5-AGWA-4

2010 Integrated Regional Urban Water Management Plan for the Antelope Valley

June 2011

Los Angeles County, Department of Public Works
Waterworks District No. 40
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Section 1

Introduction & Summary

Section 1: Introduction & Summary

The 2010 Integrated Regional Urban Water Management Plan for the Antelope Valley (IRUWMP) has been prepared as an Appendix to the 2007 Antelope Valley Integrated Regional Water Management Plan (AVIRWMP) in cooperation with other retail water agencies in the Antelope Valley. It fulfills the requirements of an Urban Water Management Plan for Los Angeles County Waterworks District No. 40, Antelope Valley (District No. 40) and Quartz Hill Water District (QHWD).

The groundwater rights adjudication process is underway for the Antelope Valley Groundwater Basin (Basin); however it has not been concluded. Nothing in this IRUWMP shall be interpreted to interfere in any way with the court adjudication of groundwater rights or related settlement negotiations. All tables in Section 7 reflect projected groundwater pumping estimates provided by each water purveyor. The groundwater pumping projections are not agreed-upon values by the water purveyors, and each water purveyor understands these projections are estimates subject to change. These estimates do not necessarily reflect the maximum pumping capacity of each water purveyor.

This section presents a brief description of the provisions of the Urban Water Management Planning Act (UWMPA), provides a description of the participating water agencies and their service area characteristics, including population, climate, water demand, water supply, water conservation, water recycling, and reliability planning. The contents of this plan are provided in this section.

1.1 The Urban Water Management Plan

In 1983, the California Legislature enacted the UWMPA (Assembly Bill (AB) 797; Water Code, Division 6, Part 2.6, Section 10610-10656). This UWMPA requires water suppliers serving more than 3,000 customers or water suppliers providing more than 3,000 acre-feet (AF) of water annually to prepare an Urban Water Management Plan (UWMP) to promote water demand management and efficient water use. The UWMPA also requires water suppliers to develop, adopt, and file an UWMP (or update) every five years. A six-month extension was granted by the legislature for submittals of the 2010 UWMPs to provide additional time for the water suppliers to address Senate Bill X7-7 (SB X7-7), which requires water retailers to reduce per capita water use by 20 percent by the year 2020 with an interim target of 10 percent reduction by 2015.

Recent changes approved in 2002 and 2004 include SB 1348, SB 1384, SB 1518, AB 105, and AB 318. SB 1348 requires that the Department of Water Resources (DWR) consider the demand management activities of urban water supplier in the grant and loan application evaluation. SB 1384 requires that urban water supplier to submit a copy of their UWMP to their wholesale supplier. This bill encourages coordination between the wholesale and retail agencies. SB 1518 requires additional information regarding the use of recycled water including a comparison of previously projected use to actual use to determine the effectiveness of recycled water initiatives. AB 105 requires an urban water supplier to submit a copy of their UWMP to the California State Library. AB 318 requires urban water suppliers to provide a discussion of the desalination opportunities available to them. This includes ocean water, brackish water, and groundwater desalination for use as a long-term supply. AB 1420 passed in 2007, which addresses funding eligibility requirements of Section 10631.5 of the Water Code. In order for an urban water purveyor to be eligible for grant funding, the water purveyor must show implementation of water use efficiency demand management measures.

A copy of the current UWMPA is provided in Appendix A.

1.1.1 Purpose of the Plan

An UWMP is designed to provide an effective management and planning tool for water agencies throughout California. It allows for a succinct summary of an agency's water supplies, demands, and plans to ensure future reliability. It also encourages the efficient management of water supplies by requiring a discussion of potential water transfers and exchanges, desalination, and recycled water opportunities.

In addition to meeting the requirements of the UWMPA, this plan will also meet the requirements of an IRUWMP. Detailed discussions of current and future water supply will be provided in conjunction with water supply strategies for the Antelope Valley to ensure a reliable future water supply. Figure 1-1 provides a vicinity map of the Antelope Valley.

FIGURE 1- 1: ANTELOPE VALLEY VICINITY MAP

1.1.2 Regional Approach in Preparation of the Plan

In an effort to improve coordination and facilitate inter-agency planning to maximize resources within the Antelope Valley, District No. 40 is acting as the lead agency for this IRUWMP. All agencies located within the Antelope Valley were given the opportunity to participate in this joint effort of the UWMP preparation. As such, this IRUWMP has been prepared for District No. 40 and QHWD. These two agencies are required by the UWMPA to prepare an UWMP. This IRUWMP was also prepared in conjunction with efforts of other agencies within the Antelope Valley that have chosen to not participate in this joint effort. Table 1-1 provides a summary of the agency coordination for this IRUWMP.

TABLE 1-1: AGENCY COORDINATION

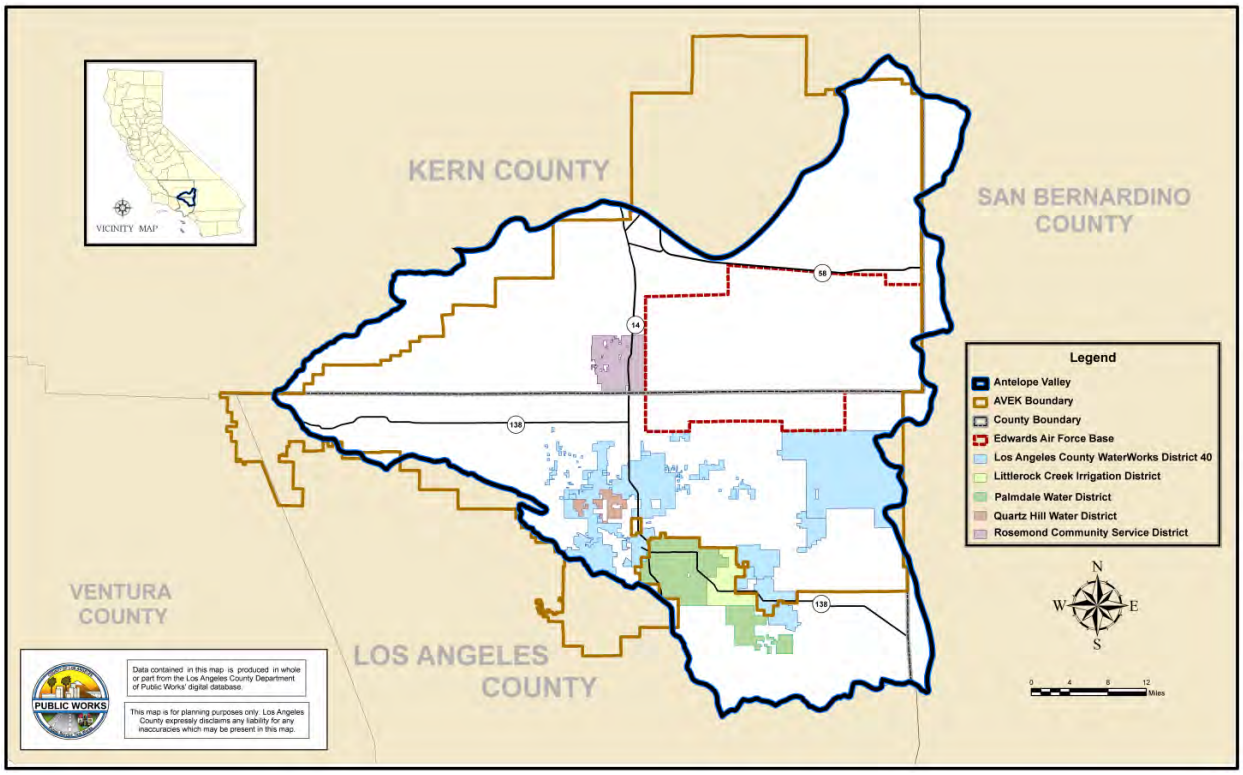
	Participated in developing the plan	Commented on the draft	Attended public meeting	Was contacted for assistance	Was sent a copy of the draft plan	Intention to adopt
District No. 40	X	X	X	X	X	X
RCSD	X	X		X	X	
QHWD	X	X		X	X	X
PWD	X	X	X	X	X	
AVEK	X	X		X	X	
City of Palmdale	X	X		X	X	
City of Lancaster	X	X	X	X	X	
Littlerock Creek Irrigation District				X	X	
Los Angeles County Regional Planning	X	X		X	X	
Los Angeles County Sanitation Districts		X		X	X	

A 60-day notification was released to Cities of Lancaster and Palmdale prior to the public hearing. Prior to adoption, the IRUWMP was made available to the public for inspection and a public hearing was held on May 31, 2011 at the City of Lancaster. The IRUWMP was adopted by the Districts' Boards, and is subject to California Government Code pertaining to legal public noticing. The IRUWMP must be submitted to DWR, State Library, and city/county that received water from supplier within 30 days after adoption. A copy of the notice for a public hearing and the resolutions of adoption are included in Appendix B.

1.2 The Water Purveyors of the Antelope Valley

As discussed previously, this plan has been prepared as part of a joint effort between District No. 40 and QHWD. A brief discussion of each water purveyor follows. Figure 1-2 provides a map of the water purveyors' service areas.

FIGURE 1-2: STUDY AREA BOUNDARIES



1.2.1 District No. 40

District No. 40 was formed in accordance with Division 16 Sections 55000 through 55991 of the State Water Code to supply water for urban use throughout the Antelope Valley. It is governed by the Los Angeles County Board of Supervisors with the Waterworks Division of the County Department of Public Works providing administration, operation and maintenance of District No. 40's facilities. District No. 40 is comprised of eight regions serving customers in the cities of Lancaster and Palmdale (Regions 4 and 34), Pearblossom (Region 24), Littlerock (Region 27), Sun Village (Region 33), Rock Creek (Region 39), Northeast Los Angeles County (Region 35), and Lake Los Angeles (Region 38). Regions 4 and 34 are integrated and are operated as one system. Similarly, Regions 24, 27, and 33 are also integrated and operated as one system. The various regions were consolidated into a single district on November 2, 1993. District No. 40 encompasses approximately 554 square miles.

1.2.2 QHWD

QHWD is located in the southwest end of the Antelope Valley. It is 65 miles northwest of Los Angeles on the Antelope Valley Highway 14 and west of both Palmdale and Lancaster. QHWD occupies an area of about 6 square miles located in the City of Lancaster and unincorporated portions of the County of Los Angeles. Incorporation of QHWD occurred in May 1954 and water service is provided to all residential, commercial, industrial, and agricultural customers, and for environmental and fire protection uses.

1.3 Service Area Characteristics

The Antelope Valley Study Area (Study Area), as defined for the purposes of this report, encompasses the service areas of the two water purveyors described above: District No. 40 and QHWD. The Study Area is generally in the southern portion of the Antelope Valley. The Study Area description is also addressed in the 2007 AVIRWMP (pages 2-1, 2-3, 2-22 through 2-25). The 2007 AVIRWMP can be found at http://www.avwaterplan.org.

1.3.1 Climate

Comprising the southwestern portion of the Mojave Desert, Antelope Valley ranges in elevation from approximately 2,300 feet to 3,500 feet above sea level. Vegetation native to the Antelope Valley are typical of the high desert and include Joshua trees, saltbush, mesquite, sagebrush, and creosote bush. The climate is characterized by hot summer days, cool summer nights, cool winter days and cool winter nights. Typical of a semiarid region, mean daily summer temperatures range from 63°F to 93°F, and mean daily winter temperatures range from 34°F to 57°F. The growing season is primarily from April to October. Precipitation ranges from 5 inches per year along the northern boundary to 10 inches per year along the southern boundary.

TABLE 1-2: ANTELOPE VALLEY CLIMATE

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Annual
Standard Monthly Average ET_0 (inches)	2.02	2.61	4.55	6.19	7.3	8.85	9.77	8.99	6.52	4.66	2.68	2.05	66.19
Average Rainfall (inches)	1.52	1.65	1.28	0.46	0.13	0.04	0.05	0.18	0.20	0.32	0.68	1.39	7.9
Average Max Temperature (°F)	58.3	62.1	67.2	73.9	81.7	90.1	95.5	96.9	91.3	80.3	67.1	58.7	77.1
Average Min Temperature (°F)	32.4	35.6	39.0	43.7	50.6	57.7	64.9	63.7	57.4	48.0	37.9	32.6	47.0

Source: CIMIS data for Palmdale #197 station and Western Regional Climate Center, Palmdale Station.

1.3.1.1 Effects of Global Warming

In the DWR's Water Plan, an assessment of the impacts of global warming on the State's water supply was conducted using a series of computer models that were based on decades of scientific research. Model results indicate increased temperature, reduction in Sierra snow depth, early snow melt, and a raise in sea level. These changing hydrological conditions could affect future planning efforts which are typically based on historic conditions. Difficulties that may arise include:

- hydrological conditions, variability, and extremes that are different than current water systems were designed to manage
- changes occurring too rapidly to allow sufficient time and information to permit managers to respond appropriately

- requiring special efforts or plans to protect against surprises and uncertainties

As such, DWR will continue to provide updated results from these models as further research is conducted.

1.3.2 Other Demographic Factors

Historically, land uses within the Antelope Valley have focused primarily on agriculture; however, the Valley is in transition from predominately agricultural uses to predominately residential and industrial uses. As this transition continues, water demand is expected to increase.

Current and projected population for the Study Area is shown in Table 1-3. Approximately 526,900 people will reside in the Study Area by 2035. This represents an increase of nearly 90 percent from the current population.

TABLE 1-3 POPULATION PROJECTION

	2010	2015	2020	2025	2030	2035
District No. 40	261,800	309,200	355,800	401,500	445,200	493,900
QHWD	17,500	20,800	23,900	27,000	29,900	33,000
Study Area	**279,300**	**330,000**	**379,700**	**428,500**	**475,100**	**526,900**

Source: District No. 40 and QHWD projections were based on land use maps and General Plans for the Cities of Palmdale and Lancaster.

