning effort to increase long-term supply reliability for both the State Water Project (SWP) and federal Central



Valley Project (CVP) is taking place. This plan, formerly known as the Bay Delta Conservation Plan (BDCP), includes co-equal goals to improve water supply reliability and restore the Delta ecosystem.

In April 2015, state and federal agencies announced a new sub-alternative, California WaterFix and California EcoRestore, which replaced the proposed BDCP as the State's preferred project. The new alternative reflects the State's proposal to separate the conveyance facility and habitat restoration measures into two separate efforts: California WaterFix and California EcoRestore. These two efforts are a direct reflection of public comments and fulfill the requirement of the 2009 Delta Reform Act to meet co-equal goals. Preparation of the BDCP and now California WaterFix is through a collaboration of state, federal, and local water agencies, state and federal fish agencies, environmental organizations, and other interested parties. Several "isolated conveyance system" alternatives considered in the plan would divert water from the north Delta to the south Delta, via two underground tunnels, where pumped water travels into the south-of-Delta stretches of the SWP and CVP. The new conveyance facilities would allow for greater flexibility in balancing the needs of the estuary with the reliability of water supplies. The plan also provides other benefits, such as reducing the risk of long-term outages from Delta levee failures.

The BDCP/California WaterFix has been in development since 2006 and is currently undergoing extensive environmental review. In December 2013, officials released the Draft BDCP and its associated Draft Environmental Impact Report

(EIR)/Environmental Impact Statement (EIS) for public review. In response to public comments, the BDCP was re-evaluated. Based on this reevaluation, as mentioned above, in April 2015 the lead agencies announced a modified alternative which effectively split the project into two parts: the conveyance portion (known as Cal WaterFix), and the restoration portion (known as EcoRestore). The Cal WaterFix alternative is evaluated in a partially recirculated draft environmental document (Recirculated Draft EIR/Supplemental Draft EIR) released for public review in July 2015. The final environmental documents for Cal Waterfix will be available in 2016.

While there is widespread support for the BDCP/Cal WaterFix project, plans are currently in flux and environmental review is ongoing. Additionally, several regulatory and legal requirements must be met prior to any construction. Because of this uncertainty, any improvements in SWP supply reliability or other benefits that could result from this proposed project are not included in this Plan.

5.4.3 Current Reservoir Levels

Statewide, storage reservoir levels rise and fall due to seasonal climate changes, which induce increase in demand. During periods of drought, reservoir levels can drop significantly and can limit the amount of supplies available. As a result, both DWR and MWD monitor their reservoir levels regularly. In 2014, conditions of several key reservoirs indicated the impact of drought conditions. Currently, several reservoir levels are below historical average levels as indicated by **Figures 5.6** and **5.7** on the following pages.

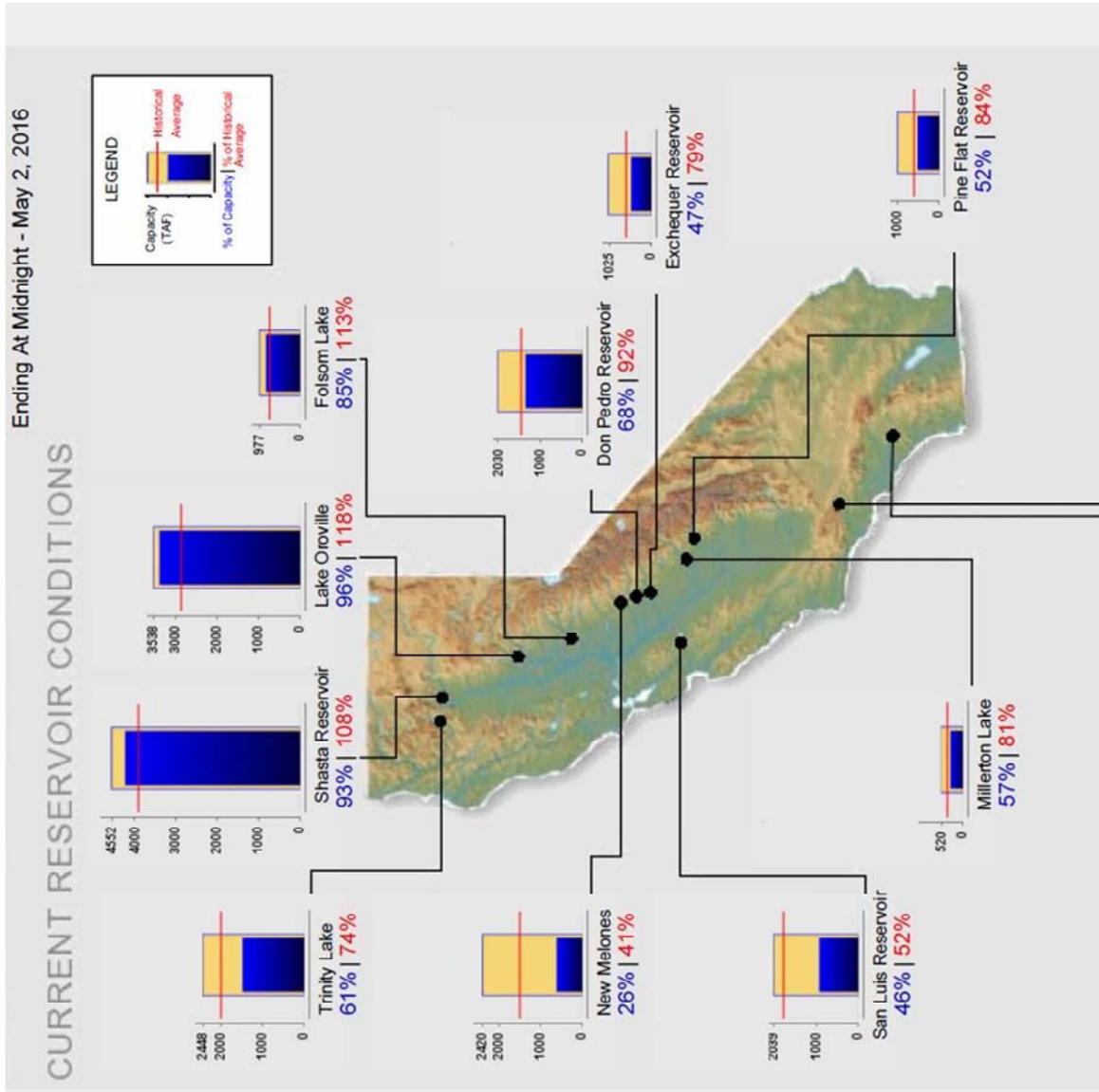


Figure 5.6: California State Reservoir Levels

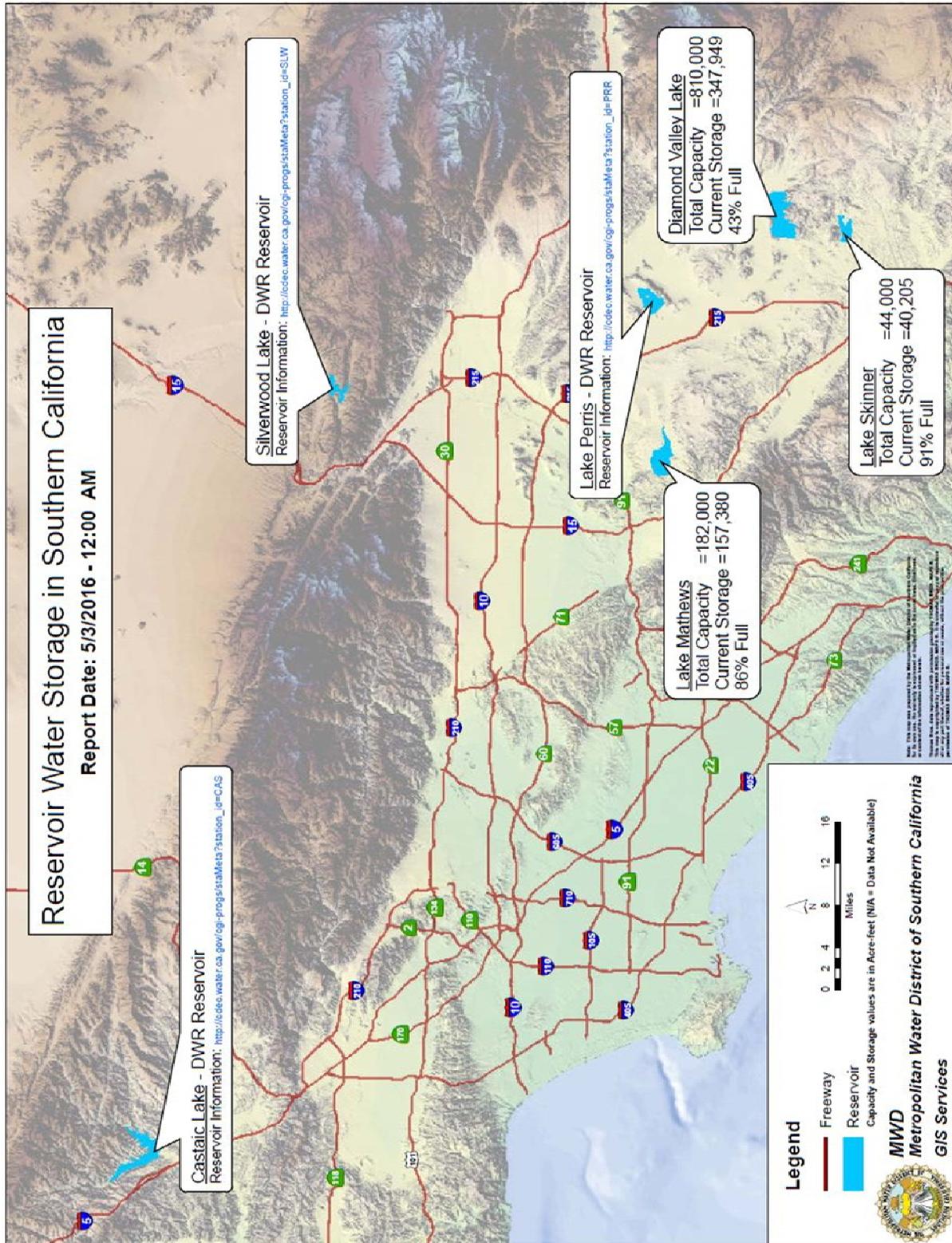


Figure 5.7: MWD Reservoir Levels



5.5 SUPPLY VS. DEMAND

As the City obtains its water sources from local groundwater, groundwater desalination, imported water, and recycled water, the City's water supply reliability is based on the capacity and vulnerability of its infrastructure in addition to the seasonal demand changes brought about by periods of drought. MWD's reliability of supply has direct impact on the City. Population growth will also continue to be a factor in future reliability projections. Since the City is pursuing an optimized local groundwater sustainability scenario, having continued access to imported water increases the City's supply reliability (see **Figure 5.8**).

5.5.1 Regional Supply Reliability

Southern California is expected to experience an increase in regional demands in the years 2015 through 2040 as a result of population growth. Although increases in demand are expected, they are limited due to the requirements of SBx7-7, which provides a cap on water consumption levels (i.e. per capita water use). It can be reasonably expected that the majority of agencies will be at or near their compliance targets by 2020 and thereafter as conservation measures are more effectively implemented and enforced.

Tables 2.8 through 2.10 of MWD's 2015 UWMP shows supply reliability projections for average and single dry years through the year 2040. The data in these tables is important to effectively project and analyze supply and demand over the next 25 years for many regional agencies. It is noteworthy that Projected Supplies During a Single Dry Year and Multiple Dry Years indicates MWD's projected supply will exceed its projected single dry year and multiple dry year demands in all years. Likewise, for

average years, MWD supply exceeds projected demands for all years. The data contained in these tables has an indirect effect on the City's imported supply capacity, and thus this data will also be used to develop the City's projected supply and demand over the next 25 years. **Tables 5.1 and 5.2** show MWD's supply reliability.



Figure 5.8: Reservoir Storage

5.5.2 City Supply Reliability

To project future supply and demand comparisons, it will be assumed that demand will increase annually based on population growth and a constant demand of 142 GPCD in accordance with SBx7-7 requirements. During times of drought, however, demand will increase at a time when supply will decrease. To project demands during drought periods, the following factors measured from actual demand data from dry years 2012-2014 will be assumed:

- **Single Dry Year Demand Increase:**
107% of Normal
- **Multiple Dry Year Demand Increases (Years 1, 2, & 3):**
106%, 107 %, 109% of Normal

Tables **5.1** to **5.9**, shown on the following pages, provide an analysis of MWD and City supply and demand projections.



Table 5.1
MWD Regional Imported Water Supply Reliability Projections
Average and Single Dry Years (AF)

Row	Region Wide Projections	2020	2025	2030	2035	2040
Supply Information						
A	Projected Supply: Average Year	3,653,000	3,755,000	3,925,000	4,055,000	4,091,000
B	Projected Supply: Dry Year	2,537,000	2,639,000	2,744,000	2,874,000	2,910,000
C = B/A	Projected Dry Yr. / Avg. Yr. Supply (%)	69.4%	70.3%	69.9%	70.9%	71.1%
Demand Information						
D	Projected Average Year Demand	1,860,000	1,918,000	1,959,000	2,008,000	2,047,000
E	Projected Dry Year Demand	2,005,000	2,066,000	2,108,000	2,160,000	2,201,000
F = E/D	Projected Dry Year / Avg. Year (%)	107.8%	107.7%	107.6%	107.6%	107.5%
Surplus						
G = A-D	Projected Surplus: Average Year	1,793,000	1,837,000	1,966,000	2,047,000	2,044,000
H = B-E	Projected Surplus: Dry Year	532,000	573,000	636,000	714,000	709,000
Programs Under Development						
I	Projected Capability of Programs (Average Year)	63,000	100,000	343,000	385,000	425,000
J	Projected Capability of Programs (Dry Year)	63,000	100,000	316,000	358,000	398,000
Potential Surplus						
K=A+I-D	Projected Surplus: Average Year	1,856,000	1,937,000	2,309,000	2,432,000	2,469,000
L=B+J-E	Projected Surplus: Dry Year	532,000	573,000	636,000	714,000	709,000
Comparisons						
I = A/D	Projected Avg. Yr. Supply/Demand (%)	196.4%	195.8%	200.4%	201.9%	199.9%
J = A/E	Projected Dry Yr. Supply/Demand (%)	126.5%	127.7%	130.2%	133.1%	132.2%



Table 5.2
MWD Regional Imported Water Supply Reliability Projections
Average and Multiple Dry Years (AF)

Row	Region Wide Projections	2020	2025	2030	2035	2040
Supply Information						
A	Projected Supply: Average Year	3,653,000	3,755,000	3,925,000	4,055,000	4,091,000
B	Projected Supply: Multiple Dry Year	2,151,000	2,202,000	2,246,000	2,298,000	2,316,000
C = B/A	Proj. Mult. Dry Yr. / Avg. Yr. Supply (%)	58.9%	58.6%	57.2%	56.7%	56.6%
Demand Information						
D	Projected Average Year Demand	1,860,000	1,918,000	1,959,000	2,008,000	2,047,000
E	Projected Dry Year Demand	2,001,000	2,118,000	2,171,000	2,216,000	2,258,000
F = E/D	Projected Dry Year / Average Year (%)	107.6%	110.4%	110.8%	110.4%	110.3%
Surplus						
G = A-D	Projected Surplus: Average Year	1,793,000	1,837,000	1,966,000	2,047,000	2,044,000
H = B-E	Projected Surplus: Multiple Dry Year	150,000	84,000	75,000	82,000	58,000
Programs Under Development						
I	Projected Capability of Programs (Average Year)	63,000	100,000	343,000	385,000	425,000
J	Projected Capability of Programs (Multiple Dry Year)	43,000	80,000	204,000	245,000	286,000
Potential Surplus						
K=A+I-D	Projected Surplus: Average Year	1,856,000	1,937,000	2,309,000	2,432,000	2,469,000
L=B+J-E	Projected Surplus: Multiple Dry Year	150,000	84,000	75,000	82,000	58,000
Comparisons						
I = A/D	Projected Avg. Yr. Supply/Demand (%)	196.4%	195.8%	200.4%	201.9%	199.9%
J = A/E	Projected Dry Yr. Supply/Demand (%)	107.5%	104.0%	103.5%	103.7%	102.6%



Table 5.3
Torrance Municipal Water Supply Availability & Demand Projections
Normal Water Year (AF)

Water Sources	2020	2025	2030	2035	2040
Population					
Water Service Area Population	108,217	111,237	114,341	117,532	120,812
Supply					
Imported Water	19,204	19,204	19,204	19,204	19,204
Groundwater	5,640	5,640	5,640	5,640	5,640
Recycled Water	7,150	7,150	7,150	7,150	7,150
Desalted Water	4,800	4,800	4,800	4,800	4,800
Total Supply	36,794	36,794	36,794	36,794	36,794
Demand					
Total Normal Demand	24,893	25,415	25,951	26,500	27,063
% of 2010-2015 Avg. Demand (25,926)	96.0%	98.0%	100.1%	102.2%	104.4%
Supply/Demand Comparison					
Supply/ Demand Difference	11,901	11,379	10,843	10,294	9,731
Supply/Demand (%)	147.8%	144.8%	141.8%	138.8%	136.0%

Table is intended only to show TMW has the capacity to meet demand for all years per the following*:

1. Total Demand based on 142 GPCD (SBx7-7) multiplied by population projections shown above.
2. Imported Water Supply represents supply available to TMW, if needed, based on the TMW's MWD's 1 Limit of 19,204 AFY.
3. Groundwater Supplies based on TMW's adjudicated groundwater basin pumping right of approximately 5,640 AFY.
4. Recycled Water Supplies based on TMW's Supply Projection from WBMWD's ECLWRF.
5. Desalted Water Supplies based on post-expansion capabilities from the Goldsworthy Facility.

*This Table not intended to be a projection of TMW's actual supply production. TMW may pump and/or purchase amounts below these supply amounts. These amounts represent maximum supply from each of these sources.

*This Table is not intended to be a projection of TMW's actual demand. Demand of 142 GPCD is based on SBx7-7 limits. Actual demand may be above or below the SBx7-7 limit of 142 GPCD in accordance with water usage needs in TMW.



Table 5.4
Torrance Municipal Water Supply Availability & Demand Projections
Single Dry Year (AF)

Water Sources	2020	2025	2030	2035	2040
Population					
Water Service Area Population	108,217	111,237	114,341	117,532	120,812
Supply					
Imported Water	19,204	19,204	19,204	19,204	19,204
Groundwater	5,640	5,640	5,640	5,640	5,640
Recycled Water	7,150	7,150	7,150	7,150	7,150
Desalted Water	4,800	4,800	4,800	4,800	4,800
Total Supply	36,794	36,794	36,794	36,794	36,794
Normal Year Supply	36,794	36,794	36,794	36,794	36,794
% of Normal Year	100.0%	100.0%	100.0%	100.0%	100.0%
Demand					
Total Dry Demand	26,649	27,208	27,781	28,369	28,972
Normal Year Demand	24,893	25,415	25,951	26,500	27,063
% of Normal Year	107.1%	107.1%	107.1%	107.1%	107.1%
Supply/Demand Comparison					
Supply/Demand Difference	10,145	9,586	9,013	8,425	7,822
Supply/Demand (%)	138.1%	135.2%	132.4%	129.7%	127.0%

Table is intended only to show TMW will be able to meet demand for all years per the following*:

1. Total Demand based on 142 GPCD (SBx7-7) multiplied by population projections shown above and by single dry year increase of 107%.
2. All other items derived in similitude to Table 5.3

**See notes below Table 5.3 for explanation of groundwater supply / overall demand.*



Table 5.5
Torrance Municipal Water Supply Availability & Demand Projections
Multiple Dry Years (2016-2020) (AF)

Water Sources	2016	2017	2018	2019	2020
Population					
Water Service Area Population	105,860	106,444	107,032	107,623	108,217
Supply					
	Normal Years		Multiple Dry Years		
Imported Water	19,204	19,204	19,204	19,204	19,204
Groundwater	5,640	5,640	5,640	5,640	5,640
Recycled Water	7,150	7,150	7,150	7,150	7,150
Desalted Water	4,800	4,800	4,800	4,800	4,800
Total Supply	36,794	36,794	36,794	36,794	36,794
Normal Year Supply	36,794	36,794	36,794	36,794	36,794
% of Normal Year	100.0%	100.0%	100.0%	100.0%	100.0%
Demand					
	Normal Years		Multiple Dry Years		
Total Demand	24,485	24,586	26,141	26,469	27,009
Normal Year Demand	24,485	24,586	24,688	24,790	24,893
% of Normal Year	100.0%	100.0%	105.9%	106.8%	108.5%
Supply/Demand Comparison					
	Normal Years		Multiple Dry Years		
Supply/Demand Difference	12,309	12,208	10,653	10,325	9,785
Supply/Demand (%)	150.3%	149.7%	140.8%	139.0%	136.2%

Table is intended only to show TMW will be able to meet demand for all years per the following*:

1. Total Demand based on 142 GPCD (SBx7-7) multiplied by population projections shown above and by multiple dry year increases of 106%, 107%, and 109%.
2. All other items derived in similitude to Table 5.3.

*See notes below Table 5.3 for explanation of groundwater supply / overall demand.



Table 5.6
Torrance Municipal Water Supply Availability & Demand Projections
Multiple Dry Years (2021-2025) (AF)

Water Sources	2021	2022	2023	2024	2025
Population					
Water Service Area Population	108,814	109,415	110,019	110,626	111,237
Supply					
	Normal Years		Multiple Dry Years		
Imported Water	19,204	19,204	19,204	19,204	19,204
Groundwater	5,640	5,640	5,640	5,640	5,640
Recycled Water	7,150	7,150	7,150	7,150	7,150
Desalted Water	4,800	4,800	4,800	4,800	4,800
Total Supply	36,794	36,794	36,794	36,794	36,794
Normal Year Supply	36,794	36,794	36,794	36,794	36,794
% of Normal Year	100.0%	100.0%	100.0%	100.0%	100.0%
Demand					
	Normal Years		Multiple Dry Years		
Total Demand	24,996	25,100	26,688	27,024	27,576
Normal Year Demand	24,996	25,100	25,205	25,310	25,415
% of Normal Year	100.0%	100.0%	105.9%	106.8%	108.5%
Supply/Demand Comparison					
	Normal Years		Multiple Dry Years		
Supply/Demand Difference	11,798	11,694	10,106	9,770	9,218
Supply/Demand (%)	147.2%	146.6%	137.9%	136.2%	133.4%

Table is intended only to show TMW will be able to meet demand for all years per the following*:

1. Total Demand based on 142 GPCD (SBx7-7) multiplied by population projections shown above and by multiple dry year increases of 106%, 107%, and 109%.

2. All other items derived in similitude to Table 5.3.

*See notes below Table 5.3 for explanation of groundwater supply / overall demand.



Table 5.7
Torrance Municipal Water Supply Availability & Demand Projections
Multiple Dry Years (2026-2030) (AF)

Water Sources	2026	2027	2028	2029	2030
Population					
Water Service Area Population	111,851	112,468	113,089	113,714	114,341
Supply					
	Normal Years		Multiple Dry Years		
Imported Water	19,204	19,204	19,204	19,204	19,204
Groundwater	5,640	5,640	5,640	5,640	5,640
Recycled Water	7,150	7,150	7,150	7,150	7,150
Desalted Water	4,800	4,800	4,800	4,800	4,800
Total Supply	36,794	36,794	36,794	36,794	36,794
Normal Year Supply	36,794	36,794	36,794	36,794	36,794
% of Normal Year	100.0%	100.0%	100.0%	100.0%	100.0%
Demand					
	Normal Years		Multiple Dry Years		
Total Demand	25,521	25,628	27,250	27,593	28,158
Normal Year Demand	25,521	25,628	25,735	25,843	25,951
% of Normal Year	100.0%	100.0%	105.9%	106.8%	108.5%
Supply/Demand Comparison					
	Normal Years		Multiple Dry Years		
Supply/Demand Difference	11,273	11,166	9,544	9,201	8,636
Supply/Demand (%)	144.2%	143.6%	135.0%	133.3%	130.7%

Table is intended only to show TMW will be able to meet demand for all years per the following*:

1. Total Demand based on 142 GPCD (SBx7-7) multiplied by population projections shown above and by multiple dry year increases of 106%, 107%, and 109%.
2. All other items derived in similitude to Table 5.3.

*See notes below Table 5.3 for explanation of groundwater supply / overall demand.



Table 5.8
Torrance Municipal Water Supply Availability & Demand Projections
Multiple Dry Years (2031-2035) (AF)

Water Sources	2031	2032	2033	2034	2035
Population					
Water Service Area Population	114,973	115,607	116,245	116,887	117,532
Supply					
	Normal Years		Multiple Dry Years		
Imported Water	19,204	19,204	19,204	19,204	19,204
Groundwater	5,640	5,640	5,640	5,640	5,640
Recycled Water	7,150	7,150	7,150	7,150	7,150
Desalted Water	4,800	4,800	4,800	4,800	4,800
Total Supply	36,794	36,794	36,794	36,794	36,794
Normal Year Supply	36,794	36,794	36,794	36,794	36,794
% of Normal Year	100.0%	100.0%	100.0%	100.0%	100.0%
Demand					
	Normal Years		Multiple Dry Years		
Total Demand	26,060	26,169	27,825	28,176	28,753
Normal Year Demand	26,060	26,169	26,279	26,389	26,500
% of Normal Year	100.0%	100.0%	105.9%	106.8%	108.5%
Supply/Demand Comparison					
	Normal Years		Multiple Dry Years		
Supply/Demand Difference	10,734	10,625	8,969	8,618	8,041
Supply/Demand (%)	141.2%	140.6%	132.2%	130.6%	128.0%

Table is intended only to show TMW will be able to meet demand for all years per the following*:

1. Total Demand based on 142 GPCD (SBx7-7) multiplied by population projections shown above and by multiple dry year increases of 106%, 107%, and 109%.

2. All other items derived in similitude to Table 5.3.

*See notes below Table 5.3 for explanation of groundwater supply / overall demand.



Table 5.9
Torrance Municipal Water Supply Availability & Demand Projections
Multiple Dry Years (2036-2040) (AF)

Water Sources	2036	2037	2038	2039	2040
Population					
Water Service Area Population	118,181	118,834	119,490	120,149	120,812
Supply					
	Normal Years		Multiple Dry Years		
Imported Water	19,204	19,204	19,204	19,204	19,204
Groundwater	5,640	5,640	5,640	5,640	5,640
Recycled Water	7,150	7,150	7,150	7,150	7,150
Desalted Water	4,800	4,800	4,800	4,800	4,800
Total Supply	36,794	36,794	36,794	36,794	36,794
Normal Year Supply	36,794	36,794	36,794	36,794	36,794
% of Normal Year	100.0%	100.0%	100.0%	100.0%	100.0%
Demand					
	Normal Years		Multiple Dry Years		
Total Demand	26,611	26,723	28,416	28,774	29,364
Normal Year Demand	26,611	26,723	26,836	26,950	27,063
% of Normal Year	100.0%	100.0%	105.9%	106.8%	108.5%
Supply/Demand Comparison					
	Normal Years		Multiple Dry Years		
Supply/Demand Difference	10,183	10,071	8,378	8,020	7,430
Supply/Demand (%)	138.3%	137.7%	129.5%	127.9%	125.3%

Table is intended only to show TMW will be able to meet demand for all years per the following*:

1. Total Demand based on 142 GPCD (SBx7-7) multiplied by population projections shown above and by multiple dry year increases of 106%, 107%, and 109%.
2. All other items derived in similitude to Table 5.3.

*See notes below Table 5.3 for explanation of groundwater supply / overall demand.



Based on the data contained in **Tables 5.3** through **5.9**, the City can expect to meet future demands through 2040 for all climatologic classifications. Projected groundwater supply capacities are not expected to be significantly affected during times of low rainfall and over short term dry periods of up to three years. However, during prolonged periods of drought, the City's imported water supply capacities may potentially be reduced significantly due to reductions in MWD's storage reservoirs resulting from increases in regional demand.

5.6 VULNERABILITY OF SUPPLY

Due to the semi-arid nature of the City's climate and as a result of past drought conditions, the City is vulnerable to water shortages due to its climatic environment and seasonally hot summer months. While the data shown in **Tables 5.3** through **5.9** identifies water availability during single and multiple dry year scenarios, response to a future drought would follow the water use efficiency mandates of the City's Water Shortage Contingency Plan along with implementation of the appropriate stage of regional plans, such as MWD's Water Surplus and Drought Management Plan (WSDM). These programs are discussed in **Section 7**.

5.7 WATER SUPPLY OPPORTUNITIES

5.7.1 City Projects

In general, the City continually reviews practices that will provide its customers with adequate and reliable supplies. As discussed in **Section 2**, the City will maximize its groundwater supply capacity through the drilling of additional wells to achieve its adjudicated right of 5,639 AFY by 2018. In 2012, a new groundwater well (Well #9) was drilled. The new well along with the

City's current wells will provide sufficient capacity to pump TMW's full annual groundwater pumping entitlement of 5,639 AF. TMW is also investigating leasing of additional groundwater pumping rights to further increase local water source production.

In addition, the Goldsworthy Desalter Expansion project will provide additional supply towards TMW. Scheduled to be completed in 2017, the expansion will increase treatment capacities up to 5,000 AFY, an increase of over 200 percent from current effective capacity of 1,500 AFY.

5.7.2 Regional Projects (MWD)

MWD is implementing water supply alternative strategies for the region, in partnership with its member agencies, to ensure available water in the future. Some of these strategies include:

- Conservation
- Water recycling & groundwater recovery
- Storage/groundwater management programs within the region
- Storage programs related to the SWP and CRA
- Other water supply management programs outside of the region

MWD has made investments in conservation and supply augmentation as part of its long-term water management strategy. MWD's approach to a long-term water management strategy was to develop an Integrated Resource Plan (IRP) to include viable alternative supply sources to meet future demand. A brief description of the various programs implemented by MWD to improve reliability is included in **Table 5.10** on the following page.



Table 5.10
MWD IRP Regional Resources Status

Supply	Description	
Colorado River Aqueduct (CRA)	MWD holds a basic apportionment of Colorado River water and has priority for an additional amount depending on availability of surplus supplies. Water management programs supplement these apportionments.	
State Water Project (SWP)	MWD receives water delivered under State Water Contract provisions, including Table A contract supplies, use of carryover storage in San Luis Reservoir, and Article 21 interruptible supplies.	
Conservation	MWD and the member agencies sponsor numerous conservation programs in the region that involve research and development, incentives, and consumer behavior modification.	
	<i>Code-Based Conservation</i>	Water savings resulting from plumbing codes and other institutionalized water efficiency measures.
	<i>Active Conservation</i>	Water saved as a direct result of programs and practices directly funded by a water utility, e.g., measures outlined by the CUWCC BMPs. Water savings from active conservation completed through 2008 will decline to zero as the lifetime of those devices is reached. This will be offset by an increase in water savings for those devices that are mandated by law, plumbing codes or other efficiency standards.
	<i>Price Effect Conservation</i>	Reductions in customer use attributable to changes in the real (inflation adjusted) cost of water.
Local Resources	<i>Groundwater</i>	Member-agency produced groundwater from the groundwater basins within the service area.
	<i>Groundwater Recovery</i>	Locally developed and operated, groundwater recovery projects treat contaminated groundwater to meet potable use standards. MWD offers financial incentives to local and member agencies through its Local Resources Program for recycled water and groundwater recovery.
	<i>Los Angeles Aqueduct (LAA)</i>	A major source of imported water is conveyed from the Owens Valley via the LAA by Los Angeles Department of Water and Power (LADWP). Although LADWP imports water from outside of MWD's service area, MWD classifies water provided by the LAA as a local resource because it is developed and controlled by a local agency.
	<i>Recycling</i>	Recycled water projects recycle wastewater for M&I use.
	<i>Surface Water</i>	Surface water used by member agencies comes from stream diversions and rainwater captured in reservoirs.
Groundwater Conjunctive Use Storage Programs	MWD sponsors various groundwater storage programs, including, cyclic storage programs, long-term replenishment storage programs, and contractual conjunctive use programs.	
Surface Water Storage	MWD reservoirs (Diamond Valley Lake, Lake Mathews, Lake Skinner) and flexible storage in DWR reservoirs (Castaic Lake, Lake Perris).	
Central Valley Storage & Transfers	Central Valley storage programs consist of partnerships with Central Valley water districts to allow MWD to store SWP supplies in wetter years for return in drier years. MWD's Central Valley transfer programs consist of partnerships with Central Valley Project and SWP settlement contractors to allow MWD to purchase water in drier years.	

SECTION 6: CONSERVATION MEASURES





SECTION 6: CONSERVATION MEASURES

6.1 INTRODUCTION

As a result of diminished existing supplies and difficulty in developing new supplies, water conservation is important to Southern California's sustainability. Therefore, the City acknowledges that efficient water use is the foundation of its current and future water planning and operations policies.

To conserve California's water resources, several public water agencies and other interested parties of the California Urban Water Conservation Council (CUWCC) drafted the Memorandum of Understanding Regarding Urban Water Conservation (MOU) in 1991. The MOU establishes 14 Best Management Practices (BMPs) which are defined roughly as policies, programs, practices, rules, regulations, or ordinances that result in the more efficient use or conservation of water.

Demand Management Measures (DMMs), as defined by the UWMP Act, correspond for the most part to the Council's BMPs. The 14 BMPs generally coincide with the 14 Demand Management Measures (DMMs) defined in the Urban Water Management Planning Act. The BMPs are intended to reduce long-term urban demands from what they would have been without their implementation, and are in addition to programs which may be instituted during occasional water supply shortages.

6.2 CUWCC MEMBERSHIP

In 1993, the City became a signatory of the CUWCC by signing the MOU and has expedited implementation of water

conservation measures. Torrance Municipal Water (TMW) is the City's operating agency that actively implements all these measures with good faith efforts by achieving and maintaining the staffing, funding, and in general, the priority levels necessary to achieve the level of activity called for in each BMP's definition as described in the MOU. Water conservation is an integral part of TMW's water policies (see **Figure 6.1**).

6.3 UPDATES TO DMMS FOR 2015 URBAN WATER MANAGEMENT PLAN (UWMP)

In previous years, the 14 California Urban Water Conservation Council BMPs coincided almost entirely with the 14 Demand Management Measures defined in the UWMP Act. The DMMs are intended to reduce long-term urban demands from what they would have been without their implementation. The DMMs like the BMPs are in addition to programs which may be instituted during occasional water supply shortages.

For the 2015 Urban Water Management Plan, the Department of Water Resources (DWR) has refined the list of DMMs to be reported in the 2015 UWMPs.

- *DMM 1: Water Waste Prohibition Ordinances*
- *DMM 2: Metering*
- *DMM 3: Conservation Pricing*
- *DMM 4: Public Education & Outreach*
- *DMM 5: Programs to Assess and*



Manage Distribution System Real Loss

- **DMM 6:** *Water Conservation Program Coordination and Staffing Support*
- **DMM 7:** *Other Demand Management Measures that have a significant impact on water use as measured in GPCD, including innovative measures*

As with previous UWMPs, agencies that are members of the CUWCC can submit the annual reports in lieu of providing details on the agency's DMMs. In lieu of providing a description of each DMM, agencies can provide data on recent implementation and provide plans for future implementation.

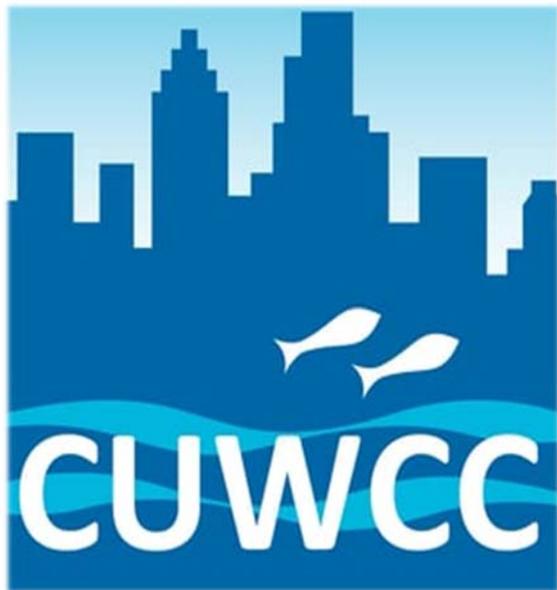


Figure 6.1: CUWCC Helps Preserve Water

6.4 UPDATES TO CUWCC BEST MANAGEMENT PRACTICES

As with the DMMs, the California Urban Water Conservation Council Best Management Practices have changed for CUWCC members. The BMPs are now listed as:

- **BMP 1:** *Utility Operations*
- **BMP 2:** *Public Education & Outreach*
- **BMP 3:** *Residential Programs*
- **BMP 4:** *Commercial, Institutional, and Industrial Programs*
- **BMP 5:** *Landscape Programs*

6.5 CONSERVATION MEASURES

As a signatory to the MOU, TMW has committed to undertake good-faith efforts to implement the BMPs. In addition, TMW has been partnering with the West Basin Municipal Water District (WBMWD), the Water Replenishment District of Southern California (WRD) and the South Bay Environmental Services Center (SBESC) to increase the effectiveness of its DMM and BMP programs, and to educate the public regarding the importance of water conservation. TMW's Best Management Practices are summarized in **Table 6.1**.

TMW assumes an active role in promoting and implementing water use efficiency (WUE) in the City. The Metropolitan Water District (MWD), as a wholesale water agency, provides TMW with assistance particularly with regard to education, public information programs and rebates for various water conserving devices. In addition, MWD's conservation information, media campaign resources, and related materials are used extensively by the City to promote conservation at the local level.



Table 6.1
TMW Best Management Practices
(CUWCC)

BMP
<p>BMP 1: Utility Operations <i>Deals with water waste prohibitions, water efficiency ordinances, metering, conservation pricing, and other items related to managing water use.</i></p>
<p>BMP 2: Public Education & Outreach <i>Deals with outreach efforts including emails, newsletters, advertisements, presentations, promotions, school programs etc. related to outreach & education.</i></p>
<p>BMP 3: Residential Programs <i>Deals with showerheads, faucets, toilets, and leak detection surveys related to residential water use and rebates for water conserving fixtures.</i></p>
<p>BMP 4: Commercial, Institutional, & Industrial Programs <i>Deals with toilets, urinals, steamers, cooling towers, food/restaurant equipment, medical equipment, and other items and programs related to commercial, institutional, and industrial (CII) water use.</i></p>
<p>BMP 5: Landscape Programs <i>Deals with establishing parameters for large landscapes, including measurements, budgets, audits, prohibitions, incentives, etc., related to large landscapes.</i></p>
<p>Other <i>Any additional BMP's or related initiatives supported by TMW are listed.</i></p>

BMP 1: Utility Operations
(Now Corresponds with DMMS 1, 2, 3, 5, & 6)

Water Waste Prohibition Ordinances

The City Council of Torrance passed Ordinance No. 3717 in 2009 (known as the Conservation Ordinance), which replaced and updated an earlier ordinance (Ordinance No. 3320) that established certain water use restrictions and water waste prohibitions on a permanent basis (see **Figure 6.2**). City Ordinance No. 3717 was amended in May

2015 by the addition of City Ordinance No. 3782.



Figure 6.2: Water Waste is prohibited in the City

The Ordinance is arranged into four stages in which City Council declares a specific stage (known as Permanent Baseline Requirements and Levels 1, 2, and 3) to enact during a water supply shortage or an emergency. During each stage all water customers within the City are to abide by conservation requirements as approved by the City Council. The permanent conservation stage is the baseline level, which is in effect at all times, regardless of the water supply situation. Details of this program are described in Section 7 of this plan and in **Appendix I**.

On May 5, 2015, City Council approved activation of Level 2 of the Water Conservation Ordinance and enactment of Urgency Ordinance No. 3782 as shown in **Appendix J**. Level 2 enforces stricter water use requirements and regulations and calls for potable water use reductions of up to 30 percent. In addition, outdoor watering within 48 hours of a rain event was prohibited, and a provision was added to establish administrative rules and guidelines for implementing the Ordinance.

Metering with Commodity Rates

The City has universal metering for all water accounts and production sources in the



municipal service area. All customer usage is recorded on water meters, and it has been determined that approximately 90 percent of water charges is related to the commodity (quantity) rate (see **Figure 6.3**). There are no unmetered service connections in the municipal service area and construction meters are issued for the temporary use of municipal water supplies.

In addition, all new construction with significant landscape irrigation demands is required to install a dedicated landscape meter. Aside from the meter retrofit program, landscape meters are installed in all City parks and other large landscaped area. TMW replaces existing dual service meters where this is feasible on a phased basis. In addition, dual service connections are also converted to dedicated domestic and irrigation metered services during TMW's systematic meter replacement cycle whenever possible.



Figure 6.3: Water Meter

TMW has a general policy to change out the small residential meters every 15 years. Universal metering allows TMW to conserve an estimated 20 to 30 percent of the potential water demand overall, and up to 40 percent savings during peak demand periods, as projected by the California Urban Water Conservation Council's BMP

Costs and Savings Study (December 2003).

Table 4.2 in Section 4 shows the number of water service customers by sector between 2011 and 2015, and projected water use through 2040. The number of service connections is anticipated to increase only slightly through 2040, consistent with the projected small increase in population. All service connections are metered.

In addition to customer metering, all water production sources are fully metered. These meters are tested and calibrated on a systematic basis by an outside certified testing company to ensure accuracy.

Conservation Pricing and Billing Procedures

The first goal of any rate structure is to generate sufficient revenues to maintain efficient and reliable utility operations, and the second is fairness in the allocation of utility service costs. Generally, it is possible to satisfy both of these goals in a rate structure that encourages water conservation and/or penalizes excessive water use. Designing water rates must include the following: 1) determination of the water utility's total annual revenue requirements for the period for which the rates are to be in effect, 2) determination of service costs by allocation of the total revenue requirements to the basic water system cost components and distribution of these costs to the various customer classes in accordance with service requirements, and 3) design of water rates to recover the appropriate cost of service from each class of customer.