1.4 Resources Maximization

The 2005 Integrated UWMP, 2007 AVIRWMP and this IRUWMP were developed to allow the Study Area to maximize the use of available resources and minimize the use of imported water. Sections 2 and 3 of this IRUWMP describe the water resources available to the Study Area for a 25-year period.

1.5 Contents of this Plan

The organization of this report and a brief description of the respective sections are outlined below.

Section 1: Introduction and Summary
This section provides a brief introduction and summary, describes the planning process, provides an overview of the Study Area, and summarizes the key elements of this IRUWMP.

Section 2: Current and Future Water Supply Resources
This section describes the existing and planned water supplies available to the Study Area. Supplies include groundwater, imported water, and recycled water. Projected supplies by source are presented over the next 25 years, in 5-year increments.

Section 3: Water Supply Strategy/Opportunities
This section provides a discussion and evaluation of the various alternative water management strategies and supplies available to the Study Area. Based on the evaluation, a recommended water supply strategy is presented to ensure a reliable source of supply for each water purveyor in the Study Area to meet the projected demand.

Section 4: Water Use Provisions
This section on water demand describes historic, current, and projected water usage within the Study Area. Historic water usage patterns and future water demands are determined by population and land use. In addition, the effects of weather and water conservation on historic water usage are discussed.

Section 5: Demand Management Measures
This section addresses the 14 water conservation measures called Demand Management Measures (DMMs), specified in the UWMPA, and describes current and future implementation of these water conservation measures within the agencies' service areas. The measures range from public information and education programs to physical solutions, such as residential plumbing retrofit, as well as policy/financial incentives, such as rebate programs and pricing policies.

The DMMs are the same as the 14 urban Best Management Practices (BMPs) developed by the California Urban Water Conservation Council (CUWCC).

Section 6: Recycled Water Plan
This section addresses the Antelope Valley's need for increased water supplies by offsetting existing potable demands and promoting beneficial reuse of treated wastewater. Efforts are currently underway to develop a regional recycled water distribution system in the Antelope Valley, also known as the AV Backbone.

Section 7: Water Service Reliability Planning
This section presents the water reliability assessment for the Study Area by each water purveyor. It compares the total projected water demand with the expected water supply over the next 25 years, in 5-year increments (i.e., 2015, 2020, 2025, 2030, and 2035). Assessments are also presented for a single dry year and multiple dry years (i.e., droughts). The purpose of this analysis is to determine whether there is a reasonable likelihood of meeting projected future demands with the mix of resources currently under consideration.

Section 8: Per Capita Water Use Targets
This section addresses the legislative mandate (Senate Bill X7-7) that requires the State of California to achieve a 20 percent reduction in urban per capita water use by December 31, 2020, with an interim target of 10 percent reduction by December 31, 2015.

Section 9: Water Use Projections for Low Income Housing
This section provides projected water use for single-family and multi-family residential housing needed for lower income households.

Section 10: Water Shortage Contingency Analysis
This section presents the activities to be utilized in the event of a catastrophic water supply interruption, such as an earthquake or a drought. Stages of action are described, including levels of rationing and reduction goals, priorities of use, water shortage stages and triggering mechanisms, water allotment methods, mandatory prohibitions on water use, and excessive use penalties.

1.6 List of Abbreviations and Acronyms

AF	Acre-feet
AFY	Acre-feet per year
Study Area	Antelope Valley Study Area
AVTTP	Antelope Valley Tertiary Treatment Plant
AVEK	Antelope Valley-East Kern Water Agency
ASR	Aquifer Storage and Recovery
BMPs	Best Management Practices
SWP	California State Water Project
CUWCC	California Urban Water Conservation Council
CVP	Central Valley Project
CII	Commercial/industrial/institutional
cfs	Cubic feet per second
DMM	Demand Management Measure
DWR	Department of Water Resources
DAWN	Domestic-Agricultural Water Network
ERPs	Emergency Response Procedures
gpcd	Gallons per capita per day
gpd	Gallons per day
gpm	Gallons per minute
GIS	Geographical Information System
hcf	Hundred cubic feet
IRUWMP	Integrated Regional Urban Water Management Plan
IRWMP	Integrated Regional Water Management Plan
LWRP	Lancaster Water Reclamation Plant
LAFCO	Los Angeles County Local Agency Formation Committee
LACSD	Los Angeles County Sanitation District
District No. 40	Los Angeles County Waterworks District No. 40
MCL	Maximum Contamination Level
MOU	Memorandum of Understanding
MWD	Metropolitan Water District
mg/L	Milligrams per liter
mgd	Million gallons per day
M&I	Municipal and Industrial
NACWA	National Association of Clean Water Agencies
PWRP	Palmdale Water Reclamation Plant
ppb	Parts per billion
PWCP	Phased Water Conservation Plan
PWD	Palmdale Water District
QHWD	Quartz Hill Water District
RCSD	Rosamond Community Services District
RWWTP	Rosamond Wastewater Treatment Plant
SCAG	Southern California Association of Governments
SIC	Standard Industrial Classification
TOC	Total Organic Carbon
THM	Trihalomethane

ULFT	Ultra low flush toilets
USGS	United States Geological Survey
UWMP	Urban Water Management Plan
UWMPA	Urban Water Management Planning Act
WCC	Water conservation coordinator
WET	Water Education for Teachers
WEL	Water Efficiency Landscape
WSCP	Water Shortage Contingency Plan

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Section 2

Current and Future Water Supply Resources

Section 2: Current and Future Water Supply Resources

This section provides a detailed discussion of the existing and planned water supplies available to the Study Area. The Antelope Valley anticipates receiving water from local groundwater, imported water, and other sources. The projected supply by source is presented over the next 25 years, in 5-year increments.

2.1 Local Groundwater Supplies

The 2007 AVIRWMP meets the AB 3030 requirements and acts as the region's groundwater management plan. Further discussion on groundwater can be found in the 2007 AVIRWMP (pages 1-24 through 1-25 and 2-10 through 2-16). Although the Basin is not currently adjudicated, an adjudication process is underway. Since the Basin's water rights have not yet been fully adjudicated but the Basin has been found to be in overdraft by the adjudication court, there are not yet restrictions on pumping. However, water rights may be determined and limited as part of the adjudication process.

A summary of the historic pumping by each water purveyor is provided in Table 2-1.

TABLE 2-1: GROUNDWATER PUMPING HISTORY (AF)

	2005	2006	2007	2008	2009
District No. 40	19,769	12,371	19,523	24,901	18,265
Percent of Total Supply	35	21	33	46	37
QHWD	1,245	1,405	2,073	2,854	2,431
Percent of Total Supply	23	25	31	44	44
Study Area	21,014	13,776	21,596	27,755	20,696
Percent of Total Supply	34	21	33	46	38

2.1.1 Source Characteristics

The Basin is comprised of two primary aquifers: (1) the principal aquifer and (2) the deep aquifer. The principal aquifer is an unconfined aquifer. Separated from the principal aquifer by clay layers, the deep aquifer is generally considered to be confined. In general, the principal aquifer is thickest in the southern portion of the Valley near the San Gabriel Mountains, while the deep aquifer is thickest in the vicinity of the dry lakes on Edwards Air Force Base. The Basin is divided into twelve subunits. The subunits are Finger Buttes, West Antelope, Neenach, Willow Springs, Gloster, Chaffee, Oak Creek, Pearland, Buttes, Lancaster, North Muroc, and Peerless. The Basin is principally recharged by deep percolation of precipitation and runoff from the surrounding mountains and hills. In the 2007 AVIRWMP, Figure 2-10 depicts the Basin subunit boundaries.

2.1.2 Availability of Supply

Groundwater extractions between 1926 and 1972 resulted in the overdraft of the aquifer that caused groundwater levels to drop significantly. The implementation of the California State Water Project (SWP) in the 1970s resulted in stabilization of groundwater levels in some areas of the Antelope Valley, although groundwater levels in general have continued to fall to the

present. From the 1990s to the present, agricultural uses have significantly increased groundwater production and exacerbated the drop in groundwater levels across the Basin. In 1999, agricultural interests filed litigation seeking to determine rights to groundwater. Subsequently, the litigation was modified into a groundwater adjudication for the Basin. Three phases of trial have been completed in the adjudication which resulted in the Court determining, inter alia, the Basin boundaries, that the safe yield of the Basin is 110,000 AFY, and that the Basin has been in a state of overdraft for over 50 years. Later phases of the trial are expected to result in rulings regarding rights to groundwater, including the prescriptive rights of the water purveyors, and a physical solution. Although District No. 40 has an entitlement claim for over 32,000 AFY of the safe yield, District No. 40's present settlement position involves sharing the native safe yield along a 15%-85% split between Municipal and Industrial (M&I), and the Overlying Landowners. District No. 40 has reached settlements consistent with this split which have been approved by District No. 40's governing body, the Los Angeles County Board of Supervisors (e.g. Willis Class, Wood Class, and Antelope Valley High School District). District No. 40 is currently in the process of negotiating settlements with other parties based on this same proposed split. This proposed split will result in less groundwater to District No. 40 than their entitlement claim. Nonetheless, to be consistent with the settlements reached and being contemplated, District No. 40 is utilizing the proposed settlement pumping amounts for purposes of projections in this IRUWMP. However this amount can be, and will be, revised upwards, up to the maximum available entitlement claim if the settlement negotiations are unsuccessful and the matter proceeds to trial with a Court finding on prescriptive rights. Table 2-3 provides the projected groundwater pumping provided by each of the water purveyors. The groundwater pumping projections do not reflect agreed-upon estimates by the water purveyors, and each water purveyor understands these projections are subject to change due to the pending adjudication process as stated above. These estimates also do not necessarily reflect the maximum pumping capacity of each water purveyor. Percentage of total supply assumes delivery of average year Table A Amounts. Nothing in this IRUWMP shall be interpreted to interfere in any way with the adjudication action, settlement process, or rulings of the Court.

TABLE 2-2: GROUNDWATER EXTRACTION CAPACITY (AF)

	2015	2020	2025	2030	2035
District No. 40	35,000	35,000	35,000	35,000	35,000
QHWD	4,000	4,000	4,000	4,500	5,000
Study Area	39,000	39,000	39,000	39,500	40,000

Note: All numbers are rounded to the nearest 100 AF.

TABLE 2-3: ADJUDICATION PREDICTION OF GROUNDWATER PUMPING (AF)

	2015	2020	2025	2030	2035
District No. 40	23,200	23,200	23,200	23,200	23,200
Percent of Total Supply	28	28	28	28	28
QHWD	2,500	2,500	2,500	2,500	2,500
Percent of Total Supply	27	27	27	27	27
Study Area	25,700	25,700	25,700	25,700	25,700
Percent of Total Supply	27	27	27	27	27

Note: All numbers are rounded to the nearest 100 AF.

2.1.2.1 District No. 40

Currently District No. 40 has 49 active wells with 5 new wells currently under construction.

2.1.2.2 QHWD

QHWD currently operates nine wells at an average water level depth of 250 to 300 feet for a total maximum pumping capacity of 4,681 gpm. Two new wells with 500 gpm capacity each are currently being designed/constructed and are expected to be on-line by the end of 2011 for a future maximum pumping capacity of 5,681 gpm.

Copies of each water purveyor's Consumer Confidence Report are provided as Appendix C.

2.2 Wholesale (Imported) Water Supplies

The only imported water supply for the Study Area is SWP water contracted through the Antelope Valley-East Kern Water Agency (AVEK). Water imported to the Study Area through the SWP first became available in 1978. The SWP is the nation's largest state-built water and power development and conveyance system. It includes pumping and power plants, reservoirs, lakes, storage tanks, canals, tunnels and pipelines that capture, store, and convey water to 29 contract water agencies.

The SWP is operated by DWR for the benefit of SWP contractors. The SWP includes 660 miles of aqueduct and conveyance facilities, from Lake Oroville in the north to Lake Perris in the south. The SWP is contracted to deliver a maximum 4.17 million AFY of Table A water to the 29 contracting agencies. Table A water is a reference to the amount of water listed in "Table A" of the contract between the SWP and the contracting agencies and represents the maximum amount of water an agency may request each year.

AVEK, the third largest SWP contractor, has a current contractual Table A Amount of 141,400 AFY. AVEK provides this water for both agricultural and M&I use. AVEK's two largest M&I customer agencies are District No. 40 and QHWD. Table 2-4 provides a summary of the historic and current imported water volumes for the Study Area.

TABLE 2-4: HISTORIC IMPORTS FROM SWP (AF)

	2005	2006	2007	2008	2009
District No. 40	35,935	46,946	40,212	29,286	30,611
Percent of Total Supply	65	79	67	54	63
QHWD	4,154	4,322	4,539	3,645	3,146
Percent of Total Supply	77	75	69	56	56
Study Area	40,089	51,268	44,751	32,931	33,757
Percent of Total Supply	66	79	67	54	62

Each year by October 1st, the SWP contractors provide DWR with a request for water delivery up to their full Table A Amount. Actual delivery from DWR may vary from the request due to variances in supply availability resulting from hydrology, storage availability, regulatory or

operating constraints, etc. When supply is limited, a reduction of the requested amount is determined per the water allocation rules governing the SWP.

Besides fluctuations in the availability of SWP water, due to periods of drought-related or regulatory supply interruptions within the State, sufficient infrastructure has been constructed so that there are no restrictions on the ability of District No. 40 and QHWD to use SWP water from AVEK to meet water demands in the Study Area even during peak summer demand periods. It is estimated that approximately 76% of AVEK's available allocation each year will be available to serve District No. 40 (69%) and QHWD (7%). This percentage was taken from AVEK's 2010 UWMP and is based on the amount of property taxes paid by customers of AVEK and the historic amount of water each retailer has purchased from AVEK. The percentage is subject to change dependent on the development and usage patterns in the Antelope Valley in the future but represents the best available estimate for planning purposes.

Table 2-5 provides a summary of the SWP water available to the individual water purveyors assuming an average water year allocation.

TABLE 2-5: RETAIL DEMAND PROJECTIONS FOR IMPORTED WATER (AF)

	2015	2020	2025	2030	2035
District No. 40 (AVEK)	61,000	61,000	61,000	61,000	61,000
QHWD (AVEK)	6,800	6,800	6,800	6,800	6,800
Study Area	**67,800**	**67,800**	**67,800**	**67,800**	**67,800**
Percent of Total Supply	**73**	**73**	**73**	**73**	**73**

Note: All numbers are rounded to the nearest 100 AF.

2.2.1 Source Characteristics

The SWP's watershed encompasses the mountains and waterways around the Feather River. Rain and melting snow run off mountainsides and into waterways that lead into Lake Oroville. The lake in Butte County is the SWP's official start and a part of a complex that includes three power plants, a forebay, and an afterbay. One of the power plants, Hyatt Power Plant, is the largest and was built in the bedrock under the lake.

When water is needed, it is released from Lake Oroville into the Feather River. It travels down the river to where the river converges with the Sacramento River, the State's largest waterway. Water flows down the Sacramento River into the Sacramento-San Joaquin Delta. From the Delta, water is pumped into the California Aqueduct. The Antelope Valley is served by the East Branch of the California Aqueduct.

2.2.2 Reliability of Supply

DWR reports in their 2009 State Water Project Delivery Reliability Report (Reliability Report) that existing SWP facilities will on average receive 60 percent of their full Table A Amount for current demand conditions and 60 percent of their full Table A Amount for 2029 demand conditions.

Availability of SWP water varies from year to year, depending on precipitation, regulatory restrictions, legislative restrictions, and operational conditions, and is especially unreliable

during dry years. The DWR's Reliability Report anticipates a minimum delivery of 7 percent for a single dry year for current conditions and an 11 percent for a single dry year during 2029 demand conditions. Over multiple dry year periods, average annual Table A deliveries vary from 34 percent to 36 percent of the maximum Table A Amount.

Tables 2-6 and 2-8 provide a summary of the availability of wholesale imported water for average, single dry, and multiple dry water years.

TABLE 2-6: WHOLESALER IDENTIFIED AND QUANTIFIED EXISTING AND PLANNED SOURCES OF WATER AVAILABLE TO THE STUDY AREA FOR AVERAGE/NORMAL WATER YEARS

Wholesaler (Supply Source)	2010[(b)]	2015	2020	2025	2030	2035
AVEK (SWP)	141,400	141,400	141,400	141,400	141,400	141,400
Table A Supply (AF)[(a)]	42,700	67,800	67,800	67,800	67,800	67,800
Percent of Table A Amount	30	48	48	48	48	48

Note:

(a) The percentages of Table A Amount projected to be available are from Table B.2 of DWR's Reliability Report (August 2010). Supplies are calculated by multiplying AVEK's Table A Amounts available to the Study Area (141,400 AFY x 80%) by the average water year reliability percent.

(b) 2010 Table A supply shows the actual amount of SWP received by the Study Area.

TABLE 2-7: WHOLESALER WATER RELIABILITY

AVEK (SWP Supply)		Single Dry Year	Multiple Dry Years			
			Year 1	Year 2	Year 3	Year 4
2009	Table A Supply (AF)[(a)]	7,900	40,700	40,700	39,600	38,500
	Percent of Table A Amount	7	36	36	35	34
2029	Table A Supply (AF)[(a)]	12,400	43,000	43,000	40,700	39,600
	Percent of Table A Amount	11	38	38	36	35

Note:

(a) The percentages of Table A Amount projected to be available are from Table B.2 of DWR's Reliability Report (August 2010). Supplies are calculated by multiplying AVEK's Table A Amounts available to the Study Area (141,000 x 80%) by these percentages.

TABLE 2-8: BASIS OF WATER YEAR DATA

Water Year Type	Basis of Data	Similar Historic Year
Average Water Year	Average water year is based on 60 percent of AVEK's full Table A Amount available to the Study Area. Base years for the average, single dry and multiple dry years were determined from the analyses presented in the DWR's Reliability Report (August 2010).	1922-2003
Single Dry Year		1977
Multiple Dry Years		1931-1934

The Study Area has no inconsistent sources of supply.

2.2.3 Water Quality

2.2.3.1 AVEK

SWP water is treated by four AVEK facilities prior to delivery to the water purveyors. The Quartz Hill Water Treatment Plant was the first plant built by AVEK. The treatment plant receives water by gravity from the California Aqueduct. Screening and metering are provided at the head of the plant, followed by treatment chemical addition, flash mixing, tapered energy flocculation, clarification utilizing plate settlers and sediment removal, dual media filters, and ozone/chlorine disinfection. Treated water is stored in two 9.2 million-gallon reservoirs which supply water by gravity into the distribution system. Decanted water from the solids removal process is returned to the plant influent and recycled. After the completion of the third expansion in 2010, the Quartz Hill Water Treatment Plant became capable of producing 90 mgd, enough to serve the needs of 388,000 people. AVEK is planning a conversion of their disinfection systems from chlorine to chloramines or Granular Activated Carbon (GAC). This conversion will significantly reduce the levels of Trihalomethanes (THMs) from the treated water.

Expansion of the Eastside Water Treatment Plant located between Littlerock and Pearblossom to 10 mgd was completed in late 1988. It can now serve the needs of about 44,000 consumers.

The 14 mgd Rosamond Water Treatment Plant was established to support the needs of consumers in southeastern Kern County, an area that includes Rosamond, Mojave, California City, Edwards Air Force Base and Boron. Rosamond Water Treatment Plant is capable of providing water for 60,000 people.

The 4 mgd Acton Water Treatment Plant was completed in 1989. Water is pumped from the plant site near Barrell Springs Road, on Sierra Highway, to Vincent Hill Summit. From there it is pumped into a District No. 40 pipeline for transport to the Acton area. The plant's capacity is sufficient to supply the needs of 17,000 consumers.

The treated water is generally considered to be of excellent quality. Appendix C contains the Consumer Confidence Reports for AVEK deliveries in the Los Angeles County.

2.3 Summary of Supplies

Table 2-9 provides a summary of existing and planned water supply sources from each water purveyor during an average water year over a 25-year planning period, in 5-year increments.

TABLE 2-9: CURRENT AND PLANNED WATER SUPPLIES (AF)

Water Supply Sources	2010*	2015	2020	2025	2030	2035
District No. 40						
Groundwater[(a)]	7,600	23,200	23,200	23,200	23,200	23,200
SWP[(b)]	39,200	61,000	61,000	61,000	61,000	61,000
Recycled Water[(c)]	0	5,400	8,200	10,900	13,600	16,300
Groundwater Banking[(d)]	0	0	0	0	0	0
Anticipated New Supply[(d)]	0	2,300	4,100	12,900	21,600	30,300
Total	**46,800**	**91,900**	**96,500**	**108,000**	**119,400**	**130,800**
QHWD						
Groundwater[(a)]	1,900	2,500	2,500	2,500	2,500	2,500
SWP[(b)]	3,500	6,800	6,800	6,800	6,800	6,800
Recycled Water[(c)]	0	0	0	0	0	0
Groundwater Banking[(d)]	0	0	0	0	0	0
Anticipated New Supply[(d)]	0	0	0	0	0	900
Total	**5,400**	**9,300**	**9,300**	**9,300**	**9,300**	**10,200**
Study Area						
Groundwater[(a)]	9,500	25,700	25,700	25,700	25,700	25,700
SWP[(b)]	42,700	67,800	67,800	67,800	67,800	67,800
Recycled Water[(c)]	0	5,400	8,200	10,900	13,600	16,300
Groundwater Banking[(d)]	0	0	0	0	0	0
Anticipated New Supply[(d)]	0	2,300	4,100	12,900	21,600	31,200
Total	**52,200**	**101,200**	**105,800**	**117,300**	**128,700**	**141,000**

Note: All numbers are rounded to the nearest 100 AF.
(a) Assumes adjudication prediction of groundwater pumping.
(b) SWP water delivery at 60 percent of Table A Amount available to the Study Area.
(c) Recycled Water is discussed in Section 6.
(d) Groundwater Banking and Anticipated New Supplies are discussed in Section 3.
*2010 shows actual water supply values.

2.4 Economic Analysis of Supplies

This subsection provides an economic evaluation of the existing supplies available to the Study Area. Further, these sources are ranked based on this analysis and consideration of source reliability. Table 2-10 provides a summary of the unit costs for each of the supplies available to the Study Area. As shown in this table, groundwater is the most cost effective source available to the Antelope Valley, however, due to the uncertainty of this supply as the adjudication process continues, there is no guarantee of its reliability.

TABLE 2-10: ECONOMIC SUMMARY OF THE EXISTING SUPPLIES FOR THE STUDY AREA

	Cost per AF	Reliability Factor[(a)]	Ranking
District No. 40			
Groundwater	$120	90	1
Imported Water	$296 ($367 Summer)	60	2
QHWD			
Groundwater	$120	90	1
Imported Water	$296 ($367 Summer)	60	2

Note:

(a) Reliability factor for imported water is based on DWR's Reliability Report; reliability factor for groundwater is based on the assumed adjudication prediction of groundwater pumping. However, water rights may be determined and limited as part of the adjudication process.

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Section 3

Water Supply Strategy/Opportunities

Section 3: Water Supply Strategy/Opportunities

3.1 Transfer and Exchange Opportunities

As will be shown in Section 7, the projected water demands for the Study Area will exceed the existing available water supply in the foreseeable future. As such the Antelope Valley water purveyors are evaluating various transfer and exchange opportunities as they arise.

The water retailers in the Study Area receive their imported water supply from AVEK. Any transfer or exchange of water rights will likely be moved into the Study Area via the SWP and will therefore have to be facilitated by AVEK.

3.2 Planned Water Supply Projects and Programs

Based on projected growth from population and land use build-out, water demands for the Study Area are expected to increase approximately 55 percent from 2010 to 2035. The main driver for these demands is presumed to be single-family residential development. However, projected future demands, particularly those in the near-term, will continue to be monitored and adjusted in response to changes in the rate of housing development as well as major new industrial customers such as solar and other power facilities. Water management strategies are also discussed in the 2007 AVIRWMP (pages 5-7 through 5-33).

The Study Area will require new projects that provide additional supply in order to meet the projected demand, but at this time, no specific projects have been selected. Future water supply project plans will focus on the following:

- Take steps to limit dependence on imported water by maximizing use of recycled water
- Expand conservation efforts
- Acquire and/or develop new imported supplies by introducing the New Water Supply (Developer Fee)
- Create a combination of local surface spreading facilities to percolate untreated SWP water and Aquifer Storage and Recovery (ASR) wells to inject potable water
- Add additional groundwater extraction capacity in order to recover stored water
- Pursue an exchange program with agriculture interests to replace their groundwater use with recycled water thereby providing additional potable groundwater for municipal use
- Construct new infrastructure to deliver recycled water for non-potable uses
- Conduct further project development to use recycled water to replenish the Basin

3.3 Acquisition of New Water Supply

Even with the demand management measures addressed in Section 5, and the increased use of recycled water to reduce existing potable water demands discussed in Section 6, the existing and committed demands and existing water supplies are approximately equal and additional water supplies will have to be acquired and imported into the Antelope Valley in order to meet the demands associated with the level of growth projected for the Study Area. In order to acquire these additional water supplies, District No. 40 and QHWD are working with AVEK to establish a New Water Supply (Developer Fee) on new developments that will be used to acquire additional imported water supplies. AVEK is currently working with its water retailers and the development community to design the fee and an operational procedure for assessing it. The proposed framework for assessing this fee is as follows:

1. Developer requests a will-serve letter from water retailer for the project
2. Water retailer informs developer of the volume of new water supply needed to serve project
3. Developer pays the New Water Supply (Developer Fee) to AVEK for the volume of new water supply
4. AVEK provides developer with a letter of commitment to water retailer for the new water supply
5. AVEK acquires new water supply
6. AVEK designates new water supply for development to the water retailer serving the development over and above the water retailer's allocation of AVEK's supplies
7. AVEK adjusts the fee annually based on the current market rate for permanent water transfers
8. Water retailer ensures reliability of the new water supply

3.4 Stormwater and Desalination

Potential water supply alternatives that are available to the Antelope Valley besides those mentioned above include stormwater reuse and desalination. Because the Antelope Valley is a closed hydrologic system, all stormwater entering the Basin either infiltrates into the groundwater basin or evaporates. The water agencies in the Study Area will continue to support onsite reuse of stormwater by customers. In addition, the Antelope Valley region was awarded grant funds from Proposition 84 to update the 2007 AVIRWMP to include a regional flood management plan. A major component of the regional flood management plan will be identifying regional areas that can be used for large scale stormwater retention and groundwater basin recharge in order to increase the amount of annual returns flows to the groundwater basin.

The UWMPA also requires water agencies to consider options for desalination. The Antelope Valley is located a considerable distance from the Pacific Ocean so constructing a transmission main to move either sea water or desalinated water directly to the Antelope Valley is cost prohibitive at this time. However, one option that AVEK can consider when acquiring new water supplies is partnering with a SWP contractor situated in close proximity to the Pacific Ocean. Under such an arrangement, AVEK could use funds collected from the New Water Supply (Developer Fee) to contribute financially to the construction of a desalination facility, and in turn, the partnering agency would transfer portion of their SWP water rights to AVEK.