The City's former rate structure provided customers with a uniform commodity rate. Every quantity of water used by the customer was charged at the same commodity rate except for discounts



provided to low income seniors and disabled customers. In early 2011, the City converted to a conservation based tiered rate structure, which contains four tiers for single family customers and two tiers for all other standard customers. This transition was implemented to provide a pricing incentive to promote ongoing conservation and appropriate water resource management. Approximately 90 percent of rate revenue is derived from the commodity component to promote conservation.

All water billings have a customer use profile graph on the bill for up to two years of usage history. In addition, the bill backer contains water savings tips and messaging. A text box is also included on the front of the bill which periodically has important messages regarding water conservation. In addition, bill stuffers regarding water conservation are periodically inserted into the bill envelope.

The City maintains water use records and water bills on a continuous basis for approximately 26,500 customer accounts for five years. These records provide current and previous customer consumption data, and other necessary information to monitor customer usage and various conservation efforts. In addition, the AMR metering reading system has a capacity to store six months of customer use profile which can be interrogated and graphed to assist customers in using water efficiently.

Leak Detection & Repair and Water Loss Control

The City aggressively repairs main breaks, hydrant leaks or breaks, meter leaks, valves or other system leaks usually within hours of the occurrence. A team of highly trained water service technicians are available to permanently repair main or hydrant breaks,

and promptly restore water service. Both proactive and “inform and response” approaches are utilized for water meter leaks. Meter leaks are investigated and repaired promptly. The prompt fixing of leaks on private property by the customer is also one of the requirements of the City’s updated 2009 Water Conservation Ordinance.

TMW has initiated a water main capital improvement program (CIP) to replace deteriorated water mains. The CIP generally replaces 3 to 5 miles of water mains on an annual basis. As a result, the incidence of main breaks has declined by approximately 70 percent; from 180 breaks in the early 1990’s to approximately 50-60 breaks at present. The long term goal is to reduce main breaks to less than 30 within the next ten years.

TMW replaces large water meters at a rate of approximately 30 to 40 per year. Large meters are systematically tested, calibrated and repaired to maintain optimal accuracy. Approximately 85 percent of TMW’s water supply is delivered by gravity flow from MWD transfer connections. Therefore, the system uses relief and regulating valves, which are regularly inspected and refurbished, to avoid over-pressurization of the system. In addition, the City maintains/repairs its 7,500 valves in the water system at least once every two to three years to ensure their operability and minimize any leaks from this source.

Unaccounted-for-water, which is defined as the difference between total water introduced into the system compared to the total water recorded consumption, is continually monitored by the TMW. The City’s goal is to reduce unaccounted-for-water below the 5 percent on an ongoing



basis. The meter audit process focuses on accounting for and minimizing “water losses” from various sources, including water production meters, system flushing, water main breaks, unmetered temporary water, wastewater uses, firefighting, fire training exercises, and inaccurate end use metering. The program will be an ongoing activity incorporated into the water utility’s work processes. Unaccounted-for-water for the last five years has averaged below 3 percent. This is primarily due to a systematic meter monitoring, testing and replacement program coupled with a rapid response program to repair any leaks in the distribution system.

In addition, the City has converted its meters to a full scale automatic meter reading (AMR) system. Based on the success of the pilot program, the City converted all 26,500 metered services on a phased basis in 2014 to a full AMR system, which has improved meter reading accuracy. This full scale program also involved the systematic changeout of approximately 20 percent of the City’s existing meters, which will improve accuracy and accountability of potable water supplies.

The City has performed pilot leak detection programs in the past for its distribution system. Based on the results of these surveys, the City will determine if an ongoing leak detection program is cost effective (see **Figure 6.4**).

Additionally, the City implemented a Supervisory Control and Data Acquisition (SCADA) system beginning in 2002, which enables City staff to monitor and control the operation of system facilities remotely at each location to maximize operational efficiency and performance. SCADA provides for faster response time to current

malfunctions. The SCADA system has been upgraded several times over the last decade to incorporate additional facilities and to enhance the capabilities of the system.



Figure 6.4: Leak Detection

BMP 2: Public Education & Outreach (Now Corresponds with DMMs 4 & 6)

Conservation Coordinator

The City has assigned a Senior Analyst with Conservation Coordinator responsibilities to develop and implement conservation programs within its service area. The Conservation Coordinator also works collaboratively with other cities and water agencies within the region, including MWD, WBMWD, WRD, and the South Bay Environmental Services Center to enhance area wide conservation efforts. Other staff members support the conservation program on an as needed basis.

School Programs

Through MWD, water education programs are available to the City’s elementary through high schools. Programs are either supplemental or curriculum-based which include classroom presentations, audio-visual programs, hands-on activities, take-home materials for students, and workbooks.



Figure 6.5: Living Wise Energy Efficiency Kits

Beginning in 2001, a multi-faceted program, known as the Living Wise Program, was introduced into the Torrance Unified School District by the City. The program meets state education framework requirements and concentrates on water education, water resource management and conservation along with energy and other conservation related topics. For the past five years, the City has partnered with both the Southern California Edison (SCE) and the Southern California Gas Company (SCG) to offer the program to middle schools in the City. Approximately 6,500 students have participated in this program during this period. Program kits (Figure 6.5) are given to all participants to improve both water and energy efficiency within their homes, by the use of take home exercises, demonstrations, and classroom instruction. The expenditure has been approximately \$295,000 within the past five years, or \$59,000 annually.

MWD's Solar Cup program is one of the more popular programs and has a turnout of 800 high school students per year. Students are tasked to design a 16-foot solar driven boat

that competes in speed and endurance events. Teams are entered and sponsored by MWD member agencies and local water utilities, as shown in Figure 6.6. The City had participated in the event a number of years ago and plans to participate next year.



Figure 6.6: School Team Participating in 2015 MWD Solar Cup

Public Information Programs

The City disburses a variety of conservation brochures, pamphlets and conservation aids at the Civic Center Complex, public libraries, and other public buildings and to the public upon request. Bill inserts providing tips for conserving



Table 6.2
Recent Public Information Programs

Program	2011	2012	2013	2014	2015
Paid Advertising	X	X	X	X	X
Public Service Announcements	X	X	X	X	X
Bill inserts / Newsletters / Brochures	X	X	X	X	X
Bill showing water usage in comparison to previous year's usage	X	X	X	X	X
Demonstration Gardens	X	X	X	X	X
Special Events, Media Events (average 4-8 each year)	X	X	X	X	X
Speaker's Bureau	X	X	X	X	X
Program to coordinate with other government agencies, industry and public interest groups and media	X	X	X	X	X
Ocean Friendly Landscape Workshops (average 6 per year)	X	X	X	X	X
Direct Expenditures	\$40,000	\$40,000	\$40,000	\$40,000	\$40,000

water and other conservation related topics are also periodically included in the bill or mailed to educate the community. **Table 6.2** above shows the recent public information programs and **Table 6.3** on the following page shows projected programs to 2020.

The City also provides speakers to local community groups, service clubs, business organizations, homeowner associations and schools upon request regarding water conservation and water related topics. During specific times at the Civic Center and the City's public libraries, exhibits are displayed which portray water conservation and water management activities. Torrance City Cable Television Programs are another way the City promotes water conservation by showing water related films, PSA announcements, interviews with TMW staff and original programming. The Torrance Library also has a substantial inventory of water conservation and water related videos

that can be checked out. In 2005, the City Library initiated a water resource program to acquire and disseminate publications and videos on water related topics. The City has sponsored several public information programs in conjunction with the Torrance Library regarding water including "Is the Southwest Running Dry". Newspapers and magazines such as the Daily Breeze, Easy Reader, Torrance Tribune and the City's Recreation Reporter regularly provide articles and information about water conservation and related water matters.

Furthermore, the City continues to promote water conservation by an active relationship with the public. TMW actively participates in City and Civic events such as City Yard Day, City Health Fair, Environmental Fairs, a Chamber of Commerce Expo, various Earth Day events, and other events sponsored by local business and community groups.



Table 6.3
Projected Public Information Programs

Program	2016	2017	2018	2019	2020
Paid Advertising	X	X	X	X	X
Public Service Announcements	X	X	X	X	X
Bill inserts / Newsletters / Brochures	X	X	X	X	X
Bill showing water usage in comparison to previous year's usage	X	X	X	X	X
Demonstration Gardens	X	X	X	X	X
Special Events, Media Events	X	X	X	X	X
Speaker's Bureau	X	X	X	X	X
Program to coordinate with other government agencies, industry and public interest groups and media	X	X	X	X	X
Ocean Friendly Landscape Workshops	X	X	X	X	X
Direct Expenditures	\$45,000	\$45,000	\$50,000	\$50,000	\$55,000

In addition, the City, in partnership with MWD, provides tours of the Colorado River Project (CRA), the State Water Project (SWP), and Diamond Valley Lake Reservoir and other regional water facilities. Also, City staff, commissioners and officials attend water conferences and seminars to stay informed about water conservation and supply management programs. Furthermore, the City periodically provides presentations on water subjects to various civic and homeowner groups.

Water Efficient Landscape Training Classes and Resources

The City started a website called “Recycle Torrance” a number of years ago. The website is funded by the California Department of Resources, Recycling and Recovery and the program aims to inform, and promote recycling and avoid introducing pollution into the storm drain system. The City’s main Recycling website also offers information on avoiding water waste and water efficient gardening.

MWD’s California Friendly Landscape Training (CFLT) program offers classes in landscape design, maintenance and irrigation systems to professionals and residents. In 2014-15 fiscal year, MWD conducted 197 classes for 6,590 students and Torrance held six sessions attended by over 300 participants.

Beginning in 2010, TMW in partnership with the West Basin Municipal Water District, implemented a new landscape workshop program known as the Ocean Friendly Garden Program (OFG). The program was implemented with the services of landscape firm specializing in native landscapes design and educational outreach. The program consists of traditional workshop sessions and is augmented by “hands-on” site workshops and “work days” at actual sites that are being transformed into California Friendly landscapes. TMW held 15 traditional OFG workshops supplemented with and 4 hands on-site workshops and 4 site workdays over the last five years. These classes and



workshops were attended by over 1,200 participants. It is planned that TMW will continue to sponsor additional OFG hands-on workshops and workdays over the next five years to complement the MWD sponsored new CFLT instructional classes, which TMW will offer approximately 6 times per year.

Torrance Municipal Water, in partnership with WRD, also provided a six session specialized water efficient landscape training course for all City Park and Streetscape landscape personnel in both 2011 and 2012. This program is planned to be offered again in the fall of 2016. In addition, a program for the professional landscape industry is in the planning stage and is expected to be launched in 2017 in partnership with other local water agencies. The City also co-sponsored a greywater pilot workshop with the WBMWD and plans to offer additional sessions starting next year.



Figure 6.7: Smart Gardening Workshop

The Los Angeles County of Public Works Department sponsors a Smart Gardening Workshop Program and offers three workshops annually at Columbia Park in Torrance and other sessions upon request. The classes focus on composting, water efficient gardening practices and proper

irrigation techniques (see **Figure 6.7**) and are attended by 40-60 participants per session.

Regional Outreach Programs

Through MWD's External Affairs Group, conservation-related activities are offered to the public including the Torrance community. The programs include a Speaker's Bureau, which provides speakers for organizations, service clubs, churches, and businesses and other community groups and associations. An estimated 15,000 to 20,000 people attend the presentations annually.

The Community Relations program organizes and conducts an average of 80 Board Director sponsored inspection trips for MWD's distribution system annually for elected officials, community leaders and members of the public. Approximately 3,000 people learn about MWD's conservation and water management policies and practices each year through these trips. Torrance, in conjunction with MWD, co-sponsors annual tours to the Colorado River Project and the State Water Project for community leaders, as well as one day tours to Diamond Valley Reservoir and other MWD and regional water facilities.

The MWD education curriculum and program activities engage an average of 150,000 students per year. MWD's Media and Publications group conducts editorial briefings and media field trips, assembles press packets and prepares and disseminates news releases, speeches, videos, fact sheets, brochures, articles and editorials describing water management objectives and programs. The government relations section provides elected officials, public agencies, businesses and other organizations with information about MWD's water management policies, initiatives objectives and programs.



Mayor's Challenge

In 2015, the City was a participant in the national Wyland Foundation's "Mayor's Challenge". The objective of this competitive contest among cities was for participating municipalities to obtain pledges to implement various water conservation practices and initiatives delineated in the challenge. In May 2015, the Wyland Foundation announced its national winners, and Torrance was awarded first place for medium sized cities (100,000 – 250,000) for obtaining the greatest number of conservation pledges among its residents.

BMP 3: Residential Programs (Now Corresponds with DMM 7 "Other")

Residential Surveys

Residential surveys have been conducted in TMW's service area on an informal basis by customer request generally through a high water bill complaint or meter reading that indicated higher than normal usage. When such a request is made, staff reviews past billing records for the account in question and compares them with the current bill. They then visit the customer's residence and review the information with them. A copy of the historical water usage pattern (usually two years) is provided to the customer. If it appears that a significant recent increase in water use has occurred, staff first looks for signs of a possible leak. They also question the customer about possible internal plumbing problems (leaking faucets, running toilets, irrigation, etc.) and make recommendations to reduce landscape irrigation where appropriate. All residential meters are equipped with a leak detector feature to indicate leakage in the system when all fixtures are closed. In addition all meters are now AMR and a six month history of usage can be interrogated at the

customer premises to analyze the customer water use profile and detect evidence of leaks. Meter accuracy tests are provided upon request to verify that recorded consumption is correct. In addition, indoor conservation kits, low flow showerheads, faucet aerators and literature are provided to customers to promote conservation and inform customers regarding current rebates, low water using fixtures/appliances and appropriate use and management of water.

In addition to the surveys performed in response to customer requests, TMW will develop and distribute a self-guided water audit guide to all customers next year. This water audit guide will provide customers with easy to follow techniques to permit them to do a complete water audit of their interior and exterior water use including leak detection, plumbing fixtures, water using appliances and exterior water use (see **Figure 6.8**).



Figure 6.8: Residential Water Survey

Since 2011, TMW has provided approximately 700 informal audit /surveys to their customers. As a result, approximately 20 AF of water has been saved annually.

Torrance Municipal Water also participates in MWD's California Friendly Landscape Training (CFLT) program, including landscape instructional classes to the



residential and commercial sector. Beginning in 2010, TMW, in partnership with WBMWD, has been sponsoring a new landscape class and related “hands on” workshops, known as the “Ocean Friendly Garden Program”. A portion of the class focuses on residential landscape audits. In addition, future CFLT classes will also provide additional emphasis on how customers can identify, quantify and control their outdoor water use by using audit tools. Based on the California Urban Water Conservation Council’s savings projections, as set forth in the BMP Costs & Savings Study (December 2003), water savings from untargeted home surveys results in an average of 21 gallons per day (gpd) per household (both single family and multi-family).

Residential Plumbing Retrofit

TMW maintains an active program for the distribution of conservation kits consisting of low flow showerheads, showerhead flow restrictors, dye tablets for detecting toilet leaks, low-flow faucet aerators and brochures on conservation practices. The kits are distributed at no charge to residents in TMW's service area. The kits are provided at the City special events and educational presentations. Since 1977, TMW has distributed over 50,000 low-flow showerheads at events and distribution programs.



Figure 6.9: Low-Flow Showerhead

Beginning in 1999, TMW began a new distribution program for ultra-low flow showerheads. These showerheads are also free of charge at special events and public presentations. Currently, TMW distributes low flow showerheads, aerators, leak detection tablets and faucet aerators at events. The City plans to re-institute its showerhead distribution program at location in the Civic Complex location next year (See **Figure 6.9**).

In addition, developers are required to use low-water-use plumbing fixtures and appliances and are highly encouraged to install drought resistant/low-water use landscapes. Residential plumbing retrofits result in 5.2-5.8 gallons per day (gpd) per person water saving for showerheads and 8 gpd savings (or 0.64 gpd overall) for leak detection tablets.

Table 6.4 summarizes TMW’s participation in residential plumbing retrofit programs from 2011 to 2015.

**Table 6.4
Residential Plumbing Retrofit 2011-2015**

Item	Amount	Water Savings (AFY)
Direct Install: Showerheads	1,250	24
Event Distribution: Showerheads	1,800	35
Subtotal	3,050	59
Distribution: Faucet Aerators	5,000	20
Distribution: Leak Detection Tablets	10,000	25
Subtotal	15,000	45
TOTAL		104



High Efficiency Washing Machines (HEWM)

The City, in conjunction with MWD, has implemented a rebate program for the installation of approved high efficiency washing machines (HEWM) for City residents. The program was implemented in 2008. The program is jointly promoted with the City's existing conservation rebate and various distribution programs (see **Figure 6.10**).

The water savings can be estimated at an average of 85 to 109 gallons per week per machine, with 14.4 to 28.7 gpd per machine for single family residences. Based on CUWCC estimates, the mean savings of 5,086 gallons per year may be applied to each HEWM.



Figure 6.10: HE Washing Machines

From 2011 to 2015, a total of 1,280 rebates were given out. As a result, approximately 20 AF of water has been saved each year.

Ultra-Low-Flush and High Efficiency Toilet (HET) Replacement Program

The Ultra-Low-Flush Toilet (ULFT) program involves the use of an ULFT toilet which uses 1.6 gallons of water per flush or less as opposed to old toilets that use up to 5 gallons per flush. In 1992, the City's Plumbing Code requires that all new

construction sites must have ULFT toilets to reduce water. In order to promote the installation of ULFTs, the City, along with MWD, in the past sponsored both ULFT residential and commercial/industrial rebate programs. A \$50 rebate was offered to all residents of the City who replaced their old toilets with 1.6 gallon or less ULFTs. Beginning in 2008 program eligibility was restricted to HET toilets using 1.28 gallons or less per flush (see **Figure 6.11**).



Figure 6.11: HET Flush Toilet

Due to saturation levels and market transformation, the residential HET rebate program was temporarily terminated by MWD in 2010. The program resulted in annual water saving of approximately 4,000 gallons per ULFT or HET. In addition, the City previously sponsored a ULFT distribution program in the 1990's that replaced nearly 2,000 old water consuming toilets with ULFTs.

The HET rebate program was re-instituted by MWD during the 2012-2015 drought at \$100 per HET, which increased retrofits and resulted in the changeout of over 1,000 older toilets. In addition, the City held two HET distribution events in 2013 and 2014 at which 530 HET's were distributed to residential customers.



The City also offers a Commercial, Industrial and Institutional (CII) toilet rebate program that is still in effect. Utilizing this program along with other grant funds and municipal funding, the City, in partnership with WBMWD, provided turnkey retrofits over 850 HETs for commercial, institutional and multi-family customers within the City of Torrance over the past five years.

The City itself has retrofitted bathrooms in almost most of its municipal owned buildings with HETs, ultra- low flush urinals and faucet aerators in 2013. This has resulted in the replacement of approximately 300 older toilets with high efficiency HETs, the installation of new faucet aerators, and replacement of over 150 urinals with ultra- water efficient models to maximize water savings at city facilities. As a result an estimated 12 AFY has been saved in total.

Table 6.5 shows the amounts of toilets and rebates given out and the amount of savings within 2011 to 2015.

Table 6.5
HET Programs & Rebates 2011-2015

Item	Amount	Water Savings (AFY)
Direct Install: Multi-Family & CII	855	10
Event Distribution: Single & Multi-Family	530	7
HET Rebate	1,040	13
City HET retrofit	300	5
Total	2,725	35

BMP 4: Commercial, Industrial, & Institutional Programs
(Now Corresponds with DMM 7 “Other”)

The City actively participates in the Commercial, Industrial and Institutional (CII) Program, which MWD is sponsoring along with its member agencies. The program primarily consists of financial rebates to achieve water efficiency for commercial, industrial and institutional customers, and the City participates in all MWD CII programs, including the following:

- Cooling Tower Conductivity Controller (CTCC) Rebate Program: – a \$625 installation rebate is offered to commercial and industrial customers who install conductivity controllers that would save 800,000 gallons of water per year.
- Commercial HET & Ultra Low/Zero Water Urinals (ULZWI) Toilet Rebate Programs: – a \$200 rebate is offered for each ultra-low flush or zero water urinal and \$40 for each premium high efficiency toilet.
- Plumbing Flow Control Valves: – a \$5 rebate is provided to CII customers who install low flow control valves in their plumbing system.
- Dry Vacuum Pump Rebate Program: - a \$125 rebate is offered for dental, medical, manufacturing facilities and other businesses that purchase a dry vacuum pump.
- Weather Based Irrigation Controller (WBIC) and Central Computer Irrigation Controller (CCIC) Rebate Program: - These weather-based “smart” controllers are available to avoid over-watering and excessive run-off by scheduling the amount of



irrigation based on the type of landscape and current weather conditions and the current rebate is \$35 per station or \$80 for a single WBIC.

- Other Irrigation Landscaping Equipment: - Rotating nozzles for pop up spray heads, large rotary nozzles, in-stem flow regulators, and soil moisture system rebates.
- Food Equipment: - Connectionless food steamers and air-cooled ice machines rebates.
- Medical and Dental Equipment: - Dry vacuum pumps, laminar flow restrictor rebates.

The City has established a partnership with the West Basin Municipal Water District (WBMWD) and the South Bay Environmental Services Center (SBESC) in 2006 for the implementation of various conservation programs. Most of these programs have been targeted to the CII sector and the programs have included the following:

- Complete Restroom Retrofit program for small business and institutional customers.
- A Large Landscape Audit program.
- A High Efficiency Toilet (HET) Retrofit Program for the hospitality Industry.
- An Industrial Audit and fixture retrofit program.
- A food service educational, training and fixture replacement program known as “Cash for Kitchens”.
- Approximately 100 restaurants in the City have participated in this program to date.

- An energy/water retrofit program for multi-family complexes known as the “Green Living Program”.
- An HET retrofit program for office buildings and institutional customers.
- An HET and water-efficient retrofit program for City buildings.

In addition, several new programs are in the planning stage.

The City also has an extensive recycled water program, in which the City currently meets approximately 24 percent of its total water demand from recycled supplies. Industrial customers such as the ExxonMobil Oil Refinery and Toyota Motor Corporation actively utilize the recycled water program and about 95 percent of recycled supplies are for industrial applications. Additional customer connections to existing recycled pipelines are in process, which was facilitated in part by a recent increase in MWD financial incentives for public agency retrofits.

The City launched an information campaign called, “Get Green”, to its business sector on water recycling and conservation of resources. A portion of a multi-part brochure is devoted to business sector water conservation awareness, and focuses on the CII program and MWD’s Industrial Process program. The Industrial Process Improvement Program offers financial assistance to local industries to encourage investment in water-saving process improvements. The program is open to all public and private commercial and industrial users within MWD’s service area. Financial assistance is provided for documented water savings derived from projects implemented under the program that meet the minimum qualifying criteria.



Figure 6.12: Madrona Marsh in Torrance

A series of water and energy conservation workshops was held in the City of Torrance in 2007 – 2011 for various CII sectors including: the hotel/motel industry; the restaurant and catering industry; office buildings; and hospitals and medical facilities. These workshops were jointly sponsored by the City, the West Basin Municipal Water District, the Water Replenishment District, Southern California Edison, the Southern California Gas Company, and the South Bay Environmental Services Center. Additional workshops are in the planning stage with proposed implementation in 2017.

BMP 5: Landscape Programs
(Now Corresponds with DMM 7 “Other”)

On average, 6,147 AF or 24 percent of demand is met by recycled water for industrial use and landscape irrigation each year. At ultimate build-out, the goal is to have the recycled water system supply approximately 30-40 percent of all CII landscape water requirements in the City by 2030.

Notably, Torrance secured over \$40,000 grants from MWD’s City Makeover Grant program in the category of Small Parks and Gardens. The City’s Community Services Department and Parks and Recreation Commission was awarded funding for the “Showcase of Native Gardens at Madrona Marsh Project.” The project was completed in 2006 and transformed a grass landscape adjacent to the Madrona Marsh Nature Center into a demonstration native plant landscape, using locally native plants. The project educates visitors about the historic relationships to visitors by providing environmental education, such as development and installation of interpretive panels, design and distribution of color brochures on water wise landscape irrigation, and docent training for conducting tours. This project was designed to provide resource materials to both commercial and residential customers.

The adjacent Madrona Marsh Nature Center receives approximately 20,000 visitors annually (see **Figure 6.12**). In addition to



TMW sponsored water efficient landscape classes, the Nature Center also provides a series of workshops on native plant landscaping and plant selection. In addition to the Demonstration Garden, the Center also has a botanical native plant garden. The native plant botanical garden and demonstration landscape garden receive over 5,000 visitors annually. The demonstration landscape garden educates a large number of visitors throughout the City and the surrounding region. The project also shows how irrigation water use may be reduced by up to 80 percent compared to water demand of traditional turf grass lawns. The demonstration landscape provides a variety of drought tolerant native California plants, intended to provide an impetus to encourage both commercial and residential customers to consider the advantages of installing water efficient landscapes.

The City's Conservation Team is considering several public areas in the City that could be converted to water efficient landscapes. Grant funding for this effort will be sought from MWD, US Bureau of Reclamation, and DWR and other potential sources. Project implementation is contingent upon securing additional sources of funding.

Upon request, the City will provide large landscape water audits and is participating in MWD's large landscape audit program for sites with an area of one acre or more. The City also participates in MWD's regional irrigation efficiency programs. MWD provides sponsorship and performance-based funding for these programs to offset the cost to the customer of converting to a water efficient landscape.

The California Friendly Landscape Training (formerly Protector Del Agua) program is offered at no cost to both residential and the

commercial sector. In addition, the Water Replenishment District (WRD) has sponsored a professional program that has been recently redesigned and offers information for the landscape professionals on water management, state of the art irrigation systems, enhanced landscape practices, and practical ideas to improve their bottom line. The program allows landscapers to stay abreast of the policy and activities of the water agencies, and appropriate best management practices within their industry.

In addition, MWD offers rebates for various landscape irrigation retrofits for their member agencies including Torrance as follows:

- ***Weather-Based Smart Irrigation Controllers (WBIC)*** - residential and small commercial properties are eligible for a rebate when they purchase and install a weather-based irrigation controller, which has the potential to save 13,500 gallons a year per residence. Rebates start at \$80 per controller for landscapes less than 1 acre in area and \$35 per station for more than 1 acre.
- ***Rotating Sprinkler Nozzles*** - through this program, site owners purchase and install rotary nozzles, which can use up to 20 percent less water than conventional fan spray nozzles, in existing irrigation systems. These sprinklers reduce runoff onto sidewalks and into local storm drain system and provide uniform water distribution onto the landscape. MWD offers \$2 per nozzle for a standard spray head and \$13 for a large rotary nozzle set.



- **Rain Barrels & Cisterns** - residential and commercial customers can receive rebates for installing rain barrels and/or cisterns to collect rainwater for re-use for watering their landscapes. Customers may receive rebates starting at \$75 per barrel or \$300 per cistern (see **Figure 6.13**). The City held two rain barrel distribution events in 2015 at which over 1,000 barrels were distributed to residential customers. Additional distribution events are scheduled in 2016.



Figure 6.13: Rain Barrel

- **Soil Moisture Sensor Systems (SMSS)** - for large residential sites, a soil moisture sensor, which measures soil moisture content in the active root zone, can be installed to receive rebates starting at \$80 per SMSS or \$35 per Irrigation Controller Station. The sensor must be connected to a compatible irrigation system controller.
- **Turf Removal Program** - through this

program, residential and CII customers were eligible to receive a \$2 per square foot (sqft) rebate for turf removal for qualifying projects. The program received an overwhelming response and resulted in approximately 17 million sqft of turf being converted to water efficient California Friendly landscapes. The rebate program was suspended by MWD in July 2015 due to funding constraints. Torrance was an active participant in this program.

Other City Conservation Initiatives

The City has completed a conversion to a water efficient smart irrigation controller retrofit program for landscape irrigation sites and water efficient fixture replacements throughout all City parks. A portion of this program in Parks was implemented through partial funding secured under the recent federal stimulus grants to cities. As a result, the City estimates a savings of 45 AFY of water per year with this implementation.

In addition, MWD has recently implemented a Public Agency Landscape Program (PAL) for public agencies, and the City has applied for funding for the conversion of approximately 50 manually operated irrigation controllers to smart weather based units for its Streetscape medians and other City owned landscaped parcels. It is expected that this proposal will be approved and the sites converted to smart controllers by early 2017.

The use of recycled water for irrigation and industrial uses for those developments located near existing recycled water mains is also required providing that the use of recycled supplies is technically and economically feasible. TMW actively works with municipal customers to facilitate these conversions.



Other Conservation Measures
(Now Corresponds with DMM 7 “Other”)

As the City’s wholesale agency, the Metropolitan Water District actively provides financial rebate assistance to promote the implementation of conservation programs within the City, as well as guidance for the City staff in implementation of a variety of conservation programs, as described throughout this section. MWD provides funding and selective technical assistance for water surveys, residential retrofits, system audits, landscape programs, the HEWM and other rebate programs, dissemination of public information and outreach programs, and CII programs. These programs are

implemented with the assistance of multiple Conservation Coordinators throughout the MWD service area. Conservation program implementation in the MWD service area is generally a collaborative and coordinated effort. In addition, MWD convenes a monthly Water Use Efficiency (WUE) meeting to discuss, consider and review various conservation programs, initiatives, new innovations and strategies being implemented by MWD and its member agencies. In addition, the City investigates, considers and implements enhanced or new conservation programs and initiatives on a continuous basis to meet current and future water use efficiency goals.



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SECTION 7: CONTINGENCY PLANNING





SECTION 7: CONTINGENCY PLANNING

7.1 INTRODUCTION

Water supplies may be interrupted or reduced significantly in a number of ways including droughts, earthquakes, and power outages which can hinder a water agency's ability to effectively deliver water. Drought impacts increase with the length of a drought as carry-over supplies in reservoirs are depleted and water levels in groundwater basins decline. The ability to manage water supplies in times of drought or other emergencies is an important part of water resources management for a community. The City's response to an emergency will be a coordinated effort between its own staff and other local and regional water agencies.

During water shortage emergencies, the City will implement a "Phased Water Conservation Plan", which was adopted as Article 4 of Chapter 6 of Division 7 of the City's Municipal Code titled Water Conservation and Water Supply Shortage and Sustainability Program (attached as **Appendix K**). The purpose of the plan is to reduce the effect of shortage water supplies on the City's customers during water shortage emergencies. In compliance with the Water Code requirements, this plan imposes up to 50 percent reduction in the total potable water supply. The City will also coordinate with other local water agencies to implement water shortage plans on a regional level.

7.2 CITY RESPONSE PLAN

In 1991, the Torrance City Council adopted an Emergency Water Conservation Program, under Ordinance No. 3320, which established four stages of water shortage

severity based on predicted or actual water supply reductions. In March 2009, the City adopted an updated Water Conservation Ordinance (Ordinance No. 3717), which is included in **Appendix I**. The Water Conservation and Water Supply Shortage and Sustainability Program was later revised in May 2015 with the adoption of City Council Ordinance No. 3782 (see **Appendix J**). The City implements certain initiatives to optimize water supply during water shortages or drought conditions. In the event of a water shortage, City Council will implement the appropriate water conservation stage by resolution.

The objectives of the response plan are to:

1. Prioritize essential uses of available water.
2. Avoid irretrievable loss of natural resources.
3. Manage current water supplies to meet ongoing and future needs.
4. Maximize local municipal water supplies.
5. Eliminate water waste citywide.
6. Create equitable demand reduction targets.
7. Minimize adverse financial impacts.

The following priorities for use of available water are listed in order from highest to lowest priority:

1. Health and Safety including: consumption and sanitation for all



water users; fire suppression; hospitals, emergency care, nursing/convalescent homes and other similar health care facilities; shelters and water treatment.

2. Institutions, including government facilities and schools such as public safety facilities, vital and essential government operations, public pools and recreation areas.
3. All non-essential commercial and residential water uses.
4. Landscaped areas of significance, including parks, cemeteries, open spaces, schools, government-facility landscaped areas and green belt areas.
5. New water demand.

7.2.1 Stages of Action

The City has a legal responsibility to provide for the health and safety water needs of the community. The City will manage water supplies to minimize the social and economic impacts of water shortages. The Water Supply Shortage Response Plan is designed to reduce normal supply by more than 30 percent (30 percent or more reduction in supply) during a severe or extended water shortage.

The City's two potable water sources are local groundwater (including desalted water) and imported MWD deliveries. Rationing stages may be triggered by a shortage in one source or a combination of sources, and shortages may trigger a stage at any time. **Table 7.1** shows the stages of action the City will take in the case of an emergency water shortage, as declared by the Water Shortage Response Plan and supported by City Ordinance No. 3717.

**Table 7.1
Water Shortage Reduction Targets**

Shortage Stage	Restriction Type	Water Supply Reduction Target
Permanent Water Conservation Requirements	Mandatory	In effect at all times
Level 1	Mandatory	≤ 15%
Level 2	Mandatory	15%-30%
Level 3	Mandatory	> 30%

During water shortages, the City Council may declare by resolution that a Level 1, Level 2, or Level 3 water shortage stage exists and that the actions outlined in Ordinance No. 3717 are necessary. The type of event which may prompt the City Council to declare a water supply shortage may be a result of MWD declaring a need for extraordinary water conservation. Water Supply Shortages may be caused by: a drought; a state or local emergency; a natural disaster that critically impacts the water treatment or water distribution system; or a localized event that critically impacts the water supply, water quality, water treatment or the water distribution system. In addition, a shortage condition would be triggered when the City's wholesale water agency (MWD) requests extraordinary water conservation efforts in order to avoid mandatory water allocations; and when MWD implements a mandatory rationing Water Supply Allocation Program (WSAP).

On May 5, 2015, the City Council approved the activation of Level 2 water conservation requirements through the adoption of Resolution No. 2015-10 to help mitigate drought impacts by implementing further water use restrictions.



Figure 7.1: Severe Droughts & Depleted Reservoirs Show the Importance of Conservation

7.2.2 MWD Water Surplus and Drought Management Plan (WSDM)

In addition to the provisions of the City's Conservation Ordinance, the City will also work in conjunction with WBMWD, WRD and MWD to implement conservation measures within the framework of MWD's Water Surplus and Drought Management (WSDM) Plan. The WSDM Plan was developed in 1999 by MWD with assistance and input from its member agencies. The plan addresses both surplus and shortage contingencies (see **Figure 7.1**).

The WSDM Plan's guiding principle is to minimize adverse impacts of water shortage and ensure regional reliability. The plan guides the operations of water resources (local resources, Colorado River, SWP, and regional storage) to ensure regional reliability. It identifies the expected sequence of resource management actions

MWD will take during surpluses and shortages of water to minimize the probability of severe shortages that require curtailment of full-service demands. Mandatory allocations are avoided to the extent practicable. However, in the event of an extreme shortage, an allocation plan will be implemented in accordance with the principles of the Water Supply Allocation Plan (WSAP).

7.3 THREE-YEAR MINIMUM SUPPLY

During a three-year drought, the City may import water to meet demands in excess of its local water supplies. The City can expect the ability to extract its adjudicated right of 5,639 AFY from its wells while extracting an additional 1,500 AFY currently from its Goldsworthy Desalter over a drought period of up to three years. The Desalter is being expanded to a capacity of 5,000 AFY. Recycled water will continue to be fully



available to meet water demands. Imported water supplies, like groundwater, are subject to demand increases and reduced supplies during dry years. However, MWD modeling in its 2015 UWMP, as referenced in **Tables 5.1 and 5.2** in **Section 5**, results in 100 percent reliability for full-service demands through the year 2040 for all climatic conditions. Based on the conditions described above, the City anticipates the ability to meet water demand for all climatic conditions for the near future. **Table 7.2** displays the minimum water supply available to the City based on a three-year dry period for the next three years:

Table 7.2
Projected 3-yr Minimum Water Supply (AF)

Source	Supply (AF) 2016	Supply (AF) 2017	Supply (AF) 2018
Imported	19,204	19,204	19,204
Desalter	1,500	2,200	5,000
Ground	5,639	5,639	5,639
Recycled	6,650	6,650	6,650
Total	32,993	33,693	36,493

Based on the above analysis, the City should expect 100 percent supply reliability during a three-year drought period over the next three years.

7.4 CATASTROPHIC INTERRUPTIONS

A water shortage emergency could be caused by a catastrophic event such as result of drought, failures of transmission facilities, a regional power outage, earthquake, flooding, supply contamination

from chemical spills, and other adverse conditions.

The City's Emergency Response Plan includes a Water Distribution Sample Action Plan to be followed in the case of a water shortage emergency. The initial effort includes a safety/damage assessment, where the extent of damage to each department will be determined. Primary consideration at the department level will be given to what is the status of its personnel and the facilities that it needs for its operations. This includes any facility critical to the department's operations whether or not it is a City facility. Each department will then identify which facilities will be available and which facilities need to be inspected by a building inspector. The Department Safety/Damage Assessment team will do a walk through or drive to assigned areas. The information gathered will be provided to the Planning Section of the Department Operation Center (DOC) and then the City Emergency Operations Center (EOC) Planning Section. The water facilities classified as Critical Facilities in the Emergency Operations Plan will be initially inspected by TMW and other personnel as needed.

During a disaster, the City will also work cooperatively with MWD through their emergency communication system, known as the Member Agency Response System (MARS), to facilitate the flow of information and requests for mutual-aid within MWD's 5,200-square mile service area. MARS is a radio communication system developed by MWD and its member agencies to provide an alternative means of communication in extreme circumstances.

MWD's Palos Verdes reservoir and the three imported transmission mains are in close proximity to the City of Torrance, and, therefore, the possibility of MWD being



entirely unable to deliver water to the City is unlikely. The City's Water Master Plan contains analysis showing that the City's T-8 connection provides sufficient excess capacity to offset the shutdown of one of the three MWD pipelines serving the City. By adjusting the inflow from the connections still in service, the loss of one pipeline could adequately be offset. However, should the Palos Verdes Feeder be out of service, connections T-1 and T-8 can be adjusted to compensate for the loss. In the event of groundwater supply loss, all supply could be imported from MWD, and it is confirmed that the necessary capacity is available to do so.

The City will also rely on MWD's catastrophic event plan to utilize the Diamond Valley Lake reservoir, which can be filled to its storage capacity for Southern California and provide up to six months of emergency supply. If there were a catastrophic failure of the California Aqueduct or the CRA conveyance facilities, MWD could draw on emergency supplies in Diamond Valley Lake.

Additional emergency services in the State of California include the Master Mutual Aid Agreement, California Water Agencies Response Network (WARN), and Plan Bulldozer. The Master Mutual Aid Agreement includes all public agencies that have signed the agreement and is planned out of the California Office of Emergency Services. WARN includes all public agencies that have signed the agreement to WARN and provides mutual aid assistance. It is managed by a State Steering Committee. Plan Bulldozer provides mutual aid for construction equipment to any public agency in times of disasters when danger to life and property exists.

7.5 PROHIBITIONS & PENALTIES

In accordance with the City's updated Water Conservation Ordinance No. 3717 enacted

in March of 2009 and updated in May 2015, with adoption of Ordinance No. 3782, the City has prescribed a number of water use restrictions which are continuously and permanently enforced as part of the City's Municipal Code. Additional water use restrictions are mandated where the extent of restrictions are based on severity of the water shortage.

Mandatory Prohibitions

The City of Torrance's four phase approach to implementing water conservation and prohibiting wasteful use during a water shortage includes, but is not limited to, the following:

Permanent Baseline Requirements

- Landscape irrigation is prohibited between 10 a.m. and 4 p.m.
- Landscape irrigation is limited to no more than 15 minutes per day.
- No excessive water flow or runoff from any lawn or landscaped surface.
- No washing down hard or paved surfaces.
- All water leaks in water user's plumbing or distribution system must be repaired within 15 days of notification by the City.
- All decorative water features must have recirculating systems.
- No washing of vehicles with "open hose".
- Restaurants serve drinking water upon request only.
- Lodging business must provide option not to launder linens daily.
- No outdoor watering within 48 hours of a rain event.

Level 1

- Notification to water users of water



shortage status and that up to 15 percent reduction of water use is required.

- Landscape irrigation is prohibited between 9 a.m. and 5 p.m.
- Duration of landscape watering is limited to 15 minutes per day.
- Landscape watering cycle is limited to three days per week.
- All water leaks in water user's plumbing or distribution system must be repaired within seven days of notification by the City.

Level 2

- Notification to water users of water shortage status and that a 15 percent to 30 percent reduction of water use is required.
- Landscape irrigation is prohibited between 8 a.m. and 6 p.m.
- Duration of landscape watering is limited to 10 minutes per day.
- Landscape watering cycle is limited to two days per week.
- All water leaks in water user's plumbing or distribution system must be repaired within four days of notification by the City.
- Filling or refilling ornamental lakes or ponds is prohibited with some exceptions.
- Commercial car washing facilities must utilize a recirculating water system to capture or reuse water.
- Refilling of more than one foot and swimming pools or spas is prohibited.

Level 3

- Notification to water users of water shortage status and that more than 30 percent reduction of water use is

required.

- Landscape irrigation is prohibited with some exceptions based on critical facilities related to public health, safety, and essential City operations.
- All water leaks in water user's plumbing or distribution system must be repaired within two days of notification by the City.
- The City reserves the right to discontinue water service to customers who willfully violate provisions of Level 3 restrictions.

Additional water conservation provisions are set forth in City Ordinance No. 3717 such as the use of rain sensors and evapo-transpiration sensors for large landscape areas, requirement of recirculating water systems for commercial car washes, building permit stipulations, and recycled water feasibility study for all new development. The City's specific prohibitions on water use can be found in the City's Municipal Code (see **Appendix K**).