3.5 Aquifer Storage and Recovery

District No. 40's ASR Program includes the use of twenty existing wells for direct injection of treated SWP water into the aquifer. The purpose of this program is to augment natural recharge of the groundwater basin through injection of treated SWP water into the Basin, when sufficient supplies are available. The injected water is then available during periods of lower SWP allocation such as in dry years to meet demand. On October 14, 2010, the Lahontan Regional Water Quality Control Board (Regional Board) approved a five-year Conditional Waiver of Waste Discharge Requirements (Waiver) for this project.

3.5.1 Aquifer Characteristics

The Antelope Valley is a closed basin in the western part of the Mojave Desert, and is divided by fault zones and other physical boundaries to water movement into twelve sub-basins (Bloyd,

1967). The majority of the District No. 40's customers, and the District No. 40's ASR Program, are located within the Lancaster subunit. The Lancaster subunit is alluvial and lacustrine in nature, and is characterized by unconfined (upper) and confined (lower) aquifers that are separated by a clay layer that is between 200 and 300 feet thick. The upper aquifer is a primary source of potable water for District No. 40 due to water quality issues contained in the lower aquifer.

3.5.2 ASR Wells

District No. 40's existing extraction wells are used for direct injection of treated drinking water into the Basin. Slight modifications of the well equipment were required, including flow control valves that regulate the rate at which the water is injected. These flow control valves are typically located at ground surface near the well head. Some of District No. 40's wells are equipped with down-hole flow control valves that regulate the flow using a nitrogen inflated bladder. As part of typical injection operations, the pumps are energized regularly to backflush the aquifer thereby maintaining injection flow rates.

As a condition of the Waiver, District No. 40 must show that the injected water remains within the radii of influence of the ASR wells, which is on the order of 1,200 feet. This requires monthly water quality monitoring of wells within a quarter mile of the injection sites, and semi-annual monitoring of select wells between a quarter mile and three quarters of a mile from injection sites to demonstrate that the injected water is effectively contained near the ASR wells. The Waiver allows for injection up to 6,843 AFY. District No. 40 plans to use a total of 17 wells for injection using available SWP water.

3.5.3 Water Quality

District No. 40's ASR Program utilizes water imported by the SWP for injection into the Basin. The water is treated prior to injection through conventional treatment, which includes free chlorine disinfection. Conventional treatment causes the formation of disinfection byproducts (DBP) such as trihalomethanes (THMs) and haloacetic acids (HAA5). These DBPs are not naturally occurring in the Basin, and are therefore considered a discharge by the Regional Board. In addition, these particular DBPs continue to form and increase in concentration as the water moves further from the treatment plant. In order to prevent the further formation of DBPs due to the availability of free chlorine, the water is de-chlorinated prior to injection. As a condition of the Waiver, weekly sampling of the injection water for DBPs is required, and District No. 40 must enact contingency plans in the event that water quality monitoring indicates that the levels of DBPs exceed limits established in the Waiver. In addition, monthly and semi-annual water quality monitoring of nearby wells is required to show that these DBPs are not moving outside the radius of influence of the ASR wells. The upcoming conversion of AVEK's treatment plant from conventional treatment to chloramines or GAC is anticipated to reduce or eliminate DBP formation within the treatment plant and distribution system.

3.6 Water Banking Opportunities

As indicated in more detail in Section 7, water banking is a crucial strategy that will be used by the water purveyors to help navigate the uncertainties in the availability of water supplies for the Study Area. Water banking involves storing water when it is available in wet years or low demand periods and subsequently recovering it in periods of drought or high demand. The three methods of banking contemplated for the Study Area are in-lieu groundwater basin recharge, groundwater basin recharge through surface percolation, and ASR. These opportunities are located inside and outside of the Antelope Valley. Generally, water banking within the Antelope Valley is preferred over those outside because risks of disruption due to

conveyance interruptions are minimized. However, potential water banking opportunities within the Antelope Valley require additional development.

In evaluating water banking requirements, there are two characteristics that must be established: the required volume of water in storage and the required pumpback capacity for the most severe three-year delivery projection. The three-year drought sequence is commonly utilized for water supply planning in California and in UWMPs. The requirements are calculated by comparing projected demand to the sum of available groundwater and SWP supplies during a worst-case three-year drought scenario comprised of two 35 percent SWP allocations followed by a 7 percent SWP allocation.

In the event that the annual SWP allocation is less than demand, water that has been stored through in-lieu groundwater basin recharge will typically be used first to make up the difference between demand and SWP supply. If maximum groundwater extraction capacity is insufficient to make up the difference, additional banking methods such as storage of carry-over water in SWP reservoirs or groundwater basin recharge through surface percolation are required.

In order to meet the banked water supply targets in the future, the water retailers in the Study Area will store sufficient quantities of available supplies in years where supply conditions permit. These targets therefore dictate how the present-year's water resources are utilized. The supply targets increase with demand, and therefore must be recalculated annually. In a similar manner, present year operations must be modified annually to account for the recalculated targets. Upon adjudication of the Basin, it is anticipated that each water retailer will be able to save credits for not fully utilizing its adjudicated groundwater right in a given year, thus saving unused groundwater for use when SWP supply is limited or interrupted.

SWP reservoir storage is crucial to meeting the carry-over and banked supply targets. In the event that a water retailer does not use its full entitlement of SWP water in a given year, AVEK can store the remainder in San Luis Reservoir. Unfortunately, in the event of a high allocation the following year, that quantity of carry-over water may be lost due to limited reservoir capacity. In this case, this carry-over supply can be moved to a water bank for future use. Conversely, if the next year's SWP allocation is insufficient to meet demand, the carry-over supply can be moved into the Study Area. Banked supply will be utilized in the event that demand is greater than the sum of the current year SWP allocation, available carryover and maximum groundwater extraction capacity.

3.6.1.1 Antelope Valley Water Bank

The Antelope Valley Water Bank (AVWB) encompasses an 18-square mile area totaling roughly 13,440 acres, of which 1,482 acres would be dedicated for spreading basins. More specifically, there would be 11 spreading basins, each approximately 160 acres in size except for one 40-acre basin, and up to 40 new recovery wells. At full build-out, the AVWB will be a water banking facility capable of 100,000 AFY of recharge, 100,000 AFY of recovery, and 500,000 AF of total storage capacity within the underlying aquifer. Accordingly, the AVWB would contribute to accomplishing the goal of making more water available, through recharge and recovery, to meet existing and future water requirements in the Antelope Valley and other regions in Southern California during periods when surface water supplies are deficient.

3.6.1.2 AVEK's Water Supply Stabilization Project No. 2

AVEK has analyzed locations and methods for water storage in the Antelope Valley region. The Water Supply Stabilization Project No. 2 (WSSP2) is a groundwater basin banking project that was selected based on studies performed by the United States Geological Survey (USGS).

Based on USGS's work, it is expected that the percolation rate of raw water placed in the recharge area will average about a half a foot per day on 400 of the 1,400 acre site. Raw water will be delivered to the site through three existing turnouts that are capable of delivering up to 30,000 AF of water during a proposed recharge cycle. A total recharge of approximately 190 AF per day is expected.

3.6.1.3 Semitropic Water Storage Bank

The Semitropic Water Storage District (Semitropic) is located in the San Joaquin Valley in north-central Kern County, about 20 miles northwest of Bakersfield and immediately east of the California Aqueduct. Semitropic was originally formed in 1958 with the expectation of receiving water from the SWP and surplus water from the Kern River.

In 1995, Semitropic began implementation of the Semitropic Groundwater Banking and Exchange Program by utilizing a portion of the available immense groundwater storage capacity (approximately 1 million AF out of over 3 million AF). This long-term water storage program was designed to recharge groundwater and reduce overdraft, increase operational reliability and flexibility, and optimize the distribution and use of available water resources between Semitropic and the banking partners. The existing Semitropic water bank has a storage capacity of 1 million AF; a recharge capacity of 90,500 AFY; a firm extraction capacity of 90,000 AFY through the pumpback and physical return of groundwater to the SWP facilities; and the ability to return up to 133,000 AFY through exchange of Table A SWP entitlement. Approximately 700,000 AF are currently in storage. This program is currently fully operational and is a proven and working water bank.

Semitropic is in the process of a second phase of the groundwater banking program called the Stored Water Recovery Unit (SWRU). The SWRU will increase storage by 650,000 AF to a maximum of 1.65 million AF and increase recovery capacity by 200,000 AFY for a total guaranteed or pumpback capacity of 290,000 AFY. This means that the Semitropic Water Storage Bank, including its entitlement exchange capability of up to 133,000 AFY, will be able to deliver up to 423,000 AFY of dry year yield to the California Aqueduct.

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Section 4

Water Use Provisions

Section 4: Water Use Provisions

This section describes historic/current water usage and the methodology used to project future demands within each water purveyor's service areas. Water usage is divided into sectors such as: residential, industrial, institutional/governmental, landscape/recreational, agricultural, and other purposes.

4.1 Historic/Current Water Use

This subsection will present the historic and current water use for each water purveyor in the Study Area.

4.1.1 District No. 40

District No. 40 began keeping records of water use and number of meters by customer class in 2001. Past and current water use is based on the billing records of District No. 40 and is presented in Table 4-1.

TABLE 4-1: DISTRICT NO. 40 HISTORIC AND CURRENT WATER USE

Customer Category	2005		2006		2007		2008		2009	
	Water Use (AF)	Meters	Water Use (AF)	Meters	Water Use (AF)	Meters	Water Use (AF)	Meters	Water Use (AF)	Meters
Single-Family	34,751	46,139	38,562	49,647	40,629	49,793	36,664	49,849	33,548	50,532
Multi-Family (duplex)	269	277	256	281	255	274	223	267	198	257
Multi-Family complex	3,839	706	3,833	697	4,036	686	3,730	678	3,398	683
Commerical	4,200	1,441	4,092	1,513	4,200	1,513	3,929	1,581	3,707	1,581
Industrical/ Manufacturing	123	36	113	36	97	34	98	35	81	35
Private Fire Protection	4	381	2	426	48	463	1	501	28	509
Landscape Irrigation	2,464	638	3,039	706	3,782	770	3,560	806	3,486	818
Public / Government Agency	3,818	204	3,326	208	3,537	205	3,192	209	2,847	215
Other Districts	0	0	0	0	0	0	0	0	0	0
Outside District	96	1	0	1	0	1	0	1	1	3
Temporary Construction Meter	1,714	206	2,130	172	895	162	319	86	120	55
Domestic/ Private	284	12	311	12	299	12	279	12	260	12
Other	7	1	9	1	7	1	32	7	27	7
Firefighting, flushing, theft and leaks	3,921	n/a	3,507	n/a	1,885	n/a	2,073	n/a	1,489	n/a
Total	55,490	50,042	59,180	53,700	59,670	53,914	54,100	54,032	49,190	54,707

4.1.2 QHWD

QHWD does not have the ability to breakdown water usage by sector. However, QHWD currently serves approximately 5,500 connections. Of the 5,500 connections, approximately 98 percent are residential. Commercial connections account for approximately one percent, landscape irrigation and non-potable connections account for less than one percent, and other connections account for the remaining number of connections. Table 4-2 provides a summary of the QHWD's historic and existing service connections.

TABLE 4-2: QHWD HISTORIC AND CURRENT WATER USAGE

Customer Category	2005		2006		2007		2008		2009	
	Water Use (AF)	Meters	Water Use (AF)	Meters	Water Use (AF)	Meters	Water Use (AF)	Meters	Water Use (AF)	Meters
Single-Family	n/a	5,288	n/a	5,288	n/a	5,350	n/a	5,315	n/a	5,350
Multi-Family	n/a	24	n/a	24	n/a	28	n/a	26	n/a	25
Commerical	n/a	66	n/a	66	n/a	68	n/a	74	n/a	76
Industrical/ Manufacturing	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
Landscape Irrigation	n/a	56	n/a	56	n/a	66	n/a	62	n/a	63
Other	n/a	9	n/a	9	n/a	0	n/a	3	n/a	0
Total	5,398	5,443	5,532	5,443	6,613	5,512	6,498	5,480	5,441	5,514

4.2 Other Factors Affecting Water Usage

Two major factors that affect water usage are weather and water conservation. Historically, when the weather is hot and dry, water usage increases. The amount of increase varies according to the number of consecutive years of hot dry weather and the conservation activities imposed. During cool-wet years, water usage decreases due to less irrigation demand for external landscaping. Water conservation measures employed within the Study Area have a direct long-term effect on water usage. Both of these factors are discussed below in detail.

4.2.1 Weather Effects on Historical Water Usage

Historically, both agricultural and urban water usage have increased in dry weather. However, in recent years, conservation efforts have limited increases in demand due to higher temperatures and often have resulted in reduced overall demand. Further effects due to global warming may also begin to influence future water usage and planning efforts as previously discussed in Section 1.

4.2.2 Conservation Effects on Water Usage

In recent years, water conservation has become an increasingly important factor in water supply planning in California. The California Plumbing Code has instituted requirements for new construction that mandate the installation of ultra low-flow toilets and low-flow showerheads. District No. 40 has participated in water conservation measures that include public information and education programs and the implementation of water efficient operations and maintenance practices. As a retail customer of AVEK, QHWD has also implemented DMMs as described in Section 5. In November 2009, SB X7-7 was enacted requiring all water suppliers to increase water use efficiency. The legislation set 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.