Penalties or Charges

Violation of the regulations and restrictions on water use in accordance with Ordinance No. 3717 may result in penalties punishable by a fee and a possible jail sentence. According to Ordinance No. 3717, any person who violates any provision of the water conservation ordinance is guilty of a misdemeanor punishable by imprisonment in the county jail for not more than 30 days, or by a fine not exceeding \$1,000, or by both fine and imprisonment.

- **First Violation:**
City will deliver written notice of violation via mail.
- **Second Violation:**
City will deliver a second written



notice of violation via mail.

- **Third Violation:**

If the third violation is within a 12 month period then the City shall add a penalty to the next billing period water bill in the sum of \$100.

- **Fourth Violation:**

If the fourth violation is within a 12 month period then the City shall add a penalty to the next billing period water bill in the sum of \$250.

- **Fifth and subsequent Violations:**

The City shall add a penalty to the next billing period water bill in the sum of \$500. In addition, the City shall install a flow restriction device restricting flow to one gallon per minute for water services for not less than 48 hours. In addition to any fines and the installation of a water flow restrictor, the City has the option to disconnect and/or terminate a customer's water service.

1. Reduce the current fiscal year operation and maintenance expenses.
2. Defer Capital Improvement Projects.
3. Reduce future projected operation and maintenance expenses.
4. Increase the fixed readiness-to-serve charge to establish a substantial firm revenue base.
5. Increase commodity charge and water adjustment rate to cover revenue requirements.

TMW has implemented a Five-Year Rate Plan to adjust rates starting in calendar 2011 through calendar 2015, which establishes a tiered rate structure to encourage conservation. Any changes in Municipal rates are now subject to modified Proposition 218 Notification Protest Ballot and Public Hearing Process. Any adjustment from the approved Five-Year Plan would need to be implemented in accordance with Proposition 218 requirements. The City is planning to implement a new Five-Year Rate Plan in accordance with Proposition 218 in late 2016.

7.6 FISCAL IMPACTS

As water consumption decreases, the revenue generated through water sales also decreases. To continue operation, the City must generate sufficient revenue when faced with decreasing water sales revenue. Based on the City's total water revenue and operating expenses, demand reductions will result in negative net cash provided by operating activities. As a result, rate increases may be imposed.

Other than rate increases, other measures to overcome impacts of reduced water supply and consequential revenue shortfall will include the following:

A combination of the measures outlined above may be used to offset or diminish the effects of lost revenues. Capital construction projects may be deferred, as appropriate. The base water rate could be increased to cover the general operation, maintenance, system upgrades, and capital expenditures. An increase in the base rate would be temporarily employed and then return to pre-shortage rates when conditions improve. The measures will be subject to Proposition 218 requirements.



7.7 COUNCIL ORDINANCE

In March of 2009, the City Council adopted Ordinance No. 3717, which implemented a new Article 4 to Chapter 6 of Division 7 of the Torrance Municipal Code. The Ordinance addresses water conservation, establishes a water conservation program, and the stages for declaring water shortage emergency conditions. The Ordinance establishes a phased approach to water conservation and enforcement, and consists of a permanent baseline stage and three additional conservation levels or phases in increasing order of severity. The water conservation levels and related water use restrictions are described above. The specific language of Ordinance No. 3717 may be viewed in **Appendix I**. Additionally, during an extended water shortage, the City Council will adopt by resolution the appropriate water shortage implementation stage.

Recent Council Action

On May 5, 2015, the City Council adopted Resolution No. 2015-10 approving a Level 2 water conservation stage due to the severity of the recent drought. At the same time City Council also adopted Ordinance No. 3782 to augment Conservation Ordinance No. 3717.

Drought response Level 2 conservation measures are described in **Section 7.5**.

7.8 MECHANISMS TO DETERMINE ACTUAL REDUCTIONS IN WATER USE

The City will continue to use multiple measures to determine actual water Consumption reductions as follows:

- Normalized/average water use baseline.
- More frequent review of production.
- More frequent meter reading intervals.
- More frequent meter checking, recalibration and repair.
- System water audit.
- Automated sensors and telemetry including SCADA.
- Use of AMR water usage data.
- Monitoring utility actions that impact usage.
- Penalties for customers with excessive water use.

In addition, leak detection is enhanced at the customer's premises through an Automated Meter Reading (AMR) system that has been fully implemented in the municipal service area. The AMR system has the capacity to show the customer's use profile for six months and this can be interrogated and graphed to analyze for any unusual usage that deviates from the norm.

SECTION 8: WATER RECYCLING





SECTION 8: WATER RECYCLING

8.1 INTRODUCTION

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

8.2 RECYCLED WATER OVERVIEW

Recycled water is defined as domestic wastewater purified through primary, secondary and tertiary treatment. Recycled water is acceptable for most non-potable water purposes such as irrigation (**Figure 8.1**) and commercial/industrial processes. As part of its overall water resources planning, TMW investigated the feasibility and cost-effectiveness of incorporating recycled water into its water supplies and authorized the preparation of a Recycled Water Master Plan in 1992. An update of that plan was completed in 2005. The Recycled Water Master Plan Update identifies and prioritizes public and private sites for possible connection to the recycled water system. The update includes areas outside of TMW's service area but within the City limits.

The West Basin Municipal Water District

Recycled Water Master Plan was updated in 2009. The Plan was prepared in conjunction with various water purveyors and cities within WBMWD's service area, including LACSD, and WRD. TMW worked closely with WBMWD during its Recycled Water Master Plan Update as well as with Department of Health Services (DHS), Torrance Unified School District, and the City's Park and Streetscape Maintenance Divisions.



Figure 8.1: Recycled Water Irrigation

TMW has been able to use recycled water due to the implementation of the WBMWD's Water Reuse Program. This program is an aggressive effort to recycle up to 70,000 AFY of effluent from Los Angeles' Hyperion Wastewater Treatment Plant (**Figure 8.3**). WBMWD's Edward C. Little Water Recycling Facility (ECLWRF) provides up to 62.3 MGD (about 70,000 AFY) of recycled water to customers throughout WBMWD's service area. In 2013, the ECLWRF completed its Phase V expansion to extend the capacity from 46.8 MGD to 62.3 MGD.

TMW began purchasing recycled water from WBMWD in 1995, with ExxonMobil Refinery as its first customer, and has increased use each year until a maximum of nearly 7,500 AFY was used in FY 2002/2003.



Table 8.1
Current and Projected Wastewater Collection

	2015	2020	2025	2030	2035	2040
Potable Water Demand	18,387	19,505	20,021	20,552	21,097	21,657
Collected Wastewater	14,710	15,604	16,017	16,442	16,878	17,326

Note: Wastewater collected is assumed to equal 80% of the potable water demand.

Use has declined slightly in recent years, as a result of ExxonMobil's efficiency improvements in recycled water use. TMW also recognizes and actively supports the regional benefits of projects being implemented by WRD and WBMWD to use recycled water to protect the Basin through groundwater recharge and seawater intrusion barrier projects.

Wastewater Collection & Treatment

The City's wastewater collection system consists of approximately 340 miles of pipeline ranging from 6 inches to 27 inches in diameter. Wastewater generated within the City is conveyed to the Joint Water Pollution Control Plant (JWPCP) in Carson, via LACSD interceptor sewers. The maximum design flow of the JWPCP is 385 MGD and the maximum design peak flow is 540 MGD. Treated wastewater from the JWPCP is disposed into an outfall in the Pacific Ocean located two miles offshore from White Point on the Palos Verdes Peninsula. The depth of the discharge point is approximately 200 feet below sea level. The JWPCP has an advanced primary treatment with 60 percent secondary treatment.

Municipal wastewater is generated in TMW's service area from a combination of residential, commercial, and industrial sources. The quantities of wastewater generated are generally proportional to the population and the water used in the service

area. It is estimated that TMW customers generate wastewater based on 80 percent of potable water demand. **Table 8.1** displays the current and projected wastewater generated in the City through 2040. Because the wastewater treated at the JWPCP is discharged to the ocean, none of the wastewater generated within the City is treated to recycled water standards.

Recycled Water Infrastructure

Recycled water supply from the ECLWRF is provided to various municipal and industrial customers via the distribution system shown in **Figure 8.2**. The ECLWRF provides additional treatment to secondary-treated wastewater from the City of Los Angeles' Hyperion Wastewater Treatment Plant. The secondary-treated wastewater receives further treatment to meet Title 22 potable water requirements. Through its three other facilities that receive recycled water from the ECLWRF, WBMWD produces five different qualities of recycled water including: 1) Disinfected Tertiary Water, 2) Nitrified Water, 3) Softened Reverse Osmosis Water, 4) Pure Reverse Osmosis, and 5) Ultra-Pure Reverse Osmosis Water. WBMWD distributes recycled water to customer sites both in its service area and outside its service area, including the City of Torrance and the City of Los Angeles. WBMWD recycles approximately 15 percent of the effluent from Hyperion. The remaining secondary treated wastewater is discharged to the ocean.

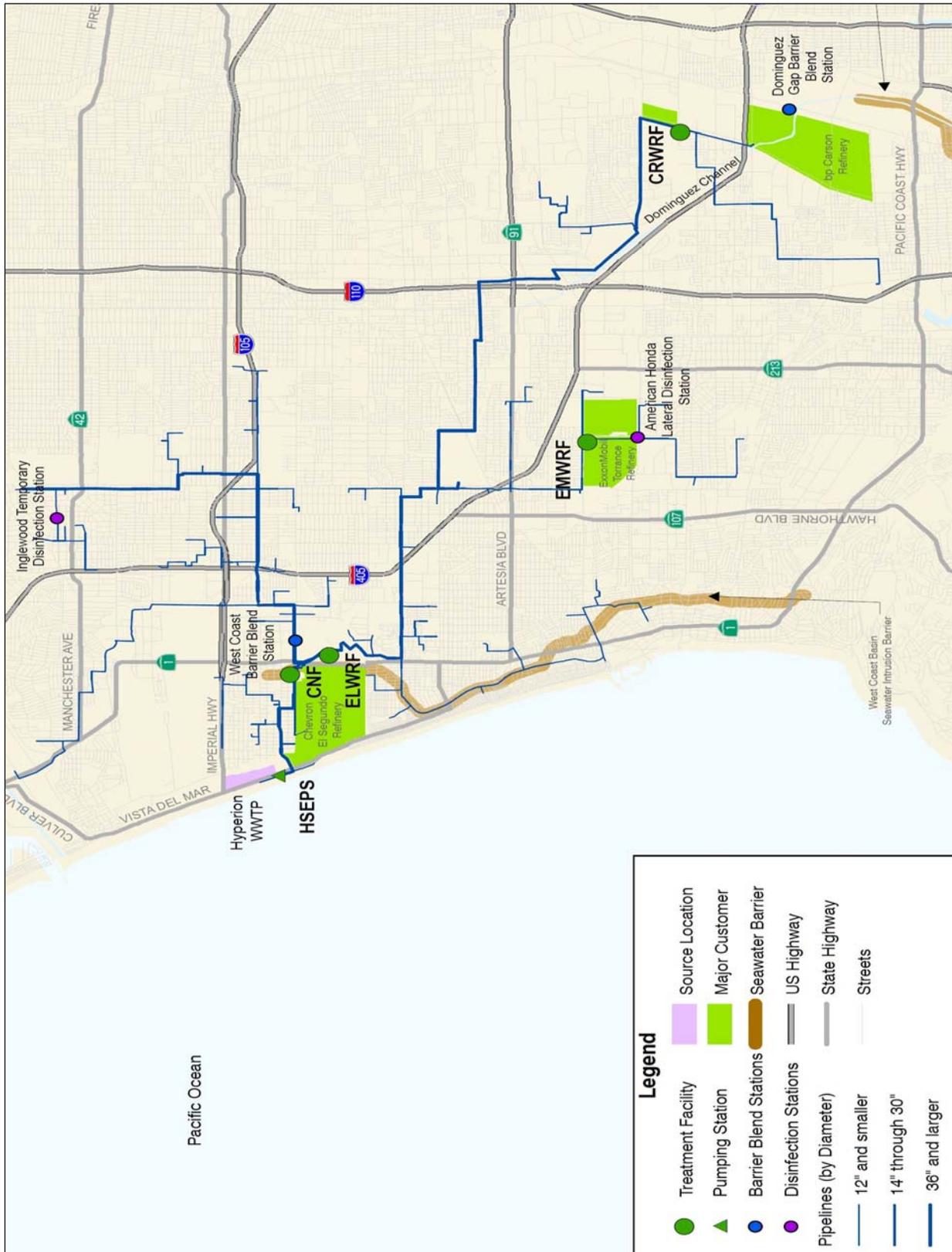


Figure 8.2: WBMWD's Current Recycled Water System



Table 8.2
Current, Projected, and Potential Recycled Water Use by Type

Recycled Water Use Type	2015	2020	2025	2030	2035	2040
Industrial	4,937	6,200	6,200	6,200	6,200	6,200
Landscape Irrigation	348	400	440	480	520	560
Total	5,285	6,600	6,640	6,680	6,720	6,760

8.3 RECYCLED WATER PLANNING

Since 1995, TMW has been purchasing recycled water from WBMWD at a number of connections and serving it for non-potable purposes, mainly industrial and irrigation. In 1995, WBMWD opened a state-of-the-art water recycling facility in El Segundo (ECLWRF), one of the largest recycling plants of its kind in the nation. All recycled water is produced at the ECLWRF and distributed to either end-use sites or one of several satellite facilities where further treatment prepares the recycled water for large industrial customers such as Chevron, ExxonMobil, and Tesoro Refineries. The ExxonMobil Refinery in the City is one of the largest recycled water users in the WBMWD recycled water service area. The refinery uses approximately 95 percent of all the recycled water used within the City. In March 2003, Toyota Motor Sales, USA, Inc. began using recycled water at its new “South Campus” facility. In 2007, the America Honda Motor Company began using recycled water for its irrigation system. Other recycled water sites located in the City include McMaster, Descanso, Guenser, and Colombia Parks and Casimir, Arlington, and Magruder Schools.

A preliminary assessment of potential recycled water uses within TMW service area was conducted in 1993 which identified

the relative size and location of the recycled water market in the service area. The assessment was updated to include the entire City in 2005. Some of these users have been connected as a result of the Madrona Lateral/Palos Verdes Extension Phase I project which was completed in 2007. The next phase of the recycled projection in the City was completed in 2012 and 2013, known as the Anza Extension. This phase includes South High School, Calle Mayor Middle School, along with medians along Anza Avenue. **Table 8.2** summarizes the current and projected annual recycled water demand for the City for industrial and landscape irrigation users.

8.4 PROJECTED VS. ACTUAL USE

The City’s 2010 UWMP projected recycled water use within industrial and landscape irrigation to be 6,300 AF and 350 AF, respectively, or a total of 6,650 AF.

In 2015, the industrial component of the demand was 4,937 AF and the landscape irrigation demand was 348 AF, a combined total of 5,285 AF. The decline in 2015 was due to an explosion at the ExxonMobil Refinery that temporarily curtailed production at the refinery. Thus, actual overall recycled water demand in fiscal year 2015 was lower than the projected demand of 6,650 AF (21 percent less than projected).



8.5 POTENTIAL USERS

Potential recycled water use within the City has been studied extensively over the past few years. **Table 8.3** summarizes potential users of recycled water within the City and their projected demands.

These potential users have not been recommended for connection at this time. However, they may be in the future. The pace of conversion to recycled water in the future is dependent on the construction of WBMWD's Recycled Water Main Extensions in the City.

**Table 8.3
Potential Recycled Water Users (2015-2040)**

User	Demand (AFY)	User	Demand (AFY)
Arnold Elementary	3	Levy Center	9
Caltrans @ Yukon	1	Little League Fields	18
Carr Elementary	5	North Torrance High	20
Wilson Park	150	Sea-Aire Golf Course	15
Delthorne Park	12	Seaside Elementary	6
De Portola Park	28	Saint Catherine School	5
Edison Elementary	4	Sequoia Real Estate Fund A & B	68
El Nido Park	17	Sequoia Real Estate Fund A (Greenwood)	15
El Retiro Park	5	Sequoia Real Estate Fund A (Hickory)	15
Fern Elementary	2	Sunflower Nursery	5
Greenwood Park	13	Torrance Park	15
Hamilton Adult School	7	Torrance High	17
Hickory Elementary	4	Walteria Elementary	5
Hickory Park	11	Walteria Park	6
Medians	12	Yukon Elementary	5
Lago Seco Park	13	New Horizons HOA	20
Subtotal	283	Subtotal	217
Total = 500 AFY Potential			



Figure 8.3: Hyperion Provides the City with over 6,000 AFY of Recycled Water Annually

8.6 PROMOTING RECYCLED WATER

The City has prepared and adopted a reclaimed water ordinance, Ordinance No. 3392 (**Appendix M**) that provides a commitment from the City to encourage recycled water use. As a result, the City has adopted a recycled rate structure and incentive program provided in **Appendix J**. This program contains the following incentives:

1. Sets recycled water rate structure at 70 percent of the potable water rate.
2. Pays for retrofit costs as follows:
 - City Departments – The Public Works Department shall construct and pay all costs of on-site irrigation system retrofits. The participating departments would receive up to 30 percent savings on their water rate.
 - Torrance Unified School District – The Public Works Department shall construct and pay up front costs for on-site irrigation system retrofits. Half of the on-site retrofit costs would be reimbursed to the Water Fund via an Agreement in which the Torrance Unified School District would continue to pay 100 percent of potable water rates for the recycled water until their half of the retrofit construction costs is recovered.
 - Private Customers – Customer constructs and pays for all costs for retrofit or irrigation or industrial system. The City will have the option to implement reimbursement agreements on a case-by-case basis.



WBMWD's marketing efforts have been successful in changing the perception of recycled water from merely a conservation tool with minimal application to a cost-effective business tool. The target customer is expanding from traditional irrigation users such as golf courses to commercial and industrial users (see **Figure 8.4**).



Figure 8.4: Sea-Aire Golf Course Future Recycled Site

The City encourages the use of recycled water by increasing marketing efforts as well as providing financial incentives. Financial incentives include selling recycled water at a rate lower than potable water and funding plumbing retrofits to accept recycled water. The City has projected the increase in recycled water demands due to these actions.

WBMWD provides other financial incentives as well that can assist potential customers not covered by the City's incentive program. Some potential recycled water users do not have the financial capability to pay for on-site plumbing retrofits and treatment necessary to accept recycled water. WBMWD can advance funds for retrofit expenses that are subsequently reimbursed through monthly payments. The on-site facilities fees are amortized over a period of time at WBMWD's cost of funds. Repayment is made using the

differential between potable and recycled water rates such that the customer never pays more than the potable rate. Once the loan is repaid, the rate reverts to the current recycled rates.

8.7 OPTIMIZING RECYCLED USE

The City's optimization plan for recycled water is also covered by Ordinance 3392. The use of recycled water will be required if the following conditions exist:

- a) Recycled water is available to the user and meets the requirements of the Division of Drinking Water (DDW).
- b) The user of the recycled water will not cause any loss or diminution of any existing water right.
- c) The irrigation system, recycled water distribution system, cross-connection control and monitoring methods can be designed to meet the standards required by the State of California.
- d) Appropriate control measures can be provided in accordance with the standards of the State of California where the use of recycled water will, or might, create a mist.
- e) Recycled water service is both economically and technically feasible and cost competitive for prospective recycled water customers.

Another aspect of optimizing recycled water use is continual search for funding opportunities. Regarding funding options, the primary opportunities include low interest loans obtained through the State Revolving Fund (SRF), and participation by MWD through its LRP, which provides up to \$250 AFY rebate for recycled water used to offset imported water.



The City actively promotes the use of recycled water for non-potable uses. The principal limiting factor in increasing recycled use is the proximity of the end user to the recycled distribution pipeline. WBMWD is in the process of applying for additional grant funding to extend the distribution network in Torrance and other portions of its service area with a high potential for recycled use.

The City partners with WBMWD for the use of recycled water. WBMWD will construct recycled water mains to any site that will provide a revenue to cost ratio of one or greater. The use of recycled water by ExxonMobil, American Honda Motor Company, and the Toyota Motors south campus came about from the cooperative efforts of WBMWD, the City and those private entities. The construction of recycled

water mains made it possible for TMW to retrofit Magruder Middle School and Columbia Park with only the on-site retrofit costs paid by the City. WBMWD has extended their main from ExxonMobil to Wilson Park, which will be connected when a planned recycled pipeline is extended south. The next phase of the WBMWD Master Plan is to bring recycled water to golf courses and a cemetery on the Palos Verdes Peninsula.

When the revenue to expense ratio has been less than one, the City has partnered with WBMWD to contribute supplemental funds for the construction of certain recycled water facilities. This was the case for the Artesia Boulevard Recycled Water Main Project that connected Artesia Boulevard medians, McMaster Park, Descanso Park, Guenser Park, Casimer Middle School and Arlington Elementary School.

APPENDICES A-M





Appendix A: DWR UWMP Checklist

City of Torrance 2015 Urban Water Management Plan

UWMP Checklist

This checklist is developed directly from the Urban Water Management Planning Act and SB X7-7. It is provided to support water suppliers during preparation of their UWMPs. Two versions of the UWMP Checklist are provided – the first one is organized according to the California Water Code and the second checklist according to subject matter. The two checklists contain duplicate information and the water supplier should use whichever checklist is more convenient. In the event that information or recommendations in these tables are inconsistent with, conflict with, or omit the requirements of the Act or applicable laws, the Act or other laws shall prevail.

Each water supplier submitting an UWMP can also provide DWR with the UWMP location of the required element by completing the last column of either checklist. This will support DWR in its review of these UWMPs. The completed form can be included with the UWMP.

If an item does not pertain to a water supplier, then state the UWMP requirement and note that it does not apply to the agency. For example, if a water supplier does not use groundwater as a water supply source, then there should be a statement in the UWMP that groundwater is not a water supply source.

Checklist

Checklist Arranged by Water Code Section

CWC Section	UWMP Requirement	Subject	Guidebook Location	UWMP Location (Optional Column for Agency Use)
10608.20(b)	Retail suppliers shall adopt a 2020 water use target using one of four methods.	Baselines and Targets	Section 5.7 and App E	
10608.20(e)	Retail suppliers shall provide baseline daily per capita water use, urban water use target, interim urban water use target, and compliance daily per capita water use, along with the bases for determining those estimates, including references to supporting data.	Baselines and Targets	Chapter 5 and App E	
10608.22	Retail suppliers' per capita daily water use reduction shall be no less than 5 percent of base daily per capita water use of the 5 year baseline. This does not apply if the suppliers base GPCD is at or below 100.	Baselines and Targets	Section 5.7.2	
10608.24(a)	Retail suppliers shall meet their interim target by December 31, 2015.	Baselines and Targets	Section 5.8 and App E	
10608.24(d)(2)	If the retail supplier adjusts its compliance GPCD using weather normalization, economic adjustment, or extraordinary events, it shall provide the basis for, and data supporting the adjustment.	Baselines and Targets	Section 5.8.2	
10608.26(a)	Retail suppliers shall conduct a public hearing to discuss adoption, implementation, and economic impact of water use targets.	Plan Adoption, Submittal, and Implementation	Section 10.3	
10608.36	Wholesale suppliers shall include an assessment of present and proposed future measures, programs, and policies to help their retail water suppliers achieve targeted water use reductions.	Baselines and Targets	Section 5.1	
10608.40	Retail suppliers shall report on their progress in meeting their water use targets. The data shall be reported using a standardized form.	Baselines and Targets	Section 5.8 and App E	
10620(b)	Every person that becomes an urban water supplier shall adopt an urban water management plan within one year after it has become an urban water supplier.	Plan Preparation	Section 2.1	
10620(d)(2)	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.	Plan Preparation	Section 2.5.2	

Checklist

10620(f)	Describe water management tools and options to maximize resources and minimize the need to import water from other regions.	Water Supply Reliability Assessment	Section 7.4	
10621(b)	Notify, at least 60 days prior to the public hearing, 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.	Plan Adoption, Submittal, and Implementation	Section 10.2.1	
10621(d)	Each urban water supplier shall update and submit its 2015 plan to the department by July 1, 2016.	Plan Adoption, Submittal, and Implementation	Sections 10.3.1 and 10.4	
10631(a)	Describe the water supplier service area.	System Description	Section 3.1	
10631(a)	Describe the climate of the service area of the supplier.	System Description	Section 3.3	
10631(a)	Indicate the current population of the service area.	System Description and Baselines and Targets	Sections 3.4 and 5.4	
10631(a)	Provide population projections for 2020, 2025, 2030, and 2035.	System Description	Section 3.4	
10631(a)	Describe other demographic factors affecting the supplier's water management planning.	System Description	Section 3.4	
10631(b)	Identify and quantify the existing and planned sources of water available for 2015, 2020, 2025, 2030, and 2035.	System Supplies	Chapter 6	
10631(b)	Indicate whether groundwater is an existing or planned source of water available to the supplier.	System Supplies	Section 6.2	
10631(b)(1)	Indicate whether a groundwater management plan has 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.	System Supplies	Section 6.2.2	
10631(b)(2)	Describe the groundwater basin.	System Supplies	Section 6.2.1	
10631(b)(2)	Indicate if the basin has been adjudicated and include a copy of the court order or decree and a description of the amount of water the supplier has the legal right to pump.	System Supplies	Section 6.2.2	
10631(b)(2)	For unadjudicated basins, indicate whether or not the department has identified the basin as overdrafted, or projected to become overdrafted. Describe efforts by the supplier to eliminate the long-term overdraft condition.	System Supplies	Section 6.2.3	
10631(b)(3)	Provide a detailed description and analysis of the location, amount, and sufficiency of	System Supplies	Section 6.2.4	

Checklist

	groundwater pumped by the urban water supplier for the past five years			
10631(b)(4)	Provide a detailed description and analysis of the amount and location of groundwater that is projected to be pumped.	System Supplies	Sections 6.2 and 6.9	
10631(c)(1)	Describe the reliability of the water supply and vulnerability to seasonal or climatic shortage.	Water Supply Reliability Assessment	Section 7.1	
10631(c)(1)	Provide data for an average water year, a single dry water year, and multiple dry water years	Water Supply Reliability Assessment	Section 7.2	
10631(c)(2)	For any water source that may not be available at a consistent level of use, describe plans to supplement or replace that source.	Water Supply Reliability Assessment	Section 7.1	
10631(d)	Describe the opportunities for exchanges or transfers of water on a short-term or long-term basis.	System Supplies	Section 6.7	
10631(e)(1)	Quantify past, current, and projected water use, identifying the uses among water use sectors.	System Water Use	Section 4.2	
10631(e)(3)(A)	Report the distribution system water loss for the most recent 12-month period available.	System Water Use	Section 4.3	
10631(f)(1)	Retail suppliers shall provide a description of the nature and extent of each demand management measure implemented over the past five years. The description will address specific measures listed in code.	Demand Management Measures	Sections 9.2 and 9.3	
10631(f)(2)	Wholesale suppliers shall describe specific demand management measures listed in code, their distribution system asset management program, and supplier assistance program.	Demand Management Measures	Sections 9.1 and 9.3	
10631(g)	Describe the expected future 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.	System Supplies	Section 6.8	
10631(h)	Describe desalinated water project opportunities for long-term supply.	System Supplies	Section 6.6	
10631(i)	CUWCC members may submit their 2013-2014 CUWCC BMP annual reports in lieu of, or in addition to, describing the DMM implementation in their UWMPs. This option is only allowable if the supplier has been found to be in full compliance with the CUWCC MOU.	Demand Management Measures	Section 9.5	
10631(j)	Retail suppliers will include documentation that they have provided their wholesale supplier(s) – if any - with water use	System Supplies	Section 2.5.1	

Checklist

	projections from that source.			
10631(j)	Wholesale suppliers will include documentation that they have provided their urban water suppliers with identification and quantification of the existing and planned sources of water available from the wholesale to the urban supplier during various water year types.	System Supplies	Section 2.5.1	
10631.1(a)	Include projected water use needed for lower income housing projected in the service area of the supplier.	System Water Use	Section 4.5	
10632(a) and 10632(a)(1)	Provide an urban water shortage contingency analysis that specifies stages of action and an outline of specific water supply conditions at each stage.	Water Shortage Contingency Planning	Section 8.1	
10632(a)(2)	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.	Water Shortage Contingency Planning	Section 8.9	
10632(a)(3)	Identify actions to be undertaken by the urban water supplier in case of a catastrophic interruption of water supplies.	Water Shortage Contingency Planning	Section 8.8	
10632(a)(4)	Identify mandatory prohibitions against specific water use practices during water shortages.	Water Shortage Contingency Planning	Section 8.2	
10632(a)(5)	Specify consumption reduction methods in the most restrictive stages.	Water Shortage Contingency Planning	Section 8.4	
10632(a)(6)	Indicated penalties or charges for excessive use, where applicable.	Water Shortage Contingency Planning	Section 8.3	
10632(a)(7)	Provide an analysis of the impacts of each of the actions and conditions in the water shortage contingency analysis on the revenues and expenditures of the urban water supplier, and proposed measures to overcome those impacts.	Water Shortage Contingency Planning	Section 8.6	
10632(a)(8)	Provide a draft water shortage contingency resolution or ordinance.	Water Shortage Contingency Planning	Section 8.7	
10632(a)(9)	Indicate a mechanism for determining actual reductions in water use pursuant to the water shortage contingency analysis.	Water Shortage Contingency Planning	Section 8.5	
10633	For wastewater and recycled water, coordinate with local water, wastewater, groundwater, and planning agencies that operate within the supplier's service area.	System Supplies (Recycled Water)	Section 6.5.1	
10633(a)	Describe the wastewater collection and treatment systems in the supplier's service area. Include quantification of the amount of	System Supplies (Recycled Water)	Section 6.5.2	

Checklist

	wastewater collected and treated and the methods of wastewater disposal.			
10633(b)	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.	System Supplies (Recycled Water)	Section 6.5.2.2	
10633(c)	Describe the recycled water currently being used in the supplier's service area.	System Supplies (Recycled Water)	Section 6.5.3 and 6.5.4	
10633(d)	Describe and quantify the potential uses of recycled water and provide a determination of the technical and economic feasibility of those uses.	System Supplies (Recycled Water)	Section 6.5.4	
10633(e)	Describe 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.	System Supplies (Recycled Water)	Section 6.5.4	
10633(f)	Describe the actions 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.	System Supplies (Recycled Water)	Section 6.5.5	
10633(g)	Provide a plan for optimizing the use of recycled water in the supplier's service area.	System Supplies (Recycled Water)	Section 6.5.5	
10634	Provide information on the quality of existing sources of water available to the supplier and the manner in which water quality affects water management strategies and supply reliability	Water Supply Reliability Assessment	Section 7.1	
10635(a)	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.	Water Supply Reliability Assessment	Section 7.3	
10635(b)	Provide supporting documentation that Water Shortage Contingency 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 the plan to DWR.	Plan Adoption, Submittal, and Implementation	Section 10.4.4	
10642	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.	Plan Preparation	Section 2.5.2	
10642	Provide supporting documentation that the urban water supplier made the plan available for public inspection, published notice of the public hearing, and held a public hearing	Plan Adoption, Submittal, and Implementation	Sections 10.2.2, 10.3, and 10.5	

Checklist

	about the plan.			
10642	The water supplier is to provide the time and place of the hearing to any city or county within which the supplier provides water.	Plan Adoption, Submittal, and Implementation	Sections 10.2.1	
10642	Provide supporting documentation that the plan has been adopted as prepared or modified.	Plan Adoption, Submittal, and Implementation	Section 10.3.1	
10644(a)	Provide supporting documentation that the urban water supplier has submitted this UWMP to the California State Library.	Plan Adoption, Submittal, and Implementation	Section 10.4.3	
10644(a)(1)	Provide supporting documentation that the urban water supplier has submitted this UWMP to any city or county within which the supplier provides water no later than 30 days after adoption.	Plan Adoption, Submittal, and Implementation	Section 10.4.4	
10644(a)(2)	The plan, or amendments to the plan, submitted to the department shall be submitted electronically.	Plan Adoption, Submittal, and Implementation	Sections 10.4.1 and 10.4.2	
10645	Provide supporting documentation that, not later than 30 days after filing a copy of its plan with the department, the supplier has or will make the plan available for public review during normal business hours.	Plan Adoption, Submittal, and Implementation	Section 10.5	

Checklist Arranged by Subject

CWC Section	UWMP Requirement	Subject	Guidebook Location	UWMP Location <i>(Optional Column for Agency Use)</i>
10620(b)	Every person that becomes an urban water supplier shall adopt an urban water management plan within one year after it has become an urban water supplier.	Plan Preparation	Section 2.1	N/A
10620(d)(2)	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.	Plan Preparation	Section 2.5.2	Section 1.2 Appendix D
10642	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.	Plan Preparation	Section 2.5.2	Section 1.2 Appendix C

Checklist

10631(a)	Describe the water supplier service area.	System Description	Section 3.1	Section 1.6
10631(a)	Describe the climate of the service area of the supplier.	System Description	Section 3.3	Section 1.7
10631(a)	Provide population projections for 2020, 2025, 2030, and 2035.	System Description	Section 3.4	Section 1.8
10631(a)	Describe other demographic factors affecting the supplier's water management planning.	System Description	Section 3.4	Section 1.8
10631(a)	Indicate the current population of the service area.	System Description and Baselines and Targets	Sections 3.4 and 5.4	Section 1.8
10631(e)(1)	Quantify past, current, and projected water use, identifying the uses among water use sectors.	System Water Use	Section 4.2	Section 4.4 Section 4.6
10631(e)(3)(A)	Report the distribution system water loss for the most recent 12-month period available.	System Water Use	Section 4.3	Appendix L, Table 4-4
10631.1(a)	Include projected water use needed for lower income housing projected in the service area of the supplier.	System Water Use	Section 4.5	Section 4.6
10608.20(b)	Retail suppliers shall adopt a 2020 water use target using one of four methods.	Baselines and Targets	Section 5.7 and App E	Section 4.5.3
10608.20(e)	Retail suppliers shall provide baseline daily per capita water use, urban water use target, interim urban water use target, and compliance daily per capita water use, along with the bases for determining those estimates, including references to supporting data.	Baselines and Targets	Chapter 5 and App E	Section 4.5
10608.22	Retail suppliers' per capita daily water use reduction shall be no less than 5 percent of base daily per capita water use of the 5 year baseline. This does not apply if the suppliers base GPCD is at or below 100.	Baselines and Targets	Section 5.7.2	Section 4.5.3
10608.24(a)	Retail suppliers shall meet their interim target by December 31, 2015.	Baselines and Targets	Section 5.8 and App E	Section 4.5.3
10608.24(d)(2)	If the retail supplier adjusts its compliance GPCD using weather normalization, economic adjustment, or extraordinary events, it shall provide the basis for, and data supporting the adjustment.	Baselines and Targets	Section 5.8.2	N/A
10608.36	Wholesale suppliers shall include an assessment of present and proposed future measures, programs, and policies to help their retail water suppliers achieve targeted water use reductions.	Baselines and Targets	Section 5.1	N/A

Checklist

10608.40	Retail suppliers shall report on their progress in meeting their water use targets. The data shall be reported using a standardized form.	Baselines and Targets	Section 5.8 and App E	Section 4.5.3
10631(b)	Identify and quantify the existing and planned sources of water available for 2015, 2020, 2025, 2030, and 2035.	System Supplies	Chapter 6	Section 2
10631(b)	Indicate whether groundwater is an existing or planned source of water available to the supplier.	System Supplies	Section 6.2	Section 2
10631(b)(1)	Indicate whether a groundwater management plan has 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.	System Supplies	Section 6.2.2	Groundwater Management Plan is not available.
10631(b)(2)	Describe the groundwater basin.	System Supplies	Section 6.2.1	Section 2.2.2
10631(b)(2)	Indicate if the basin has been adjudicated and include a copy of the court order or decree and a description of the amount of water the supplier has the legal right to pump.	System Supplies	Section 6.2.2	Section 2.2.2 Appendix G
10631(b)(2)	For unadjudicated basins, indicate whether or not the department has identified the basin as overdrafted, or projected to become overdrafted. Describe efforts by the supplier to eliminate the long-term overdraft condition.	System Supplies	Section 6.2.3	N/A
10631(b)(3)	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	System Supplies	Section 6.2.4	Section 2.2
10631(b)(4)	Provide a detailed description and analysis of the amount and location of groundwater that is projected to be pumped.	System Supplies	Sections 6.2 and 6.9	Section 2.3 Table 2.4 Section 5.5 (Tables 5.3-5.9)
10631(d)	Describe the opportunities for exchanges or transfers of water on a short-term or long-term basis.	System Supplies	Section 6.7	Section 2.5
10631(g)	Describe the expected future 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.	System Supplies	Section 6.8	Section 2.6 Section 5.7
10631(h)	Describe desalinated water project opportunities for long-term supply.	System Supplies	Section 6.6	Section 2.2.3
10631(j)	Retail suppliers will include documentation that they have provided their wholesale supplier(s) – if any - with water use	System Supplies	Section 2.5.1	Section 2 Section 5.5

Checklist

	projections from that source.			
10631(j)	Wholesale suppliers will include documentation that they have provided their urban water suppliers with identification and quantification of the existing and planned sources of water available from the wholesale to the urban supplier during various water year types.	System Supplies	Section 2.5.1	N/A
10633	For wastewater and recycled water, coordinate with local water, wastewater, groundwater, and planning agencies that operate within the supplier's service area.	System Supplies (Recycled Water)	Section 6.5.1	Section 2.4 Section 8
10633(a)	Describe the wastewater collection and treatment systems in the supplier's service area. Include quantification of the amount of wastewater collected and treated and the methods of wastewater disposal.	System Supplies (Recycled Water)	Section 6.5.2	Section 2.4 Section 8.2
10633(b)	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.	System Supplies (Recycled Water)	Section 6.5.2.2	Section 2.4 Section 8
10633(c)	Describe the recycled water currently being used in the supplier's service area.	System Supplies (Recycled Water)	Section 6.5.3 and 6.5.4	Section 2.2.4 Section 8
10633(d)	Describe and quantify the potential uses of recycled water and provide a determination of the technical and economic feasibility of those uses.	System Supplies (Recycled Water)	Section 6.5.4	Section 8
10633(e)	Describe 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.	System Supplies (Recycled Water)	Section 6.5.4	Section 8.3
10633(f)	Describe the actions 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.	System Supplies (Recycled Water)	Section 6.5.5	Section 8.6
10633(g)	Provide a plan for optimizing the use of recycled water in the supplier's service area.	System Supplies (Recycled Water)	Section 6.5.5	Section 8
10620(f)	Describe water management tools and options to maximize resources and minimize the need to import water from other regions.	Water Supply Reliability Assessment	Section 7.4	Section 2 Section 7.2
10631(c)(1)	Describe the reliability of the water supply and vulnerability to seasonal or climatic	Water Supply Reliability	Section 7.1	Section 5 (Tables 5.3-

Checklist

	shortage.	Assessment		5.9
10631(c)(1)	Provide data for an average water year, a single dry water year, and multiple dry water years	Water Supply Reliability Assessment	Section 7.2	Section 5.5 (Tables 5.3-5.9)
10631(c)(2)	For any water source that may not be available at a consistent level of use, describe plans to supplement or replace that source.	Water Supply Reliability Assessment	Section 7.1	Section 5 Section 7
10634	Provide information on the quality of existing sources of water available to the supplier and the manner in which water quality affects water management strategies and supply reliability.	Water Supply Reliability Assessment	Section 7.1	Section 3
10635(a)	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.	Water Supply Reliability Assessment	Section 7.3	Section 5.5
10632(a) and 10632(a)(1)	Provide an urban water shortage contingency analysis that specifies stages of action and an outline of specific water supply conditions at each stage.	Water Shortage Contingency Planning	Section 8.1	Section 7.2
10632(a)(2)	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.	Water Shortage Contingency Planning	Section 8.9	Section 7.3
10632(a)(3)	Identify actions to be undertaken by the urban water supplier in case of a catastrophic interruption of water supplies.	Water Shortage Contingency Planning	Section 8.8	Section 7.4
10632(a)(4)	Identify mandatory prohibitions against specific water use practices during water shortages.	Water Shortage Contingency Planning	Section 8.2	Section 7.5
10632(a)(5)	Specify consumption reduction methods in the most restrictive stages.	Water Shortage Contingency Planning	Section 8.4	Section 7.5
10632(a)(6)	Indicated penalties or charges for excessive use, where applicable.	Water Shortage Contingency Planning	Section 8.3	Section 7.5
10632(a)(7)	Provide an analysis of the impacts of each of the actions and conditions in the water shortage contingency analysis on the revenues and expenditures of the urban water supplier, and proposed measures to overcome those impacts.	Water Shortage Contingency Planning	Section 8.6	Section 7.6
10632(a)(8)	Provide a draft water shortage contingency resolution or ordinance.	Water Shortage Contingency Planning	Section 8.7	Appendix J Appendix K
10632(a)(9)	Indicate a mechanism for determining actual reductions in water use pursuant to the water	Water Shortage Contingency	Section 8.5	Section 7.8

Checklist

	shortage contingency analysis.	Planning		
10631(f)(1)	Retail suppliers shall provide a description of the nature and extent of each demand management measure implemented over the past five years. The description will address specific measures listed in code.	Demand Management Measures	Sections 9.2 and 9.3	Section 6
10631(f)(2)	Wholesale suppliers shall describe specific demand management measures listed in code, their distribution system asset management program, and supplier assistance program.	Demand Management Measures	Sections 9.1 and 9.3	Section 6
10631(i)	CUWCC members may submit their 2013-2014 CUWCC BMP annual reports in lieu of, or in addition to, describing the DMM implementation in their UWMPs. This option is only allowable if the supplier has been found to be in full compliance with the CUWCC MOU.	Demand Management Measures	Section 9.5	Section 6 City is a member of CUWCC, however do not have reports.
10608.26(a)	Retail suppliers shall conduct a public hearing to discuss adoption, implementation, and economic impact of water use targets.	Plan Adoption, Submittal, and Implementation	Section 10.3	Section 1.2 Appendix C
10621(b)	Notify, at least 60 days prior to the public hearing, 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.	Plan Adoption, Submittal, and Implementation	Section 10.2.1	Section 1.2 Appendix D
10621(d)	Each urban water supplier shall update and submit its 2015 plan to the department by July 1, 2016.	Plan Adoption, Submittal, and Implementation	Sections 10.3.1 and 10.4	Section 1.2
10635(b)	Provide supporting documentation that Water Shortage Contingency 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 the plan to DWR.	Plan Adoption, Submittal, and Implementation	Section 10.4.4	Section 1.2 Appendix K
10642	Provide supporting documentation that the urban water supplier made the plan available for public inspection, published notice of the public hearing, and held a public hearing about the plan.	Plan Adoption, Submittal, and Implementation	Sections 10.2.2, 10.3, and 10.5	Section 1.2 Appendix C
10642	The water supplier is to provide the time and place of the hearing to any city or county within which the supplier provides water.	Plan Adoption, Submittal, and Implementation	Sections 10.2.1	Appendix C
10642	Provide supporting documentation that the plan has been adopted as prepared or modified.	Plan Adoption, Submittal, and Implementation	Section 10.3.1	Appendix B

Checklist

10644(a)	Provide supporting documentation that the urban water supplier has submitted this UWMP to the California State Library.	Plan Adoption, Submittal, and Implementation	Section 10.4.3	Section 1.2
10644(a)(1)	Provide supporting documentation that the urban water supplier has submitted this UWMP to any city or county within which the supplier provides water no later than 30 days after adoption.	Plan Adoption, Submittal, and Implementation	Section 10.4.4	Section 1.2
10644(a)(2)	The plan, or amendments to the plan, submitted to the department shall be submitted electronically.	Plan Adoption, Submittal, and Implementation	Sections 10.4.1 and 10.4.2	Section 1.2
10645	Provide supporting documentation that, not later than 30 days after filing a copy of its plan with the department, the supplier has or will make the plan available for public review during normal business hours.	Plan Adoption, Submittal, and Implementation	Section 10.5	Section 1.2



Appendix B: City Council Resolution Adopting 2015 UWMP

City of Torrance 2015 Urban Water Management Plan

RESOLUTION NO. 2016-75

A RESOLUTION OF THE CITY COUNCIL OF THE CITY OF TORRANCE, CALIFORNIA, AUTHORIZING ADOPTION OF THE 2015 URBAN WATER MANAGEMENT PLAN.

WHEREAS, the California Legislature enacted Assembly Bill 797 (Water Code Sections 10610 et seq., known as the Urban Water Management Planning Act (the "Act") during the 1983-84 legislative session; and

WHEREAS, the Act requires that every urban water supplier providing water for municipal purposes to more than 3,000 customers or supplying more than 3,000 acre-feet of water annually to prepare and adopt an Urban Water Management Plan (the "Plan"); and

WHEREAS, the City of Torrance (the "City") is an urban water supplier providing service to more than 3,000 customers and must prepare the Plan; and

WHEREAS, the Act requires that the Plan be reviewed and updated once every five years in accordance to any amendments or changes to the Act or other applicable regulations or legislation pertaining to the Act; and

WHEREAS, the primary objectives of the Plan are to support the local water supplier's long term water resource planning; ensure that adequate water supplies are available to meet existing and current water demands; and promote the conservation of limited water resources; and

WHEREAS, a long term, reliable supply of water is essential to the well-being of the City, and Plan is an integral element of the City's water reliability strategy; and

WHEREAS, the City has prepared a draft of its 2015 Plan for public review and a properly noticed public hearing regarding the Plan was held by the City Council on July 19, 2016 and a Final Urban Water Management Plan prepared.

NOW, THEREFORE, BE IT RESOLVED BY THE CITY COUNCIL OF THE CITY OF TORRANCE AS FOLLOWS:

SECTION 1

The 2015 Urban Water Management Plan is adopted and ordered filed with the City Clerk.

SECTION 2

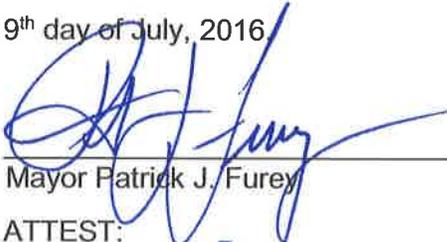
The City Manager, or his designated representative, is authorized and directed to file the 2015 Urban Water Management Plan with the California Department of Water Resources.

INTRODUCED, APPROVED, and ADOPTED this 19th day of July, 2016

APPROVED AS TO FORM:

JOHN L. FELLOWS III, City Attorney

by 
Patrick Q. Sullivan, Assistant City Attorney


Mayor Patrick J. Furey

ATTEST:


Rebecca Poirier, MMC, City Clerk

TORRANCE CITY COUNCIL RESOLUTION NO. 2016-75

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

I, Rebecca Poirier, City Clerk of the City of Torrance, California, do hereby certify that the foregoing resolution was duly introduced, approved, and adopted by the City Council of the City of Torrance at a regular meeting of said Council held on the 19th day of July, 2016 by the following roll call vote:

AYES:	COUNCILMEMBERS	Ashcraft, Goodrich, Griffiths, Herring, Rizzo, Weideman, and Mayor Furey.
NOES:	COUNCILMEMBERS	None.
ABSTAIN:	COUNCILMEMBERS	None.
ABSENT:	COUNCILMEMBERS	None.

Date: 7/20/16



Rebecca Poirier, MMC
City Clerk of the City of Torrance



Appendix C: Two-Week & One-Week Notification of Public Hearing

City of Torrance 2015 Urban Water Management Plan

Daily Breeze

21250 Hawthorne Blvd, Ste 170
Torrance, CA 90503-4077
310-543-6635
Fax: 310-316-6827

(Space below for use of County Clerk Only)

5007865

Legal No. **0010815742**

CITY OF TORRANCE
FINANCE DEPT.ACCOUNTS PAYABLE
3031 TORRANCE BLVD
TORRANCE, CA 90503

FILE NO. DB 6-57
PROOF OF PUBLICATION
(2015.5 C.C.P.)

STATE OF CALIFORNIA
County of Los Angeles

I am a citizen of the United States and a resident of the County aforesaid; I am over the age of eighteen years, and not a party to or interested in the above-entitled matter. I am the principal clerk of the printer of THE DAILY BREEZE, a newspaper of general circulation, printed and published in the City of Torrance*, County of Los Angeles, and which newspaper has been adjudged a newspaper of general circulation by the Superior Court of County of Los Angeles, State of California, under the date of June 10, 1974, Case Number SWC7146. The notice, of which the annexed is a printed copy (set in type not smaller than nonpareil), has been published in each regular and entire issue of said newspaper and not in any supplement thereof on the following dates, to wit:

06/21/2016

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

Dated at Torrance, California
On this 21th day of June, 2016.

Signature

*The Daily Breeze circulation includes the following cities: Carson, Compton, Culver City, El Segundo, Gardena, Harbor City, Hawthorne, Hermosa Beach, Inglewood, Lawndale, Lomita, Long Beach, Manhattan Beach, Palos Verdes Peninsula, Palos Verdes, Rancho Palos Verdes, Rancho Palos Verdes Estates, Redondo Beach, San

DB 6-57
PUBLIC NOTICE

**NOTICE OF A PUBLIC HEARING BEFORE THE
CITY COUNCIL OF THE CITY OF TORRANCE ON
URBAN WATER MANAGEMENT PLAN**

NOTICE IS HEREBY GIVEN: That The City Council of the City of Torrance will hold a public hearing to consider The City's 2015 Urban Water Management Plan. The purpose of the hearing is to solicit public comment prior to adoption of the plan. A copy of the draft plan is available at the City of Torrance, Public Works Department, at 20500 Madrona Avenue, Torrance, California and at the City Clerk's Office at 3031 Torrance Boulevard, Torrance, California. For additional information contact Chuck Schaich at (310- 618-6221).

This matter will be heard on June 28, 2016, at 7:00 p. m. or as soon as possible thereafter, at the Council Chambers at City Hall, 3031 Torrance Boulevard, Torrance, California. All persons interested in this matter are notified to appear at this time.

Published: June 21, 2016

Daily Breeze

21250 Hawthorne Blvd, Ste 170
Torrance, CA 90503-4077
310-543-6635
Fax: 310-316-6827

5007865

CITY OF TORRANCE
FINANCE DEPT.ACCOUNTS PAYABLE
3031 TORRANCE BLVD
TORRANCE, CA 90503

FILE NO. DB 6-43
PROOF OF PUBLICATION
(2015.5 C.C.P.)

STATE OF CALIFORNIA
County of Los Angeles

I am a citizen of the United States and a resident of the County aforesaid; I am over the age of eighteen years, and not a party to or interested in the above-entitled matter. I am the principal clerk of the printer of THE DAILY BREEZE, a newspaper of general circulation, printed and published in the City of Torrance*, County of Los Angeles, and which newspaper has been adjudged a newspaper of general circulation by the Superior Court of County of Los Angeles, State of California, under the date of June 10, 1974, Case Number SWC7146. The notice, of which the annexed is a printed copy (set in type not smaller than nonpareil), has been published in each regular and entire issue of said newspaper and not in any supplement thereof on the following dates, to wit:

06/14/2016

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

Dated at Torrance, California
On this 14th day of June, 2016.

Signature

*The Daily Breeze circulation includes the following cities: Carson, Compton, Culver City, El Segundo, Gardena, Harbor City, Hawthorne, Hermosa Beach, Inglewood, Lawndale, Lomita, Long Beach, Manhattan Beach, Palos Verdes Peninsula, Palos Verdes, Rancho Palos Verdes, Rancho Palos Verdes Estates, Redondo Beach, San

(Space below for use of County Clerk Only)

Legal No. **0010813459**

DB 6-43
PUBLIC NOTICE
NOTICE OF PUBLIC HEARING BEFORE
THE CITY COUNCIL OF THE CITY OF
TORRANCE - 2015 URBAN WATER
MANAGEMENT PLAN

NOTICE IS HERBY GIVEN: That the City Council of Torrance will hold a public hearing to consider the City's 2015 Urban Water Management Plan (UWMP). The purpose of the hearing is to solicit public comment on the plan. The Public Hearing will be held on June 28, 2016 At 7 p.m., or as soon as possible thereafter, at the City Council Chambers of City Hall located at 3031 Torrance Boulevard, California to consider comments to the draft plan and adopt the UWMP. All persons interested in this matter are notified to appear at this time.

Published: June 14, 2016

Advertising Order Confirmation

AdTaxi | Press-Telegram • The Beach Reporter
Daily Breeze • Palos Verdes Peninsula News

07/10/16 2:13:20PM
Page 1

Ad Order Number
0010820786

Customer
CITY OF TORRANCE

Payer Customer
CITY OF TORRANCE

PO Number
DB 7-13

Sales Representative
Pauline Aguilino

Customer Account
5007865

Payer Account
5007865

Ordered By
Chuck Schaiach

Order Taker
Pauline Aguilino

Customer Address
FINANCE DEPT.ACCOUNTS PAYABLE
3031 TORRANCE BLVD
TORRANCE, CA 90503

Payer Address
FINANCE DEPT.ACCOUNTS PAYABLE
3031 TORRANCE BLVD
TORRANCE, CA 90503

Customer Fax

Order Source
Select Source

Customer Phone
310-618-2870

Payer Phone
310-618-2870

Customer Email

Current Queue
Ready

Invoice Text

Ad Order Notes

Tear Sheets
0

Art/draws
0

Blind Box

Materials

Promo Type

Special Pricing

Ad Number
0010820796-01

Ad Size
2 X 45 L

Color

Production Color

Ad Attributes

Production Method
Adbooker

Production Notes

External Ad Number
DB 7-13

Pick Up

Ad Type
Legal Liner

Released for Publication

PUBLIC NOTICE
NOTICE OF A CONTINUED PUBLIC HEARING BEFORE THE CITY COUNCIL OF THE CITY OF TORRANCE ON URBAN WATER MANAGEMENT PLAN

NOTICE IS HEREBY GIVEN : That The City Council of the City of Torrance will hold a continued public hearing to consider the City's 2013 Urban Water Management Plan. The purpose of the continued hearing is to solicit public comment prior to adoption of the plan. A copy of the draft plan is available at the City of Torrance, Public Works Department, at 20500 Madrona Avenue, Torrance, California and at the City Clerk's Office at 3013 Torrance Boulevard, Torrance, California. For additional information contact Chuck Schaiach at (310-618-6221). This matter will be heard on July 19, 2016 at 7:00 p.m. or as soon as possible thereafter, at the Council Chambers at City Hall, 3031 Torrance Boulevard, Torrance, California. All persons interested in this matter are notified to appear at this time.

Published July 5, 2016

Product
Daily Breeze

Requested Placement
Legals CLS

Requested Position
General - 1076-

Run Dates
07/05/16

Inserts
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Advertising Order Confirmation

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07/08/16 3:16:08PM
Page 1

Ad Order Number
0010822679

Customer
CITY OF TORRANCE

Payor Customer
CITY OF TORRANCE

PO Number
DB 7-30

Sales Representative
Pauline Aguilin

Customer Account
5007865

Payor Account
5007865

Ordered By
Chuck Schach

Order Taker
Pauline Aguilin

Customer Address
FINANCE DEPT.ACCOUNTS PAYABLE
3031 TORRANCE BLVD
TORRANCE, CA 90503

Payor Address
FINANCE DEPT.ACCOUNTS PAYABLE
3031 TORRANCE BLVD
TORRANCE, CA 90503

Customer Fax

Order Source
Select Source

Customer Phone
310-618-2870

Payor Phone
310-618-2870

Customer EMail

Current Queue
Ready

Invoice Text
Chuck Schach

Ad Order Notes

Tear Sheets
0

Affidavits
0

Materials

Promo Type

Special Pricing

Ad Number
0010822679-01

Ad Size
2 X 45 Li

External Ad Number

Color

Production Color

Ad Attributes

Production Method
Adbroker

Production Notes

DB 7-30

PUBLIC NOTICE

NOTICE OF A CONTINUED PUBLIC HEARING BEFORE THE CITY COUNCIL OF THE CITY OF TORRANCE ON URBAN WATER MANAGEMENT PLAN

NOTICE IS HEREBY GIVEN: That the City Council of the City of Torrance will hold a continued public hearing to consider the City's 2015 Urban Water Management Plan. The purpose of the continued hearing is to solicit public comment prior to adoption of the plan. A copy of the draft plan is available at the City of Torrance, Public Works Department, at 20500 Madrona Avenue, Torrance, California and at the City Clerk's Office at 3013 Torrance Boulevard, Torrance, California. For additional information contact Chuck Schach at (310- 618-6221)

This matter will be heard on July 19, 2016 at 7:00 P. m. or as soon as possible thereafter, at the Council Chambers at City Hall, 3031 Torrance Boulevard, Torrance, California. All persons interested in this matter are notified to appear at this time.

Published: July 12, 2016

Product
Daily Breeze

Requested Placement
Legals CLS

Requested Position
General - 1076-

Run Dates
07/12/16

Inserts
1

Daily Breeze

21250 Hawthorne Blvd, Ste 170
Torrance, CA 90503-4077
310-543-6635
Fax: 310-316-6827

(Space below for use of County Clerk Only)

5007865

Legal No. **0010822679**

CITY OF TORRANCE
FINANCE DEPT.ACCOUNTS PAYABLE
3031 TORRANCE BLVD
TORRANCE, CA 90503

FILE NO. DB 7-30
PROOF OF PUBLICATION
(2015.5 C.C.P.)

STATE OF CALIFORNIA
County of Los Angeles

I am a citizen of the United States and a resident of the County aforesaid; I am over the age of eighteen years, and not a party to or interested in the above-entitled matter. I am the principal clerk of the printer of THE DAILY BREEZE, a newspaper of general circulation, printed and published in the City of Torrance*, County of Los Angeles, and which newspaper has been adjudged a newspaper of general circulation by the Superior Court of County of Los Angeles, State of California, under the date of June 10, 1974, Case Number SWC7146. The notice, of which the annexed is a printed copy (set in type not smaller than nonpareil), has been published in each regular and entire issue of said newspaper and not in any supplement thereof on the following dates, to wit:

07/12/2016

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

Dated at Torrance, California
On this 12th day of July, 2016.

Signature

*The Daily Breeze circulation includes the following cities: Carson, Compton, Culver City, El Segundo, Gardena, Harbor City, Hawthorne, Hermosa Beach, Inglewood, Lawndale, Lomita, Long Beach, Manhattan Beach, Palos Verdes Peninsula, Palos Verdes, Rancho Palos Verdes, Rancho Palos Verdes Estates, Redondo Beach, San

DB 7-30
PUBLIC NOTICE

NOTICE OF A CONTINUED PUBLIC HEARING BEFORE THE CITY COUNCIL OF THE CITY OF TORRANCE ON URBAN WATER MANAGEMENT PLAN

NOTICE IS HEREBY GIVEN: That The City Council of the City of Torrance will hold a continued public hearing to consider The City's 2015 Urban Water Management Plan. The purpose of the continued hearing is to solicit public comment prior to adoption of the plan. A copy of the draft plan is available at the City of Torrance, Public Works Department, at 20500 Madrona Avenue, Torrance, California and at the City Clerk's Office at 3013 Torrance Boulevard, Torrance, California. For additional information contact Chuck Schaich at (310-618-6221)

This matter will be heard on July 19, 2016 at 7:00 p. m. or as soon as possible thereafter, at the Council Chambers at City Hall, 3031 Torrance Boulevard, Torrance, California. All persons interested in this matter are notified to appear at this time.

Published: July 12, 2016

Daily Breeze

21250 Hawthorne Blvd, Ste 170
Torrance, CA 90503-4077
310-543-6635
Fax: 310-316-6827

(Space below for use of County Clerk Only)

5007865

Legal No. **0010820786**

CITY OF TORRANCE
FINANCE DEPT.ACCOUNTS PAYABLE
3031 TORRANCE BLVD
TORRANCE, CA 90503

FILE NO. DB 7-13
PROOF OF PUBLICATION
(2015.5 C.C.P.)

STATE OF CALIFORNIA
County of Los Angeles

I am a citizen of the United States and a resident of the County aforesaid; I am over the age of eighteen years, and not a party to or interested in the above-entitled matter. I am the principal clerk of the printer of THE DAILY BREEZE, a newspaper of general circulation, printed and published in the City of Torrance*, County of Los Angeles, and which newspaper has been adjudged a newspaper of general circulation by the Superior Court of County of Los Angeles, State of California, under the date of June 10, 1974, Case Number SWC7146. The notice, of which the annexed is a printed copy (set in type not smaller than nonpareil), has been published in each regular and entire issue of said newspaper and not in any supplement thereof on the following dates, to wit:

07/05/2016

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

Dated at Torrance, California
On this 11th day of July, 2016.

Signature

*The Daily Breeze circulation includes the following cities: Carson, Compton, Culver City, El Segundo, Gardena, Harbor City, Hawthorne, Hermosa Beach, Inglewood, Lawndale, Lomita, Long Beach, Manhattan Beach, Palos Verdes Peninsula, Palos Verdes, Rancho Palos Verdes, Rancho Palos Verdes Estates, Redondo Beach, San

DB 7-13

PUBLIC NOTICE

**NOTICE OF A CONTINUED
PUBLIC HEARING
BEFORE THE CITY COUNCIL OF
THE CITY OF TORRANCE ON
URBAN WATER MANAGEMENT
PLAN**

NOTICE IS HEREBY GIVEN : That The City Council of the City of Torrance will hold a continued public hearing to consider The City's 2015 Urban Water Management Plan. The purpose of the continued hearing is to solicit public comment prior to adoption of the plan. A copy of the draft plan is available at the City of Torrance, Public Works Department, at 20500 Madrona Avenue, Torrance, California and at the City Clerk's Office at 3031 Torrance Boulevard, Torrance, California. For additional information contact Chuck Schaich at (310-618-6221). This matter will be heard on July 19, 2016 at 7:00 p.m. or as soon as possible thereafter, at the Council Chambers at City Hall, 3031 Torrance Boulevard, Torrance, California. All persons interested in this matter are notified to appear at this time.

Published July 5, 2016



Appendix D: 60-Day Notification of Public Hearing

City of Torrance 2015 Urban Water Management Plan



CITY OF TORRANCE

PUBLIC WORKS DEPARTMENT

Robert J. Beste
Public Works Director

March 23, 2016

Sanitation District of Los Angeles County
1955 Workman Mill Rd.
Whittier, CA 90607-4998

SUBJECT: City of Torrance 2015 Urban Water Management Plan

To whom it may concern,

This letter serves as notification that the City of Torrance is in the process of updating the 2015 Urban Water Management Plan (UWMP).

California Water Code Section 10621 requires each urban water supplier to update the plan at least once every five years. In addition, every urban water supplier that is required to prepare a plan pursuant to this part shall, at least 60 days prior to the public hearing on the plan, notify any city or county to which the supplier provides water supplies that the urban water supplier will be reviewing the plan and considering amendments and changes to the plan.

A public hearing regarding the Torrance Urban Water Management Plan is tentatively scheduled to take place in the Council Chamber on June 14, 2016 at the Torrance Civic Center Complex, located at 3031 Torrance Blvd.

For more information, please contact Pamela Lewis, Senior Administrative Analyst, at 310-781-6900.

Sincerely,

Robert J. Beste
Public Works Director



Appendix E: Urban Water Management Planning Act

City of Torrance 2015 Urban Water Management Plan

CALIFORNIA WATER CODE DIVISION 6

PART 2.6. URBAN WATER MANAGEMENT PLANNING

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

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

WATER CODE

SECTION 10610-10610.4

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

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

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

on water management strategies and supply reliability.

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

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

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

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

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

WATER CODE

SECTION 10611-10617

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

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

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

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

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

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

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

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

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

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

WATER CODE

SECTION 10620-10621

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

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

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

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

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

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

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

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

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

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

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

WATER CODE

SECTION 10630-10634

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

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

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

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

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

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

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

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

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

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

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

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

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

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

(I) Agricultural.

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

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

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

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

- (J) Wholesale agency programs.
- (K) Conservation pricing.
- (L) Water conservation coordinator.
- (M) Water waste prohibition.
- (N) Residential ultra-low-flush toilet replacement programs.

(2) A schedule of implementation for all water demand management measures proposed or described in the plan.

(3) A description of the methods, if any, that the supplier will use to evaluate the effectiveness of water demand management measures implemented or described under the plan.

(4) An estimate, if available, of existing conservation savings on water use within the supplier's service area, and the effect of the savings on the supplier's ability to further reduce demand.

(g) An evaluation of each water demand management measure listed in paragraph (1) of subdivision (f) that is not currently being implemented or scheduled for implementation. In the course of the evaluation, first consideration shall be given to water demand management measures, or combination of measures, that offer lower incremental costs than expanded or additional water supplies. This evaluation shall do all of the following:

(1) Take into account economic and noneconomic factors, including environmental, social, health, customer impact, and technological factors.

(2) Include a cost-benefit analysis, identifying total benefits and total costs.

(3) Include a description of funding available to implement any planned water supply project that would provide water at a higher unit cost.

(4) Include a description of the water supplier's legal authority to implement the measure and efforts to work with other relevant agencies to ensure the implementation of the measure and to share the cost of implementation.

(h) Include a description of all water supply projects and water supply programs that may be undertaken by the urban water supplier to meet the total projected water use as established pursuant to subdivision (a) of Section 10635. The urban water supplier shall include a detailed description of expected future projects and programs, other than the demand management programs identified pursuant to paragraph (1) of subdivision (f), that the urban water supplier may implement to increase the amount of the water supply available to the urban water supplier in average, single-dry, and multiple-dry water years. The description shall identify specific projects and include a description of the increase in water supply that is expected to be available from each project. The description shall include an estimate with regard to the implementation timeline for each project or program.

(i) Describe the opportunities for development of desalinated water, including, but not limited to, ocean water, brackish water, and groundwater, as a long-term supply.

(j) For purposes of this part, urban water suppliers that are members of the California Urban Water Conservation Council shall be deemed in compliance with the requirements of subdivisions (f) and (g) by complying with all the provisions of the "Memorandum of Understanding Regarding Urban Water Conservation in California,"

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

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

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

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

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

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

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

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

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

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

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

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

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

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

(i) Compliance on an individual basis.

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

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

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

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

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

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

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

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

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

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

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

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

sequence for the agency's water supply.

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

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

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

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

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

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

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

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

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

(a) A description of the wastewater collection and treatment systems in the supplier's service area, including a quantification of the amount of wastewater collected and treated and the methods of wastewater disposal.

(b) A description of the quantity of treated wastewater that meets recycled water standards, is being discharged, and is otherwise available for use in a recycled water project.

(c) A description of the recycled water currently being used in the supplier's service area, including, but not limited to, the type, place, and quantity of use.

(d) A description and quantification of the potential uses of recycled water, including, but not limited to, agricultural irrigation, landscape irrigation, wildlife habitat enhancement, wetlands, industrial reuse, groundwater recharge, indirect potable reuse, and other appropriate uses, and a determination with regard to the technical and economic feasibility of serving those uses.

(e) The projected use of recycled water within the supplier's

service area at the end of 5, 10, 15, and 20 years, and a description of the actual use of recycled water in comparison to uses previously projected pursuant to this subdivision.

(f) A description of actions, including financial incentives, which may be taken to encourage the use of recycled water, and the projected results of these actions in terms of acre-feet of recycled water used per year.

(g) A plan for optimizing the use of recycled water in the supplier's service area, including actions to facilitate the installation of dual distribution systems, to promote recirculating uses, to facilitate the increased use of treated wastewater that meets recycled water standards, and to overcome any obstacles to achieving that increased use.

10634. The plan shall include information, to the extent practicable, relating to the quality of existing sources of water available to the supplier over the same five-year increments as described in subdivision (a) of Section 10631, and the manner in which water quality affects water management strategies and supply reliability.

WATER CODE

SECTION 10635

10635. (a) Every urban water supplier shall include, as part of its urban water management plan, an assessment of the reliability of its water service to its customers during normal, dry, and multiple dry water years. This water supply and demand assessment shall compare the total water supply sources available to the water supplier with the total projected water use over the next 20 years, in five-year increments, for a normal water year, a single dry water year, and multiple dry water years. The water service reliability assessment shall be based upon the information compiled pursuant to Section 10631, including available data from state, regional, or local agency population projections within the service area of the urban water supplier.

(b) The urban water supplier shall provide that portion of its urban water management plan prepared pursuant to this article to any city or county within which it provides water supplies no later than 60 days after the submission of its urban water management plan.

(c) Nothing in this article is intended to create a right or entitlement to water service or any specific level of water service.

(d) Nothing in this article is intended to change existing law concerning an urban water supplier's obligation to provide water service to its existing customers or to any potential future customers.

WATER CODE

SECTION 10640-10645

10640. Every urban water supplier required to prepare a plan pursuant to this part shall prepare its plan pursuant to Article 2 (commencing with Section 10630).

The supplier shall likewise periodically review the plan as required by Section 10621, and any amendments or changes required as a result of that review shall be adopted pursuant to this article.

10641. An urban water supplier required to prepare a plan may consult with, and obtain comments from, any public agency or state agency or any person who has special expertise with respect to water demand management methods and techniques.

10642. Each urban water supplier shall encourage the active involvement of diverse social, cultural, and economic elements of the population within the service area prior to and during the preparation of the plan. Prior to adopting a plan, the urban water supplier shall make the plan available for public inspection and shall hold a public hearing thereon. Prior to the hearing, notice of the time and place of hearing shall be published within the jurisdiction of the publicly owned water supplier pursuant to Section 6066 of the Government Code. The urban water supplier shall provide notice of the time and place of hearing to any city or county within which the supplier provides water supplies. A privately owned water supplier shall provide an equivalent notice within its service area. After the hearing, the plan shall be adopted as prepared or as modified after the hearing.

10643. An urban water supplier shall implement its plan adopted pursuant to this chapter in accordance with the schedule set forth in its plan.

10644. (a) An urban water supplier shall submit to the department, the California State Library, and any city or county within which the supplier provides water supplies a copy of its plan no later than 30 days after adoption. Copies of amendments or changes to the plans shall be submitted to the department, the California State Library, and any city or county within which the supplier provides water supplies within 30 days after adoption.

(b) The department shall prepare and submit to the Legislature, on or before December 31, in the years ending in six and one, a report summarizing the status of the plans adopted pursuant to this part. The report prepared by the department shall identify the exemplary elements of the individual plans. The department shall provide a copy of the report to each urban water supplier that has submitted its plan to the department. The department shall also prepare reports and provide data for any legislative hearings designed to consider the effectiveness of plans submitted pursuant to this part.

(c) (1) For the purpose of identifying the exemplary elements of the individual plans, the department shall identify in the report those water demand management measures adopted and implemented by specific urban water suppliers, and identified pursuant to Section

10631, that achieve water savings significantly above the levels established by the department to meet the requirements of Section 10631.5.

(2) The department shall distribute to the panel convened pursuant to Section 10631.7 the results achieved by the implementation of those water demand management measures described in paragraph (1).

(3) The department shall make available to the public the standard the department will use to identify exemplary water demand management measures.

10645. Not later than 30 days after filing a copy of its plan with the department, the urban water supplier and the department shall make the plan available for public review during normal business hours.

WATER CODE

SECTION 10650-10656

10650. Any actions or proceedings to attack, review, set aside, void, or annul the acts or decisions of an urban water supplier on the grounds of noncompliance with this part shall be commenced as follows:

(a) An action or proceeding alleging failure to adopt a plan shall be commenced within 18 months after that adoption is required by this part.

(b) Any action or proceeding alleging that a plan, or action taken pursuant to the plan, does not comply with this part shall be commenced within 90 days after filing of the plan or amendment thereto pursuant to Section 10644 or the taking of that action.

10651. In any action or proceeding to attack, review, set aside, void, or annul a plan, or an action taken pursuant to the plan by an urban water supplier on the grounds of noncompliance with this part, the inquiry shall extend only to whether there was a prejudicial abuse of discretion. Abuse of discretion is established if the supplier has not proceeded in a manner required by law or if the action by the water supplier is not supported by substantial evidence.

10652. The California Environmental Quality Act (Division 13 (commencing with Section 21000) of the Public Resources Code) does not apply to the preparation and adoption of plans pursuant to this part or to the implementation of actions taken pursuant to Section 10632. Nothing in this part shall be interpreted as exempting from the California Environmental Quality Act any project that would significantly affect water supplies for fish and wildlife, or any project for implementation of the plan, other than projects implementing Section 10632, or any project for expanded or additional water supplies.

10653. The adoption of a plan shall satisfy any requirements of state law, regulation, or order, including those of the State Water Resources Control Board and the Public Utilities Commission, for the preparation of water management plans or conservation plans; provided, that if the State Water Resources Control Board or the Public Utilities Commission requires additional information concerning water conservation to implement its existing authority, nothing in this part shall be deemed to limit the board or the commission in obtaining that information. The requirements of this part shall be satisfied by any urban water demand management plan prepared to meet federal laws or regulations after the effective date of this part, and which substantially meets the requirements of this part, or by any existing urban water management plan which includes the contents of a plan required under this part.

10654. An urban water supplier may recover in its rates the costs incurred in preparing its plan and implementing the reasonable water conservation measures included in the plan. Any best water management practice that is included in the plan that is identified in the

"Memorandum of Understanding Regarding Urban Water Conservation in California" is deemed to be reasonable for the purposes of this section.

10655. If any provision of this part or the application thereof to any person or circumstances is held invalid, that invalidity shall not affect other provisions or applications of this part which can be given effect without the invalid provision or application thereof, and to this end the provisions of this part are severable.

10656. An urban water supplier that does not prepare, adopt, and submit its urban water management plan to the department in accordance with this part, is ineligible to receive funding pursuant to Division 24 (commencing with Section 78500) or Division 26 (commencing with Section 79000), or receive drought assistance from the state until the urban water management plan is submitted pursuant to this article.

California Water Code

Sustainable Water Use and Demand Reduction

California Water Code Division 6, Part 2.55.

- Chapter 1. General Declarations and Policy §10608-10608.8
- Chapter 2. Definitions §10608.12
- Chapter 3. Urban Retail Water Suppliers §10608.16-10608.44
- Chapter 4. Agricultural Water Suppliers §10608.48
- Chapter 5. Sustainable Water Management §10608.50
- Chapter 6 Standardized Data Collection §10608.52
- Chapter 7 Funding Provisions §10608.56-10608.60
- Chapter 8 Quantifying Agricultural Water Use Efficiency §10608.64

Chapter 1. General Declarations and Policy

SECTION 10608-10608.8

10608. The Legislature finds and declares all of the following:

- (a) Water is a public resource that the California Constitution protects against waste and unreasonable use.
- (b) Growing population, climate change, and the need to protect and grow California's economy while protecting and restoring our fish and wildlife habitats make it essential that the state manage its water resources as efficiently as possible.
- (c) Diverse regional water supply portfolios will increase water supply reliability and reduce dependence on the Delta.
- (d) Reduced water use through conservation provides significant energy and environmental benefits, and can help protect water quality, improve streamflows, and reduce greenhouse gas emissions.
- (e) The success of state and local water conservation programs to increase efficiency of water use is best determined on the basis of measurable outcomes related to water use or efficiency.
- (f) Improvements in technology and management practices offer the potential for increasing water efficiency in California over time, providing an essential water management tool to meet the need for water for urban, agricultural, and environmental uses.
- (g) The Governor has called for a 20 percent per capita reduction in urban water use statewide by 2020.

- (h) The factors used to formulate water use efficiency targets can vary significantly from location to location based on factors including weather, patterns of urban and suburban development, and past efforts to enhance water use efficiency.
- (i) Per capita water use is a valid measure of a water provider's efforts to reduce urban water use within its service area. However, per capita water use is less useful for measuring relative water use efficiency between different water providers. Differences in weather, historical patterns of urban and suburban development, and density of housing in a particular location need to be considered when assessing per capita water use as a measure of efficiency.

10608.4. It is the intent of the Legislature, by the enactment of this part, to do all of the following:

- (a) Require all water suppliers to increase the efficiency of use of this essential resource.
- (b) Establish a framework to meet the state targets for urban water conservation identified in this part and called for by the Governor.
- (c) Measure increased efficiency of urban water use on a per capita basis.
- (d) Establish a method or methods for urban retail water suppliers to determine targets for achieving increased water use efficiency by the year 2020, in accordance with the Governor's goal of a 20-percent reduction.
- (e) Establish consistent water use efficiency planning and implementation standards for urban water suppliers and agricultural water suppliers.
- (f) Promote urban water conservation standards that are consistent with the California Urban Water Conservation Council's adopted best management practices and the requirements for demand management in Section 10631.
- (g) Establish standards that recognize and provide credit to water suppliers that made substantial capital investments in urban water conservation since the drought of the early 1990s.
- (h) Recognize and account for the investment of urban retail water suppliers in providing recycled water for beneficial uses.
- (i) Require implementation of specified efficient water management practices for agricultural water suppliers.
- (j) Support the economic productivity of California's agricultural, commercial, and industrial sectors.
- (k) Advance regional water resources management.

10608.8. (a) (1) Water use efficiency measures adopted and implemented pursuant to this part or Part 2.8 (commencing with Section 10800) are water conservation measures subject to the protections provided under Section 1011.

- (2) Because an urban agency is not required to meet its urban water use target until 2020 pursuant to subdivision (b) of Section 10608.24, an urban retail water supplier's failure to meet those targets shall not establish a violation of law for purposes of any state administrative or judicial proceeding prior to January 1, 2021. Nothing in this paragraph limits the use of data reported to the department or the board in litigation or an administrative proceeding. This paragraph shall become inoperative on January 1, 2021.
- (3) To the extent feasible, the department and the board shall provide for the use of water conservation reports required under this part to meet the requirements of Section 1011 for water conservation reporting.
- (b) This part does not limit or otherwise affect the application of Chapter 3.5 (commencing with Section 11340), Chapter 4 (commencing with Section 11370), Chapter 4.5 (commencing with Section 11400), and Chapter 5 (commencing with Section 11500) of Part 1 of Division 3 of Title 2 of the Government Code.
- (c) This part does not require a reduction in the total water used in the agricultural or urban sectors, because other factors, including, but not limited to, changes in agricultural economics or population growth may have greater effects on water use. This part does not limit the economic productivity of California's agricultural, commercial, or industrial sectors.
- (d) The requirements of this part do not apply to an agricultural water supplier that is a party to the Quantification Settlement Agreement, as defined in subdivision (a) of Section 1 of Chapter 617 of the Statutes of 2002, during the period within which the Quantification Settlement Agreement remains in effect. After the expiration of the Quantification Settlement Agreement, to the extent conservation water projects implemented as part of the Quantification Settlement Agreement remain in effect, the conserved water created as part of those projects shall be credited against the obligations of the agricultural water supplier pursuant to this part.

Chapter 2 Definitions

SECTION 10608.12

10608.12. Unless the context otherwise requires, the following definitions govern the construction of this part:

- (a) "Agricultural water supplier" means a water supplier, either publicly or privately owned, providing water to 10,000 or more irrigated acres, excluding recycled water. "Agricultural water supplier" includes a supplier or contractor for water, regardless of the basis of right, that distributes or sells water for ultimate resale to customers. "Agricultural water supplier" does not include the department.
- (b) "Base daily per capita water use" means any of the following:

- (1) The urban retail water supplier's estimate of its average gross water use, reported in gallons per capita per day and calculated over a continuous 10-year period ending no earlier than December 31, 2004, and no later than December 31, 2010.
 - (2) For an urban retail water supplier that meets at least 10 percent of its 2008 measured retail water demand through recycled water that is delivered within the service area of an urban retailwater supplier or its urban wholesale water supplier, the urban retail water supplier may extend the calculation described in paragraph (1) up to an additional five years to a maximum of a continuous 15-year period ending no earlier than December 31, 2004, and no later than December 31, 2010.
 - (3) For the purposes of Section 10608.22, the urban retail water supplier's estimate of its average gross water use, reported in gallons per capita per day and calculated over a continuous five-year period ending no earlier than December 31, 2007, and no later than December 31, 2010.
- (c) "Baseline commercial, industrial, and institutional water use" means an urban retail water supplier's base daily per capita water use for commercial, industrial, and institutional users.
- (d) "Commercial water user" means a water user that provides or distributes a product or service.
- (e) "Compliance daily per capita water use" means the gross water use during the final year of the reporting period, reported in gallons per capita per day.
- (f) "Disadvantaged community" means a community with an annual median household income that is less than 80 percent of the statewide annual median household income.
- (g) "Gross water use" means the total volume of water, whether treated or untreated, entering the distribution system of an urban retail water supplier, excluding all of the following:
- (1) Recycled water that is delivered within the service area of an urban retail water supplier or its urban wholesale water supplier.
 - (2) The net volume of water that the urban retail water supplier places into long-term storage.
 - (3) The volume of water the urban retail water supplier conveys for use by another urban water supplier.
 - (4) The volume of water delivered for agricultural use, except as otherwise provided in subdivision (f) of Section 10608.24.
- (h) "Industrial water user" means a water user that is primarily a manufacturer or processor of materials as defined by the North American Industry Classification

System code sectors 31 to 33, inclusive, or an entity that is a water user primarily engaged in research and development.

- (i) "Institutional water user" means a water user dedicated to public service. This type of user includes, among other users, higher education institutions, schools, courts, churches, hospitals, government facilities, and nonprofit research institutions.
- (j) "Interim urban water use target" means the midpoint between the urban retail water supplier's base daily per capita water use and the urban retail water supplier's urban water use target for 2020.
- (k) "Locally cost effective" means that the present value of the local benefits of implementing an agricultural efficiency water management practice is greater than or equal to the present value of the local cost of implementing that measure.
- (l) "Process water" means water used for producing a product or product content or water used for research and development, including, but not limited to, continuous manufacturing processes, water used for testing and maintaining equipment used in producing a product or product content, and water used in combined heat and power facilities used in producing a product or product content. Process water does not mean incidental water uses not related to the production of a product or product content, including, but not limited to, water used for restrooms, landscaping, air conditioning, heating, kitchens, and laundry.
- (m) "Recycled water" means recycled water, as defined in subdivision (n) of Section 13050, that is used to offset potable demand, including recycled water supplied for direct use and indirect potable reuse, that meets the following requirements, where applicable:
 - (1) For groundwater recharge, including recharge through spreading basins, water supplies that are all of the following:
 - (A) Metered.
 - (B) Developed through planned investment by the urban water supplier or a wastewater treatment agency.
 - (C) Treated to a minimum tertiary level.
 - (D) Delivered within the service area of an urban retail water supplier or its urban wholesale water supplier that helps an urban retail water supplier meet its urban water use target.
 - (2) For reservoir augmentation, water supplies that meet the criteria of paragraph (1) and are conveyed through a distribution system constructed specifically for recycled water.

- (n) "Regional water resources management" means sources of supply resulting from watershed-based planning for sustainable local water reliability or any of the following alternative sources of water:
 - (1) The capture and reuse of stormwater or rainwater.
 - (2) The use of recycled water.
 - (3) The desalination of brackish groundwater.
 - (4) The conjunctive use of surface water and groundwater in a manner that is consistent with the safe yield of the groundwater basin.
- (o) "Reporting period" means the years for which an urban retail water supplier reports compliance with the urban water use targets.
- (p) "Urban retail water supplier" means a water supplier, either publicly or privately owned, that directly provides potable municipal water to more than 3,000 end users or that supplies more than 3,000 acre-feet of potable water annually at retail for municipal purposes.
- (q) "Urban water use target" means the urban retail water supplier's targeted future daily per capita water use.
- (r) "Urban wholesale water supplier," means a water supplier, either publicly or privately owned, that provides more than 3,000 acre-feet of water annually at wholesale for potable municipal purposes.