4.3 Projected Water Use

4.3.1 Population and Water Demand Projections

The population projections for the Study Area are shown in Table 2-3 of the 2007 AVIRWMP, which projects population increases for the incorporated cities, communities and unincorporated county areas. However, jurisdictional boundaries in the Study Area are not aligned with water district boundaries, particularly in the portion of the Study Area in Los Angeles County. In order to estimate the future populations that will be served by each water district in Los Angeles County, each census tract in the Los Angeles County portion of the Study Area was projected to be served by a particular water district and included in a designated jurisdiction. Table 4-3 identifies the actual or projected water purveyor and jurisdiction for each census tract within Los Angeles County in the Study Area.

TABLE 4-3: ACTUAL/PROJECTED WATER PURVEYOR AND JURISDICTION

Census Tract	Water District	Jurisdiction
37900501	District No. 40	Lancaster
37900502	District No. 40	Lancaster
37900503	District No. 40	Lancaster
37900504	District No. 40	Lancaster
37900602	District No. 40	Lancaster
37900604	District No. 40	Lancaster
37900605	District No. 40	Lancaster
37900606	District No. 40	Lancaster
37900607	District No. 40	Lancaster
37900701	District No. 40	Lancaster
37900703	District No. 40	Lancaster
37900704	District No. 40	Lancaster
37900705	District No. 40	Lancaster
37900803	District No. 40	Lancaster
37900804	District No. 40	Lancaster
37900805	District No. 40	Lancaster

37900806	District No. 40	Lancaster
37900900	District No. 40	Lancaster
37901003	District No. 40	Lancaster
37901004	District No. 40	Lancaster
37901005	District No. 40	Lancaster
37901006	District No. 40	Lancaster
37901007	District No. 40	Lancaster
37901205	District No. 40	Lancaster
37901101	QHWD	Lancaster
37901102	QHWD	Lancaster
37910301	QHWD	Lancaster
37900200	District No. 40	Palmdale
37910201	District No. 40	Palmdale
37910203	District No. 40	Palmdale
37910204	District No. 40	Palmdale
37910206	District No. 40	Palmdale
37910302	District No. 40	Palmdale
37910401	District No. 40	Palmdale
37910706	Littlerock Creek ID	Palmdale
37910000	PWD	Palmdale
37910402	PWD	Palmdale
37910403	PWD	Palmdale
37910404	PWD	Palmdale
37910501	PWD	Palmdale
37910502	PWD	Palmdale
37910503	PWD	Palmdale
37910601	PWD	Palmdale
37910602	PWD	Palmdale
37910603	PWD	Palmdale
37910604	PWD	Palmdale
37910703	PWD	Palmdale
37910704	PWD	Palmdale
37910705	PWD	Palmdale
37910707	PWD	Palmdale
37910708	PWD	Palmdale
37910709	PWD	Palmdale
37910710	PWD	Palmdale
37910100	PWD	Unic. LA County
37901203	Tejon	Unic. LA County
37901207	Cal Water	Unic. LA County
37900101	District No. 40	Unic. LA County
37900102	District No. 40	Unic. LA County
37900300	District No. 40	Unic. LA County
37910902	District No. 40	Unic. LA County
37910202	Mutuals	Unic. LA County
37910205	PWD	Unic. LA County
37910901	PWD	Unic. LA County
37911000	PWD	Unic. LA County

Based on the breakdown of census tracts, Table 4-4 indicates the population projections for the water purveyors in the Study Area.

TABLE 4-4: POPULATION PROJECTIONS BY WATER DISTRICT

	2010	2015	2020	2025	2030	2035
District No. 40	**261,800**	**309,200**	**355,800**	**401,500**	**445,200**	**493,900**
in Lancaster	167,400	192,400	217,100	241,000	263,900	288,900
in Palmdale	53,100	68,700	84,200	100,500	116,100	134,200
in LA County	41,300	48,000	54,500	60,000	65,200	70,800
QHWD	**17,500**	**20,800**	**23,900**	**27,000**	**29,900**	**33,000**
RCSD	17,700	22,600	26,200	30,400	35,200	40,800
PWD	123,100	146,200	169,000	189,400	209,000	230,700
in Palmdale	113,800	135,500	156,900	176,100	194,500	214,900
in LA County	9,300	10,700	12,100	13,300	14,500	15,800
Mutuals	4,600	6,000	7,400	8,700	9,900	11,300
LCID	6,500	10,000	13,600	16,600	19,500	22,900
Cal Water	4,100	5,200	6,200	7,300	8,300	9,400
Tejon	2,900	3,300	3,700	1,200	4,100	4,400
Plant 42	2,600	3,400	4,100	1,300	4,900	5,700
Cal City		12,000	20,000	25,000	30,000	35,000
Mohave		9,000	10,500	12,000	13,000	14,000
Edwards		10,000	11,500	13,000	14,500	16,000
Boron		3,000	3,500	4,000	4,500	5,000
Unic Kern		29,000	52,000	70,000	85,000	103,000
Antelope Valley Area Total	**440,800**	**589,700**	**707,400**	**807,400**	**913,000**	**1,025,100**

Population projections are often used to determine future demand by utilizing an average water demand (typically based on historic water use). However, they often mask economic trends, changes in land use, and non-population based water demands. In order to more accurately predict the water demand projections for the Study Area particularly in Los Angeles County, and to distribute this demand to the water purveyors, the land use maps and General Plans of the Cities of Lancaster and Palmdale were used.

The land use and zoning maps for the Cities of Lancaster and Palmdale were divided up by census tract and water demand factors were assigned to each land use type. The water demand factors used were based on average water use by existing customers within each land use type and reflect reductions in water use necessary to meet per capita water use targets by

2015 and 2020. Table 4-5 indicates the per acre water use demand in AF for each land use type. If each land use sector continues to use water at the rate of these factors, the Study Area would meet the demand reduction targets mandated in SB X7-7. However, future demands until 2020 are projected to return to the normal levels that were observed in the Study Area prior to the recent drought due to the unusual level of water conservation that occurred in the Study Area between 2008 and 2010. Therefore, the tables in Section 7 do not project demands based on these factors until 2020 when the water purveyors are required to comply with SB X7-7. Using land use data to project demand is a more accurate method to estimate water demand both by jurisdiction and water district.

TABLE 4-5: WATER USE FACTORS IN ACRE-FEET PER ACRE BY LAND USE TYPE

Type	Single-Family Residential	Multi-Family Residential	Commercial	Heavy Industry	Light Industry	Mixed Use	Non-Urban Residential	Public Areas	Healthcare
AF/ acre	3.9	2.5	2.25	0.3	1.1	2.5	1.9	2.6	5

Tables 4-6 and 4-7 break down these projections by land use type for each water purveyor in the Study Area. Table 4-8 indicates the actual and project total water demand for each water purveyor in the Study Area and the remaining water retailers in the Antelope Valley. As shown, the water purveyors in the Study Area serve 52 percent of the 2010 retail demand in the Antelope Valley and are projected to serve 50 percent by 2035. However, it should be noted that much of the increased demand projected by 2035 will occur outside of the existing service areas of any water retailer. The new demands assumed to be served by water retailers outside of the Study Area could in fact be served by District No. 40 and QHWD.

TABLE 4-6: DISTRICT NO. 40 DEMAND PER LAND USE TYPE

	Water Demand Factor	2010 Demand	2015 Demand	2020 Demand	2025 Demand	2030 Demand	2035 Demand	Total acres
	(AF/acre)	(AF)	(AF)	(AF)	(AF)	(AF)	(AF)	
Single-Family Residential	**3.9**	**30,900**	**39,900**	**48,900**	**58,000**	**68,000**	**76,700**	**19,660**
Lancaster Capital [1]	*N/A*	-	-	*2,100*	*2,100*	*2,100*	*2,100*	*480*
Tentative tracts 60610 & 60620 [1]	*N/A*	-	-	*980*	*980*	*980*	*980*	*220*
Tentative tracts 62758 & 62759 [1]	*N/A*	-	-	*890*	*890*	*890*	*890*	*190*
Tentative tract 62757 [3]	*N/A*	-	-	*780*	*780*	*780*	*780*	*160*
Will-Serve Letter Commitments [a][1]	*N/A*	-	*7,450*	*7,450*	*7,450*	*7,450*	*7,450*	*N/A*
Commitment to the City of Lancaster [a][1]	*N/A*	-	*1,000*	*1,000*	*1,000*	*1,000*	*1,000*	*N/A*
Commitment to the City of Palmdale [a][1]	*N/A*	-	*400*	*400*	*400*	*400*	*400*	*N/A*
Commitment to the County of LA [a][1]	*N/A*	-	*100*	*100*	*100*	*100*	*100*	*N/A*
Multi-Family Residential	**2.5**	**3,400**	**3,970**	**4,200**	**4,400**	**4,700**	**4,980**	**1,990**
Commercial	**2.3**	**3,707**	**5,600**	**7,600**	**9,600**	**11,000**	**13,370**	**6,020**
Amargosa Creek Specific Plan [1]	*N/A*	-	-	*270*	*270*	*270*	*270*	*150*
Downtown Lancaster Specific Plan [3]	*N/A*	-	-	*1,990*	*1,990*	*1,990*	*1,990*	*100*
Heavy Industry	-	-	**100**	**200**	**300**	**500**	**600**	**2,130**
Light Industry	**1.1**	**81**	**1,200**	**3,200**	**5,100**	**6,450**	**8,790**	**7,720**
Mixed Use	**2.5**	**2,647**	**3,000**	**3,100**	**3,400**	**3,500**	**3,600**	**1,480**
Non-Urban Residential	**1.9**	**1,641**	**2,000**	**2,500**	**2,900**	**3,300**	**3,750**	**780**
Public Areas	**2.6**	**3,124**	**3,700**	**4,000**	**4,200**	**4,500**	**4,750**	**1,830**
Healthcare	**5.0**	-	**230**	**300**	**500**	**600**	**700**	**140**
Open Space	-	-	-	-	-	-	-	**940**
Specific Plans	-	**0**	**14,800**	**14,490**	**14,180**	**13,870**	**13,560**	**9,920**
City Ranch-Phase 1 Constructed	*N/A*	-	*2,480*	*2,170*	*1,860*	*1,550*	*1,240*	*380*
City Ranch Ph 1 Remaining [2]	*N/A*	-	*370*	*370*	*370*	*370*	*370*	*110*
City Ranch Ph 2-4	*N/A*	-	*4,390*	*4,390*	*4,390*	*4,390*	*4,390*	*1,310*
Antelope Valley Business Park	*N/A*	-	*560*	*560*	*560*	*560*	*560*	*120*
Ritter Ranch [1]	*N/A*	-	*7,000*	*7,000*	*7,000*	*7,000*	*7,000*	*8,000*
TOTAL	**N/A**	**45,500**	**74,500**	**88,490**	**102,580**	**116,420**	**130,800**	**52,610**
Realized Commited Demand [4]	N/A	-	3,200	12,590	15,180	17,620	20,600	N/A

Note:
(a)These demands are not necessarily included in a specific land use type.
(1)These demands are included in the categories they are listed under and are demands District No. 40 has committed to serve.
(2)This committed demand represents the remaining 320 homes District No. 40 has committed to serve
(3)These demands are for developments for which the requested Water Supply Assessment indicated there was inconclusive information to determine whether sufficient supplies existed to serve them.
(4)This line indicates committed demand will materialize over time.

TABLE 4-7: QHWD DEMAND PER LAND USE TYPE

	Water Demand Factor	2010 Demand	2015 Demand	2020 Demand	2025 Demand	2030 Demand	2035 Demand	Total acres
	(AF/acre)	(AF)	(AF)	(AF)	(AF)	(AF)	(AF)	
Single-Family Residential	3.9	4,558	4,955	5,830	6,615	7,440	8,440	2,163
Multi-Family Residential	2.5	25	40	50	70	90	110	44
Commercial	2.25	76	100	160	200	250	330	148
Heavy Industry	0.3	-	-	-	-	-	-	-
Light Industry	1.1	-	5	10	15	20	20	16
Mixed Use	2.5	-	-	-	-	-	-	-
Non-Urban Residential	1.9	841	900	950	1,100	1,200	1,320	694
Public Areas	2.6	-	-	-	-	-	-	-
Healthcare	5	-	-	-	-	-	-	-
Open Space	-	-	-	-	-	-	-	18
Total	N/A	5,500	6,000	7,000	8,000	9,000	10,220	3,083

TABLE 4-8: LAND USE OR POPULATION BASED WATER DEMAND PROJECTIONS (AF)

	2010	2015	2020	2025	2030	2035
District No. 40	**45,500**	**74,500**	**88,490**	**102,580**	**116,420**	**130,800**
in Lancaster	35,200	45,300	53,280	62,350	70,760	79,500
in Palmdale	5,700	24,500	30,310	35,130	39,870	44,800
in LA County	4,600	4,700	4,900	5,100	5,790	6,500
QHWD	**5,500**	**6,000**	**7,000**	**8,000**	**9,000**	**10,220**
RCSD	3,010	3,390	4,090	4,730	5,490	6,360
PWD	20,000	28,000	36,000	44,000	52,000	60,000
in Palmdale	18,000	23,800	29,500	35,000	41,000	46,950
in LA County	2,000	2,300	2,600	2,900	3,300	3,700
around Plant 42	-	1,900	3,900	6,100	7,700	9,350
Mutuals*	5,000	6,000	6,800	7,600	8,200	8,660
LCID*	2,000	2,500	3,000	4,000	5,000	5,680
Cal Water*	1,000	2,000	4,000	5,000	6,000	7,570
Tejon	-	1,500	4,000	6,400	7,500	8,000
Plant 42*	2,000	2,300	2,600	2,900	3,200	3,660
Cal City	3,000	3,000	4,000	4,000	5,000	6,000
Mohave	2,000	2,000	3,000	3,000	3,000	4,000
Edwards	2,000	3,000	3,000	3,000	4,000	4,000
Boron	1,000	1,000	1,000	1,000	1,000	1,000
Unic Kern	6,000	8,000	11,000	15,000	20,000	28,000
Antelope Valley Area	**98,010**	**143,190**	**177,980**	**211,210**	**245,810**	**283,950**

*Water projections for the service areas of the various mutual water companies, Littlerock Creek Irrigation District, California Water Service Company, and Plant 42 reflect the land use projections for the census tracts assumed to be served by these entities. However, the demand could potentially be served by other water purveyors in the immediate vicinity.