Chapter 3 Urban Retail Water Suppliers

SECTION 10608.16-10608.44

- 10608.16. (a) The state shall achieve a 20-percent reduction in urban per capita water use in California on or before December 31, 2020.
 - (b) The state shall make incremental progress towards the state target specified in subdivision (a) by reducing urban per capita water use by at least 10 percent on or before December 31, 2015.
- 10608.20. (a) (1) Each urban retail water supplier shall develop urban water use targets and an interim urban water use target by July 1, 2011. Urban retail water suppliers may elect to determine and report progress toward achieving these targets on an individual or regional basis, as provided in subdivision (a) of Section 10608.28, and may determine the targets on a fiscal year or calendar year basis.
 - (2) It is the intent of the Legislature that the urban water use targets described in paragraph (1) cumulatively result in a 20-percent reduction from the baseline daily per capita water use by December 31, 2020.

- (b) An urban retail water supplier shall adopt one of the following methods for determining its urban water use target pursuant to subdivision (a):
- (1) Eighty percent of the urban retail water supplier's baseline per capita daily water use.
 - (2) The per capita daily water use that is estimated using the sum of the following performance standards:
 - (A) For indoor residential water use, 55 gallons per capita daily water use as a provisional standard. Upon completion of the department's 2016 report to the Legislature pursuant to Section 10608.42, this standard may be adjusted by the Legislature by statute.
 - (B) For landscape irrigated through dedicated or residential meters or connections, water efficiency equivalent to the standards of the Model Water Efficient Landscape Ordinance set forth in Chapter 2.7 (commencing with Section 490) of Division 2 of Title 23 of the California Code of Regulations, as in effect the later of the year of the landscape's installation or 1992. An urban retail water supplier using the approach specified in this subparagraph shall use satellite imagery, site visits, or other best available technology to develop an accurate estimate of landscaped areas.
 - (C) For commercial, industrial, and institutional uses, a 10-percent reduction in water use from the baseline commercial, industrial, and institutional water use by 2020.
 - (3) Ninety-five percent of the applicable state hydrologic region target, as set forth in the state's draft 20x2020 Water Conservation Plan (dated April 30, 2009). If the service area of an urban water supplier includes more than one hydrologic region, the supplier shall apportion its service area to each region based on population or area.
 - (4) A method that shall be identified and developed by the department, through a public process, and reported to the Legislature no later than December 31, 2010. The method developed by the department shall identify per capita targets that cumulatively result in a statewide 20-percent reduction in urban daily per capita water use by December 31, 2020. In developing urban daily per capita water use targets, the department shall do all of the following:
 - (A) Consider climatic differences within the state.
 - (B) Consider population density differences within the state.
 - (C) Provide flexibility to communities and regions in meeting the targets.
 - (D) Consider different levels of per capita water use according to plant water needs in different regions.

- (E) Consider different levels of commercial, industrial, and institutional water use in different regions of the state.
 - (F) Avoid placing an undue hardship on communities that have implemented conservation measures or taken actions to keep per capita water use low.
- (c) If the department adopts a regulation pursuant to paragraph (4) of subdivision (b) that results in a requirement that an urban retail water supplier achieve a reduction in daily per capita water use that is greater than 20 percent by December 31, 2020, an urban retail water supplier that adopted the method described in paragraph (4) of subdivision (b) may limit its urban water use target to a reduction of not more than 20 percent by December 31, 2020, by adopting the method described in paragraph (1) of subdivision (b).
 - (d) The department shall update the method described in paragraph (4) of subdivision (b) and report to the Legislature by December 31, 2014. An urban retail water supplier that adopted the method described in paragraph (4) of subdivision (b) may adopt a new urban daily per capita water use target pursuant to this updated method.
 - (e) An urban retail water supplier shall include in its urban water management plan due in 2010 pursuant to Part 2.6 (commencing with Section 10610) the baseline daily per capita water use, urban water use target, interim urban water use target, and compliance daily per capita water use, along with the bases for determining those estimates, including references to supporting data.
 - (f) When calculating per capita values for the purposes of this chapter, an urban retail water supplier shall determine population using federal, state, and local population reports and projections.
 - (g) An urban retail water supplier may update its 2020 urban water use target in its 2015 urban water management plan required pursuant to Part 2.6 (commencing with Section 10610).
 - (h) (1) The department, through a public process and in consultation with the California Urban Water Conservation Council, shall develop technical methodologies and criteria for the consistent implementation of this part, including, but not limited to, both of the following:
 - (A) Methodologies for calculating base daily per capita water use, baseline commercial, industrial, and institutional water use, compliance daily per capita water use, gross water use, service area population, indoor residential water use, and landscaped area water use.
 - (B) Criteria for adjustments pursuant to subdivisions (d) and (e) of Section 10608.24.
 - (2) The department shall post the methodologies and criteria developed pursuant to this subdivision on its Internet Web site, and make written copies available, by October 1, 2010. An urban retail water supplier shall use the methods developed by the department in compliance with this part.

- (i) (1) The department shall adopt regulations for implementation of the provisions relating to process water in accordance with subdivision (l) of Section 10608.12, subdivision (e) of Section 10608.24, and subdivision (d) of Section 10608.26.
- (2) The initial adoption of a regulation authorized by this subdivision is deemed to address an emergency, for purposes of Sections 11346.1 and 11349.6 of the Government Code, and the department is hereby exempted for that purpose from the requirements of subdivision (b) of Section 11346.1 of the Government Code. After the initial adoption of an emergency regulation pursuant to this subdivision, the department shall not request approval from the Office of Administrative Law to readopt the regulation as an emergency regulation pursuant to Section 11346.1 of the Government Code.
- (j) (1) An urban retail water supplier is granted an extension to July 1, 2011, for adoption of an urban water management plan pursuant to Part 2.6 (commencing with Section 10610) due in 2010 to allow the use of technical methodologies developed by the department pursuant to paragraph (4) of subdivision (b) and subdivision (h). An urban retail water supplier that adopts an urban water management plan due in 2010 that does not use the methodologies developed by the department pursuant to subdivision (h) shall amend the plan by July 1, 2011, to comply with this part.
- (2) An urban wholesale water supplier whose urban water management plan prepared pursuant to Part 2.6 (commencing with Section 10610) was due and not submitted in 2010 is granted an extension to July 1, 2011, to permit coordination between an urban wholesale water supplier and urban retail water suppliers.

10608.22. Notwithstanding the method adopted by an urban retail water supplier pursuant to Section 10608.20, an urban retail water supplier's per capita daily water use reduction shall be no less than 5 percent of base daily per capita water use as defined in paragraph(3) of subdivision (b) of Section 10608.12. This section does not apply to an urban retail water supplier with a base daily per capita water use at or below 100 gallons per capita per day.

- 10608.24. (a) Each urban retail water supplier shall meet its interim urban water use target by December 31, 2015.
- (b) Each urban retail water supplier shall meet its urban water use target by December 31, 2020.
- (c) An urban retail water supplier's compliance daily per capita water use shall be the measure of progress toward achievement of its urban water use target.
- (d) (1) When determining compliance daily per capita water use, an urban retail water supplier may consider the following factors:
- (A) Differences in evapotranspiration and rainfall in the baseline period compared to the compliance reporting period.

(B) Substantial changes to commercial or industrial water use resulting from increased business output and economic development that have occurred during the reporting period.

(C) Substantial changes to institutional water use resulting from fire suppression services or other extraordinary events, or from new or expanded operations, that have occurred during the reporting period.

(2) If the urban retail water supplier elects to adjust its estimate of compliance daily per capita water use due to one or more of the factors described in paragraph (1), it shall provide the basis for, and data supporting, the adjustment in the report required by Section 10608.40.

(e) When developing the urban water use target pursuant to Section 10608.20, an urban retail water supplier that has a substantial percentage of industrial water use in its service area may exclude process water from the calculation of gross water use to avoid a disproportionate burden on another customer sector.

(f) (1) An urban retail water supplier that includes agricultural water use in an urban water management plan pursuant to Part 2.6 (commencing with Section 10610) may include the agricultural water use in determining gross water use. An urban retail water supplier that includes agricultural water use in determining gross water use and develops its urban water use target pursuant to paragraph (2) of subdivision (b) of Section 10608.20 shall use a water efficient standard for agricultural irrigation of 100 percent of reference evapotranspiration multiplied by the crop coefficient for irrigated acres.

(2) An urban retail water supplier, that is also an agricultural water supplier, is not subject to the requirements of Chapter 4 (commencing with Section 10608.48), if the agricultural water use is incorporated into its urban water use target pursuant to paragraph (1).

10608.26. (a) In complying with this part, an urban retail water supplier shall conduct at least one public hearing to accomplish all of the following:

(1) Allow community input regarding the urban retail water supplier's implementation plan for complying with this part.

(2) Consider the economic impacts of the urban retail water supplier's implementation plan for complying with this part.

(3) Adopt a method, pursuant to subdivision (b) of Section 10608.20, for determining its urban water use target.

(b) In complying with this part, an urban retail water supplier may meet its urban water use target through efficiency improvements in any combination among its customer sectors. An urban retail water supplier shall avoid placing a disproportionate burden on any customer sector.

(c) For an urban retail water supplier that supplies water to a United States Department of Defense military installation, the urban retail water supplier's

implementation plan for complying with this part shall consider the conservation of that military installation under federal Executive Order 13514.

- (d) (1) Any ordinance or resolution adopted by an urban retail water supplier after the effective date of this section shall not require existing customers as of the effective date of this section, to undertake changes in product formulation, operations, or equipment that would reduce process water use, but may provide technical assistance and financial incentives to those customers to implement efficiency measures for process water. This section shall not limit an ordinance or resolution adopted pursuant to a declaration of drought emergency by an urban retail water supplier.
- (2) This part shall not be construed or enforced so as to interfere with the requirements of Chapter 4 (commencing with Section 113980) to Chapter 13 (commencing with Section 114380), inclusive, of Part 7 of Division 104 of the Health and Safety Code, or any requirement or standard for the protection of public health, public safety, or worker safety established by federal, state, or local government or recommended by recognized standard setting organizations or trade associations.

10608.28. (a) An urban retail water supplier may meet its urban water use target within its retail service area, or through mutual agreement, by any of the following:

- (1) Through an urban wholesale water supplier.
 - (2) Through a regional agency authorized to plan and implement water conservation, including, but not limited to, an agency established under the Bay Area Water Supply and Conservation Agency Act (Division 31 (commencing with Section 81300)).
 - (3) Through a regional water management group as defined in Section 10537.
 - (4) By an integrated regional water management funding area.
 - (5) By hydrologic region.
 - (6) Through other appropriate geographic scales for which computation methods have been developed by the department.
- (b) A regional water management group, with the written consent of its member agencies, may undertake any or all planning, reporting, and implementation functions under this chapter for the member agencies that consent to those activities. Any data or reports shall provide information both for the regional water management group and separately for each consenting urban retail water supplier and urban wholesale water supplier.

10608.32. All costs incurred pursuant to this part by a water utility regulated by the Public Utilities Commission may be recoverable in rates subject to review and approval by the Public Utilities Commission, and may be recorded in a memorandum account and reviewed for reasonableness by the Public Utilities Commission.

- 10608.36. Urban wholesale water suppliers shall include in the urban water management plans required pursuant to Part 2.6 (commencing with Section 10610) an assessment of their present and proposed future measures, programs, and policies to help achieve the water use reductions required by this part.
- 10608.40. Urban water retail suppliers shall report to the department on their progress in meeting their urban water use targets as part of their urban water management plans submitted pursuant to Section 10631. The data shall be reported using a standardized form developed pursuant to Section 10608.52.
- 10608.42. (a) The department shall review the 2015 urban water management plans and report to the Legislature by July 1, 2017, on progress towards achieving a 20-percent reduction in urban water use by December 31, 2020. The report shall include recommendations on changes to water efficiency standards or urban water use targets to achieve the 20-percent reduction and to reflect updated efficiency information and technology changes.
- (b) A report to be submitted pursuant to subdivision (a) shall be submitted in compliance with Section 9795 of the Government Code.
- 10608.43. The department, in conjunction with the California Urban Water Conservation Council, by April 1, 2010, shall convene a representative task force consisting of academic experts, urban retail water suppliers, environmental organizations, commercial water users, industrial water users, and institutional water users to develop alternative best management practices for commercial, industrial, and institutional users and an assessment of the potential statewide water use efficiency improvement in the commercial, industrial, and institutional sectors that would result from implementation of these best management practices. The taskforce, in conjunction with the department, shall submit a report to the Legislature by April 1, 2012, that shall include a review of multiple sectors within commercial, industrial, and institutional users and that shall recommend water use efficiency standards for commercial, industrial, and institutional users among various sectors of water use. The report shall include, but not be limited to, the following:
- (a) Appropriate metrics for evaluating commercial, industrial, and institutional water use.
- (b) Evaluation of water demands for manufacturing processes, goods, and cooling.
- (c) Evaluation of public infrastructure necessary for delivery of recycled water to the commercial, industrial, and institutional sectors.
- (d) Evaluation of institutional and economic barriers to increased recycled water use within the commercial, industrial, and institutional sectors.
- (e) Identification of technical feasibility and cost of the best management practices to achieve more efficient water use statewide in the commercial, industrial, and institutional sectors that is consistent with the public interest and reflects past investments in water use efficiency.
- 10608.44. Each state agency shall reduce water use at facilities it operates to support urban retail water suppliers in meeting the target identified in Section 10608.16.

Chapter 4 Agricultural Water Suppliers

SECTION 10608.48

- 10608.48. (a) On or before July 31, 2012, an agricultural water supplier shall implement efficient water management practices pursuant to subdivisions (b) and (c).
- (b) Agricultural water suppliers shall implement all of the following critical efficient management practices:
- (1) Measure the volume of water delivered to customers with sufficient accuracy to comply with subdivision (a) of Section 531.10 and to implement paragraph (2).
 - (2) Adopt a pricing structure for water customers based at least in part on quantity delivered.
- (c) Agricultural water suppliers shall implement additional efficient management practices, including, but not limited to, practices to accomplish all of the following, if the measures are locally cost effective and technically feasible:
- (1) Facilitate alternative land use for lands with exceptionally high water duties or whose irrigation contributes to significant problems, including drainage.
 - (2) Facilitate use of available recycled water that otherwise would not be used beneficially, meets all health and safety criteria, and does not harm crops or soils.
 - (3) Facilitate the financing of capital improvements for on-farm irrigation systems.
 - (4) Implement an incentive pricing structure that promotes one or more of the following goals:
 - (A) More efficient water use at the farm level.
 - (B) Conjunctive use of groundwater.
 - (C) Appropriate increase of groundwater recharge.
 - (D) Reduction in problem drainage.
 - (E) Improved management of environmental resources.
 - (F) Effective management of all water sources throughout the year by adjusting seasonal pricing structures based on current conditions.

- (5) Expand line or pipe distribution systems, and construct regulatory reservoirs to increase distribution system flexibility and capacity, decrease maintenance, and reduce seepage.
 - (6) Increase flexibility in water ordering by, and delivery to, water customers within operational limits.
 - (7) Construct and operate supplier spill and tailwater recovery systems.
 - (8) Increase planned conjunctive use of surface water and groundwater within the supplier service area.
 - (9) Automate canal control structures.
 - (10) Facilitate or promote customer pump testing and evaluation.
 - (11) Designate a water conservation coordinator who will develop and implement the water management plan and prepare progress reports.
 - (12) Provide for the availability of water management services to water users. These services may include, but are not limited to, all of the following:
 - (A) On-farm irrigation and drainage system evaluations.
 - (B) Normal year and real-time irrigation scheduling and crop evapotranspiration information.
 - (C) Surface water, groundwater, and drainage water quantity and quality data.
 - (D) Agricultural water management educational programs and materials for farmers, staff, and the public.
 - (13) Evaluate the policies of agencies that provide the supplier with water to identify the potential for institutional changes to allow more flexible water deliveries and storage.
 - (14) Evaluate and improve the efficiencies of the supplier's pumps.
- (d) Agricultural water suppliers shall include in the agricultural water management plans required pursuant to Part 2.8 (commencing with Section 10800) a report on which efficient water management practices have been implemented and are planned to be implemented, an estimate of the water use efficiency improvements that have occurred since the last report, and an estimate of the water use efficiency improvements estimated to occur five and 10 years in the future. If an agricultural water supplier determines that an efficient water management practice is not locally cost effective or technically feasible, the supplier shall submit information documenting that determination.
- (e) The data shall be reported using a standardized form developed pursuant to Section 10608.52.

- (f) An agricultural water supplier may meet the requirements of subdivisions (d) and (e) by submitting to the department a water conservation plan submitted to the United States Bureau of Reclamation that meets the requirements described in Section 10828.
- (g) On or before December 31, 2013, December 31, 2016, and December 31, 2021, the department, in consultation with the board, shall submit to the Legislature a report on the agricultural efficient water management practices that have been implemented and are planned to be implemented and an assessment of the manner in which the implementation of those efficient water management practices has affected and will affect agricultural operations, including estimated water use efficiency improvements, if any.
- (h) The department may update the efficient water management practices required pursuant to subdivision (c), in consultation with the Agricultural Water Management Council, the United States Bureau of Reclamation, and the board. All efficient water management practices for agricultural water use pursuant to this chapter shall be adopted or revised by the department only after the department conducts public hearings to allow participation of the diverse geographical areas and interests of the state.
- (i) (1) The department shall adopt regulations that provide for a range of options that agricultural water suppliers may use or implement to comply with the measurement requirement in paragraph (1) of subdivision (b).

(2) The initial adoption of a regulation authorized by this subdivision is deemed to address an emergency, for purposes of Sections 11346.1 and 11349.6 of the Government Code, and the department is hereby exempted for that purpose from the requirements of subdivision (b) of Section 11346.1 of the Government Code. After the initial adoption of an emergency regulation pursuant to this subdivision, the department shall not request approval from the Office of Administrative Law to readopt the regulation as an emergency regulation pursuant to Section 11346.1 of the Government Code.

Chapter 5 Sustainable Water Management

Section 10608.50

- 10608.50. (a) The department, in consultation with the board, shall promote implementation of regional water resources management practices through increased incentives and removal of barriers consistent with state and federal law. Potential changes may include, but are not limited to, all of the following:
- (1) Revisions to the requirements for urban and agricultural water management plans.
 - (2) Revisions to the requirements for integrated regional water management plans.

- (3) Revisions to the eligibility for state water management grants and loans.
 - (4) Revisions to state or local permitting requirements that increase water supply opportunities, but do not weaken water quality protection under state and federal law.
 - (5) Increased funding for research, feasibility studies, and project construction.
 - (6) Expanding technical and educational support for local land use and water management agencies.
- (b) No later than January 1, 2011, and updated as part of the California Water Plan, the department, in consultation with the board, and with public input, shall propose new statewide targets, or review and update existing statewide targets, for regional water resources management practices, including, but not limited to, recycled water, brackish groundwater desalination, and infiltration and direct use of urban stormwater runoff.

Chapter 6 Standardized Data Collection

SECTION 10608.52

- 10608.52. (a) The department, in consultation with the board, the California Bay-Delta Authority or its successor agency, the State Department of Public Health, and the Public Utilities Commission, shall develop a single standardized water use reporting form to meet the water use information needs of each agency, including the needs of urban water suppliers that elect to determine and report progress toward achieving targets on a regional basis as provided in subdivision (a) of Section 10608.28.
- (b) At a minimum, the form shall be developed to accommodate information sufficient to assess an urban water supplier's compliance with conservation targets pursuant to Section 10608.24 and an agricultural water supplier's compliance with implementation of efficient water management practices pursuant to subdivision (a) of Section 10608.48. The form shall accommodate reporting by urban water suppliers on an individual or regional basis as provided in subdivision (a) of Section 10608.28.

Chapter 7 Funding Provisions

Section 10608.56-10608.60

- 10608.56. (a) On and after July 1, 2016, an urban retail water supplier is not eligible for a water grant or loan awarded or administered by the state unless the supplier complies with this part.

- (b) On and after July 1, 2013, an agricultural water supplier is not eligible for a water grant or loan awarded or administered by the state unless the supplier complies with this part.
 - (c) Notwithstanding subdivision (a), the department shall determine that an urban retail water supplier is eligible for a water grant or loan even though the supplier has not met the per capita reductions required pursuant to Section 10608.24, if the urban retail water supplier has submitted to the department for approval a schedule, financing plan, and budget, to be included in the grant or loan agreement, for achieving the per capita reductions. The supplier may request grant or loan funds to achieve the per capita reductions to the extent the request is consistent with the eligibility requirements applicable to the water funds.
 - (d) Notwithstanding subdivision (b), the department shall determine that an agricultural water supplier is eligible for a water grant or loan even though the supplier is not implementing all of the efficient water management practices described in Section 10608.48, if the agricultural water supplier has submitted to the department for approval a schedule, financing plan, and budget, to be included in the grant or loan agreement, for implementation of the efficient water management practices. The supplier may request grant or loan funds to implement the efficient water management practices to the extent the request is consistent with the eligibility requirements applicable to the water funds.
 - (e) Notwithstanding subdivision (a), the department shall determine that an urban retail water supplier is eligible for a water grant or loan even though the supplier has not met the per capita reductions required pursuant to Section 10608.24, if the urban retail water supplier has submitted to the department for approval documentation demonstrating that its entire service area qualifies as a disadvantaged community.
 - (f) The department shall not deny eligibility to an urban retail water supplier or agricultural water supplier in compliance with the requirements of this part and Part 2.8 (commencing with Section 10800), that is participating in a multiagency water project, or an integrated regional water management plan, developed pursuant to Section 75026 of the Public Resources Code, solely on the basis that one or more of the agencies participating in the project or plan is not implementing all of the requirements of this part or Part 2.8 (commencing with Section 10800).
- 10608.60. (a) It is the intent of the Legislature that funds made available by Section 75026 of the Public Resources Code should be expended, consistent with Division 43 (commencing with Section 75001) of the Public Resources Code and upon appropriation by the Legislature, for grants to implement this part. In the allocation of funding, it is the intent of the Legislature that the department give consideration to disadvantaged communities to assist in implementing the requirements of this part.
- (b) It is the intent of the Legislature that funds made available by Section 75041 of the Public Resources Code, should be expended, consistent with Division 43 (commencing with Section 75001) of the Public Resources Code and upon appropriation by the Legislature, for direct expenditures to implement this part.

Chapter 8 Quantifying Agricultural Water Use Efficiency

SECTION 10608.64

10608.64. The department, in consultation with the Agricultural Water Management Council, academic experts, and other stakeholders, shall develop a methodology for quantifying the efficiency of agricultural water use. Alternatives to be assessed shall include, but not be limited to, determination of efficiency levels based on crop type or irrigation system distribution uniformity. On or before December 31, 2011, the department shall report to the Legislature on a proposed methodology and a plan for implementation. The plan shall include the estimated implementation costs and the types of data needed to support the methodology. Nothing in this section authorizes the department to implement a methodology established pursuant to this section.



Appendix F: DWR Population Tool Results

City of Torrance 2015 Urban Water Management Plan

Please print this page to a PDF and include as part of your UWMP submittal.

Confirmation Information			
Generated By	Water Supplier Name	Confirmation #	Generated On
Phong Tran	Torrance City Of	8151929557	6/16/2016 10:02:23 AM

Boundary Information		
Census Year	Boundary Filename	Internal Boundary ID
1990	No Boundary Selected	N/A
2000	Torrance Service Boundary 05-02-16.kml	1056
2010	Torrance Service Boundary 05-02-16.kml	1056
1990	No Boundary Selected	N/A
2000	Torrance Service Boundary 05-02-16.kml	1056
2010	Torrance Service Boundary 05-02-16.kml	1056

Baseline Period Ranges

10 to 15-year baseline period

Number of years in baseline period:

Year beginning baseline period range:

Year ending baseline period range¹: 2010

5-year baseline period

Year beginning baseline period range:

Year ending baseline period range²: 2010

¹ The ending year must be between December 31, 2004 and December 31, 2010.

² The ending year must be between December 31, 2007 and December 31, 2010.

Persons-Per-SF Connection and Persons-Per-MF/GQ Connection

Year	Census Block Group Level	Census Block Level			# SF Connections	# MF/GQ Connections	Persons per SF Connection	Persons per MF/GQ Connection
	% Population in SF Housing	Service Area Population	Population in SF Housing (calculated)	Population in MF/GQ Housing (calculated)				
1990	N/A	0	N/A	N/A			3.26	12.04
1991	-	-	-	-	-	-	3.27	12.09
1992	-	-	-	-	-	-	3.28	12.14
1993	-	-	-	-	-	-	3.29	12.20
1994	-	-	-	-	-	-	3.30	12.25
1995	-	-	-	-	-	-	3.30	12.30
1996	-	-	-	-	-	-	3.31	12.36
1997	-	-	-	-	-	-	3.32	12.41
1998	-	-	-	-	-	-	3.33	12.46
1999	-	-	-	-	-	-	3.34	12.52
2000	69.33%	97,964	67,923	30,041	20287	2390	3.35	12.57
2001	-	-	-	-	-	-	3.36	12.62
2002	-	-	-	-	-	-	3.37	12.68
2003	-	-	-	-	-	-	3.38	12.73
2004	-	-	-	-	-	-	3.39	12.78
2005	-	-	-	-	-	-	3.40	12.84
2006	-	-	-	-	-	-	3.40	12.89
2007	-	-	-	-	-	-	3.41	12.94
2008	-	-	-	-	-	-	3.42	12.99
2009	-	-	-	-	-	-	3.43	13.05
2010	68.82%	104,078	71,623	32,455	20842	2477	3.44	13.10
2015	-	-	-	-	-	-	3.48 *	13.37 *

Population Using Persons-Per-SF Connection and Persons-Per-MF/GQ Connection

Year		# SF Connections	# MF/GQ Connections	Persons per SF Connection	Persons per MF/GQ Connection	SF Population	MF/GQ Population	Total Population
10 to 15 Year Baseline Population Calculations								
Year 1	2001			3.36	12.62			
Year 2	2002			3.37	12.68			
Year 3	2003			3.38	12.73			
Year 4	2004			3.39	12.78			
Year 5	2005	20487	2413	3.40	12.84	69,553	30,971	100,524
Year 6	2006	20286	2370	3.40	12.89	69,054	30,545	99,598
Year 7	2007	20711	2450	3.41	12.94	70,687	31,705	102,392
Year 8	2008	20790	2467	3.42	12.99	71,143	32,056	103,200
Year 9	2009	20809	2466	3.43	13.05	71,396	32,174	103,570
Year 10	2010	20842	2477	3.44	13.10	71,623	32,455	104,078
5 Year Baseline Population Calculations								
Year 1	2006	20286	2370	3.40	12.89	69,054	30,545	99,598
Year 2	2007	20711	2450	3.41	12.94	70,687	31,705	102,392
Year 3	2008	20790	2467	3.42	12.99	71,143	32,056	103,200
Year 4	2009	20809	2466	3.43	13.05	71,396	32,174	103,570
Year 5	2010	20842	2477	3.44	13.10	71,623	32,455	104,078
2015 Compliance Year Population Calculations								
2015		20944	2432	3.48 *	13.37 *	72,842	32,516	105,358

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Appendix G: West Coast Basin Judgment

City of Torrance 2015 Urban Water Management Plan

West Coast Basin Judgment

California Water Service Company, et al. vs. City of Compton, et al.

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Non-Consumptive Practices Amendment

INTRODUCTION

The above - entitled matter came on regularly for further trial before the Honorable George Francis, Judge of the Superior Court of the State of California, assigned by the Chairman of the Judicial Council to sit in this case on Friday the 21st day of July, 1961. Thereupon plaintiffs filed a dismissal of the action as to certain defendants named in the Complaint and in the Amended Complaint herein who are not mentioned or referred to in Paragraph III of this Judgment, and the further trial of the action proceeded in respect to the remaining parties.

The objections to the Report of Referee and to all supplemental Reports thereto, having been considered upon exceptions thereto filed with the Clerk of the Court in the manner of and within the time allowed by law, were overruled.

Oral and documentary evidence was introduced, and the matter was submitted to the Court for decision. Findings of Fact, Conclusions of Law and Judgment herein have heretofore been signed and filed.

Pursuant to the reserved and continuing jurisdiction of the Court under the Judgment herein, certain amendments to said Judgment and temporary Orders have heretofore been made and entered.

Continuing jurisdiction of the Court under said Judgment is currently assigned to the HONORABLE JULIUS M. TITLE.

The motion of defendant herein, DOMINGUEZ WATER CORPORATION, for further amendments to the Judgment, notice thereof and of the hearing thereon having been duly and regularly given to all parties, came on for hearing in Department 48 of the above-entitled Court on March 21, 1980, at 1:30 o'clock P.M., before said HONORABLE JULIUS M. TITLE. Defendant, DOMINGUEZ WATER CORPORATION, was represented by its attorneys, Helm, Budinger & Lemieux, and Ralph B. Helm. Various other parties were represented by counsel of record appearing on the Clerk's records. Hearing thereon was concluded on that date. The within "Amended Judgment" incorporates amendments and orders heretofore made to the extent presently operable and amendments pursuant to said last mentioned motion. To the extent this Amended Judgment is a restatement of the Judgment as heretofore amended, it is for convenience in incorporating all matters in one document, it is not a readjudication of such matters and is not intended to reopen any such matters. As used hereinafter the word "Judgment" shall include the original Judgment as amended to date.

NOW, THEREFORE, IT IS HEREBY ORDERED, ADJUDGED AND DECREED AS FOLLOWS:

I. Existence of Basin and Boundaries Thereof.

There exists in the County of Los Angeles, State of California, an underground water basin or reservoir known and hereinafter referred to as "West Coast Basin", "West Basin" or the "Basin", and the boundaries thereof are described as follows:

Commencing at a point in the Baldwin Hills about 1300 feet north and about 100 feet west of the intersection of Marvale Drive and Northridge Drive; thence through a point about 200 feet northeasterly along Northridge Drive from the intersection of Marvale and Northridge Drives to the base of the escarpment of the Potrero fault; thence along the base of the escarpment of the Potrero fault in a straight line passing through a point about 200 feet south of the intersection of Century and Crenshaw Boulevards and extending about 2650 feet beyond this point to the southerly end of the Potrero escarpment; thence from the southerly end of the Potrero escarpment in a line passing about 700 feet south of the intersection of Western Avenue and Imperial Boulevard and about 400 feet north of the intersection of El Segundo Boulevard and Vermont Avenue and about 1700 feet south of the intersection of El Segundo Boulevard and Figueroa Street to the northerly end of the escarpment of the Avalon-Compton fault at a point on said fault about 700 feet west of the intersection of Avalon Boulevard and Rosecrans Avenue; thence along the escarpment of the Avalon-Compton fault to a point in the Dominguez Hills located about 1300 feet north and about 850 feet west of the intersection of Central Avenue and Victoria Street; thence along the crest of the Dominguez Hills in a straight line to a point on Alameda Street about 2900 feet north of Del Amo Boulevard as measured along Alameda Street; thence in a straight line extending through a point located on Del Amo Boulevard about 900 feet west of the Pacific Electric Railway to a point about 100 feet north and west of the intersection of Bixby Road and Del Mar Avenue; thence in a straight line to a point located about 750 feet west and about 730 feet south of the intersection of Wardlow Road and Long Beach Boulevard at the escarpment of the Cherry Hill fault; thence along the escarpment of the Cherry Hill fault through the intersection of Orange Avenue and Willow Street to a point about 400 feet east of the intersection of Walnut and Creston Avenues; thence to a point on Pacific Coast Highway about 300 feet west of its intersection with Obispo Avenue; thence along Pacific Coast Highway easterly to a point located about 650 feet west of the intersection of the center line of said Pacific

Coast Highway with the intersection of the center line of Lakewood Boulevard; thence along the escarpment of the Reservoir Hill fault to a point about 650 feet north and about 700 feet east of the intersection of Anaheim Street and Ximeno Avenue; thence along the trace of said Reservoir Hill fault to a point on the Los Angeles - Orange County line about 1700 feet northeast of the Long Beach City limit measured along the County line; thence along said Los Angeles - Orange County line in a southwesterly direction to the shore line of the Pacific Ocean; thence in a northerly and westerly direction along the shore line of the Pacific Ocean to the intersection of said shore line with the southerly end of the drainage divide of the Palos Verdes Hills; thence along the drainage divide of the Palos Verdes Hills to the intersection of the northerly end of said drainage divide with the shore line of the Pacific Ocean; thence northerly along the shore line of the Pacific Ocean to the intersection of said shore line with the westerly projection of the crest of the Ballona escarpment; thence easterly along the crest of the Ballona escarpment to the mouth of Centinela Creek; thence easterly from the mouth of Centinela Creek across the Baldwin Hills in a line encompassing the entire watershed of Centinela Creek to the point of beginning

All streets, railways and boundaries of Cities and Counties hereinabove referred to are as the same existed at 12:00 o'clock noon on August 20, 1961.

The area included within the foregoing boundaries is approximately 101,000 acres in extent.

II. Definitions:

1 Basin, West Coast Basin and West Basin, as these terms are interchangeably used herein, mean the ground water basin underlying the area described in Paragraph I hereof.

2 A fiscal year, as that term is used herein, is a twelve month period beginning July 1 and ending June 30.

3 A water purveyor, as that term is used in Paragraph XII hereof, means a party which sells water to the public, whether a regulated public utility, mutual water company or public entity, which has a connection or connections for the taking of imported water through The Metropolitan Water District of Southern California, through West Basin Municipal Water District, or access to such imported water through such connection, and which normally supplies at least a part of its customers' water needs with such imported water.

4 A water year, as that term is used herein, is a twelve month period beginning October 1 and ending September 30, until it is changed to a "fiscal year," as provided in Paragraph XVI hereof.

III. Declaration of Rights - Water Rights Adjudicated.

Certain of the parties to this action have no right to extract water from the Basin. The name of each of said parties is listed below with a zero following his name, and the absence of such right in said parties is hereby established and declared. Certain of the parties to this action and/or their successors in interest (through September 30, 1978) are the owners of rights to extract water from the Basin, which rights are of the same legal force and effect and without priority with reference to each other, and the amount of such rights, stated in acre-feet per year, hereinafter referred to as "Adjudicated Rights" is listed below following such parties' names, and the rights of the last-mentioned parties are hereby declared and established accordingly. Provided, however, that the Adjudicated Rights so declared and established shall be subject to the condition that the water, when used, shall be put to beneficial use through reasonable methods of use and reasonable methods of diversion; and provided further that the exercise of all of said Rights shall be subject to a pro rata reduction, if such reduction is required, to preserve said Basin as a common source of water supply.

IV. Adjudicated Rights Transferable.

Any rights decreed and adjudicated herein may be transferred, assigned, licensed or leased by the owner thereof provided, however, that no such transfer shall be complete until compliance with the appropriate notice procedures established by the Watermaster herein.

Rights adjudicated herein which are temporarily transferred, licensed or leased shall be considered the production from the Basin on behalf of such transferee, licensee or lessee which next follows his production of released exchange pool water, if any.

V. Physical Solution - Carry-over, Excess Production and Drought Carry-over.

1 *Carry-over.* In order to add flexibility to the operation of this Judgment and to assist in a physical solution to meet the water requirements in the West Basin, each of the parties to this action who is adjudged in Paragraph III hereof to have an Adjudicated Right and who, during a water year, does not extract from the Basin all of such party's Adjudicated Right, is permitted to carry over from such water year the right to extract from the Basin in the next succeeding water year an amount of water equivalent to the excess of his Adjudicated Right over his extraction during said water year not to exceed, however, 10% of such party's Adjudicated Right or two acre-feet, whichever is the larger.

2 *Excess Production.* In order to meet possible emergencies, each of the parties to this action who is adjudged in paragraph III hereof to have an Adjudicated Right is permitted to extract from the Basin in any water year for beneficial use an amount in excess of each such party's Adjudicated Right not to exceed 2 acre-feet or ten per cent (10%) of such party's Adjudicated Rights, whichever is the larger, and in addition thereto, such greater amount as may be approved by the Court. If such greater amount is recommended by the Watermaster, such order of Court may be made *ex parte*. Each such party so extracting water in excess of his Adjudicated Rights shall be required to reduce his extractions below his Adjudicated Rights by an equivalent amount in the water year next following. Such requirement shall be subject to the proviso that in the event the Court determines that such reduction will impose upon such a party, or others relying for water service upon such party, an unreasonable hardship, the Court may grant an extension of time within which such party may be required to reduce his extractions by the amount of the excess theretofore extracted by such party. If such extension of time is recommended by the Watermaster, such order of Court may be granted *ex parte*.

3 *Drought Carry-over.* By reason of this Court's Orders dated June 2, 1977, and September 29, 1977, for the water years 1976-77 and 1977-78 any party herein (including any successor in

interest) can "carry-over" until utilized, any Adjudicated Right (including any authorized carryover rights from prior years) unexercised during said water years.

VI. Physical Solution - Exchange Pool Provisions.

As a further part of said physical solution herein imposed:

1. *Mandatory Offer to Exchange Pool.* Not less than sixty (60) days prior to the beginning of each water year, each party having supplemental water available to him through then existing facilities, other than water which any such party has the right to extract hereunder, shall file with the Watermaster the offer of such party to release to the Exchange Pool the amount by which such party's Adjudicated Right exceeds one-half of the estimated total required use of water by such party during the ensuing water year, provided that the amount required to be so offered for release shall not exceed the amount such party can replace with supplemental water so available to him.

(a) *Basis of Offer to Exchange Pool - Redetermination of Offer by Watermaster.* Such estimate of total required use and such mandatory offer shall be made in good faith and shall state the basis on which the offer is made, and shall be subject to review and redetermination by the Watermaster, who may take into consideration the prior use by such party for earlier water years and all other factors indicating the amount of such total required use and the availability of replacement water.

(b) *Voluntary Offer to Exchange Pool.* Any party filing an offer to release water under the mandatory provisions of this Paragraph VI may also file a voluntary offer to release any part or all of any remaining amount of water which such party has the right under this Judgment to pump or otherwise extract from the Basin, and any party who is not required to file an offer to release water may file a voluntary offer to release any part or all of the amount of water which such party has the right under this Judgment to pump or otherwise extract from the basin. All such voluntary offers shall be made not less than sixty (60) days prior to the beginning of each water year.

2. *Price of Water Offered to Exchange Pool.* Each offer to release water under the foregoing subparagraph [1 (a) and 1 (b)] shall be the price per acre-foot declared and determined at the time of the filing of such offer by the releasing party; provided:

(a) *Replacement Cost.* That such price per acre-foot shall not exceed the price which the releasing party would have to pay to obtain from others, in equal monthly amounts, through existing facilities, a quantity of supplemental water equal in amount to that offered to be released; *or*

(b) *Maximum Price.* If any such releasing party has no existing facilities through which to obtain water from others, such price shall not exceed the sum of the price per acre-foot charged by the Metropolitan Water District of Southern California to West Basin Municipal Water District plus the additional amount per acre-foot charged by the latter to municipalities and public utilities for water received from said Metropolitan Water District.

3. *Price Dispute - Objection - Watermaster Determination Court Determination.* In the event of a dispute as to any price at which is offered for release, any party affected thereby may, within thirty (30) days thereafter, by an objection in writing, refer the matter to the Watermaster for determination. Within thirty (30) days after such objection is filed the Watermaster shall consider said objection and shall make his finding as to the price at which said water should be offered for release and notify all interested parties thereof. Any party in compliance to these Exchange Pool Provisions may file with the Court, within thirty (30) days thereafter, any objection to such finding or determination of the Watermaster and bring the same on for hearing before the Court at such time as the Court may direct, after first having served said objection upon each of the interested parties. The Court may affirm, modify, amend or overrule such finding or determination of the Watermaster. Pending such determination if the water so offered has been allocated, the party making the offer shall be paid the price declared in his offer, subject to appropriate adjustment upon final determination. The costs of such determination shall be apportioned or assessed by the Watermaster in his discretion between or to the parties to such dispute, and the Watermaster shall have the power to require, at any time prior to making such determination, any party or parties to such dispute to deposit with the Watermaster funds sufficient to pay the cost of such determination, subject to final adjustment and review by the Court as provided in this Paragraph.

1 *Request for Water From Exchange Pool.* Not less than sixty (60) days prior to the beginning of each water year any party whose estimated required use of water during the ensuing water year exceeds the sum of the quantity of water which such party has the right under this Judgment to extract from the Basin and the quantity available to him through then existing facilities, may file with the Watermaster a request for the release of water in the amount that his said estimated use exceeds his said available supply. Such request shall be made in good faith and shall state the basis upon which the request is made, and shall be subject to review and redetermination by the Watermaster. Within thirty (30) days thereafter the Watermaster shall advise, in writing, those requesting water of the estimated price thereof. Any party desiring to amend his request by reducing the amount requested may do so after the service of such notice. Prior to the first day of each water year the Watermaster shall determine if sufficient water has been offered to satisfy all requests. If he determines that sufficient water has not been offered he shall reduce such requests pro rata in the proportion that each request bears to the total of all requests. Thereupon, not later than said first day of each water year, he shall advise all parties offering to release water of the quantities to be released by each and accepted in the Exchange Pool and the price at which such water is offered. Simultaneously, he shall advise all parties requesting water of the quantities of released water allocated from the Exchange Pool and to be taken by each requesting party and the price to be paid therefore.

2 *Allocation of Exchange Pool Water by Watermaster.* In allocating water which has been offered for release to the Exchange Pool under subparagraph 1 hereof, the Watermaster shall first allocate that water required to be offered for release and which is offered at the lowest price pursuant to subparagraph 2 hereof, and progressively thereafter at the next lowest price or prices. If the aggregate quantity of water required to be released is less than the aggregate quantity of all requests for the release of water made pursuant to subparagraph 4 hereof, he shall then allocate water voluntarily offered for release and which is offered at the lowest price and progressively thereafter at the next lowest price or prices, provided that the total allocation of water shall not exceed the aggregate of all such requests.

Any water offered for release under subparagraph 1 hereof and not accepted in the Exchange Pool and not allocated therefrom shall be deemed not to have been offered for release and may be extracted from the Basin by the party offering the same as if such offer had not been made.

Each party requesting the release of water for his use and to whom released water is allocated from the Exchange Pool may thereafter, subject to all of the provisions of this Judgment, extract such allocated amount of water from the Basin, in addition to the amount such party is otherwise entitled to extract hereunder during the water year for which the allocation is made.

1 *Exchange Pool Water Pumped Before Pumper's Own Right.* From and after the first day of each water year, all water extracted from the Basin by any party requesting the release of water and to whom such water is allocated shall be deemed to have been water so released until the full amount released for use by him shall have been taken, and no such party shall be deemed to have extracted from the Basin any water under his own right so to do until said amount of released water shall have been extracted. Water extracted from the Basin by parties pursuant to their request for the release of water shall be deemed to have been taken by the offerors of such water under their own rights to extract water from the Basin.

2 *Price and Payment for Water Released for Exchange Pool.* All parties allocated water under subparagraph 4 hereof shall pay a uniform price per acre-foot for such water, which price shall be the weighted average of the prices at which all the water allocated was offered for release.

Each party shall pay to the Watermaster, in five equal monthly installments during the applicable water year, an amount equal to the quantity of water allocated to him multiplied by said uniform price. The Watermaster shall bill each such party monthly for each such installment, the first such billing to be made on or before the first day of the second month of the water year involved, and payment therefore shall be made to the Watermaster within thirty (30) days after the service of each such statement. If such payment be not made within said thirty (30) days such payment shall be delinquent and a penalty shall be assessed thereon at the rate of 1% per month until paid. Such delinquent payment, including penalty, may be enforced against any party delinquent in payment by execution or by suit commenced by the Watermaster or by any party hereto for the benefit of the Watermaster.

Promptly upon receipt of such payment, the Watermaster shall make payment for the water released and allocated, first, to the party or parties which offered such water at the lowest price, and then through successive higher offered prices up to the total allocated.

VII. Additional Pumping Allowed Under Agreement With Central and West Basin Water Replenishment District, During Periods of Emergency.

Central and West Basin Water Replenishment District, a public corporation of the State of California, (Division 18, commencing with Section 60,000 of the Water Code), hereinafter "Replenishment District", overlies West Basin and engages in activities of replenishing the ground waters thereof.

During an actual or threatened temporary shortage of the imported water supply to West Basin, Replenishment District may, by resolution, determine to subsequently replenish the Basin for any water produced in excess of a party's adjudicated rights hereunder, within a reasonable period of time, pursuant to agreements with such parties (to a maximum of 10,000 acre feet), under the terms and conditions hereinafter set forth.

a. Notwithstanding any other provision of this Judgment, parties (including successors in interest) who are water purveyors, as herinabove defined, are authorized to enter into agreements with Replenishment District under which such water purveyors may exceed their Adjudicated Rights for a particular water year when the following conditions are met:

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

2. The Bard of Directors of both Replenishment District and West Basin Municipal Water District (WBMWD), by resolutions, concur in the resolution of MWD's Board of Directors and each determine that the temporary overproduction in West Basin will not adversely affect the integrity of the Basin or the sea water barrier maintained along the Coast of West Basin.

3. In said resolution, Replenishment District's Board of Directors shall set a public hearing, and notice the time, place and date thereof (which may be continued from time to time without further notice) and which said notice shall be given by First Class Mail to the current designees of the parties, filed and served in accordance with Paragraph IX of this Judgment. Said notice shall be mailed at least ten (10) days before said scheduled hearing date.

4. At said public hearing, parties (including successors in interest) shall be given full opportunity to be heard, and at the conclusion thereof the Board of Directors of Replenishment District by resolution decides to proceed with agreements under this Paragraph VII.

b. All such agreements shall be subject to the following requirements, and such reasonable others as Replenishment District's Board of Directors shall require:

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

— They shall be offered to all water purveyors, excepting those which Replenishment District's Board of Directors determine should not over-pump because such over-pumping would occur in undesirable proximity to a sea water barrier project designed to forestall sea water intrusion, or within, or in undesirable proximity to, an area within West Basin wherein groundwater levels are at an elevation where over-pumping is, under all the circumstances, then undesirable.

— The maximum terms for the agreements shall be four months, all of which said agreements shall commence and end on the same day (and which may be executed at any time within said four month period), unless an extension thereof is authorized by the Court, under this Judgment.

— They shall contain provisions that the water purveyor executing the agreement pay to the Replenishment

District a price, in addition to the applicable replenishment assessment, determined on the following formula: The price per acre foot of WBMWD's treated domestic and municipal water for the water year in which the agreement is to run, less the total of: (a) an amount per acre foot as an allowance on account of incremental cost of pumping, as determined by Replenishment District's Board of Directors; and (b) the rate of the replenishment assessment of Replenishment District for the same fiscal year. If the term of the agreement is for a period which will be partially in one fiscal year and partially in another, and a change in either or both the price per acre foot of WBMWD's treated domestic and municipal water and rate of the replenishment assessment of Replenishment District is scheduled, the price formula shall be determined by averaging the scheduled changes with the price and rate then in effect, based on the number of months each will be in effect during the term of the agreement. Any price for a partial acre-foot shall be computed pro rata. Payments shall be due and payable on the principle that over-extractions under the agreement are the last water pumped in the fiscal year, and shall be payable as the agreement shall provide.

— They shall contain provisions that: (a) All of such agreements (but not less than all) shall be subject to termination by Replenishment District if, in the Judgment of Replenishment District's Board of Directors, the conditions or threatened conditions upon which they were based have abated to the extent over-extractions are no longer considered necessary; and (b) that any individual agreement or agreements may be terminated if the Replenishment District's Board of Directors finds that adverse hydrologic circumstances have developed as a result of over-extractions by any water purveyor or purveyors which

have executed said agreements, or for any other reason that Replenishment District's Board of Directors finds good and sufficient.

- c. Other matters applicable to such agreements and over-pumping thereunder are as follows, and to the extent they would affect obligations of the Replenishment District they shall be anticipated in said agreements:

1. The quantity of over-pumping permitted shall be additional to that which the water purveyor could otherwise over-pump under this Judgment.
2. The total quantity of permitted overpumping under all said agreements during said four months shall not exceed ten thousand (10,000) acre feet, but the individual water purveyor shall not be responsible or affected by any violation of this requirement. That total is additional to over-extractions otherwise permitted under this Judgment.
3. Only one four month period may be utilized by Replenishment District in entering into such agreements, as to any one emergency or continuation thereof declared by MWD's Board of Directors under sub-paragraph 6 (a) hereof.
4. The *ex parte* provisions of this Judgment may be utilized in lieu of the authority contained herein (which *ex parte* provisions are not limited as to time, nature or relief, or terms of any agreements), but neither Replenishment District nor any other party shall utilize both as to any one such emergency or continuation thereof.
5. If any party claims that it is being damaged or threatened with damage by the over-extractions by any party to such an agreement, the Watermaster or any party hereto may seek appropriate action of the Court for termination of any such agreement upon notice of hearing given by the party complaining, to the party to said agreement, to the Replenishment District, and to all parties who have filed a request herein for such special notice. Any such termination shall not affect the obligation of the terminated party to make payments under the agreement for over-extractions which previously occurred thereunder.
6. Replenishment District shall maintain separate accounting and a separate fund of the proceeds from payments made pursuant to agreements entered into under this Paragraph VII. Said fund shall be utilized solely for purposes of replenishment and the replacement of waters in West Basin. Replenishment District shall, as soon as practicable, cause replenishment in West Basin by the amounts to be overproduced pursuant to this Paragraph VII, whether through spreading, injection, or in-lieu agreements.
7. Over-extractions made pursuant to the said agreements shall not be subject to the "make up" provisions of this Judgment, as amended, provided, that if any party fails to make payments as required by the agreement, Watermaster may require such "make up" under Paragraph V hereof.
8. Water Purveyor under any such agreement may, and is encouraged to, enter into appropriate arrangements with customers who have water rights in West Basin under or pursuant to this Judgment, whereby the Water Purveyor will be assisted in meeting the objectives of the agreement.
9. Nothing in this Paragraph VII limits the exercise of the reserved and continuing jurisdiction of the court as provided in Paragraph XIV hereof.

VIII. Injunction.

On and after the date hereof, each of the parties hereto, their successors and assigns, and each of their agents, employees, attorneys, and any and all persons acting by, through, or under them or any of them, are and each of them is hereby perpetually enjoined and restrained from pumping or otherwise extracting from the Basin any water in excess of said party's Adjudicated Rights, except as provided in Paragraphs V, VI, and VII hereof.

IX. Order of Pumping Credit.

Production of water from the Basin for the use or benefit of the parties hereto shall be credited to each such party in the following order:

1. Exchange Pool production (Paragraph VI).
2. Leased or licensed production (Paragraph IV).
3. Normal carry-over (Paragraph V, 1).
4. Adjudicated Right (Paragraph III).
5. Drought carry-over (Paragraph V, 3).
6. Emergency Production under Agreement with Replenishment District (Paragraph VII).

X. Loss of Decreed Rights.

It is in the best interests of the parties herein and the reasonable beneficial use of the Basin and its water supply that no party be encouraged to take and use more water than is actually required. Failure to produce all of the water to which a party is entitled hereunder shall not, in and of itself, be deemed or constitute an abandonment of such party's right in whole or in part.

No taking of water under Paragraphs III, V, VI and VII hereof, by any party to this action shall constitute a taking adverse to any other party; nor shall any party to this action have the right to plead the statute of limitations or an estoppel against any other party by reason of his said extracting of water from the Basin pursuant to a request for the release of water; nor shall such release of water to the Exchange Pool by any party constitute a forfeiture or abandonment by such party of any part of his Adjudicated Right to water; nor shall such release in anywise constitute a waiver of such right although such water, when released under the terms of this Judgment may be devoted to a public use; nor shall such release of water by any such party in anywise obligate any party so releasing to continue to release or furnish water to any other party or his successor in interest, or to the public generally, or to any party thereof, otherwise than as provided herein.

XI. Watermaster Appointment.

The Watermaster shall be the Department of Water Resources of the Resources Agency of the State of California, to serve at the pleasure of the Court, and said Watermaster shall administer and enforce the provisions of this Judgment and the instructions and subsequent orders of this Court, and shall have the powers and duties hereinafter set forth. If any such provisions, instructions or orders of the Court shall have been disobeyed or disregarded, said Watermaster is hereby empowered and directed to report to the Court such fact and the circumstances connected therewith and leading thereto.

XII. Watermaster - Powers and Duties.

In order to assist the Court in the administration and enforcement of the provisions of this Judgment and to keep the Court fully advised in the premises, the Watermaster shall have the following duties in addition to those provided for elsewhere herein:

1. *Parties to Measure and Record Static Water Level of Each Well.* The Watermaster may require each party, at such party's own expense, to measure and record not more often than once a month, the elevation of the static water level in such of his wells in the Basin as are specified by the Watermaster.

2. *Parties to Install Meters on Wells and Record Production Therefrom.* The Watermaster may require any party hereto owning any facilities for pumping or otherwise extracting water from the Basin, at such party's own expense, to install and at all times maintain in good working order, mechanical measuring devices, approved by the Watermaster, and keep records of water production, as required by the Watermaster, through the use of such devices. However, if in the opinion of the Watermaster such mechanical devices are not practicable or feasible, the Watermaster may require such party to submit estimates of his water production, together with such information and data as is used by such party in making such estimate. Upon the failure of any party to install such device or devices on or before the date the Watermaster shall fix for such installation, or to provide the Watermaster with estimates of water production and information on which such estimates are based, the Watermaster may give the Court and the party notice of such failure for proper action in the premises.

3. *Watermaster to Assemble Records and Data and Evaluate Same.* The Watermaster shall collect and assemble the records and other data required of the parties hereto, and evaluate such records and other data. Such records and other data shall be open to inspection by any party hereto or his representative during normal business hours.

4. *Watermaster's Annual Budget.* The Watermaster shall prepare a tentative budget for each water year, stating the estimated expense for administering the provisions of this Judgment. The Watermaster shall mail a copy of said tentative budget to the designee of each of the parties hereto having an Adjudicated Right, at least sixty (60) days before the beginning of each water year. If any such party has any objection to said tentative budget or any suggestions with respect thereto, he shall present the same in writing to the Watermaster within fifteen (15) days after service of said tentative budget upon him. If no objections are received, the tentative budget shall become the final budget. If objections to said tentative budget are received, the Watermaster shall, within then (10) days thereafter, consider such objections, prepare a final budget, and mail a copy thereof to each such party's designee, together with a statement of the amount assessed to each such party, computed as provided in subparagraph 5 of this Paragraph XII. Any such party whose objections to said tentative budget are denied in whole or in part by the Watermaster may, within fifteen (15) days after the service of the final budget upon him, make written objection thereto by filing his objection with the Court after first mailing a copy of such objection to each party's designee, and shall bring such objection on for hearing before the Court at such time as the Court may direct. If objection to such budget be filed with the Court as herein provided, then the said budget and any and all assessments made as herein provided may be adjusted by the Court following said hearing.

5. *Watermaster's Fees as Parties' Costs.* The fees compensation or other expenses of the Watermaster hereunder shall be borne by the parties hereto having Adjudicated Rights in the proportion that each such party's Adjudicated Right bears to the total Adjudicated Rights of all such parties, and the Court or Watermaster shall assess such costs to each such party accordingly.

Payment thereof, whether or not subject to adjustment by the Court as provided in this Paragraph XII, shall be made by each such party, on or prior to the beginning of the water year to which said final budget and statement of assessed costs is applicable. If such payment by any party is not made on or before said date, the Watermaster shall add a penalty of 5% thereof to such party's statement. Payment required of any party hereunder may be enforced by execution issued out of the Court, or as may be provided by any order hereinafter made by the Court, or by other proceedings by the Watermaster or by any party hereto on the Watermaster's behalf.

All such payments and penalties received by the Watermaster shall be expended by him for the administration of this Judgment. Any money remaining at the end of any water year shall be available for such use in the following water year.

1 *Watermaster's Annual Report.* The Watermaster shall prepare an annual report within ninety (90) days after the end of each water year covering the work of the Watermaster during the preceding water year and a statement of his receipts and expenditures.

2 *Watermaster Report to Contain All Basin Production.* The Watermaster shall report separately, in said annual report, all water extractions in the Basin, including that by producers who have no "Adjudicated Right."

3 *Watermaster Rules and Regulations.* The Watermaster may prescribe such reasonable Rules and Regulations as will assist him in the performance of his duties hereunder.

4 *Other Watermaster Duties.* The Watermaster shall perform such other duties as directed by the Court and as may be otherwise provided by law.

XIII. Objection to Watermaster Determination - Notice Thereof and Hearing Thereon.

Any party hereto having an Adjudicated Right who has objection to any determination or finding made by the Watermaster, other than as provided in Paragraphs VI and XII hereof, may make such objection in writing to the Watermaster within thirty (30) days after the date the Watermaster gives written notice of the making of such determination or finding, and within thirty (30) days thereafter the Watermaster shall consider said objection and shall amend or affirm such finding or determination and shall give notice thereof to all parties hereto having Adjudicated Rights. Any such party may file with the Court within thirty (30) days from the date of said notice any objection to such final finding or determination of the Watermaster and bring the same on for hearing before the Court at such time as the Court may direct, after first having served said objection upon each of the parties hereto having an Adjudicated Right. The Court may affirm, modify, amend or overrule any such finding or determination of the Watermaster.

XIV. Reserved and Continuing Jurisdiction of Court.

The Court hereby reserves continuing jurisdiction and, upon application of any party hereto having an Adjudicated Right or upon its own motion, may review (1) its determination of the safe yield of the Basin, or (2) the Adjudicated Rights, in the aggregate, of all of the parties as affected by the abandonment or forfeiture of any such rights, in whole or in part, and by the abandonment or forfeiture of any such rights by any other person or entity, and, in the event material change be found, to adjudge that the Adjudicated Right of each party shall be ratably changed; provided, however, that notice of such review shall be served on all parties hereto having Adjudicated Rights at least thirty (30) days prior thereto. Except as provided herein, and except as rights decreed herein may be abandoned or forfeited in whole or in part, each and every right decreed herein shall be fixed as of the date of the entry hereof.

XV. Judgment Modifications and Further Orders of Court.

The Court further reserves jurisdiction so that at any time, and from time to time, upon its own motion or upon application of any party hereto having an Adjudicated Right, and upon at least thirty (30) days notice to all such parties, to make such modifications of or such additions to, the provisions of this Judgment, or make such further order or orders as may be necessary or desirable for the adequate enforcement, protection or preservation of the Basin and of the rights of the parties as herein determined.

XVI. Subsequent Change From Water Year to Fiscal Year.

"Water year" as used in Paragraphs V, VI, VII and XII hereof shall, beginning with the first "fiscal year" (July 1 - June 30) commencing at least four months after this "Amended Judgment" becomes final, and thereafter, mean the "fiscal year". Since this changeover will provide a transitional accounting period of nine months, October 1 - June 30, notwithstanding the findings and determinations in the annual Watermaster Report for the last preceding water year, the Adjudicated Right of each of the parties hereto permitted to be extracted from the West Basin for said transitional accounting period shall be on the basis of three-quarters of each said party's otherwise Adjudicated Right. The Watermaster herein shall convert the times of his duties hereunder, including the rendition of a nine month report for the said transitional accounting period (October 1 - June 30), to coincide with the changeover from the water year to the fiscal year hereunder.

XVII. Designees of Parties for Future Notice and Service.

Service of this "Amended Judgment" on those parties who have executed and filed with the Court "Agreement and Stipulation for Judgment" or otherwise have named a designee, filed the same herein and have therein designated a person thereafter to receive notices, requests, demands, objections, reports, and all other papers and processes in this cause, shall be made by first class mail, postage prepaid, addressed to such designees (or their successors) and at the address designated for that purpose.

Each party who has not heretofore made such a designation shall, within thirty (30) days after the Amended Judgment herein shall have been served upon that party or his designee, file with the Court, with proof of service of a copy thereof upon the Watermaster, a written designation of the person to whom and the address at which all future notices, determinations, requests, demands, objections, reports and other papers and processes to be served upon that party or delivered to that party, are to be so served or delivered.

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

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

Parties hereto who have not entered their appearance or whose default has been entered and who are adjudged herein to have an Adjudicated Right, and who have not named a designee for service herein, shall be served with all said future notices, papers and process herein, and service herein shall be accomplished, by publication of a copy of such said notice, paper or process addressed to, "Parties to the West Basin Adjudication"; said publication shall be made once each week for two successive weeks in a newspaper of general circulation, printed and published in the County of Los Angeles, State of California, and circulated within the West Basin Area; the last publication of which shall be at least two weeks and not more than five weeks immediately preceding the event for which said notice is given or immediately preceding the effective date of any order, paper or process; in the event an effective date other than the date of its execution is fixed by the Court in respect of any order, paper or process, said last publication shall be made not more than five weeks following an event, the entry of an order by the Court, or date of any paper or process with respect to which such notice is given.

XVIII. Intervention of Successors In Interest and New Parties.

Any person who is not a party herein or successor to such party and who proposes to produce water from the Basin may seek to become a party to this Judgment, through a Stipulation In Intervention entered into with the Watermaster. Watermaster may execute said Stipulation on behalf of the other parties herein, but such Stipulation shall not preclude a party from opposing such intervention at the time of the court hearing thereon. Said Stipulation for Intervention must thereupon be filed with the Court, which will consider an order confirming said intervention following thirty (30) days notice thereof to the parties, served as herein provided. Thereafter, if approved by the Court, such Intervenors shall be a party herein, bound by this Judgment and entitled to the rights and privileges accorded under the physical solution imposed herein.

XIX. Judgment Binding on Successors.

Subject to the specific provisions hereinbefore contained, this Judgment and all provisions thereof are applicable to, binding upon and inure to the benefit of not only the parties to this action, but as well to their respective heirs, executors, administrators, successors, assigns, lessees, licensees and to the agents, employees and attorneys-in-fact of any such persons.

XX. Effect of Amended Judgment on Orders Heretofore Made and Entered Herein.

This Amended Judgment shall not abrogate the rights of any additional carry-over of unused Adjudicated Rights of the parties herein, as may exist pursuant to the orders herein filed June 2, 1977, and September 29, 1977.

ORDER AMENDING JUDGMENT

(Filed with County Clerk on March 8, 1989)

GOOD CAUSE APPEARING upon the duly-noticed Motion of West Basin Municipal Water District:

IT IS HEREBY ORDERED THAT THE JUDGMENT HEREIN BE AMENDED AS FOLLOWS:

“NON-CONSUMPTIVE PRACTICES

1. Any party herein may petition the Watermaster for a non-consumptive water use permit as part of a project to recover old refined oil or other pollutants that has leaked into the underground aquifers of the Basin. If the petition is granted as set forth in this part, the petitioner may extract the groundwater covered by the petition without the production counting against the petitioner's production rights.
2. If the Watermaster determines that there is a problem of groundwater contamination which the proposed project will remedy or ameliorate, an operator may make extractions of groundwater to remedy or ameliorate that problem if the water is not applied to beneficial surface use, its extractions are made in compliance with terms and conditions established by the Watermaster, and the Watermaster has determined either of the following:
 - a. The groundwater to be extracted is unusable and cannot be economically blended for use with other water.
 - b. The proposed program involves extraction of usable water in the same quantity as will be returned to the underground without degradation of quality.
3. The Watermaster may provide those terms and conditions the Watermaster deems appropriate, including, but not limited to, restrictions on the quantity of extractions to be so exempted, limitations on time, periodic reviews, requirement of submission of test results from a Watermaster-approved laboratory, and any other relevant terms or conditions.
4. The Watermaster shall conduct a public hearing on the petition and all parties herein and their representatives shall have an opportunity to be heard concerning the same.
5. The Watermaster shall, in its discretion, grant or deny the petition and fix a reasonable annual administrative fee to be paid to the Watermaster by the permittee. Within fifteen (15) days after the rendition of its decision, the Watermaster shall give written notice thereof to the designees of all parties herein.
6. After a noticed, public hearing, the Watermaster may, on the motion of any party herein or on its own motion, interrupt or stop a project for non-compliance with the terms of its permit or rescind or modify the terms of a permit to protect the integrity of the Basin of the Judgment herein. An order to interrupt or stop a project or to rescind or modify the terms of a permit shall apply to groundwater extractions occurring more than 10 days after the date of the order. The permit holder and the designees of all parties herein shall be given two weeks written notice of any hearing to consider interrupting or stopping a permitted project or the rescission or modification of the terms of a permit. Notice will be deemed given when mailed by first-class mail or when personally delivered.
7. The Watermaster's decision to grant, deny, modify or revoke a permit or to interrupt or stop a permitted project may be appealed to this court within thirty (30) days of the notice thereof and upon thirty (30) days notice to the designees of all parties herein.
8. The Watermaster shall monitor and periodically inspect the project for compliance with the terms and conditions of the permit hereunder.
9. No party shall recover costs from any other party herein.”

IT IS FURTHER ORDERED that the amendment to the judgment approved by the court on March 22, 1984 ("former amendment") is hereby repealed, provided, all permits issued by the Watermaster under the former amendment shall be deemed under the instant amendment.



Appendix H: DWR SBx7-7 Verification Form

City of Torrance 2015 Urban Water Management Plan

SB X7-7 Table 0: Units of Measure Used in UWMP*
(select one from the drop down list)

Acre Feet

**The unit of measure must be consistent with Table 2-3*

NOTES:

SB X7-7 Table-1: Baseline Period Ranges

Baseline	Parameter	Value	Units
10- to 15-year baseline period	2008 total water deliveries	28,656	Acre Feet
	2008 total volume of delivered recycled water	6,491	Acre Feet
	2008 recycled water as a percent of total deliveries	22.65%	Percent
	Number of years in baseline period ^{1, 2}	10	Years
	Year beginning baseline period range	2001	
	Year ending baseline period range ³	2010	
5-year baseline period	Number of years in baseline period	5	Years
	Year beginning baseline period range	2006	
	Year ending baseline period range ⁴	2010	

¹ If the 2008 recycled water percent is less than 10 percent, then the first baseline period is a continuous 10-year period. If the amount of recycled water delivered in 2008 is 10 percent or greater, the first baseline period is a continuous 10- to 15-year period.

² The Water Code requires that the baseline period is between 10 and 15 years. However, DWR recognizes that some water suppliers may not have the minimum 10 years of baseline data.

³ The ending year must be between December 31, 2004 and December 31, 2010.

⁴ The ending year must be between December 31, 2007 and December 31, 2010.

NOTES:

SB X7-7 Table 2: Method for Population Estimates

Method Used to Determine Population (may check more than one)	
<input type="checkbox"/>	1. Department of Finance (DOF) DOF Table E-8 (1990 - 2000) and (2000-2010) and DOF Table E-5 (2011 - 2015) when available
<input type="checkbox"/>	2. Persons-per-Connection Method
<input checked="" type="checkbox"/>	3. DWR Population Tool
<input type="checkbox"/>	4. Other DWR recommends pre-review
NOTES:	

SB X7-7 Table 3: Service Area Population

Year	Population	
10 to 15 Year Baseline Population		
Year 1	2001	98,784
Year 2	2002	99,882
Year 3	2003	101,094
Year 4	2004	101,932
Year 5	2005	100,524
Year 6	2006	99,598
Year 7	2007	102,392
Year 8	2008	103,200
Year 9	2009	103,570
Year 10	2010	104,078
<i>Year 11</i>		
<i>Year 12</i>		
<i>Year 13</i>		
<i>Year 14</i>		
<i>Year 15</i>		
5 Year Baseline Population		
Year 1	2006	99,598
Year 2	2007	102,392
Year 3	2008	103,200
Year 4	2009	103,570
Year 5	2010	104,078
2015 Compliance Year Population		
2015		105,358
NOTES:		

SB X7-7 Table 4: Annual Gross Water Use *

Baseline Year <i>Fm SB X7-7 Table 3</i>	Volume Into Distribution System <i>This column will remain blank until SB X7-7 Table 4-A is completed.</i>	Deductions					Annual Gross Water Use	
		Exported Water	Change in Dist. System Storage (+/-)	Indirect Recycled Water <i>This column will remain blank until SB X7-7 Table 4-B is completed.</i>	Water Delivered for Agricultural Use	Process Water <i>This column will remain blank until SB X7-7 Table 4-D is completed.</i>		
10 to 15 Year Baseline - Gross Water Use								
Year 1	2001	21,966	908		-		1,875	19,183
Year 2	2002	23,855	1,470		-		3,546	18,839
Year 3	2003	22,815	888		-		2,580	19,347
Year 4	2004	22,577	2,538		-		2,532	17,507
Year 5	2005	21,646	1,609		-		2,447	17,590
Year 6	2006	22,227	2,005		-		2,220	18,002
Year 7	2007	22,545	1,515		-		2,311	18,719
Year 8	2008	20,685	682		-		2,543	17,460
Year 9	2009	20,012	824		-		2,231	16,957
Year 10	2010	17,614	571		-		1,850	15,193
<i>Year 11</i>	0	-			-		-	-
<i>Year 12</i>	0	-			-		-	-
<i>Year 13</i>	0	-			-		-	-
<i>Year 14</i>	0	-			-		-	-
<i>Year 15</i>	0	-			-		-	-
10 - 15 year baseline average gross water use							17,880	
5 Year Baseline - Gross Water Use								
Year 1	2006	22,227	2,005		-		2,220	18,002
Year 2	2007	22,545	1,515		-		2,311	18,719
Year 3	2008	20,685	682		-		2,543	17,460
Year 4	2009	20,012	824		-		2,231	16,957
Year 5	2010	17,614	571		-		1,850	15,193
5 year baseline average gross water use							17,266	
2015 Compliance Year - Gross Water Use								
2015		17,304	851		-		2,046	14,407
* NOTE that the units of measure must remain consistent throughout the UWMP, as reported in Table 2-3								
NOTES: Tables 4-1 and SBx7-7 Table 4 volumes may not match due to reductions in volume for desalinated water and groundwater. Recycled water within the area is used as groundwater replenishment and seawater intrusion barrier. The City states that half of both groundwater and desalinated water supplies were originally recycled water and should be deducted from its full supply amounts. Recycled water is excluded from the total water consumption when calculating GPCD.								

SB X7-7 Table 4-A: Volume Entering the Distribution System(s)

Complete one table for each source.

Name of Source Metropolitan Water District of Southern California

This water source is:

The supplier's own water source

A purchased or imported source

Baseline Year <i>Fm SB X7-7 Table 3</i>	Volume Entering Distribution System	Meter Error Adjustment <i>* Optional (+/-)</i>	Corrected Volume Entering Distribution System
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10 to 15 Year Baseline - Water into Distribution System

Year 1	2001	20,953		20,953
Year 2	2002	22,817		22,817
Year 3	2003	21,655		21,655
Year 4	2004	20,517		20,517
Year 5	2005	20,046		20,046
Year 6	2006	21,338		21,338
Year 7	2007	21,100		21,100
Year 8	2008	19,306		19,306
Year 9	2009	19,352		19,352
Year 10	2010	16,471		16,471
Year 11	0			-
Year 12	0			-
Year 13	0			-
Year 14	0			-
Year 15	0			-

5 Year Baseline - Water into Distribution System

Year 1	2006	21,338		21,338
Year 2	2007	21,100		21,100
Year 3	2008	19,306		19,306
Year 4	2009	19,352		19,352
Year 5	2010	16,471		16,471

2015 Compliance Year - Water into Distribution System

2015	16,206		16,206
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** Meter Error Adjustment - See guidance in Methodology 1, Step 3 of Methodologies Document*

NOTES:

SB X7-7 Table 4-A: Volume Entering the Distribution

Name of Source		WBMWD Desalter		
This water source is:				
<input type="checkbox"/>	The supplier's own water source			
<input checked="" type="checkbox"/>	A purchased or imported source			
Baseline Year <i>Fm SB X7-7 Table 3</i>	Volume Entering Distribution System	Meter Error Adjustment <i>* Optional (+/-)</i>	Corrected Volume Entering Distribution System	
10 to 15 Year Baseline - Water into Distribution System				
Year 1	2001	-		0
Year 2	2002	123		123
Year 3	2003	855		855
Year 4	2004	1,223		1,223
Year 5	2005	1,041		1,041
Year 6	2006	889		889
Year 7	2007	1,003		1,003
Year 8	2008	635		635
Year 9	2009	323		323
Year 10	2010	590		590
Year 11	-			0
Year 12	-			0
Year 13	-			0
Year 14	-			0
Year 15	-			0
5 Year Baseline - Water into Distribution System				
Year 1	2006	889		889
Year 2	2007	1,003		1,003
Year 3	2008	635		635
Year 4	2009	323		323
Year 5	2010	590		590
2015 Compliance Year - Water into Distribution System				
2015		415		415
<i>* Meter Error Adjustment - See guidance in Methodology 1, Step 3 of Methodologies Document</i>				
NOTES: Half is deducted from the original amount due to recycled water used as seawater intrusion barrier.				

SB X7-7 Table 4-A: Volume Entering the Distribution

Name of Source		West Coast Groundwater Basin		
This water source is:				
<input checked="" type="checkbox"/>	The supplier's own water source			
<input type="checkbox"/>	A purchased or imported source			
Baseline Year <i>Fm SB X7-7 Table 3</i>	Volume Entering Distribution System	Meter Error Adjustment <i>* Optional (+/-)</i>	Corrected Volume Entering Distribution System	
10 to 15 Year Baseline - Water into Distribution System				
Year 1	2001	1,013		1,013
Year 2	2002	916		916
Year 3	2003	305		305
Year 4	2004	837		837
Year 5	2005	559		559
Year 6	2006	-		0
Year 7	2007	442		442
Year 8	2008	743		743
Year 9	2009	337		337
Year 10	2010	553		553
Year 11	-			0
Year 12	-			0
Year 13	-			0
Year 14	-			0
Year 15	-			0
5 Year Baseline - Water into Distribution System				
Year 1	2006	-		0
Year 2	2007	442		442
Year 3	2008	743		743
Year 4	2009	337		337
Year 5	2010	553		553
2015 Compliance Year - Water into Distribution System				
2015		684		684
<i>* Meter Error Adjustment - See guidance in Methodology 1, Step 3 of Methodologies Document</i>				
NOTES: Half is deducted from the original amount due to recycled water replenishment.				

SB X7-7 Table 4-C.1: Process Water Deduction Eligibility

Criteria 1

Industrial water use is equal to or greater than 12% of gross water use

Baseline Year <i>Fm SB X7-7 Table 3</i>	Gross Water Use Without Process Water Deduction	Industrial Water Use	Percent Industrial Water	Eligible for Exclusion Y/N	
10 to 15 Year Baseline - Process Water Deduction Eligibility					
Year 1	2001	21,058	3,000	14%	YES
Year 2	2002	22,385	3,000	13%	YES
Year 3	2003	21,927	3,000	14%	YES
Year 4	2004	20,039	3,000	15%	YES
Year 5	2005	20,037	3,000	15%	YES
Year 6	2006	20,222	3,393	17%	YES
Year 7	2007	21,030	3,251	15%	YES
Year 8	2008	20,003	3,723	19%	YES
Year 9	2009	19,188	3,705	19%	YES
Year 10	2010	17,043	2,859	17%	YES
Year 11	0	-			NO
Year 12	0	-			NO
Year 13	0	-			NO
Year 14	0	-			NO
Year 15	0	-			NO
5 Year Baseline - Process Water Deduction Eligibility					
Year 1	2006	20,222	3,393	17%	YES
Year 2	2007	21,030	3,251	15%	YES
Year 3	2008	20,003	3,723	19%	YES
Year 4	2009	19,188	3,705	19%	YES
Year 5	2010	17,043	2,859	17%	YES
2015 Compliance Year - Process Water Deduction Eligibility					
2015		16,453	3,126	19%	YES

NOTES:

SB X7-7 Table 4-D: Process Water Deduction - Volume

Complete a separate table for each industrial customer with a process water exclusion

Name of Industrial Customer		All Industrial				
Baseline Year <i>Fm SB X7-7 Table 3</i>	Industrial Customer's Total Water Use	Total Volume Supplied by Water Agency	% of Water Supplied by Water Agency	Customer's Total Process Water Use	Volume of Process Water Eligible for Exclusion for this Customer	
10 to 15 Year Baseline - Process Water Deduction						
Year 1	2001	3,000	3,000	100%	1,875	1,875
Year 2	2002	3,000	3,000	100%	3,546	3,546
Year 3	2003	3,000	3,000	100%	2,580	2,580
Year 4	2004	3,000	3,000	100%	2,532	2,532
Year 5	2005	3,000	3,000	100%	2,447	2,447
Year 6	2006	3,393	3,393	100%	2,220	2,220
Year 7	2007	3,251	3,251	100%	2,311	2,311
Year 8	2008	3,723	3,723	100%	2,543	2,543
Year 9	2009	3,705	3,705	100%	2,231	2,231
Year 10	2010	2,859	2,859	100%	1,850	1,850
<i>Year 11</i>	0					-
<i>Year 12</i>	0					-
<i>Year 13</i>	0					-
<i>Year 14</i>	0					-
<i>Year 15</i>	0					-
5 Year Baseline - Process Water Deduction						
Year 1	2006	3,393	3,393	100%	2,220	2,220
Year 2	2007	3,251	3,251	100%	2,311	2,311
Year 3	2008	3,723	3,723	100%	2,543	2,543
Year 4	2009	3,705	3,705	100%	2,231	2,231
Year 5	2010	2,859	2,859	100%	1,850	1,850
2015 Compliance Year - Process Water Deduction						
2015		3,126	3,126	100%	2,046	2,046
NOTES:						

SB X7-7 Table 5: Gallons Per Capita Per Day (GPCD)

Baseline Year <i>Fm SB X7-7 Table 3</i>		Service Area Population <i>Fm SB X7-7 Table 3</i>	Annual Gross Water Use <i>Fm SB X7-7 Table 4</i>	Daily Per Capita Water Use (GPCD)
10 to 15 Year Baseline GPCD				
Year 1	2001	98,784	19,183	173
Year 2	2002	99,882	18,839	168
Year 3	2003	101,094	19,347	171
Year 4	2004	101,932	17,507	153
Year 5	2005	100,524	17,590	156
Year 6	2006	99,598	18,002	161
Year 7	2007	102,392	18,719	163
Year 8	2008	103,200	17,460	151
Year 9	2009	103,570	16,957	146
Year 10	2010	104,078	15,193	130
<i>Year 11</i>	0	-	-	
<i>Year 12</i>	0	-	-	
<i>Year 13</i>	0	-	-	
<i>Year 14</i>	0	-	-	
<i>Year 15</i>	0	-	-	
10-15 Year Average Baseline GPCD				157
5 Year Baseline GPCD				
Baseline Year <i>Fm SB X7-7 Table 3</i>		Service Area Population <i>Fm SB X7-7 Table 3</i>	Gross Water Use <i>Fm SB X7-7 Table 4</i>	Daily Per Capita Water Use
Year 1	2006	99,598	18,002	161
Year 2	2007	102,392	18,719	163
Year 3	2008	103,200	17,460	151
Year 4	2009	103,570	16,957	146
Year 5	2010	104,078	15,193	130
5 Year Average Baseline GPCD				150
2015 Compliance Year GPCD				
2015		105,358	14,407	122
NOTES:				

SB X7-7 Table 6: Gallons per Capita per Day
Summary From Table SB X7-7 Table 5

10-15 Year Baseline GPCD	157
5 Year Baseline GPCD	150
2015 Compliance Year GPCD	122
NOTES:	

SB X7-7 Table 7: 2020 Target Method
Select Only One

Target Method	Supporting Documentation
<input type="checkbox"/> Method 1	SB X7-7 Table 7A
<input type="checkbox"/> Method 2	SB X7-7 Tables 7B, 7C, and 7D <i>Contact DWR for these tables</i>
<input checked="" type="checkbox"/> Method 3	SB X7-7 Table 7-E
<input type="checkbox"/> Method 4	Method 4 Calculator
NOTES:	

SB X7-7 Table 7-A: Target Method 1
 20% Reduction

10-15 Year Baseline GPCD	2020 Target GPCD
157	126
NOTES:	

SB X7-7 Table 7-E: Target Method 3

Agency May Select More Than One as Applicable	Percentage of Service Area in This Hydrological Region	Hydrologic Region	"2020 Plan" Regional Targets	Method 3 Regional Targets (95%)
<input type="checkbox"/>		North Coast	137	130
<input type="checkbox"/>		North Lahontan	173	164
<input type="checkbox"/>		Sacramento River	176	167
<input type="checkbox"/>		San Francisco Bay	131	124
<input type="checkbox"/>		San Joaquin River	174	165
<input type="checkbox"/>		Central Coast	123	117
<input type="checkbox"/>		Tulare Lake	188	179
<input type="checkbox"/>		South Lahontan	170	162
<input checked="" type="checkbox"/>	100%	South Coast	149	142
<input type="checkbox"/>		Colorado River	211	200
Target <i>(If more than one region is selected, this value is calculated.)</i>				142
NOTES:				

SB X7-7 Table 7-F: Confirm Minimum Reduction for 2020 Target

5 Year Baseline GPCD From SB X7-7 Table 5	Maximum 2020 Target ¹	Calculated 2020 Target ²	Confirmed 2020 Target
150	143	142	142
¹ Maximum 2020 Target is 95% of the 5 Year Baseline GPCD except for suppliers at or below 100 GPCD. ² 2020 Target is calculated based on the selected Target Method, see SB X7-7 Table 7 and corresponding tables for agency's calculated target.			
NOTES:			

SB X7-7 Table 8: 2015 Interim Target GPCD

Confirmed 2020 Target <i>Fm SB X7-7 Table 7-F</i>	10-15 year Baseline GPCD <i>Fm SB X7-7 Table 5</i>	2015 Interim Target GPCD
142	157	150
NOTES:		

SB X7-7 Table 9: 2015 Compliance

Actual 2015 GPCD	2015 Interim Target GPCD	Optional Adjustments (<i>in GPCD</i>)					2015 GPCD <i>(Adjusted if applicable)</i>	Did Supplier Achieve Targeted Reduction for 2015?
		Enter "0" if Adjustment Not Used			TOTAL Adjustments	Adjusted 2015 GPCD		
		Extraordinary Events	Weather Normalization	Economic Adjustment				
122	150	-	-	-	-	122	122	YES
NOTES:								



Appendix I: City Council Ordinance No. 3717

City of Torrance 2015 Urban Water Management Plan

ORDINANCE NO. 3717

AN ORDINANCE OF THE CITY COUNCIL OF THE CITY OF TORRANCE ESTABLISHING A WATER CONSERVATION AND WATER SUPPLY SHORTAGE AND SUSTAINABILITY PROGRAM AND REGULATIONS

The City Council of the City of Torrance ordains as follows:

SECTION 1

Article 4 of Chapter 6 of Division 7 of the Torrance Municipal Code is repealed.

SECTION 2

A new Article 4 of Chapter 6 of Division 7 of the Torrance Municipal Code is added to read in its entirety as follows:

“Section 76.4.010 Title.

This Article will be known as the City of Torrance Water Conservation and Water Supply Shortage and Sustainability Program.

Section 76.4.020 Findings.