The water use projections assume full development per the Cities' General Plans by 2035.

Section 5

Water Demand Management Measures

Section 5: Water Demand Management Measures

This section will discuss the existing and planned DMMs implemented by each of the water purveyors.

5.1 Water Demand Management Measures

As outlined below, the UWMPA requires water suppliers implement "demand management" in their UWMP through a five step process. "Demand management," as applied to water conservation, refers to the use of measures, practices, or incentives implemented by water utilities to permanently reduce the level or change the pattern of demand. Per California Water Code (CWC) §10631(f) and (g), UWMPs must include:

1. A description of each water demand management measure being implemented, or scheduled for implementation:

   DMM 1. Water survey programs for single-family residential and multi-family residential customers.

   DMM 2. Residential plumbing retrofit.

   DMM 3. System water audits, lead detection, and repair.

   DMM 4. Metering with commodity rates for all new connections and retrofit of existing connections.

   DMM 5. Large landscape conservation programs and incentives.

   DMM 6. High-efficiency washing machine rebate programs.

   DMM 7. Public information programs.

   DMM 8. School education programs.

   DMM 9. Conservation programs for commercial, industrial, and institutional accounts.

   DMM 10. Wholesale agency programs.

   DMM 11. Conservation pricing.

   DMM 12. Water conservation coordinator.

   DMM 13. Water waste prohibition.

   DMM 14. Residential ultra-low-flush toilet replacement programs.

2. A schedule of implementation for all water DMMs proposed or described in the water supplier's UWMP.

3. A description of the methods, if any, the water supplier will use to evaluate the effectiveness of the DMMs implemented or described under the UWMP.

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

5. An evaluation of each DMM not being implemented or scheduled for implementation, which shall include cost-benefit, funding availability, and legal authority analyses.

The UWMPA allows one of two ways for water utilities to provide DMM information so as to meet the respective requirements of CWC §10631(f) and (g):

- Signatory. A water supplier who is a member of the California Urban Water Conservation Council[1] (CUWCC) and signatory of the *Memorandum of Understanding Regarding Urban Water Conservation in California* (MOU) may submit their Best Management Practice (BMP) Activity Reports (Annual Reports). Signatories pledge to develop and implement the 14 BMPs that are intended to reduce long-term urban water demands. These BMPs are functionally-equivalent to the DMMs in CWC §10631(f)(1).

  It should be noted that exemptions are available for BMPs that cannot be implemented; certain criteria must be met regarding cost-effectiveness, budgetary constraints, or legal issues that prohibit the implementation of any BMP for a signatory.

- Non-signatory. A water supplier who is not a member of CUWCC, or who is a member of CUWCC, but chooses not to submit the Annual Reports, must discuss all 14 DMMs, along with any additional measures the supplier is implementing or has scheduled for implementation in their UWMP submittal.

5.2 Implementation Levels of DMMs/BMPs

The DMMs which were implemented, or scheduled to be implemented, by District No. 40 and QHWD are outlined in the respective sections below. Included in the discussions are the descriptive "demand management" elements as per the UWMPA.

5.2.1 District No. 40

District No. 40 has been a signatory to the CUWCC MOU since April 1996 and, as such, is a member of CUWCC. Copies of District No. 40's Best Management Practices Activity Reports for 2009 are provided in Appendix D. These reports contain all the necessary information to meet the UWMPA requirements.

District No. 40 is in the beginning stages of developing a budget based billing rate structure that assesses indoor and outdoor budgets for each customer. The indoor budget is calculated based on the number of people per household, while the outdoor budget is based on the irrigated area and historical evapotranspiration data. The development of this budget based billing structure will promote efficient use of water, promote conservation, and provide appropriate revenues for District No. 40's operations. District No. 40 has an effective

[1] CUWCC, a non-governmental agency, was formed to increase water use efficiency statewide through partnerships among urban water agencies, public interest organizations, and private entities. CUWCC's goal is to integrate urban water conservation BMPs into the planning and management of California's water resources.

conservation program and will continue the program to reduce water usage in order to comply with SB X7-7.

5.2.2 QHWD

QHWD is not a signatory to the CUWCC MOU and is not a member of CUWCC. As such, a description of all 14 DMMs is provided below with a discussion of the proposed methods to measure efficiency.

5.2.2.1 DMM 1: Water survey programs for single-family residential and multi-family residential customers

Since 1996, QHWD began offering free residential water use surveys to all QHWD customers. This service is advertised on QHWD's website and has been featured in the quarterly newsletter several times. In 2008 QHWD implemented a conservation rate structure that has helped show customers if their usage is normal or not, since the implementation of this rate structure water surveys has significantly increased.

State Certified staff conduct both interior and exterior audits at the customers home, and complete a report that is made available to the customer(s) with suggestions for water conservation and a list of the currently offered rebate program. In 2007 average annual demand was approximately 1.17 AFY per connection (6,612 AF/5,674 connections). However, in 2010 after doing these audits teamed with conservation billing for two years the average annual demand was .92 AFY per connection (5,441 AF/5,937 connections). Thus, QHWD has shown that the audits and the conservation billing have reduced the annual water consumption per connection by 21 percent.

5.2.2.2 DMM 2: Plumbing Retrofit

Since 2008, QHWD has participated in the distribution of information of suppliers for showerheads, aerators, and toilet tank leak detection tablets during Water Awareness Month and emphasizes water use surveys and ultra-low flush toilet replacement programs. In early 2008, a toilet replacement rebate was started where QHWD offers a fifty dollar rebate on all ultra low-flush toilets. This program has been funded by the overage charges from the conservation rate structure.

5.2.2.3 DMM 3: System Water Audits, Leak Detection and Repair

QHWD has conducted water audits and leak detection and repair checks on an "as-needed" basis since its formation in 1955. QHWD began preventative audits and leak detections in 2002, since 2008 QHWD has sent letters to high residential user (top 10 percent), and continues to perform water audits by our staff, as well as monitor high bills for possible leaks.

QHWD is located in an earthquake zone, and as such has permanently incorporated the system water audit and leak detection, and meter calibration (production and customer meters) programs into its utility operations. On average, QHWD crews spend about 20 days surveying approximately 40 miles of main and laterals per year. QHWD also participates in an annual valve exercise program to ensure that all connections operate as required. Broken or poorly operating valves are scheduled for repair or replacement.

Effectiveness of this DMM is measured through the reduction in number of leaks detected and unaccounted for water losses in comparison to past years. Typically unaccounted for water loss

is less than 5 percent. QHWD utilizes an annual review of the data records to confirm that the unaccounted for water losses stay under 6 percent.

5.2.2.4 DMM 4: Metering with Commodity Rates

QHWD is fully metered for all customer sectors, including separate meters for single-family residential, commercial, large landscapes, and all institutional/governmental facilities. Since 2008 QHWD has created a conservation based rate structure. The inside water is calculated in the following fashion, 4,200 gallons a month is allotted for up to three occupants after that each additional occupant is granted an additional 1000 gallons. The outside allotment is calculated by the overall foot print of the lot, for the first 5,000 square foot a customer receives 19 gallons per square foot to be allocated throughout the year. For lots larger than 5,000 square feet the first 5,000 are still calculated at 19 gallons per square foot and area above the 5,000 is calculated at 17 gallons per a square foot till 14,000 square feet then the calculations changes again for all area over the first 14,000 square foot to that of 14 gallons per square foot. Detailed rate information for a one month billing cycle is provided in Table 5-1.

TABLE 5-1: QHWD TIERED RATE STRUCTURE

2011 **Winter rates** will apply to water used in the months of **October through May** as follows:			
Tier Name	**% of Water Budget**	**Multiply by Unit (100cf)**	**Multiply by Gallon**
Conservation	0 – 75%	$0.66	0.00088235
Base Rate	0 – 100%	$0.70	0.00093583
Inefficient	101 – 150%	$1.05	0.00140374
Excessive	151 – 200%	$1.75	0.00233957
Wasteful	Greater than 200%	$2.45	0.0032754
2011 **Summer rates** will apply to water used in the months of **June through September** as follows:			
Tier Name	**% of Water Budget**	**Multiply by Unit (100cf)**	**Multiply by Gallon**
Conservation	0 – 75%	$0.81	0.00108289
Base Rate	0 – 100%	$0.86	0.00114973
Inefficient	101 – 150%	$1.29	0.0017246
Excessive	151 – 200%	$2.15	0.00287433
Wasteful	Greater than 200%	$3.01	0.00402406

QHWD's building department coordinates the implementation of this DMM. Project designers must demonstrate the use of water saving devices in their designs. A staff member reviews the building plans to determine the water use efficiency before a permit is issued to the new customer.

This DMM will be measured for effectiveness through the measures illustrated in DMM 1. Commercial water reduction achieved is estimated at 12 to 15 percent. At this time, no additional budget has been allotted for this DMM.

5.2.2.5 DMM 5: Large Landscape Conservation Programs and Incentives

In 1992, QHWD established a landscape ordinance.

This DMM has been permanently incorporated into QHWD ordinances. It is anticipated that the survey could result in 10 percent reduction in water use and the conservation measures an additional 15 percent reduction in water use. Landscape/irrigation average daily demand in 2004 was approximately 5.4 AF per connection. Assuming budgets are created for only the landscape/irrigation meters (41 meters total) over the next five years and a combined water savings of 25 percent, an annual water savings of 58 AFY could be achieved by 2010. However, at this time no additional budget has been allotted for this DMM.

Its effectiveness will be measured through cost savings, the attendance to the Water Efficiency Landscape (WEL) demonstration garden, and the number of WEL materials distributed. An annual report on the landscape water savings associated with this DMM will be submitted to the QHWD's Board of Directors.

5.2.2.6 DMM 6: High Efficiency Washing Machine Rebate Programs

High-efficiency washing machines use about 50 percent less water than conventional machines, using only 20 to 30 gallons of water per load, compared to 40 to 45 gallons for conventional top-loading washers. The estimated annual savings for a typical household is about 5,000 gallons per year.

QHWD does not currently implement or plan on implementing this DMM because this DMM would not be economically viable due to the high cost of washing machines, high program costs (i.e., rebates), and low cumulative water savings compared to other DMMs. However, customers in the QHWD's water service area may be eligible for rebates from either the area's electric utility, or gas utility. Water and energy savings vary with the new models, however mean water savings of approximately 14 gallons per household per day would be expected. High efficiency models cost from $600 to $1,100 (compared to $300 to $700 for conventional units) which may reduce the rate of participation. Examples of customers that would derive maximum benefit from this program include multi-family residential units and laundromats with multiple washing machines per location.

5.2.2.7 DMM 7: Public Information Programs

QHWD also promotes water conservation and other resource efficiencies in coordination with NACWA and the energy utilities. It also distributes public information through bill inserts, brochures, community speakers, paid advertising, and many special events every year.

It has formed a Citizens' Advisory Committee to assist in developing new ways to communicate with the public and the media about water conservation and other resource issues. Due to arid conditions of the region, it also has become a priority to develop conservation materials focused on the short term residents and visitors though working with restaurants, hotels, and real estate offices. QHWD has established a World Wide Web Home Page, which includes information on water conservation, recycling, and other resource issues.

QHWD will continue to provide public information services and materials to remind the public about water and other resource issues. QHWD will track the commentary regarding the information provided. QHWD has a proposed budget of $5,000 for public relations purposes.

5.2.2.8 DMM 8: School Education

QHWD continues to work with the school districts to promote water conservation and other resource efficiencies at school facilities and to educate students about these issues. As part of the commercial/industrial/institutional water conservation programs, all new public school toilets, urinals, showerheads, and faucet aerators will utilize ultra-low flow models. QHWD continually works with the school districts to complete retrofits of school and facilities and playground irrigation systems and provides educational materials for several grade levels, State and County water system maps, posters, workbooks, interactive computer software, videos, tours, and sponsors WET training, science fairs, and water conservation contests. To date, QHWD has not presented to any classes.

To measure the effectiveness of this DMM, QHWD will continue to survey the institutions and educators on the number of programs, materials and attendance at water conservation activities. No additional budget has been allotted for this DMM.

5.2.2.9 DMM 9: Conservation programs for commercial, industrial, and institutional account

For the last several years, QHWD has provided water use audits to any customer who so requested. QHWD utilizes a database program to identify the top 10 percent of the commercial customers and the top 20 percent of the industrial and institutional customers. These high demand customers are contacted by letter and with follow up telephone calls to offer audits.

QHWD will continue to implement this DMM at the annual target rate for at least the next five years. At this time, additional budget has been allotted for this DMM.

5.2.2.10 DMM 10: Wholesale Agency Programs

QHWD is not a wholesale agency and thus this DMM is not applicable.

5.2.2.11 DMM 11: Conservation Pricing

In 2008 QHWD introduced conservation rate structures for all residential accounts, as detailed in DMM 4. Since implementing this system, QHWD has seen a decrease in water usage and the staff at QHWD is trying to see if the rate structure is correlated in any way.

QHWD will continue to monitor the number of violators who use water in excess of their established allotment. The incentive of this DMM is to decrease the customers' water costs for those that conserve and create a price incentive to conserve.

5.2.2.12 DMM 12: Water Conservation Coordinator

QHWD has designated one full-time WCC in 2002. One staff person (who works 30 percent on water conservation) and part time staff who coordinate the landscape programs provide additional support to the WCC.

QHWD will continue to survey the institutions and educators on the number of programs, materials and attendance at water conservation activities in order to measure the DMMs effectiveness.

5.2.2.13 DMM 13: Water Waste Prohibition

QHWD has enacted a "No Waste" ordinance. Enforcement includes the "gutter flooder" patrol to educate customers, and if necessary, issue warnings and citations for violations. See Appendix F for the "No Waste" Ordinance and information on regulations, restrictions and enforcement.

As a method to measure efficiency, QHWD will monitor the number of annual violations.

5.2.2.14 DMM 14: Ultra low-flush toilets replacement program

QHWD established a high visibility ultra-low flush toilet replacement program in 2001and plans to continue the DMM until at least 80 percent of all non-conserving and low-flush model toilets have been replaced. QHWD has continued to offer this rebate to all of their customers that adds up to $50.00 per toilet.

All public facilities in the QHWD will also eventually have ULFTs, urinals, showerheads, and self-closing faucets. Funding for replacement programs will come in part from the Demand Offset Program, where new development provides funds to improve the water use efficiency of existing customers.

QHWD will continue to offer rebates to customers, will establish a direct installation program, and will provide rebates for toilets and urinals for installation at public facilities including schools, libraries, and fire department facilities.

Projected total annual water savings from toilet retrofits at full implementation has yet to be determined, however water conserved in ULFT replacement programs have been shown to be 1.9 to 5.4 gallons of water savings per flush per toilet which equates to 12 to 45 gallons per replacement per day. Assuming 20 replacements a year, the minimum annual water savings from this DMM is approximately 0.27 AFY (20 * 12 gpd *365 days/325,075 gals per AF).

To measure effectiveness, QHWD will calculate annual ULFT replacement program water savings to confirm the savings are within 10 percent of calculated retrofit-on-resale water savings, using the CUWCC MOU Exhibit 6 methodology and water savings estimates. Exhibit 6 has become an industry standard for evaluation of ULFT replacement programs.

5.3 Summary of Conservation

Through the implementation of the existing DMMs and SB X7-7 requiring all water suppliers to reduce per capita urban water use, a reduction of 10 percent in average water use is expected by 2015 and 20 percent by 2020 for the Study Area. However, it is difficult to determine actual water savings since most conservation measures are voluntary. Typically when a shortage occurs, water customers increase their awareness of water usage and voluntarily reduce water demand even more to avoid water rationing. The 20 percent reduction target from the proposed baseline has already been achieved within the Study Area, as shown in Section 8.

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Section 6

Recycled Water Plan

Section 6: Recycled Water Plan

6.1 Recycled Water Supplies

The Antelope Valley is faced with significant challenges with respect to management of water resources in the region. Recycled water helps address the Antelope Valley's need for increased water supplies by offsetting existing potable demands and promoting beneficial reuse of treated wastewater, such as using recycled water for groundwater replenishment. Efforts are currently underway to develop a regional recycled water distribution system in the Antelope Valley, also known as the AV Backbone. Due to the size and scope of the project, it is a multi-agency, multi-jurisdictional project that will be implemented collectively to serve the Study Area. Recycled water supplies are also addressed in the 2007 AVIRWMP (pages 3-17 through 3-20).

6.1.1 Source Characteristics and Quality

Lancaster Water Reclamation Plant (LWRP), Palmdale Water Reclamation Plant (PWRP) and Rosamond Wastewater Treatment Plant (RWWTP) are the wastewater treatment plants serving the Study Area. These three plants currently provide primarily secondary[2] treated recycled water. A small percentage of wastewater is treated to a tertiary[3] level at the LWRP through two additional onsite facilities, known as the Antelope Valley Tertiary Treatment Plant (AVTTP) and the Membrane Bioreactor (MBR) Plant, which provides the only tertiary treated recycled water currently available in the Study Area. However, on-going construction at each of the three treatment plants will allow for additional tertiary treated recycled water to be produced. A description of each of the three treatment plants that may provide recycled water to the Study Area is provided below.

6.1.1.1 LWRP

The LWRP, built in 1959, is located north of the City of Lancaster and is owned and operated by the County Sanitation District No. 14 of Los Angeles County (Sanitation District No. 14). The plant's service area includes most of the City of Lancaster, parts of the neighboring City of Palmdale, and unincorporated areas of Los Angeles County. The LWRP currently has a design capacity to treat 17 mgd of wastewater to a secondary level. Approximately 0.6 mgd of secondary effluent may undergo further tertiary treatment at the Antelope Valley Tertiary Treatment Plant (AVTTP) and approximately 1 mgd of primary effluent may receive secondary and tertiary treatment at the Membrane Bioreactor (MBR) Plant. In 2010, LWRP produced an average of 10.4 mgd of secondary treated recycled water and 1.1 mgd of tertiary treated recycled water. Uses of the recycled water produced at the LWRP include: various M&I uses, agricultural irrigation, recreational impoundments at Apollo Community Regional Park, maintenance of marsh-like habitat at Piute Ponds on Edwards Air Force Base, and in-plant uses. Sanitation District No. 14 is currently upgrading the existing LWRP to have a secondary and tertiary treatment capacity of 18 mgd.

6.1.1.2 PWRP

The PWRP, built in 1953 and located on two sites adjacent to the City of Palmdale, is owned, operated, and maintained by the County Sanitation District No. 20 of Los Angeles County

[2] Secondary treatment means recycled water that meets secondary standards, including water quality, as defined in the California Code of Regulations Title 22.

[3] Tertiary treatment means recycled water that meets tertiary standards, including water quality, as defined in the California Code of Regulations Title 22.

(Sanitation District No. 20). PWRP, which has a secondary treatment capacity of 15 mgd, produced 8.3 mgd of secondary treated recycled water in 2010. Uses of the recycled water produced at the PWRP include agricultural and landscape irrigation and in-plant uses.

The Regional Board has required that Sanitation District No. 20 prevent the discharge of nitrogenous compounds to the groundwater at levels that violate the water quality objectives identified in the 1994 Water Quality Control Plan for the Lahontan Region (1994 Basin Plan). In response, Sanitation District No. 20 is currently upgrading the PWRP to include nitrification-denitrification process treatment for a tertiary treatment capacity of 12 mgd. The tertiary treated recycled water produced at the PWRP after completion of these upgrades will be used for various M&I uses, agricultural irrigation, and in-plant uses.

6.1.2 Availability of Supply

For the purpose of this study, historic recycled water flows were provided by Sanitation District Nos. 14 and 20 to predict the amount of recycled water anticipated in the Study Area. These projections are for tertiary treated water only and are determined from the applicable recycled water producer's Annual Monitoring Report. These projections take into consideration the recycled water that has been committed to users outside of the Study Area (e.g., Piute Ponds and Apollo Community Regional Park). Table 6-1 provides a summary of the projected available recycled water to the Study Area through 2035. However, the volume of recycled water produced at the LWRP and PWRP will be dependent on the level of growth that occurs in the Study Area. If the population and land use projections provided by the Cities of Lancaster and Palmdale materialize, the amount of recycled water available will be significantly greater than the numbers presented in Table 6-1.

TABLE 6-1: RECYCLED WATER AVAILABILITY TO STUDY AREA 2010 – 2035

	2010	2015	2020	2025	2030	2035
LWRP[(a)] (mgd)	1.1	11.5	12.9	14.0	15.3	16.7
PWRP[(b)] (mgd)	0.0	10.1	10.5	10.9	11.2	11.6
Study Area (mgd)	**1.1**	**21.6**	**23.4**	**24.9**	**26.5**	**28.3**
Study Area (AFY)	**1,200**	**24,200**	**26,200**	**27,900**	**29,700**	**31,700**

Note:
(a) Extrapolated using historical flows from 2000 to 2010 listed in LWRP Annual Monitoring Reports and excludes estimated demand at the Piute Ponds and Apollo Regional Community Park.
(b) Extrapolated using historical flows from 2000 to 2010 listed in PWRP Annual Monitoring Reports.

Note that the total recycled water projected to be produced in the Antelope Valley area in 2035 is 31,700 AF. Table 4-8 projects that the water demand in the Study Area in 2035 could be 141,000 AF. Given this demand, it is conservative to assume approximately 20 percent of the potable supply could potentially be treated and reused as recycled water. This is a conservative estimate since most likely a larger percentage of new development will connect to a regional sewer system.

Although Table 6-1 provides the projected volumes of recycled water available, actual delivery of recycled water by the purveyors to reuse sites will be limited to demand and implementation of the AV Backbone. Table 6-2 provides the projections of recycled water demand for an average water year. The projections are based on a recycled water market assessment and are generally for M&I recycled water uses. District No. 40 recycled water demands were determined with the inclusion of the Cities of Lancaster and Palmdale demands, as detailed in

the 2006 report, "Final Facilities Planning Report, Antelope Valley Recycled Water Project" (2006 Recycled Water Facilities Plan) prepared for District No. 40. Although no specific users have been identified for QHWD, the agency plans on connecting to the AV Backbone system in the future and using recycled water in-lieu of groundwater pumping. Use of recycled water would be encouraged through the use of financial incentives (i.e., recycled water would be available at a lower cost than the existing potable water supply). Table 6-3 indicates the 2005 Integrated UWMP projected recycled water use for 2010 and compares it to what was actually utilized in 2010.

TABLE 6-2: PROJECTED FUTURE USE OF RECYCLED WATER IN THE STUDY AREA BASED ON THE 2006 RECYCLED WATER FACILTIES PLAN (AF)

	2015	2020	2025	2030	2035
District No. 40	5,400	8,200	10,900	13,600	16,300
QHWD	-	-	-	-	-
Study Area Total Recycled Water Demand	**5,400**	**8,200**	**10,900**	**13,600**	**16,300**

Note:
These projections are based on the 2006 Recycled Water Facilities Plan and do not include the new projected demand associated with the proposed lands uses for the Study Area as shown in Table 6-4.

TABLE 6-3: 2005 INTEGRATED UWMP RECYCLED WATER USE COMPARED TO 2010 ACTUAL IN THE STUDY AREA (AF)

Water Purveyor	2010 Actual Use	2005 Projection for 2010
District No. 40	0	2,700
QHWD	-	-
Study Area Total Recycled Water Demand	0	**2,700**

In addition to the demands identified in the 2006 Recycled Water Facilities Plan, a significant portion of the projected demands for the Study Area based on the land use projections and General Plans of the Cities of Lancaster and Palmdale could potentially be served by recycled water. As the potable water demand increases in the Antelope Valley, the amount of wastewater produced is also anticipated to increase. When this occurs, a significant portion of the industrial development within both cities is projected to occur near the alignment of the AV Backbone. Table 6-4 identifies the amount of new demand associated with industrial development and beyond what is projected in Section 4 of the IRUWMP and what is identified in the 2006 Recycled Water Facilities Plan that could be served by recycled water if it is available. However, if sufficient recycled water is not available to serve these industrial developments, additional potable supplies would have to be acquired in order for these developments to occur.

TABLE 6-4: RECYCLED WATER – POTENTIAL FUTURE USES

	2015	2020	2025	2030	2035
Agricultural Irrigation	-	-	-	-	-
Landscape Irrigation	-	-	-	-	-
Commercial Irrigation	-	-	-	-	-
Golf Course Irrigation	-	-	-	-	-
Industrial Reuse*	19,300	22,300	25,300	27,800	31,000
Groundwater Recharge	-	-	-	-	-
Indirect Potable Reuse	-	-	-	-	-
Wildlife Habitat	-	-	-	-	-
Total	**19,300**	**22,300**	**25,300**	**27,800**	**31,000**

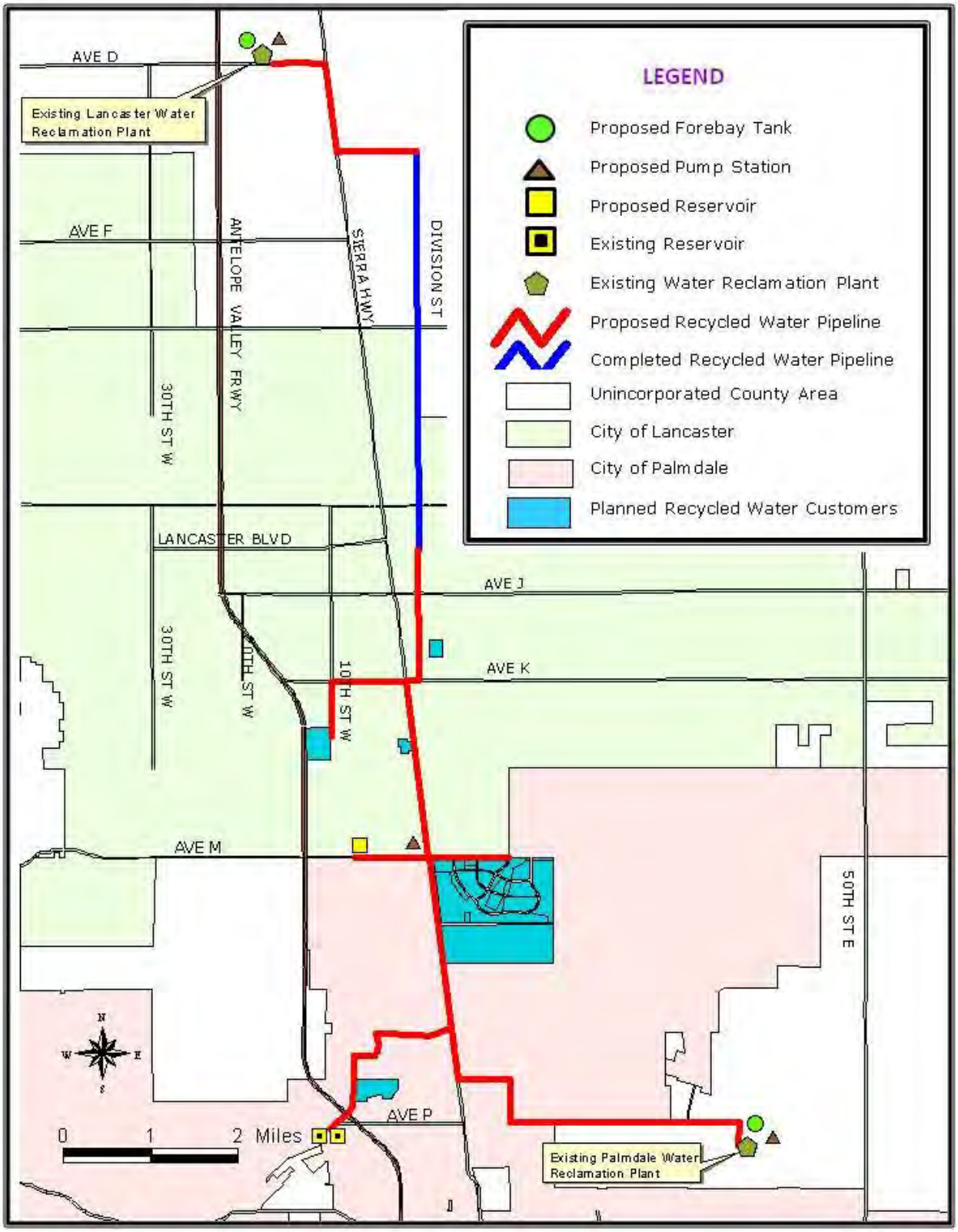
Note:

*Based on the new projected demand (beyond the identified uses in the 2006 Recycled Water Facilities Plan) associated with the proposed land uses for the Antelope Valley area for recycled water, if the AV Backbone is available to deliver recycled water to all reuse sites.