- a) A reliable minimum and sustainable supply of Potable Water is essential to the public health, safety and welfare of the people and economy of the City of Torrance and the southern California region.
- b) Southern California is a semi-arid region and is largely dependent upon imported water supplies. A growing population, climate change, environmental concerns, and other factors in other parts of the State and western United States, make the region highly susceptible to water supply reliability issues.
- c) Careful water management that includes active water Conservation measures not only in times of drought, but at all times, is essential to ensure a reliable minimum supply of water to meet current and future water supply needs.
- d) Article XI, Section 7 of the California Constitution declares that a city or county may make and enforce within its limits all local, police, sanitary and other ordinances and regulations not in conflict with general laws.
- e) Article X, Section 2 of the California Constitution declares that the general welfare requires that water resources be put to beneficial use, waste or unreasonable use or unreasonable method of use of water be prevented, and Conservation of water be fully exercised with a view to the reasonable and beneficial use thereof.
- f) California Water Code section 375 authorizes water suppliers to adopt and enforce a comprehensive water Conservation program to reduce water consumption and conserve supplies.
- g) The adoption and enforcement of a Water Conservation and Supply Shortage and Sustainability program is necessary to manage the City’s Potable Water supply in the short and long-term and to avoid or minimize the effects of drought and shortage within the City. Such program is essential to ensure a reliable and sustainable minimum supply of water for the public health, safety and welfare for current and future generations.

Section 76.4.030. Declaration of Purpose and Intent.

- a) The purpose of this Article is to establish a Water Conservation and Supply Shortage and Sustainability program that will reduce water consumption within the City through Conservation, enable effective water supply planning, assure reasonable and beneficial use of water, prevent waste of water, and maximize the efficient use of water within the City to avoid and minimize the effect and hardship of water shortage to the greatest extent possible.
- b) This Article establishes permanent water Conservation standards intended to alter behavior related to water use efficiency for non-shortage conditions and further establishes three levels of water supply shortage response actions to be implemented during times of declared water shortage or declared water shortage emergency, with increasing restrictions on water use in response to worsening drought or emergency conditions and decreasing supplies

Section 76.4.040. Definitions.

- a) The following words and phrases whenever used in this Article have the meaning defined in this section:
 - 1) **“Allocation”** means a form of water rationing that uses penalty pricing to achieve target reductions in water use.
 - 2) **“Billing Unit”** means the unit of water used to apply water rates for purposes of calculating water charges for a Person’s water usage and equals 100 cubic feet or 748 gallons of water.
 - 3) **“City”** means the City of Torrance.
 - 4) **“Conservation”** means the practice of protecting against the loss or waste of natural resources.
 - 5) **“Customer” or “Water User”** means a Person that uses Potable Water through a metered service connection.
 - 6) **“Landscape Irrigation System”** means an irrigation system with pipes, hoses, spray heads, or sprinkling devices that are operated by hand or through an automated system.
 - 7) **“Large Landscape Areas”** means a lawn, landscape, or other vegetated area, or combination thereof, equal to more than one (1) acre of irrigable land.
 - 8) **“Person”** means any natural person or persons, corporation, public or private entity, governmental agency or institution, or any other user of water within the City.
 - 9) **“Potable Water”** means water which is suitable for drinking.
 - 10) **“Recycled Water”** means the reclamation and reuse of non-Potable Water for beneficial use.
 - 11) **“Single Pass Cooling Systems”** means equipment where water is circulated only once to cool equipment before being disposed.
 - 12) **“Sustainability”** means a decision making concept describing water use that meets present needs without compromising the ability to meet future requirements.

Section 76.4.050. Application

- a) The provisions of this Article apply to any Person in the use of any Potable Water provided by the City.
- b) The provisions of this Article do not apply to uses of water necessary to protect public health and safety or for essential government services, such as police, fire and other similar emergency services.

- c) The provisions of this Article do not apply to the use of Recycled Water.
- d) The provisions of this Article do not apply to the use of water by commercial nurseries and commercial growers to sustain plants, trees, shrubs, crops or other vegetation intended for commercial sale.
- e) This Article is intended solely to further the Conservation of water. It is not intended to implement any provision of federal, State, or local statutes, ordinances, or regulations relating to protection of water quality or control of drainage or runoff.

Section 76.4.060 Permanent Water Conservation Requirements – Prohibition Against Waste

The following water Conservation requirements are effective at all times and are permanent, unless rescinded by the action of the City Council. Violations of this section will be considered waste and an unreasonable use of water.

- a) **Limits on Watering Hours:** Watering or irrigating of lawn, landscape or other vegetated area with Potable Water is prohibited between the hours of 10 a.m. and 4 p.m. on any day, except by use of a hand-held bucket or similar container, a hand-held hose equipped with a positive self-closing water shut-off nozzle or device, or for very short periods of time for the express purpose of adjusting or repairing an irrigation system.
- b) **Limit on Watering Duration:** Watering or irrigating of lawn, landscape or other vegetated area with Potable Water using a Landscape Irrigation System or a watering device that is not continuously attended is limited to no more than 15 minutes watering per day per station. This subsection does not apply to Landscape Irrigation Systems that exclusively use very low-flow drip type irrigation systems when no emitter produces more than 2 gallons of water per hour and weather based controllers or stream rotor sprinklers that meet a 70% efficiency standard.
- c) **No Excessive Water Flow or Runoff:** Watering or irrigating of any lawn, landscape or other vegetated area in a manner that causes or allows excessive water flow or runoff onto an adjoining sidewalk, driveway, street, alley, gutter or ditch is prohibited.
- d) **No Washing Down Hard or Paved Surfaces:** Washing down hard or paved surfaces, including but not limited to sidewalks, walkways, driveways, parking areas, tennis courts, patios or alleys, is prohibited except when necessary to alleviate safety or sanitary hazards, and then only by use of a hand-held bucket or similar container, a hand-held hose equipped with a positive self-closing water shut-off device or a low-volume, high-pressure water efficient water broom (Watermiser or equivalent brand) type or cleaning machine equipped to recycle any water used.
- e) **Obligation to Fix Leaks, Breaks or Malfunctions:** Excessive use, loss or escape of water through breaks, leaks or other malfunctions in the Water User’s plumbing or distribution system for any period of time after such escape of water should have reasonably been discovered and corrected and in no event more than 15 days of receiving notice from the City, is prohibited.
- f) **Re-circulating Water Required for Water Fountains and Decorative Water Features:** Operating a water fountain or other decorative water feature that does not use re-circulated water is prohibited. This provision will be effective 90 days after adoption of this Ordinance.
- g) **Limits on Washing Vehicles:** Using water to wash or clean a vehicle, including but not limited to any automobile, truck, van, bus, motorcycle, boat or trailer, whether motorized or not is prohibited, except by use of a hand-held bucket or similar container or a hand-held hose equipped with a positive self-closing water shut-off nozzle or device. This subsection does not apply to any commercial car washing facility.

- h) **Drinking Water Served Upon Request Only:** Eating or drinking establishments, including but not limited to a restaurant, hotel, cafe, cafeteria, bar, club or other public place where food or drinks are sold, served, or offered for sale, are prohibited from providing drinking water to any Person unless expressly requested.
- i) **Commercial Lodging Establishments Must Provide Option to Not Launder Linen Daily:** Hotels, motels and other commercial lodging establishments must provide Customers the option of not having towels and linen laundered daily. Commercial lodging establishments must prominently display notice of this option in each bathroom using clear and easily understood language.
- j) **No Installation of Single Pass Cooling Systems:** Installation of Single Pass Cooling Systems is prohibited in buildings requesting new water service.
- k) **No Installation of Non-re-circulating in Commercial Car Wash and Laundry Systems:** Installation of non-re-circulating water systems is prohibited in new commercial conveyor car wash and new commercial laundry systems.
- l) **Restaurants Required to Use Water Conserving Dish Wash Spray Valves:** Food preparation establishments, such as restaurants or cafes, are prohibited from using non-water conserving dish wash spray valves.

Section 76.4.070 Level 1 Water Supply Shortage

- a) A Level 1 Water Supply Shortage exists when the City determines, in its sole discretion, that due to drought or other water supply reductions, a water supply shortage exists and a consumer demand reduction is necessary to make more efficient use of water and appropriately respond to existing water conditions. Upon the declaration by the City of a Level 1 Water Supply Shortage condition, the City will implement the mandatory Level 1 Conservation measures identified in this section. The type of event that may prompt the City to declare a Level 1 Water Supply Shortage may include, among other factors, a finding that the Metropolitan Water District of Southern California (“MWD”) calls for extraordinary water Conservation and declares up to a 15% mandatory Allocation (rationing) within the MWD service area.

A Level 1 Water Supply Shortage condition exists when the City notifies its Water Users that due to drought or other supply reductions, a Customer demand reduction of up to 15% is necessary to make more efficient use of water and respond to existing water shortage conditions. Upon the declaration of a Level 1 Water Supply Shortage condition, the City shall implement the mandatory Level 1 Conservation measures identified in this ordinance.

- b) **Additional Water Conservation Measures:** In addition to the prohibited uses of water identified in Section 76.4.060, the following water Conservation requirements apply during a declared Level 1 Water Supply Shortage:
 - 1) **Limits on Watering Hours and Watering Duration:** Watering or irrigating of lawn, landscape or other vegetated area with Potable Water is prohibited between the hours of 9 a.m. and 5 p.m. on any day, except by use of a hand-held bucket or similar container, a hand-held hose equipped with a positive self-closing water shut-off nozzle or device, or for very short periods of time for the express purpose of adjusting or repairing an irrigation system. Watering or irrigating of lawn, landscape or other vegetated area with Potable Water using a Landscape Irrigation System is limited to no more than 15 minutes watering per day.

- 2) **Limits on Watering Days:** Watering or irrigating of lawn, landscape or other vegetated area with Potable Water is limited to 3 days per week on a schedule established and posted by the City. This provision does not apply to landscape irrigation zones that exclusively use very low flow drip type irrigation systems when no emitter produces more than 2 gallons of water per hour. This provision also does not apply to watering or irrigating by use of a hand-held bucket or similar container, a hand-held hose equipped with a positive self-closing water shut-off nozzle or device, or for very short periods of time for the express purpose of adjusting or repairing an irrigation system.
- 3) **Obligation to Fix Leaks, Breaks or Malfunctions:** All leaks, breaks, or other malfunctions in the Water User's plumbing or distribution system must be repaired within 7 days of notification by the City unless other arrangements are made with the City.
- 4) **Other Prohibited Uses:** The City may implement other prohibited water uses as determined by the City, after notice to Customers.

Section 76.4.080 Level 2 Water Supply Shortage

- a) A Level 2 Water Supply Shortage exists when the City determines, in its sole discretion, that due to drought or other supply reductions, a water supply shortage exists and a consumer demand reduction is necessary to make more efficient use of water and respond to existing water conditions. Upon the declaration by the City of a Level 2 Water Supply Shortage condition, the City will implement the mandatory Level 2 Conservation measures identified in this section.

A Level 2 Water Supply Shortage condition exists when the City notifies its Water Users that due to drought or other supply reductions, a Customer demand reduction exceeding 15 % to up to 30% is necessary to make more efficient use of water and respond to existing water shortage conditions. Upon the declaration of a Level 2 Water Supply Shortage condition, the City shall implement the mandatory Level 2 Conservation measures identified in this ordinance.

- b) **Additional Conservation Measures:** In addition to the prohibited uses of water identified in Section 76.4.060 and 76.4.070, the following additional water Conservation requirements apply during a declared Level 2 Water Supply Shortage:
 - 1) **Limits on Watering Hours and Watering Duration** Watering or irrigating of lawn, landscape or other vegetated area with Potable Water is prohibited between the hours of 8 a.m. and 6 p.m. on any day, except by use of a hand-held bucket or similar container, a hand-held hose equipped with a positive self-closing water shut-off nozzle or device, or for a very short periods of time for the express purpose of adjusting or repairing an irrigation system. Watering or irrigating of lawn, landscape or other vegetates area with Potable Water using a Landscape Irrigation System is limited to no more than 10 minutes per day.
 - 2) **Watering Days:** Watering or irrigating of lawn, landscape or other vegetated area with Potable Water is limited to 2 days per week on a schedule established and posted by the City. This provision does not apply to landscape irrigation zones that exclusively use very low flow drip type irrigation systems when no emitter produces more than 2 gallons of water per hour. This provision also does not apply to watering or irrigating by use of a hand-held bucket or similar container, a hand-held hose equipped with a positive self-closing water shut-off nozzle or device, or for very short periods of time for the express purpose of adjusting or repairing an irrigation system.
 - 3) **Obligation to Fix Leaks, Breaks or Malfunctions:** All leaks, breaks, or other malfunctions in the Water User's plumbing or distribution system must be repaired within four days of notification by the City unless other arrangements are made with the City.

- 4) **Limits on Filling Ornamental Lakes or Ponds:** Filling or re-filling ornamental lakes or ponds is prohibited, except to the extent needed to sustain aquatic life, provided that such animals are of significant value and have been actively managed within the water feature prior to declaration of a supply shortage level under this ordinance.
- 5) **Limits on Washing Vehicles:** Using water to wash or clean a vehicle, including but not limited to, any automobile, truck, van, bus motorcycle, boat or trailer, whether motorized or not, is prohibited except by use of a hand-held bucket or similar container, a hand-held hose equipped with a positive self-closing water shut-off nozzle or device, by high pressure/low volume wash systems, or at a commercial car washing facility that utilizes a re-circulating water system to capture or reuse water.
- 6) **Limits on Filling Residential Swimming Pools & Spas:** Re-filling of more than one foot and initial filling of residential swimming pools or outdoor spas with Potable Water is prohibited.
- 7) **Other Prohibited Uses:** The City may implement other prohibitions on water uses as determined by the City, after notice to Customers.

Section 76.4.090 Level 3 Water Supply Shortage – Emergency Condition

a) A Level 3 Water Supply Shortage condition is also referred to as an “Emergency” condition. A Level 3 condition exists when the City declares a water shortage emergency and notifies its residents and businesses that a significant reduction in consumer demand is necessary to make more efficient use of water and respond to existing water conditions. Upon the declaration of a Level 3 Water Supply Shortage Emergency condition, the City will implement the mandatory Level 3 Conservation measures identified in this section.

A Level 3 Water Supply Shortage condition exists when the City notifies its Water Users that due to drought or other supply reductions, a Customer demand reduction exceeding 30% is necessary to make more efficient use of water and respond to existing water shortage conditions. Upon declaration of a Level 3 Water Supply Shortage condition, the City shall implement the mandatory Level 3 Conservation measures identified in this ordinance.

b) **Additional Conservation Measures:** In addition to the prohibited uses of water identified in Section 76.4.060, 76.4.070, and 76.4.080, the following water Conservation requirements apply during a declared Level 3 Water Supply Shortage Emergency:

- 1) **No Watering or Irrigating:** Watering or irrigating of lawn, landscape or other vegetated area with Potable Water is prohibited. This restriction does not apply to the following categories of use or to the use of Recycled Water providing it is available and may be lawfully applied to the use:
 - i) Maintenance of vegetation, including trees and shrubs, that are watered using a hand-held bucket or similar container, hand-held hose equipped with a positive self-closing water shut-off nozzle or device, or a very low-flow drip type irrigation system when no emitter produces more than 2 gallons of water per hour subject to the hour restrictions in Section 76.4.060 (a);
 - ii) Maintenance of existing landscape necessary for fire protection;
 - iii) Maintenance of existing landscape for soil erosion control;
 - iv) Maintenance of plant materials identified to be rare or essential to the well being of rare animals;
 - v) Maintenance of landscape within active public parks and playing fields, day care centers, school grounds, cemeteries, and golf course greens, provided that such irrigation does not exceed 2 days per week according to the schedule established in Section 76.4.080 (b)(1) and time restrictions in Section 76.4.060 (a) and (b);
 - vi) Public works projects and actively irrigated environmental mitigation projects.

- 2) **Obligation to Fix Leaks, Breaks or Malfunctions:** All leaks, breaks, or other malfunctions in the Water User's plumbing or distribution system must be repaired within two days of notification by the City unless other arrangements are made with the City.
- 3) **Discontinue Service:** The City, in its sole discretion, may discontinue service to Customers who willfully violate provisions of this section.
- 4) **Other Prohibited Uses:** The City may implement other prohibited water uses as determined by the City, after notice to Customers.

Section 76.4.100 Procedures for Determination / Notification of Water Supply Shortage

a) Declaration and Notification of Level 1 & 2 Water Supply Shortage:

- 1) The existence of Level 1, Level 2, and Level 3 Water Supply Shortage conditions may be declared by resolution of the City adopted at a regular or special public meeting held in accordance with State law. The mandatory Conservation requirements applicable to Level 1, Level 2 and Level 3 Water Supply Shortage conditions will take effect immediately upon adoption by the City Council.
- 2) In case of emergency, the City Manager will have the authority to declare a Level 1, Level 2, and Level 3 Water Supply Shortage condition subject to ratification by the City Council within 7 days or the order will have no further force or effect.
- 3) The City Council is authorized to implement mandatory Conservation requirements applicable to Level 1, Level 2 and Level 3 Water Supply Shortage conditions in order for the City to comply with water use restrictions imposed by federal, state or regional water agencies or respond to emergency water shortage conditions.

Section 76.4.110 Other Provisions

- a) **Commercial Car Wash Systems:** Effective on January 1, 2012, all commercial conveyor car wash systems must have installed and operational re-circulating water systems, or must have secured a waiver of this requirement from the City.
- b) **Large Landscape Areas – Rain Sensors:** Effective January 1, 2012, Large Landscape Areas, such as parks, cemeteries, golf courses, school grounds, and playing fields, that use Landscape Irrigation Systems to water or irrigate, must use Landscape Irrigation Systems with rain sensors that automatically shut off such systems during periods of rain or irrigation timers which automatically use information such as evapotranspiration sensors to set an efficient water use schedule.
- c) **Construction Purposes:** Recycled or other approved non-Potable Water must be used for construction purposes when available.
- d) **Limits on Building Permits:** The City will limit or withhold the issuance of building permits which require new or expanded water service, except to protect the public health, safety and welfare, or in cases which meet the City's adopted Conservation offset requirements.
- e) **Water Recycling Required if Alternative Available:** The use of Potable Water, other than Recycled Water, is prohibited for specified uses after the City has provided to the Customer an analysis showing that Recycled Water is a cost-effective alternative to Potable Water for such uses and the Customer has had a reasonable time, as determined by the Public Works Director, to make the conversion to Recycled Water.
- f) **Water Recycling – New Service:** Prior to the connection of any new water service, an evaluation must be done by the City to determine whether Recycled Water exists to supply all or some of the water needed and Recycled Water must be utilize to the extent feasible.

Section 76.4.120 Hardship Waiver

- a) **Undue and Disproportionate Hardship:** If, due to unique circumstances, a specific requirement of this Article would result in undue hardship to a Person using water or to property upon which water is used, that is disproportionate to the impacts to Water Users generally or to similar property or classes of Water Users, then the Person may apply for a waiver to the requirements in accordance with administrative procedures established by the City.

Section 76.4.130 Penalties and Violations

- a) **Misdemeanor:** Any Person who violates any provision of this Article is guilty of a misdemeanor punishable by imprisonment in the county jail for not more than 30 days, or by a fine not exceeding \$1,000, or by both fine and imprisonment.
- b) **Civil Penalties:** In addition to all other remedies, the City may issue civil penalties for failure to comply with any provisions of this Article are as follows:
- 1) **First Violation:** The City will issue a written warning and deliver a copy of this ordinance by mail.
 - 2) **Second Violation:** The City will issue a second written warning and deliver a copy of this ordinance by mail.
 - 3) **Third Violation:** A third violation within the preceding 12 calendar months is subject to fine not to exceed \$100. This fine will be incorporated into the Customer's water bill. Non payment will be subject to the same remedies as non payment of basic water rates.
 - 4) **Fourth Violation:** A fourth violation within the preceding 12 calendar months is subject to a fine not to exceed \$250. This fine will be incorporated into the Customer's water bill. Non payment will be subject to the same remedies as non payment of basic water rates.
 - 5) **Fifth and Subsequent Violations:** A fifth and subsequent violation is subject to a fine not to exceed \$500. This fine will be incorporated into the Customer's water bill. Non payment will be subject to the same remedies as non payment of basic water rates.
 - i) **Water Flow Restrictor:** In addition to any fines, the City may install a water flow restrictor device of approximately one gallon per minute capacity for services up to one and one-half inch size and comparatively sized restrictors for larger services after written notice of intent to install a flow restrictor for a minimum of 48 hours.
 - ii) **Termination of Service:** In addition to any fines and the installation of a water flow restrictor, the City may disconnect and/or terminate a Customer's water service.
- c) **Cost of Flow Restrictor and Disconnecting Service:** A Person or entity that violates this Article is responsible for payment of the City's charges for installing and/or removing any flow restricting device and for disconnecting and/or reconnecting service per the City's schedule of charges then in effect. The charge for installing and/or removing any flow restricting device must be paid to the City before the device is removed. Nonpayment will be subject to the same remedies as nonpayment of basic water rates.
- d) A violation of this Article is declared to be a public nuisance and may be abated by the City in accordance with its authority to abate nuisances.
- e) The penalties and remedies listed in this Article are not exclusive of any other penalties and remedies available to the City under any applicable federal, state or local law and it is within the discretion of the City to seek cumulative penalties and remedies."



Appendix J: City Council Ordinance No. 3782

City of Torrance 2015 Urban Water Management Plan

URGENCY ORDINANCE NO. 3782

AN URGENCY ORDINANCE OF THE CITY COUNCIL OF THE CITY OF TORRANCE AMENDING SECTIONS 76.4.050, 76.4.060, 76.4070, 76.4.080, 76.4.100, 76.4.110, AND 76.4.120 OF THE TORRANCE MUNICIPAL CODE RELATING TO WATER CONSERVATION AND WATER SUPPLY SHORTAGE AND SUSTAINABILITY PROGRAM AND REGULATIONS

WHEREAS, on March 24, 2009, the City Council of the City of Torrance (City Council) adopted Ordinance No. 3717 entitled "An Ordinance of the City Council of the City of Torrance Establishing a Water Conservation and Water Supply Shortage and Sustainability Program and Regulations" (Water Conservation Ordinance); and

WHEREAS, the Water Conservation Ordinance establishes certain permanent prohibitions regarding the wasteful uses of water, restrictions on potable water use and establishes increased levels of conservation depending on the severity of the water shortage conditions or other water supply reductions; and

WHEREAS, California is currently in the midst of a severe fourth consecutive drought year and snowpacks in the key Sierra Nevada watersheds in the state, which normally provide approximately 30% of all California's annual fresh water supplies, are at unprecedented low levels; and

WHEREAS, on April 1, 2015, in response to severe drought conditions, Governor Brown issued the first ever statewide executive order requiring implementation of mandatory water use reductions throughout the state; and

WHEREAS, the current severe drought situation and water supply shortage conditions necessitate that all communities in the state reduce their water use and increase their conservation efforts. This situation warrants the repeal of Resolution 2014-33 and activation of a Level 2 Water Supply Shortage stage of the City's Water Conservation and Water Supply Shortage Ordinance in accordance with Sections 76.4.080 and 76.4.100, to help mitigate drought impacts by implementing augmented water use restrictions. In addition to permanent measures and prohibitions against wasteful uses of water, augmented restrictions include prohibiting outdoor watering between the hours of 8 a.m. and 6 p.m. and restricting water times to no more than 10 minutes; limiting outdoor watering to two days per week; requiring that all leaks be repaired within four days, placing restrictions on the filling or re-filling of ornamental ponds, swimming pools and spas, and establishing water usage target reductions of 30%.

NOW, THEREFORE, the City Council of the City of Torrance ordains as follows:

SECTION 1

Section 76.4.050(a) is amended to read in its entirety as follows:

"a) The provisions of this Article apply to any Person in the use of any Potable Water within the City. This Article applies to the Torrance Municipal Water service area and to the service areas of any other agencies providing water service within the City."

SECTION 2

Section 76.4.060(b) is amended to read in its entirety as follows:

“b) Limit on Watering Duration: Watering or irrigating of lawn, landscape or other vegetated area with Potable Water using a Landscape Irrigation System or a watering device that is not continuously attended is limited to no more than 15 minutes watering per day per station or per area. This subsection does not apply to Landscape Irrigation Systems that exclusively use very low-flow drip type irrigation systems when no emitter produces more than 2 gallons of water per hour and weather based controllers or stream rotor sprinklers that meet a 70% efficiency standard.”

SECTION 3

Section 76.4.060 is amended to add a new subsection (m) to read in its entirety as follows:

“m) Limits on Watering During or After Measurable Rainfall: Watering or irrigating of any lawn, landscape or other vegetated area with Potable Water during a measurable rainfall is prohibited. Additionally, watering or irrigating of any lawn, landscape or other vegetated area with Potable Water within 48 hours after a measurable rainfall is prohibited.”

SECTION 4

Section 76.4.070(b)(1) is amended to read in its entirety as follows:

“1) Limits on Watering Hours and Watering Duration: Watering or irrigating of lawn, landscape or other vegetated area with Potable Water is prohibited between the hours of 9 a.m. and 5 p.m. on any day, except by use of a hand-held bucket or similar container, a hand-held hose equipped with a positive self-closing water shut-off nozzle or device, or for very short periods of time for the express purpose of adjusting or repairing an irrigation system. Watering or irrigating of lawn, landscape or other vegetated area with Potable Water using a Landscape Irrigation System or watering device is limited to no more than 15 minutes watering per day per station or per area.”

SECTION 5

Section 76.4.080(b)(1) is amended to read its entirety as follows:

“1) Limits on Watering Hours and Watering Duration: Watering or irrigating of lawn, landscape or other vegetated area with Potable Water is prohibited between the hours of 8 a.m. and 6 p.m. on any day, except by use of a hand-held bucket or similar container, a hand-held hose equipped with a positive self-closing water shut-off nozzle or device, or for very short periods of time for the express purpose of adjusting or repairing an irrigation system. Watering or irrigating of lawn, landscape or other vegetated area with Potable Water using a Landscape Irrigation System or watering device is limited to no more than 10 minutes per day per station or per area.”

SECTION 6

Section 76.4.100(a) is amended to read in its entirety as follows:

“a) **Declaration and Notification of Level 1, 2, & 3 Water Supply Shortage**”

SECTION 7

Section 76.4.110 is amended to add a new subsection (g) to read in its entirety as follows:

“g) Administrative Rules: The Public Works Director shall have the authority to establish administrative rules, operating rules, procedures, and guidelines to implement and enforce this Article in accordance with its provisions and intent.”

SECTION 8

Section 76.4.120(a) is amended to read in its entirety as follows:

“a) Undue and Disproportionate Hardship: If, due to unique circumstances, a specific requirement of this Article would result in undue hardship to a Person using water or to property upon which water is used, such as addressing appropriate moisture content to maintain the integrity of foundations or structural components of buildings in expansive soil areas, that is disproportionate to the impacts to Water Users generally or to similar property or classes of Water Users, then the Person may apply for a waiver to the requirements in accordance with administrative procedures established by the City.”

SECTION 9

Declaration of Facts Supporting the Urgency Ordinance. This Ordinance is adopted under the authority of Government Code Section 36937. The statements of fact set forth in the preamble to this Ordinance are incorporated into this Section by this reference.

SECTION 10

Any inconsistent provisions of the Torrance Municipal Code, or any other inconsistent ordinances of the City, are repealed, to the extent of the inconsistencies.

SECTION 11

If any section, subsection, sentence, clause, or phrase of this ordinance is for any reason held to be invalid or unconstitutional by the decision of any court of competent jurisdiction, then the decision will not affect the validity of the remaining portion of the ordinance. The City Council declares that it would have passed this ordinance and each of its sections, subsections, sentences, clauses and phrases, irrespective of the fact that any one or more sections, subsections, sentences, clauses or phrases might be declared invalid or unconstitutional.

SECTION 12

This Urgency Ordinance takes effect immediately upon its adoption pursuant to Water Code section 376. Within 10 days following adoption, this ordinance will be published at least once in the Daily Breeze, a newspaper of general circulation, published and circulated in the City of Torrance.

ADOPTED and PASSED this 5th day of May, 2015.

APPROVED AS TO FORM:

JOHN FELLOWS III, City Attorney

by 
Patrick Q. Sullivan, Assistant City Attorney


Mayor Patrick J. Furey

ATTEST:

City Clerk Rebecca Poirier, MMC



Appendix K: City Water Conservation Plan

City of Torrance 2015 Urban Water Management Plan

ARTICLE 4 - WATER CONSERVATION AND WATER SUPPLY SHORTAGE AND SUSTAINABILITY PROGRAM

(Added by O-3320; entire Chapter repealed and added by O-3717)

76.4.010 TITLE.

.....
This Article will be known as the City of Torrance Water Conservation and Water Supply Shortage and Sustainability Program.

76.4.020 FINDINGS.

-
- a) A reliable minimum and sustainable supply of Potable Water is essential to the public health, safety and welfare of the people and economy of the City of Torrance and the southern California region.
 - b) Southern California is a semi-arid region and is largely dependent upon imported water supplies. A growing population, climate change, environmental concerns, and other factors in other parts of the State and western United States, make the region highly susceptible to water supply reliability issues.
 - c) Careful water management that includes active water Conservation measures not only in times of drought, but at all times, is essential to ensure a reliable minimum supply of water to meet current and future water supply needs.
 - d) Article XI, Section 7 of the California Constitution declares that a city or county may make and enforce within its limits all local, police, sanitary and other ordinances and regulations not in conflict with general laws.
 - e) Article X, Section 2 of the California Constitution declares that the general welfare requires that water resources be put to beneficial use, waste or unreasonable use or unreasonable method of use of water be prevented, and Conservation of water be fully exercised with a view to the reasonable and beneficial use thereof.
 - f) California Water Code section 375 authorizes water suppliers to adopt and enforce a comprehensive water Conservation program to reduce water consumption and conserve supplies.
 - g) The adoption and enforcement of a Water Conservation and Supply Shortage and Sustainability program is necessary to manage the City's Potable Water supply in the short and long-term and to avoid or minimize the effects of drought and shortage within the City. Such program is essential to ensure a reliable and sustainable minimum supply of water for the public health, safety and welfare for current and future generations.

76.4.030 DECLARATION OF PURPOSE AND INTENT.

- a) The purpose of this Article is to establish a Water Conservation and Supply Shortage and Sustainability program that will reduce water consumption within the City through Conservation, enable effective water supply planning, assure reasonable and beneficial use of water, prevent waste of water, and maximize the efficient use of water within the City to avoid and minimize the effect and hardship of water shortage to the greatest extent possible.
- b) This Article establishes permanent water Conservation standards intended to alter behavior related to water use efficiency for non-shortage conditions and further establishes three levels of water supply shortage response actions to be implemented during times of declared water shortage or declared water shortage emergency, with increasing restrictions on water use in response to worsening drought or emergency conditions and decreasing supplies.

76.4.040 DEFINITIONS.

- a) The following words and phrases whenever used in this Article have the meaning defined in this section:
 - 1) "Allocation" means a form of water rationing that uses penalty pricing to achieve target reductions in water use.
 - 2) "Billing Unit" means the unit of water used to apply water rates for purposes of calculating water charges for a Person's water usage and equals 100 cubic feet or 748 gallons of water.
 - 3) "City" means the City of Torrance.
 - 4) "Conservation" means the practice of protecting against the loss or waste of natural resources.
 - 5) "Customer" or "Water User" means a Person that uses Potable Water through a metered service connection.
 - 6) "Landscape Irrigation System" means an irrigation system with pipes, hoses, spray heads, or sprinkling devices that are operated by hand or through an automated system.
 - 7) "Large Landscape Areas" means a lawn, landscape, or other vegetated area, or combination thereof, equal to more than one (1) acre of irrigable land.
 - 8) "Person" means any natural person or persons, corporation, public or private entity, governmental agency or institution, or any other user of water within the City.
 - 9) "Potable Water" means water which is suitable for drinking.
 - 10) "Recycled Water" means the reclamation and reuse of non-Potable Water for beneficial use.

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

12) "Sustainability" means a decision making concept describing water use that meets present needs without compromising the ability to meet future requirements.

76.4.050 APPLICATION.

(Amended by O-3782)

a) The provisions of this Article apply to any Person in the use of any Potable Water within the City. This Article applies to the Torrance Municipal Water service area and to the service areas of any other agencies providing water service within the City.

b) The provisions of this Article do not apply to uses of water necessary to protect public health and safety or for essential government services, such as police, fire and other similar emergency services.

c) The provisions of this Article do not apply to the use of Recycled Water.

d) The provisions of this Article do not apply to the use of water by commercial nurseries and commercial growers to sustain plants, trees, shrubs, crops or other vegetation intended for commercial sale.

e) This Article is intended solely to further the Conservation of water. It is not intended to implement any provision of federal, State, or local statutes, ordinances, or regulations relating to protection of water quality or control of drainage or runoff.

76.4.060 PERMANENT WATER CONSERVATION REQUIREMENTS - PROHIBITION AGAINST WASTE.

(Amended by O-3782)

The following water Conservation requirements are effective at all times and are permanent, unless rescinded by the action of the City Council. Violations of this section will be considered waste and an unreasonable use of water.

a) Limits on Watering Hours: Watering or irrigating of lawn, landscape or other vegetated area with Potable Water is prohibited between the hours of 10 a.m. and 4 p.m. on any day, except by use of a hand-held bucket or similar container, a hand-held hose equipped with a positive self-closing water shut-off nozzle or device, or for very short periods of time for the express purpose of adjusting or repairing an irrigation system.

b) Limit on Watering Duration: Watering or irrigating of lawn, landscape or other vegetated area with Potable Water using a Landscape Irrigation System or a watering device that is not continuously

attended is limited to no more than fifteen (15) minutes watering per day per station or per area. This subsection does not apply to Landscape Irrigation Systems that exclusively use very low-flow drip type irrigation systems when no emitter produces more than two (2) gallons of water per hour and weather based controllers or stream rotor sprinklers that meet a seventy percent (70%) efficiency standard.

c) No Excessive Water Flow or Runoff: Watering or irrigating of any lawn, landscape or other vegetated area in a manner that causes or allows excessive water flow or runoff onto an adjoining sidewalk, driveway, street, alley, gutter or ditch is prohibited.

d) No Washing Down Hard or Paved Surfaces: Washing down hard or paved surfaces, including but not limited to sidewalks, walkways, driveways, parking areas, tennis courts, patios or alleys, is prohibited except when necessary to alleviate safety or sanitary hazards, and then only by use of a hand-held bucket or similar container, a hand-held hose equipped with a positive self-closing water shut-off device or a low-volume, high-pressure water efficient water broom (Watermiser or equivalent brand) type or cleaning machine equipped to recycle any water used.

e) Obligation to Fix Leaks, Breaks or Malfunctions: Excessive use, loss or escape of water through breaks, leaks or other malfunctions in the Water User's plumbing or distribution system for any period of time after such escape of water should have reasonably been discovered and corrected and in no event more than 15 days of receiving notice from the City, is prohibited.

f) Recirculating Water Required for Water Fountains and Decorative Water Features: Operating a water fountain or other decorative water feature that does not use recirculated water is prohibited. This provision will be effective 90 days after adoption of this Ordinance.

g) Limits on Washing Vehicles: Using water to wash or clean a vehicle, including but not limited to any automobile, truck, van, bus, motorcycle, boat or trailer, whether motorized or not is prohibited, except by use of a hand-held bucket or similar container or a hand-held hose equipped with a positive self-closing water shut-off nozzle or device. This subsection does not apply to any commercial car washing facility.

h) Drinking Water Served Upon Request Only: Eating or drinking establishments, including but not limited to a restaurant, hotel, cafe, cafeteria, bar, club or other public place where food or drinks are sold, served, or offered for sale, are prohibited from providing drinking water to any Person unless expressly requested.

i) Commercial Lodging Establishments Must Provide Option to Not Launder Linen Daily: Hotels, motels and other commercial lodging establishments must provide Customers the option of not having towels and linen laundered daily. Commercial lodging establishments must prominently display notice of this option in each bathroom using clear and easily understood language.

- j) No Installation of Single Pass Cooling Systems: Installation of Single Pass Cooling Systems is prohibited in buildings requesting new water service.
- k) No Installation of Non-recirculating in Commercial Car Wash and Laundry Systems: Installation of non-recirculating water systems is prohibited in new commercial conveyor car wash and new commercial laundry systems.
- l) Restaurants Required to Use Water Conserving Dish Wash Spray Valves: Food preparation establishments, such as restaurants or cafes, are prohibited from using non-water conserving dish wash spray valves.
- m) Limits on Watering During or After Measurable Rainfall: Watering or irrigating of any lawn, landscape or other vegetated area with Potable Water during a measurable rainfall is prohibited. Additionally, watering or irrigating of any lawn, landscape or other vegetated area with Potable Water within forty-eight (48) hours after a measurable rainfall is prohibited.

76.4.070 LEVEL 1 WATER SUPPLY SHORTAGE.

(Amended by O-3782)

a) A Level 1 Water Supply Shortage exists when the City determines, in its sole discretion, that due to drought or other water supply reductions, a water supply shortage exists and a consumer demand reduction is necessary to make more efficient use of water and appropriately respond to existing water conditions. Upon the declaration by the City of a Level 1 Water Supply Shortage condition, the City will implement the mandatory Level 1 Conservation measures identified in this section. The type of event that may prompt the City to declare a Level 1 Water Supply Shortage may include, among other factors, a finding that the Metropolitan Water District of Southern California ("MWD") calls for extraordinary water Conservation and declares up to a 15% mandatory Allocation (rationing) within the MWD service area.

A Level 1 Water Supply Shortage condition exists when the City notifies its Water Users that due to drought or other supply reductions, a Customer demand reduction of up to 15% is necessary to make more efficient use of water and respond to existing water shortage conditions. Upon the declaration of a Level 1 Water Supply Shortage condition, the City shall implement the mandatory Level 1 Conservation measures identified in this ordinance.

b) Additional Water Conservation Measures: In addition to the prohibited uses of water identified in Section [76.4.060](#), the following water Conservation requirements apply during a declared Level 1 Water Supply Shortage:

- 1) Limits on Watering Hours and Watering Duration: Watering or irrigating of lawn, landscape or other vegetated area with Potable Water is prohibited between the hours of 9:00 a.m. and 5:00

p.m. on any day, except by use of a hand-held bucket or similar container, a hand-held hose equipped with a positive self-closing water shut-off nozzle or device, or for very short periods of time for the express purpose of adjusting or repairing an irrigation system. Watering or irrigating of lawn, landscape or other vegetated area with Potable Water using a Landscape Irrigation System or watering device is limited to no more than fifteen (15) minutes watering per day per station or per area.

2) Limits on Watering Days: Watering or irrigating of lawn, landscape or other vegetated area with Potable Water is limited to 3 days per week on a schedule established and posted by the City. This provision does not apply to landscape irrigation zones that exclusively use very low flow drip type irrigation systems when no emitter produces more than 2 gallons of water per hour. This provision also does not apply to watering or irrigating by use of a hand-held bucket or similar container, a hand-held hose equipped with a positive self-closing water shut-off nozzle or device, or for very short periods of time for the express purpose of adjusting or repairing an irrigation system.

3) Obligation to Fix Leaks, Breaks or Malfunctions: All leaks, breaks, or other malfunctions in the Water User's plumbing or distribution system must be repaired within 7 days of notification by the City unless other arrangements are made with the City.

4) Other Prohibited Uses: The City may implement other prohibited water uses as determined by the City, after notice to Customers.

76.4.080 LEVEL 2 WATER SUPPLY SHORTAGE.

(Amended by O-3782)

a) A Level 2 Water Supply Shortage exists when the City determines, in its sole discretion, that due to drought or other supply reductions, a water supply shortage exists and a consumer demand reduction is necessary to make more efficient use of water and respond to existing water conditions. Upon the declaration by the City of a Level 2 Water Supply Shortage condition, the City will implement the mandatory Level 2 Conservation measures identified in this section.

A Level 2 Water Supply Shortage condition exists when the City notifies its Water Users that due to drought or other supply reductions, a Customer demand reduction exceeding 15% to up to 30% is necessary to make more efficient use of water and respond to existing water shortage conditions. Upon the declaration of a Level 2 Water Supply Shortage condition, the City shall implement the mandatory Level 2 Conservation measures identified in this ordinance.

b) Additional Conservation Measures: In addition to the prohibited uses of water identified in Section [76.4.060](#) and [76.4.070](#), the following additional water Conservation requirements apply during a declared Level 2 Water Supply Shortage:

- 1) Limits on Watering Hours and Watering Duration: Watering or irrigating of lawn, landscape or other vegetated area with Potable Water is prohibited between the hours of 8:00 a.m. and 6:00 p.m. on any day, except by use of a hand-held bucket or similar container, a hand-held hose equipped with a positive self-closing water shut-off nozzle or device, or for very short periods of time for the express purpose of adjusting or repairing an irrigation system. Watering or irrigating of lawn, landscape or other vegetated area with Potable Water using a Landscape Irrigation System or watering device is limited to no more than ten (10) minutes per day per station or per area.
- 2) Watering Days: Watering or irrigating of lawn, landscape or other vegetated area with Potable Water is limited to 2 days per week on a schedule established and posted by the City. This provision does not apply to landscape irrigation zones that exclusively use very low flow drip type irrigation systems when no emitter produces more than 2 gallons of water per hour. This provision also does not apply to watering or irrigating by use of a hand-held bucket or similar container, a hand-held hose equipped with a positive self-closing water shut-off nozzle or device, or for very short periods of time for the express purpose of adjusting or repairing an irrigation system.
- 3) Obligation to Fix Leaks, Breaks or Malfunctions: All leaks, breaks, or other malfunctions in the Water User's plumbing or distribution system must be repaired within four days of notification by the City unless other arrangements are made with the City.
- 4) Limits on Filling Ornamental Lakes or Ponds: Filling or refilling ornamental lakes or ponds is prohibited, except to the extent needed to sustain aquatic life, provided that such animals are of significant value and have been actively managed within the water feature prior to declaration of a supply shortage level under this ordinance.
- 5) Limits on Washing Vehicles: Using water to wash or clean a vehicle, including but not limited to, any automobile, truck, van, bus motorcycle, boat or trailer, whether motorized or not, is prohibited except by use of a hand-held bucket or similar container, a hand-held hose equipped with a positive self-closing water shut-off nozzle or device, by high pressure/low volume wash systems, or at a commercial car washing facility that utilizes a recirculating water system to capture or reuse water.
- 6) Limits on Filling Residential Swimming Pools and Spas: Refilling of more than one foot and initial filling of residential swimming pools or outdoor spas with Potable Water is prohibited.
- 7) Other Prohibited Uses: The City may implement other prohibitions on water uses as determined by the City, after notice to Customers.

76.4.090 LEVEL 3 WATER SUPPLY SHORTAGE - EMERGENCY CONDITION.

a) A Level 3 Water Supply Shortage condition is also referred to as an "Emergency" condition. A Level 3 condition exists when the City declares a water shortage emergency and notifies its residents and businesses that a significant reduction in consumer demand is necessary to make more efficient use of water and respond to existing water conditions. Upon the declaration of a Level 3 Water Supply Shortage Emergency condition, the City will implement the mandatory Level 3 Conservation measures identified in this section.

A Level 3 Water Supply Shortage condition exists when the City notifies its Water Users that due to drought or other supply reductions, a Customer demand reduction exceeding 30% is necessary to make more efficient use of water and respond to existing water shortage conditions. Upon declaration of a Level 3 Water Supply Shortage condition, the City shall implement the mandatory Level 3 Conservation measures identified in this ordinance.

b) Additional Conservation Measures: In addition to the prohibited uses of water identified in Section [76.4.060](#), [76.4.070](#), and [76.4.080](#), the following water Conservation requirements apply during a declared Level 3 Water Supply Shortage Emergency:

- 1) No Watering or Irrigating: Watering or irrigating of lawn, landscape or other vegetated area with Potable Water is prohibited. This restriction does not apply to the following categories of use or to the use of Recycled Water providing it is available and may be lawfully applied to the use:
 - i) Maintenance of vegetation, including trees and shrubs, that are watered using a hand-held bucket or similar container, hand-held hose equipped with a positive self-closing water shut-off nozzle or device, or a very low-flow drip type irrigation system when no emitter produces more than 2 gallons of water per hour subject to the hour restrictions in Section [76.4.060](#) (a);
 - ii) Maintenance of existing landscape necessary for fire protection;
 - iii) Maintenance of existing landscape for soil erosion control;
 - iv) Maintenance of plant materials identified to be rare or essential to the well being of rare animals;
 - v) Maintenance of landscape within active public parks and playing fields, day care centers, school grounds, cemeteries, and golf course greens, provided that such irrigation does not exceed 2 days per week according to the schedule established in Section [76.4.080](#) (b)(1) and time restrictions in Section [76.4.060](#) (a) and (b);
 - vi) Public works projects and actively irrigated environmental mitigation projects.
- 2) Obligation to Fix Leaks, Breaks or Malfunctions: All leaks, breaks, or other malfunctions in

the Water User's plumbing or distribution system must be repaired within two days of notification by the City unless other arrangements are made with the City.

3) Discontinue Service: The City, in its sole discretion, may discontinue service to Customers who willfully violate provisions of this section.

4) Other Prohibited Uses: The City may implement other prohibited water uses as determined by the City, after notice to Customers.

76.4.100 PROCEDURES FOR DETERMINATION/NOTIFICATION OF WATER SUPPLY SHORTAGE.

(Amended by O-3782)

a) Declaration and Notification of Level 1, 2, and 3 Water Supply Shortage:

1) The existence of Level 1, Level 2, and Level 3 Water Supply Shortage conditions may be declared by resolution of the City adopted at a regular or special public meeting held in accordance with State law. The mandatory Conservation requirements applicable to Level 1, Level 2 and Level 3 Water Supply Shortage conditions will take effect immediately upon adoption by the City Council.

2) In case of emergency, the City Manager will have the authority to declare a Level 1, Level 2, and Level 3 Water Supply Shortage condition subject to ratification by the City Council within 7 days or the order will have no further force or effect.

3) The City Council is authorized to implement mandatory Conservation requirements applicable to Level 1, Level 2 and Level 3 Water Supply Shortage conditions in order for the City to comply with water use restrictions imposed by federal, state or regional water agencies or respond to emergency water shortage conditions.

76.4.110 OTHER PROVISIONS.

(Amended by O-3782)

a) Commercial Car Wash Systems: Effective on January 1, 2012, all commercial conveyor car wash systems must have installed and operational recirculating water systems, or must have secured a waiver of this requirement from the City.

b) Large Landscape Areas - Rain Sensors: Effective January 1, 2012, Large Landscape Areas, such as parks, cemeteries, golf courses, school grounds, and playing fields, that use Landscape Irrigation Systems to water or irrigate, must use Landscape Irrigation Systems with rain sensors that automatically shut off such systems during periods of rain or irrigation timers which automatically use information such as evapotranspiration sensors to set an efficient water use schedule.

c) Construction Purposes: Recycled or other approved non-Potable Water must be used for

construction purposes when available.

d) **Limits on Building Permits:** The City will limit or withhold the issuance of building permits which require new or expanded water service, except to protect the public health, safety and welfare, or in cases which meet the City's adopted Conservation offset requirements.

e) **Water Recycling Required if Alternative Available:** The use of Potable Water, other than Recycled Water, is prohibited for specified uses after the City has provided to the Customer an analysis showing that Recycled Water is a cost-effective alternative to Potable Water for such uses and the Customer has had a reasonable time, as determined by the Public Works Director, to make the conversion to Recycled Water.

f) **Water Recycling - New Service:** Prior to the connection of any new water service, an evaluation must be done by the City to determine whether Recycled Water exists to supply all or some of the water needed and Recycled Water must be utilized to the extent feasible.

g) **Administrative Rules:** The Public Works Director shall have the authority to establish administrative rules, operating rules, procedures, and guidelines to implement and enforce this Article in accordance with its provisions and intent.

76.4.120 HARDSHIP WAIVER.

(Amended by O-3782)

a) **Undue and Disproportionate Hardship:** If, due to unique circumstances, a specific requirement of this Article would result in undue hardship to a Person using water or to property upon which water is used, such as addressing appropriate moisture content to maintain the integrity of foundations or structural components of buildings in expansive soil areas, that is disproportionate to the impacts to Water Users generally or to similar property or classes of Water Users, then the Person may apply for a waiver to the requirements in accordance with administrative procedures established by the City.

76.4.130 PENALTIES AND VIOLATIONS.

a) **Misdemeanor:** Any Person who violates any provision of this Article is guilty of a misdemeanor punishable by imprisonment in the county jail for not more than 30 days, or by a fine not exceeding \$1,000, or by both fine and imprisonment.

b) **Civil Penalties:** In addition to all other remedies, the City may issue civil penalties for failure to comply with any provisions of this Article [and] are as follows:

- 1) **First Violation:** The City will issue a written warning and deliver a copy of this ordinance by mail.
- 2) **Second Violation:** The City will issue a second written warning and deliver a copy of this

ordinance by mail.

- 3) Third Violation: A third violation within the preceding 12 calendar months is subject to fine not to exceed \$100. This fine will [be] incorporated into the Customer's water bill. Nonpayment will be subject to the same remedies as nonpayment of basic water rates.
- 4) Fourth Violation: A fourth violation within the preceding 12 calendar months is subject to a fine not to exceed \$250. This fine will be incorporated into the Customer's water bill. Nonpayment will be subject to the same remedies as nonpayment of basic water rates.
- 5) Fifth and Subsequent Violations: A fifth and subsequent violation is subject to a fine not to exceed \$500. This fine will be incorporated into the Customer's water bill. Nonpayment will be subject to the same remedies as nonpayment of basic water rates.
 - i) Water Flow Restrictor: In addition to any fines, the City may install a water flow restrictor device of approximately one gallon per minute capacity for services up to one and one-half inch size and comparatively sized restrictors for larger services after written notice of intent to install a flow restrictor for a minimum of 48 hours.
 - ii) Termination of Service: In addition to any fines and the installation of a water flow restrictor, the City may disconnect and/or terminate a Customer's water service.
- c) Cost of Flow Restrictor and Disconnecting Service: A Person or entity that violates this Article is responsible for payment of the City's charges for installing and/or removing any flow restricting device and for disconnecting and/or reconnecting service per the City's schedule of charges then in effect. The charge for installing and/or removing any flow restricting device must be paid to the City before the device is removed. Nonpayment will be subject to the same remedies as nonpayment of basic water rates.
- d) A violation of this Article is declared to be a public nuisance and may be abated by the City in accordance with its authority to abate nuisances.
- e) The penalties and remedies listed in this Article are not exclusive of any other penalties and remedies available to the City under any applicable federal, state or local law and it is within the discretion of the City to seek cumulative penalties and remedies.



Appendix L: DWR Data Tables

City of Torrance 2015 Urban Water Management Plan

Table 2-1 Retail Only: Public Water Systems			
Public Water System Number	Public Water System Name	Number of Municipal Connections 2015	Volume of Water Supplied 2015
CA1910213	Torrance Municipal Water	26,580	23,672
TOTAL		26,580	23,672
NOTES:			

Table 2-2: Plan Identification		
Select Only One	Type of Plan	Name of RUWMP or Regional Alliance <i>if applicable</i> <i>drop down list</i>
<input checked="" type="checkbox"/>	Individual UWMP	
	<input type="checkbox"/> Water Supplier is also a member of a RUWMP	
	<input type="checkbox"/> Water Supplier is also a member of a Regional Alliance	
<input type="checkbox"/>	Regional Urban Water Management Plan (RUWMP)	
NOTES:		

Table 2-3: Agency Identification	
Type of Agency (select one or both)	
<input type="checkbox"/>	Agency is a wholesaler
<input checked="" type="checkbox"/>	Agency is a retailer
Fiscal or Calendar Year (select one)	
<input type="checkbox"/>	UWMP Tables Are in Calendar Years
<input checked="" type="checkbox"/>	UWMP Tables Are in Fiscal Years
If Using Fiscal Years Provide Month and Date that the Fiscal Year Begins (mm/dd)	
7/1	
Units of Measure Used in UWMP (select from Drop down)	
Unit	AF
NOTES:	

Table 2-4 Retail: Water Supplier Information Exchange
The retail supplier has informed the following wholesale supplier(s) of projected water use in accordance with CWC 10631.
Wholesale Water Supplier Name <i>(Add additional rows as needed)</i>
Metropolitan Water District of Southern California
NOTES:

Table 3-1 Retail: Population - Current and Projected

Population Served	2015	2020	2025	2030	2035	2040(opt)
	105,358	108,217	111,237	114,341	117,532	120,812
NOTES:						

Table 4-1 Retail: Demands for Potable and Raw Water - Actual

Use Type <i>(Add additional rows as needed)</i>	2015 Actual		
<i>Drop down list</i> <i>May select each use multiple times</i> <i>These are the only Use Types that will be recognized by the WUEdata online submittal tool</i>	Additional Description <i>(as needed)</i>	Level of Treatment When Delivered <i>Drop down list</i>	Volume
Single Family		Drinking Water	6,243
Multi-Family		Drinking Water	3,656
Commercial	w/ Institutional	Drinking Water	3,454
Industrial		Drinking Water	3,126
Landscape		Drinking Water	851
Other		Drinking Water	61
Agricultural irrigation		Drinking Water	78
Sales/Transfers/Exchanges to other agencies		Drinking Water	851
Industrial	Recycled	Raw Water	4,937
Landscape	Recycled	Raw Water	348
Losses		Drinking Water	67
TOTAL			23,672

NOTES: Tables 4-1 and SBx7-7 Table 4 volumes may not match due to reductions in volume for desalinated water and groundwater. Recycled water within the area is used as groundwater replenishment and seawater intrusion barrier. The City states that half of both groundwater and desalinated water supplies were originally recycled water and should be deducted from its full supply amounts. Recycled water is excluded from the total water consumption when calculating GPCD.

Table 4-2 Retail: Demands for Potable and Raw Water - Projected

Use Type <i>(Add additional rows as needed)</i>	Additional Description <i>(as needed)</i>	Projected Water Use <i>Report To the Extent that Records are Available</i>				
		2020	2025	2030	2035	2040-opt
<u>Drop down list</u> <i>May select each use multiple times These are the only Use Types that will be recognized by the WUEdata online submittal tool</i>						
Single Family		6,657	6,842	7,033	7,230	7,431
Multi-Family		3,688	3,791	3,897	4,006	4,118
Commercial	w/ Institutional	3,374	3,468	3,565	3,664	3,767
Industrial		3,136	3,223	3,313	3,405	3,501
Landscape		812	835	858	882	906
Other		78	80	82	84	87
Agricultural irrigation		80	82	84	85	87
Sales/Transfers/Exchanges to other agencies		1,000	1,000	1,000	1,000	1,000
Industrial	Recycled	6,200	6,200	6,200	6,200	6,200
Landscape	Recycled	400	440	480	520	560
Losses		681	700	720	740	761
TOTAL		26,105	26,661	27,232	27,817	28,417
NOTES:						

Table 4-3 Retail: Total Water Demands

	2015	2020	2025	2030	2035	2040 <i>(opt)</i>
Potable and Raw Water <i>From Tables 4-1 and 4-2</i>	23,672	26,105	26,661	27,232	27,817	28,417
Recycled Water Demand* <i>From Table 6-4</i>	4,937	6,600	6,640	6,680	6,720	6,760
TOTAL WATER DEMAND	28,609	32,705	33,301	33,912	34,537	35,177
<i>*Recycled water demand fields will be blank until Table 6-4 is complete.</i>						
NOTES:						

Table 4-4 Retail: 12 Month Water Loss Audit Reporting	
Reporting Period Start Date (mm/yyyy)	Volume of Water Loss*
07/2014	67
* Taken from the field "Water Losses" (a combination of apparent losses and real losses) from the AWWA worksheet.	
NOTES:	

Table 4-5 Retail Only: Inclusion in Water Use Projections	
Are Future Water Savings Included in Projections? (Refer to Appendix K of UWMP Guidebook) <i>Drop down list (y/n)</i>	Yes
If "Yes" to above, state the section or page number, in the cell to the right, where citations of the codes, ordinances, etc... utilized in demand projections are found.	PG 4-10
Are Lower Income Residential Demands Included In Projections? <i>Drop down list (y/n)</i>	Yes
NOTES:	

Table 5-1 Baselines and Targets Summary <i>Retail Agency or Regional Alliance Only</i>					
Baseline Period	Start Year	End Year	Average Baseline GPCD*	2015 Interim Target *	Confirmed 2020 Target*
10-15 year	2001	2010	157	150	142
5 Year	2006	2010	150		
*All values are in Gallons per Capita per Day (GPCD)					
NOTES:					

Table 5-2: 2015 Compliance

Retail Agency or Regional Alliance Only

Actual 2015 GPCD*	2015 Interim Target GPCD*	Optional Adjustments to 2015 GPCD Enter "0" if no adjustment is made <i>From Methodology 8</i>					Adjusted 2015 GPCD*	2015 GPCD* <i>(Adjusted if applicable)</i>	Did Supplier Achieve Targeted Reduction for 2015? Y/N
		Extraordinary Events*	Economic Adjustment*	Weather Normalization*	TOTAL Adjustments*				
122	150	0	0	0	0	122	122	Yes	

**All values are in Gallons per Capita per Day (GPCD)*

NOTES:

Table 6-1 Retail: Groundwater Volume Pumped

<input type="checkbox"/>	Supplier does not pump groundwater. The supplier will not complete the table below.					
Groundwater Type <i>Drop Down List</i> <i>May use each category multiple times</i>	Location or Basin Name	2011	2012	2013	2014	2015
<i>Add additional rows as needed</i>						
Alluvial Basin	West Coast Basin	1,032	2,520	2,189	2,350	1,367
TOTAL		1,032	2,520	2,189	2,350	1,367

NOTES:

Table 6-2 Retail: Wastewater Collected Within Service Area in 2015						
<input type="checkbox"/> There is no wastewater collection system. The supplier will not complete the table below.						
Percentage of 2015 service area covered by wastewater collection system <i>(optional)</i>						
Percentage of 2015 service area population covered by wastewater collection system <i>(optional)</i>						
Wastewater Collection			Recipient of Collected Wastewater			
Name of Wastewater Collection Agency	Wastewater Volume Metered or Estimated? <i>Drop Down List</i>	Volume of Wastewater Collected from UWMP Service Area 2015	Name of Wastewater Treatment Agency Receiving Collected Wastewater	Treatment Plant Name	Is WWTP Located Within UWMP Area? <i>Drop Down List</i>	Is WWTP Operation Contracted to a Third Party? <i>(optional)</i> <i>Drop Down List</i>
<i>Add additional rows as needed</i>						
City of Torrance	Metered	18,937	Los Angeles County Sanitation District	Joint Water Pollution Control Plant	No	
Total Wastewater Collected from Service Area in 2015:		18,937				
NOTES:						

Table 6-3 Retail: Wastewater Treatment and Discharge Within Service Area in 2015										
<input checked="" type="checkbox"/> No wastewater is treated or disposed of within the UWMP service area. The supplier will not complete the table below.										
Wastewater Treatment Plant Name	Discharge Location Name or Identifier	Discharge Location Description	Wastewater Discharge ID Number <i>(optional)</i>	Method of Disposal <i>Drop down list</i>	Does This Plant Treat Wastewater Generated Outside the Service Area?	Treatment Level <i>Drop down list</i>	2015 volumes			
							Wastewater Treated	Discharged Treated Wastewater	Recycled Within Service Area	Recycled Outside of Service Area
<i>Add additional rows as needed</i>										
Total							0	0	0	0
NOTES:										

Table 6-4 Retail: Current and Projected Recycled Water Direct Beneficial Uses Within Service Area

<input type="checkbox"/> Recycled water is not used and is not planned for use within the service area of the supplier. The supplier will not complete the table below.								
Name of Agency Producing (Treating) the Recycled Water:								
Name of Agency Operating the Recycled Water Distribution System:								
Supplemental Water Added in 2015								
Source of 2015 Supplemental Water								
Beneficial Use Type	General Description of 2015 Uses	Level of Treatment <i>Drop down list</i>	2015	2020	2025	2030	2035	2040 (opt)
Agricultural irrigation								
Landscape irrigation (excludes golf courses)		Advanced	0	400	440	480	520	560
Golf course irrigation								
Commercial use								
Industrial use	ExxonMobil	Advanced	4,937	6,200	6,200	6,200	6,200	6,200
Geothermal and other energy production								
Seawater intrusion barrier								
Recreational impoundment								
Wetlands or wildlife habitat								
Groundwater recharge (IPR)*								
Surface water augmentation (IPR)*								
Direct potable reuse								
Other (Provide General Description)								
Total:			4,937	6,600	6,640	6,680	6,720	6,760
<i>*IPR - Indirect Potable Reuse</i>								

Table 6-5 Retail: 2010 UWMP Recycled Water Use Projection Compared to 2015 Actual

<input type="checkbox"/> Recycled water was not used in 2010 nor projected for use in 2015. The supplier will not complete the table below.		
Use Type	2010 Projection for 2015	2015 Actual Use
Agricultural irrigation		
Landscape irrigation (excludes golf courses)	350	348
Golf course irrigation		
Commercial use		
Industrial use	6,300	4,937
Geothermal and other energy production		
Seawater intrusion barrier		
Recreational impoundment		
Wetlands or wildlife habitat		
Groundwater recharge (IPR)		
Surface water augmentation (IPR)		
Direct potable reuse		
Other	<i>Type of Use</i>	
Total		6,650
Total		5,285
NOTES:		

Table 6-6 Retail: Methods to Expand Future Recycled Water Use			
<input checked="" type="checkbox"/>	Supplier does not plan to expand recycled water use in the future. Supplier will not complete the table below but will provide narrative explanation.		
Section 8	Provide page location of narrative in UWMP		
Name of Action	Description	Planned Implementation Year	Expected Increase in Recycled Water Use
<i>Add additional rows as needed</i>			
Total			0
NOTES:			

Table 6-7 Retail: Expected Future Water Supply Projects or Programs						
<input type="checkbox"/>	No expected future water supply projects or programs that provide a quantifiable increase to the agency's water supply. Supplier will not complete the table below.					
<input checked="" type="checkbox"/>	Some or all of the supplier's future water supply projects or programs are not compatible with this table and are described in a narrative format.					
PG 2-17	Provide page location of narrative in the UWMP					
Name of Future Projects or Programs	Joint Project with other agencies?		Description (if needed)	Planned Implementation Year	Planned for Use in Year Type <i>Drop Down List</i>	Expected Increase in Water Supply to Agency <i>This may be a range</i>
	<i>Drop Down List (y/n)</i>	<i>If Yes, Agency Name</i>				
<i>Add additional rows as needed</i>						
NOTES:						

Table 6-8 Retail: Water Supplies — Actual

Table 6-8 Retail: Water Supplies — Actual				
Water Supply	Additional Detail on Water Supply	2015		
<i>Drop down list</i> <i>May use each category multiple times.</i> <i>These are the only water supply categories that will be recognized by the WUEdata online submittal tool</i>		Actual Volume	Water Quality <i>Drop Down List</i>	Total Right or Safe Yield <i>(optional)</i>
<i>Add additional rows as needed</i>				
Purchased or Imported Water	MWD	16,206	Drinking Water	
Groundwater	West Coast Basin	1,367	Drinking Water	
Desalinated Water	Goldsworthy	829	Drinking Water	
Recycled Water	WBMWD	5,270	Recycled Water	
Total		23,672		0
NOTES:				

Table 6-9 Retail: Water Supplies — Projected												
Water Supply	Additional Detail on Water Supply	Projected Water Supply <i>Report To the Extent Practicable</i>										
		2020		2025		2030		2035		2040 (opt)		
		Reasonably Available Volume	Total Right or Safe Yield (optional)	Reasonably Available Volume	Total Right or Safe Yield (optional)	Reasonably Available Volume	Total Right or Safe Yield (optional)	Reasonably Available Volume	Total Right or Safe Yield (optional)	Reasonably Available Volume	Total Right or Safe Yield (optional)	
<i>Add additional rows as needed</i>												
Purchased or Imported Water		19,204		19,204		19,204		19,204		19,204		
Groundwater		5,640		5,640		5,640		5,640		5,640		
Recycled Water		7,150		7,150		7,150		7,150		7,150		
Desalinated Water		4,800		4,800		4,800		4,800		4,800		
	Total	36,794	0	36,794	0	36,794	0	36,794	0	36,794	0	
NOTES:												

Table 7-1 Retail: Basis of Water Year Data

Year Type	Base Year <i>If not using a calendar year, type in the last year of the fiscal, water year, or range of years, for example, water year 1999-2000, use 2000</i>	Available Supplies if Year Type Repeats	
		<input checked="" type="checkbox"/>	Quantification of available supplies is not compatible with this table and is provided elsewhere in the UWMP. Location _____
		<input type="checkbox"/>	Quantification of available supplies is provided in this table as either volume only, percent only, or both.
		Volume Available	% of Average Supply
Average Year	2010-2015		100%
Single-Dry Year	2013		
Multiple-Dry Years 1st Year	2012		
Multiple-Dry Years 2nd Year	2013		
Multiple-Dry Years 3rd Year	2014		
Multiple-Dry Years 4th Year <i>Optional</i>			
Multiple-Dry Years 5th Year <i>Optional</i>			
Multiple-Dry Years 6th Year <i>Optional</i>			
<p>Agency may use multiple versions of Table 7-1 if different water sources have different base years and the supplier chooses to report the base years for each water source separately. If an agency uses multiple versions of Table 7-1, in the "Note" section of each table, state that multiple versions of Table 7-1 are being used and identify the particular water source that is being reported in each table.</p>			
<p>NOTES: See Section 5.5.2, PG 5-9</p>			

Table 7-2 Retail: Normal Year Supply and Demand Comparison

	2020	2025	2030	2035	2040 (Opt)
Supply totals (autofill from Table 6-9)	36,794	36,794	36,794	36,794	36,794
Demand totals (autofill from Table 4-3)	32,705	33,301	33,912	34,537	35,177
Difference	4,089	3,493	2,882	2,257	1,617
NOTES:					

Table 7-3 Retail: Single Dry Year Supply and Demand Comparison

	2020	2025	2030	2035	2040 (Opt)
Supply totals	36,794	36,794	36,794	36,794	36,794
Demand totals	26,649	27,208	27,781	28,369	28,972
Difference	10,145	9,586	9,013	8,425	7,822
NOTES:					

Table 7-4 Retail: Multiple Dry Years Supply and Demand Comparison

		2020	2025	2030	2035	2040 (Opt)
First year	Supply totals	36,794	36,794	36,794	36,794	36,794
	Demand totals	26,387	26,940	27,508	28,090	28,687
	Difference	10,407	9,854	9,286	8,704	8,107
Second year	Supply totals	36,794	36,794	36,794	36,794	36,794
	Demand totals	26,635	27,194	27,767	28,355	28,958
	Difference	10,159	9,600	9,027	8,439	7,836
Third year	Supply totals	36,794	36,794	36,794	36,794	36,794
	Demand totals	27,133	27,702	28,286	28,885	29,499
	Difference	9,661	9,092	8,508	7,909	7,295
Fourth year <i>(optional)</i>	Supply totals					
	Demand totals					
	Difference	0	0	0	0	0
Fifth year <i>(optional)</i>	Supply totals					
	Demand totals					
	Difference	0	0	0	0	0
Sixth year <i>(optional)</i>	Supply totals					
	Demand totals					
	Difference	0	0	0	0	0

NOTES:

**Table 8-1 Retail
Stages of Water Shortage Contingency Plan**

Stage	Complete Both	
	Percent Supply Reduction ¹ <i>Numerical value as a percent</i>	Water Supply Condition <i>(Narrative description)</i>
<i>Add additional rows as needed</i>		
Level 1	≤ 15%	Mandatory
Level 2	15-30%	Mandatory
Level 3	> 30%	Mandatory
¹ One stage in the Water Shortage Contingency Plan must address a water shortage of 50%.		
NOTES:		

Table 8-2 Retail Only: Restrictions and Prohibitions on End Uses

Stage	Restrictions and Prohibitions on End Users <i>Drop down list</i> <i>These are the only categories that will be accepted by the WUEdata online submittal tool</i>	Additional Explanation or Reference <i>(optional)</i>	Penalty, Charge, or Other Enforcement? <i>Drop Down List</i>
<i>Add additional rows as needed</i>			
All	Landscape - Limit landscape irrigation to specific times	Landscape irrigation is prohibited between 10 a.m. and 4 p.m.	Yes
All	Landscape - Other landscape restriction or prohibition	Landscape irrigation is limited to no more than 15 minutes per day.	Yes
All	Landscape - Restrict or prohibit runoff from landscape irrigation	No excessive water flow or runoff from any lawn or landscaped surface.	Yes
All	Other - Prohibit use of potable water for washing hard surfaces	No washing down hard or paved surfaces.	Yes
All	Other - Customers must repair leaks, breaks, and malfunctions in a timely manner	All water leaks in water users plumbing or distribution system must be repaired within 15 days of notification by City.	Yes
All	Water Features - Restrict water use for decorative water features, such as fountains	All decorative water features must have recirculating systems.	Yes
All	Other	No washing of vehicles with "open hose"	Yes
All	CII - Restaurants may only serve water upon request	Restaurants serve drinking water upon request only.	Yes
All	CII - Lodging establishment must offer opt out of linen service	Lodging business must provide option not to launder linens daily.	Yes
All	Landscape - Other landscape restriction or prohibition	No outdoor watering within 48 hours of a rain event.	Yes

Level 1	Other	Notification to water users of water shortage status and that up to 15 percent reduction of water use is required.	Yes
Level 1	Landscape - Limit landscape irrigation to specific times	Landscape irrigation is prohibited between 9 a.m. and 5 p.m.	Yes
Level 1	Landscape - Other landscape restriction or prohibition	Duration of landscape watering is limited to 15 minutes per day.	Yes
Level 1	Landscape - Limit landscape irrigation to specific days	Landscape watering cycle is limited to three days per weeks.	Yes
Level 1	Other - Customers must repair leaks, breaks, and malfunctions in a timely manner	All water leaks in water users plumbing or distribution system must be repaired within seven days of notification by City.	Yes

Level 2	Other	Notification to water users of water shortage status and that a 15 percent to 30 percent reduction of water use is required.	Yes
Level 2	Landscape - Limit landscape irrigation to specific times	Landscape irrigation is prohibited between 8 a.m. and 6 p.m.	Yes
Level 2	Landscape - Other landscape restriction or prohibition	Duration of landscape watering is limited to 10 minutes per day.	Yes
Level 2	Landscape - Limit landscape irrigation to specific days	Landscape watering cycle is limited to two days per week.	Yes
Level 2	Other - Customers must repair leaks, breaks, and malfunctions in a timely manner	All water leaks in water user's plumbing or distribution system must be repaired within four days of notification by the City.	Yes
Level 2	Water Features - Restrict water use for decorative water features, such as fountains	Filling or refilling ornamental lakes or ponds is prohibited with some exceptions.	Yes
Level 2	CII - Other CII restriction or prohibition	Commercial car washing facilities must utilize a recirculating water system to capture or reuse water.	Yes
Level 2	Other water feature or swimming pool restriction	Refilling of more than one foot and swimming pools or spas is prohibited.	Yes

Level 3	Other	Notification to water users of water shortage status and that more than 30 percent reduction of water use is required.	Yes
Level 3	Landscape - Prohibit certain types of landscape irrigation	Landscape irrigation is prohibited with some exceptions based on critical facilities related to public health, safety, and essential City operations.	Yes
Level 3	Other - Customers must repair leaks, breaks, and malfunctions in a timely manner	All water leaks in water user's plumbing or distribution system must be repaired within two days of notification by the City.	Yes
Level 3	Other	The City reserves the right to discontinue water service to customers who willfully violate provisions of Level 3 restrictions.	Yes

NOTES:

**Table 8-3 Retail Only:
Stages of Water Shortage Contingency Plan - Consumption Reduction Methods**

Stage	Consumption Reduction Methods by Water Supplier <i>Drop down list</i> <i>These are the only categories that will be accepted by the WUEdata online submittal tool</i>	Additional Explanation or Reference <i>(optional)</i>
<i>Add additional rows as needed</i>		
All	Provide Rebates for Turf Replacement	PG 6-18
All	Provide Rebates for Landscape Irrigation Efficiency	PG 6-17
All	Offer Water Use Surveys	PG 6-11
All	Other	See Section 6
NOTES:		

Table 8-4 Retail: Minimum Supply Next Three Years

	2016	2017	2018
Available Water Supply	32,993	33,693	36,493
NOTES:			

Table 10-1 Retail: Notification to Cities and Counties

City Name	60 Day Notice	Notice of Public Hearing
<i>Add additional rows as needed</i>		
City of Gardena	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
City of Redondo Beach	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
	<input type="checkbox"/>	<input type="checkbox"/>
County Name <i>Drop Down List</i>	60 Day Notice	Notice of Public Hearing
<i>Add additional rows as needed</i>		
Los Angeles County	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
	<input type="checkbox"/>	<input type="checkbox"/>



Appendix M: City Council Ordinance No. 3392

City of Torrance 2015 Urban Water Management Plan

ORDINANCE NO. 3392

AN ORDINANCE OF THE CITY COUNCIL OF THE CITY OF
TORRANCE ADDING A NEW ARTICLE 5 TO CHAPTER 6 OF
DIVISION 7 OF THE TORRANCE MUNICIPAL CODE RELATED
TO THE DISTRIBUTION AND USE OF RECLAIMED WATER

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

SECTION 1

That a new Article 5 shall be added to Chapter 6 of Division
7 of the Torrance Municipal Code to read in its entirety as
follows:

"ARTICLE 5

RECLAIMED WATER

SECTION 76.5.1. PURPOSE.

THE PURPOSE OF THIS ARTICLE IS TO:

- a) Establish a City policy with regard to the use of reclaimed water that is consistent with State of California law that declares "that the use of potable domestic water for various non-potable uses is a waste or an unreasonable use of water, and prohibits a person or public agency from using potable domestic water for these uses, if reclaimed water is available and specified requirements are met".
- b) Preserve the reliability of the potable public water supply during times of water shortage by diversification of source of supply through the use of reclaimed water for various non-potable uses.
- c) Provide an alternative water supply source that will, in the long term, lower overall water costs to water customers in the city.
- d) Provide a uniform means of implementing a reclaimed water program in the City.

SECTION 76.5.2. DEFINITIONS.

For purposes of this Article, the following definitions shall apply:

ORIGINAL

- a) **AGRICULTURAL PURPOSES** - Agricultural purposes include the growing of field and nursery crops, row crops, trees and vines, and the feeding of fowl and livestock.
- b) **ARTIFICIAL LAKE** - A human-made lake, pond, lagoon, or other body of water that is used wholly or partly for landscape, scenic, or non-contact recreational purposes.
- c) **COST COMPETITIVE WATER PRICING** - Shall mean that the price charged water users for reclaimed water shall be less than or equivalent to water rates for potable water furnished by the Torrance Municipal Water Department, taking into account all capital, water quality related or other costs for converting to the use of reclaimed water and the present and projected costs of supplying, delivering and treating potable domestic water for these uses.
- d) **DEVELOPMENT PROJECT** - Shall have the same meaning as Section 65928 of the California Government Code.
- e) **ECONOMICALLY FEASIBLE** - Shall mean that the intended reclaimed water application be cost effective for both the reclaimed water supplier (i.e. City of Torrance Municipal Water Department) and the prospective reclaimed water user taking into account all appropriate costs related to the provision of said reclaimed water service.
- f) **GREENBELT AREAS** - An area primarily devoted to nonagricultural open space. Greenbelt areas include, but are not limited to, golf courses, cemeteries, parks and landscaping.
- g) **INDUSTRIAL PROCESS WATER** - Water used by any industrial facility with process water requirements, which include, but are not limited to, rinsing, washing, cooling, circulation, other process, or construction.
- h) **OFF-SITE FACILITIES** - Water facilities from the source of supply to the point of connection with the on-site facilities, including the water meter.
- i) **ON-SITE FACILITIES** - Water facilities under the control of the owner, downstream from the water meter.
- j) **POTABLE WATER** - Water that conforms to the Federal, State, and local standards for human consumption.
- k) **RECLAIMED WATER** - Reclaimed water means waste water that, as the result of treatment, is suitable for a direct beneficial use or controlled use that would not otherwise occur.

- l) **RECLAIMED WATER DISTRIBUTION SYSTEM** - A piping system intended for the delivery of reclaimed water only, that is separate from any potable water distribution system.
- m) **TECHNICALLY FEASIBLE** - Shall mean that the use of reclaimed water shall be achievable with the application of current available technology, and whether the uses, processes or equipment used on the site can safely and effectively be operated with reclaimed water. If required, an independent evaluation will be undertaken to determine technical feasibility.

SECTION 76.5.3. USE OF RECLAIMED WATER.

- a) In order to preserve fresh water aquifers, prevent saltwater intrusion into aquifers, and reduce the use of, and dependence upon, limited potable water supplies, reclaimed water shall be used in areas designated by the City providing its use is economically justified, financially and technically feasible, cost competitive with alternative potable water supplies furnished by the Torrance Municipal Water Department and consistent with legal requirements and the preservation of public health, safety, welfare, and the environment.
- b) Reclaimed water delivery systems in the City will be constructed on a phased basis in a manner that is economically and technically feasible.

SECTION 76.5.4. EVALUATION OF DEVELOPMENT PERMITS.

Every subdivision, parcel map, or other development permit application, within the designated reclaimed water service area shall be reviewed to determine if the use of reclaimed water would be feasible for landscape irrigation, cooling tower use, or other application. The use of reclaimed water will be required if the following conditions exist:

- a) Reclaimed water is available to the user and meets the requirements of the State Department of Health Services.
- b) The use of reclaimed water will not cause any loss or diminution of any existing water right.
- c) The irrigation system, reclaimed water distribution system, cross-connection control and monitoring methods can be designed to meet the standards required by the State of California.

- d) Appropriate control measures can be provided in accordance with the standards of the State of California where the use of reclaimed water will, or might, create a mist.
- e) Reclaimed water service is both economically and technically feasible and cost competitive for prospective reclaimed water customers.

SECTION 76.5.5. ORDER OF SERVICE.

Reclaimed water will be served first to those properties that have the necessary on-site facilities installed and are ready for use.

SECTION 76.5.6. AGREEMENT FOR SERVICE.

- a) Any person, firm or corporation applying for use of reclaimed water must agree in advance on the amount of reclaimed water to be used on the property in order that the limited supply may be apportioned.
- b) As an option, any person, firm or corporation entering into a voluntary agreement with the City for reclaimed water service shall be excluded from the requirements of this ordinance.

SECTION 76.5.7. FUTURE USERS.

In the event a development application is reviewed and found to be a suitable application for the use of reclaimed water, but reclaimed water is not yet available to the property, such development permit shall be conditioned to require an appropriate reclaimed water distribution system within the project to accommodate reclaimed water at such time as reclaimed water becomes available to the site.

SECTION 76.5.8. CONVERSION TO RECLAIMED WATER.

- a) The City Engineer in consultation with prospective reclaimed water users, shall implement a program of review of each parcel of property within the City to determine which parcels would be appropriate for using reclaimed water for industrial processing, landscape irrigation, or other appropriate uses by the then existing users.
- b) In making such determination, the City Engineer, in consultation with prospective reclaimed users, shall consider, but not be limited to, the following factors:

- 1) Critical users are those users who utilize large quantities of reclaimed water and for whom a reduction or discontinuance of reclaimed water supplies would result in either unusual demands on the potable water supply, reduced production, or cessation of operations.
- 2) Non-critical users are those users of reclaimed water who utilize smaller quantities of reclaimed water and for whom discontinuance would either result in minimum demands on the potable water supplies, or for whom a temporary discontinuance of reclaimed water would have minimal or no effect on production or overall operations.

SECTION 76.5.10. DISCONTINUANCE OF SERVICE BY USER.

- a) Any reclaimed water user that discontinues the use of reclaimed water to any property may subsequently reapply for reclaimed water service, but such service will be approved only if there is an adequate supply of reclaimed water available.
- b) Any user of reclaimed water that discontinues use without reasonable cause shall pay the surcharge price for potable water thereafter.

SECTION 76.5.11. DISCONTINUANCE OF SERVICE BY CITY.

The City may discontinue the supply of reclaimed water to any property in order to supply a more critical user. In such event, the user that is discontinued will be reconnected to the potable water supply without payment of the surcharge.

SECTION 76.5.12. RECLAIMED WATER METERING AND INSTALLATION.

- a) Reclaimed water shall only be served from a separate meter and connection to the property located a minimum of ten (10) feet horizontally from the domestic service.
- b) Each such plumbing installation shall be subject to inspection prior to the service of reclaimed water to assure that no cross-connection between the two water systems exists or is possible by means of such things as anti-siphon devices, cross-connecting preventers, or separate, distinct markings of the plumbing fixtures, faucets and piping.

SECTION 76.5.13. CONDITIONS OF SERVICE

- a) In order to implement the provisions of the subject reclaimed water ordinance, the City Engineer shall develop conditions of service delineating appropriate procedures, processes and rules for implementing the use of reclaimed water in the City. The conditions of service shall include, but are not limited to, technical specifications, standards, cross connection requirements, application procedures and other procedures as required.
- b) The conditions of service shall be amended by the City Engineer as required.

SECTION 76.5.14 APPEAL PROCESS

- a) A prospective reclaimed water user may within thirty (30) days of receipt of notice requiring that the subject water user either incorporate or convert to reclaimed water for certain water uses on the subject property, in accordance with the provisions of this ordinance, may file a written request to the City Engineer for appeal stating the reasons why the use of reclaimed water would not be feasible.
- b) If the appeal is denied by the City Engineer, the applicant may submit the appeal to a board, appointed by the City Manager, to be known as the Reclaimed Water Administrative Hearing Board.
- c) The decision of the Administrative Hearing Board shall be final, except that an appeal may be filed with the City Council by any person reasonably affected by the use of reclaimed water if the person is not in agreement with the decision of the Administrative Hearing Board. The appeal to City Council shall be in accordance with Article 5, Chapter 1, Division 1 of the Torrance Municipal Code commencing at Section 11.5.1."

SECTION 2

Any provisions of the Torrance Municipal Code or appendices thereto, or any other ordinances of the City inconsistent herewith to the extent of such inconsistencies and no further, are hereby repealed.

SECTION 3

If any section, subsection, sentence, clause, or phrase of this ordinance is for any reason held to be invalid or unconstitutional by the decision of any court of competent jurisdiction, such decision shall not affect the validity of the

remaining portions of the ordinance. The City Council hereby declares that it would have passed this ordinance and each section, subsection, sentence, clause and phrase thereof, irrespective of the fact that any one or more sections, subsections, sentences, clauses or phrases be declared invalid or unconstitutional.

SECTION 4

Any person violating any of the provisions of this Ordinance shall be guilty of a misdemeanor and, upon conviction thereof, shall be subject to a fine not exceeding One Thousand Dollars (\$1,000.00) or six (6) months in the County Jail of Los Angeles County, or by both such fine and imprisonment in the discretion of the Court.

SECTION 5

This Ordinance shall take effect thirty (30) days after the date of its adoption and, prior to the expiration of fifteen (15) days from the passage thereof, shall be published at least once in the Daily Breeze, a newspaper of general circulation published and circulated in the City of Torrance.

INTRODUCED AND APPROVED this 13th day of September, 1994.

ADOPTED AND PASSED this 20th day of September, 1994.



Mayor of the City of Torrance

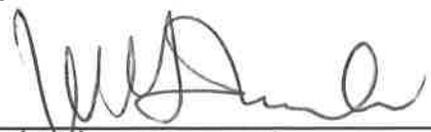
ATTEST:



Sue Herbers, City Clerk

APPROVED AS TO FORM:

JOHN L. FELLOWS III
City Attorney

By 

William G. Quale
Assistant City Attorney

SJC:jd/#135