6.1.3 AV Backbone Recycled Water Facilities

The AV Backbone will provide the necessary distribution infrastructure to convey recycled water to users and thereby offset potable water demands in the Antelope Valley. The AV Backbone will be constructed in phases to serve the Cities of Lancaster and Palmdale and the surrounding unincorporated communities of Los Angeles County, as shown in Figure 6-1. Future phases of the AV Backbone are subject to modification and will be developed in accordance with regional goals as demand and funding are identified. In 2009, the City of Lancaster completed the first phase of the AV Backbone, constructing a recycled water pipeline along Division Street, from Avenue E to Lancaster Boulevard, with funding assistance from District No. 40. The City of Lancaster is currently working with the Army Corps of Engineers to extend the pipeline of AV Backbone further south along Division Street to Avenue K; along Avenue K from Division Street to 10th Street West; and along Sierra Highway from Avenue K to Avenue M. In addition, District No. 40 is working with the City of Palmdale to design and construct a portion of the pipeline, including storage and pumping facilities, to connect the PWRP with Lancaster's pipeline at Sierra Highway and Avenue M. Once these AV Backbone phases and recycled water deliveries are implemented, monies from a settlement agreement between Sanitation District Nos. 14 and 20 and the Regional Board will be available to partly reimburse these efforts. As future funding sources are identified, the AV Backbone will be connected to the LWRP. Once the northern and southern portions of the AV Backbone are linked and the LWRP and the PWRP are both connected to the system, the AV Backbone will have the redundancy necessary to ensure a reliable source of supply, so that the recycled water service area can expand to serve additional recycled water demands.

FIGURE 6-1: PROPOSED RECYCLED WATER BACKBONE SYSTEM



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Section 7

Water Service Reliability Planning

Section 7: Water Service Reliability Planning

This section provides a discussion of the reliability of the water supply within the Antelope Valley. A comparison between the water supply and demand for an average water year, single dry water year, and multiple dry water years is also provided. Water supply reliability is also discussed in the 2007 AVIRWMP (Chapter 3). The groundwater rights adjudication process is underway for the Basin; however it has not been concluded. Nothing in this IRUWMP shall be interpreted to interfere in any way with the court adjudication of groundwater rights or related settlement negotiations. All tables in Section 7 reflect projected groundwater pumping estimates provided by each water purveyor. The groundwater pumping projections are not agreed-upon values by the water purveyors, and each water purveyor understands these projections are estimates subject to change. These estimates do not necessarily reflect the maximum pumping capacity of each water purveyor.

7.1 Reliability

Reliability is "how much one can count on a certain amount of water being delivered to a specific place at a specific time" and depends on the availability of water from the source, availability of the means of conveyance and level and pattern of water demand at the place of delivery.

7.2 Water Quality Impacts on Availability of Supply

Groundwater quality and imported water quality has been addressed in the 2007 AVIRWMP (pages 2-15, 3-42 through 3-45). Any change in water supply is not dependent on water quality, but on the SWP deliveries and local drought conditions. Therefore, there is no water quality impacts projected.

7.3 Reliability Comparison

As required by the UWMPA, a comparison of water supply and demand for an average water year, single dry water year, and multiple dry water years should be present from 2015 to 2035 in five-year increments.

7.3.1 Average Water Year Assessment

Table 7-1 provides a summary of the average water year reliability for each of the water purveyors in the Study Area as a whole. As discussed in Section 2, the overall delivery of SWP water was estimated to be 48 percent of AVEK's Table A Amount available to the Study Area. Assuming the availability of groundwater remains the same as indicated in the tables, Table 7-1 indicates District No. 40 requires new water supplies in order to meet any of its new projected demand. These supplies are anticipated to be acquired using the New Water Supply Fee (Developer Fee) described in Section 3.3. Although the existing supplies for District No. 40 are shown to be slightly higher than the existing and committed demand, District No. 40 has already received requests to serve proposed developments that require more than the small surplus of supply. QHWD will need to implement new water supplies by 2030 in order to meet demand during an average water year.

Demand estimates are based on the land use or population projection developed in Section 4. The sufficiency of each water purveyor's supplies to meet demand is dependent on the final results of the adjudication process.

7.3.2 Single Dry Year Water Assessment

Table 7-2 provides a summary of the single dry water year reliability for each of the water purveyors and the Study Area as a whole. Overall SWP water delivery was estimated to be available at 7 to 11 percent (as determined by DWR's Reliability Report) of AVEK's Table A Amount available to the Study Area. Demand estimates are based on the land use or population projection developed in Section 4.

As shown by the comparison, each water purveyor will have sufficient supply to meet the increasing demand through 2035 with implementation of the new planned water supplies and assuming the availability of groundwater remains the same as indicated in the tables. Tables 7-1 through 7-7 reflects projected groundwater pumping as well as the new planned water supplies as identified and discussed in Sections 2 and 3, respectively. Upon adjudication of the Basin, it is anticipated that each water retailer will be able to save credits for not fully utilizing its adjudicated groundwater right in a given year, thus saving unused groundwater for use when SWP supply is limited or interrupted.

7.3.3 Multiple Dry Year Assessment

Tables 7-3 through 7-7 provide a summary of the multiple dry water year reliability for each of the water purveyors and the Study Area as a whole. Each table presents a five year period of supply and demand (e.g., Table 7-3 presents data for years 2011 to 2015, Table 7-4 presents data for years 2016 to 2020, etc.). For all cases, overall delivery of SWP water was estimated to be available at 34 to 36 percent (as determined by DWR's Reliability Report) of AVEK's Table A Amount available to the Study Area. Demand estimates are based on the land use or population projection developed in Section 4.

As shown by the comparison, each water purveyor will have sufficient supply to the increasing demand through 2035 with the implementation of the new planned water supplies, assuming the availability of groundwater remains the same as indicated in the tables.

TABLE 7-1: AVERAGE WATER YEAR ASSESSMENT

District No. 40	**2015**	**2020[1]**	**2025**	**2030**	**2035**
Demand					
Existing Demand	59,800	53,000	53,000	53,000	53,000
Committed Demand	20,600	20,600	20,600	20,600	20,600
Projected Demand	11,500	22,900	34,400	45,800	57,200
Total Demand	91,900	96,500	108,000	119,400	130,800
Existing Water Supplies					
Groundwater	23,200	23,200	23,200	23,200	23,200
Imported water	61,000	61,000	61,000	61,000	61,000
Total Existing Supply	84,200	84,200	84,200	84,200	84,200
Difference (supply minus demand)	(7,700)	(12,300)	(23,800)	(35,200)	(46,600)
Difference as Percent of Supply	(9)	(15)	(28)	(42)	(55)
Difference as Percent of Demand	(8)	(13)	(22)	(29)	(36)
Planned Water Supplies					
Groundwater Banking	-	-	-	-	-
Anticipated New Supplies (Developer Fee)	2,300	4,100	12,900	21,600	30,300
Recycled Water	5,400	8,200	10,900	13,600	16,300
Total Planned Supply	7,700	12,300	23,800	35,200	46,600
Total Existing and Planned Supplies	91,900	96,500	108,000	119,400	130,800
Difference (supply minus demand)	0	0	0	0	0
Difference as Percent of Supply	0	0	0	0	0
Difference as Percent of Demand	0	0	0	0	0

Note:
(1) Demand projections beginning in 2020 reflect the SB X7-7 mandates

QHWD	2015	2020[1]	2025	2030	2035
Demand	6,500	7,400	8,300	9,300	10,200
Existing Water Supplies					
Groundwater	2,500	2,500	2,500	2,500	2,500
Imported water	6,800	6,800	6,800	6,800	6,800
Total Existing Supply	9,300	9,300	9,300	9,300	9,300
Difference (supply minus demand)	2,800	1,900	1,000	0	(900)
Difference as Percent of Supply	30	20	11	0	(10)
Difference as Percent of Demand	43	26	12	0	(9)
Planned Water Supplies					
Groundwater Banking	-	-	-	-	-
Anticipated New Supplies (Developer Fee)	-	-	-	-	900
Recycled Water	-	-	-	-	-
Total Planned Supply	-	-	-	-	900
Total Existing and Planned Supplies	9,300	9,300	9,300	9,300	10,200
Difference (supply minus demand)	2,800	1,900	1,000	0	0
Difference as Percent of Supply	30	20	11	0	0
Difference as Percent of Demand	43	26	12	0	0

Study Area	2015	2020[1]	2025	2030	2035
Demand	98,400	103,900	116,300	128,700	141,000
Existing Water Supplies					
Groundwater	25,700	25,700	25,700	25,700	25,700
Imported water	67,800	67,800	67,800	67,800	67,800
Total Existing Supply	93,500	93,500	93,500	93,500	93,500
Difference (supply minus demand)	(4,900)	(10,400)	(22,800)	(35,200)	(47,500)
Difference as Percent of Supply	(5)	(11)	(24)	(38)	(51)
Difference as Percent of Demand	(5)	(10)	(20)	(27)	(34)
Planned Water Supplies					
Groundwater Banking	-	-	-	-	-
Anticipated New Supplies (Developer Fee)	2,300	4,100	12,900	21,600	31,200
Recycled Water	5,400	8,200	10,900	13,600	16,300
Total Planned Supply	7,700	12,300	23,800	35,200	47,500
Total Existing and Planned Supplies	101,200	105,800	117,300	128,700	141,000
Difference (supply minus demand)	2,800	1,900	1,000	0	0
Difference as Percent of Supply	3	2	1	0	0
Difference as Percent of Demand	3	2	1	0	0

TABLE 7-2: SINGLE DRY WATER YEAR ASSESSMENT

District No. 40	2015	2020 (1)	2025	2030	2035
Demand					
Existing Demand	59,800	53,000	53,000	53,000	53,000
Committed Demand	20,600	20,600	20,600	20,600	20,600
Projected Demand	11,500	22,900	34,400	45,800	57,200
Total Demand	91,900	96,500	108,000	119,400	130,800
Existing Water Supplies					
Groundwater	23,200	23,200	23,200	23,200	23,200
Imported water	8,200	9,200	10,200	11,200	11,200
Total Existing Supply	31,400	32,400	33,400	34,400	34,400
Difference (supply minus demand)	(60,500)	(64,100)	(74,600)	(85,000)	(96,400)
Difference as Percent of Supply	(193)	(198)	(223)	(247)	(280)
Difference as Percent of Demand	(66)	(66)	(69)	(71)	(74)
Planned Water Supplies					
Groundwater Banking	54,800	55,300	61,500	67,400	74,500
Anticipated New Supplies (Developer Fee)	300	600	2,200	4,000	5,600
Recycled Water	5,400	8,200	10,900	13,600	16,300
Total Planned Supply	60,500	64,100	74,600	85,000	96,400
Total Existing and Planned Supplies	91,900	96,500	108,000	119,400	130,800
Difference (supply minus demand)	0	0	0	0	0
Difference as Percent of Supply	0	0	0	0	0
Difference as Percent of Demand	0	0	0	0	0

Note:
(1) Demand projections beginning in 2020 reflect the SB X7-7 mandates

QHWD	2015	2020[1]	2025	2030	2035
Demand	6,500	7,400	8,000	9,300	10,000
Existing Water Supplies					
Groundwater	2,500	2,500	2,500	2,500	2,500
Imported water	900	1,000	1,100	1,300	1,300
Total Existing Supply	3,400	3,500	3,600	3,800	3,800
Difference (supply minus demand)	(3,100)	(3,900)	(4,400)	(5,500)	(6,200)
Difference as Percent of Supply	(91)	(111)	(122)	(145)	(163)
Difference as Percent of Demand	(48)	(53)	(55)	(59)	(62)
Planned Water Supplies					
Groundwater Banking	3,100	3,900	4,400	5,200	5,400
Anticipated New Supplies (Developer Fee)	-	-	-	-	200
Recycled Water	-	-	-	300	600
Total Planned Supply	3,100	3,900	4,400	5,500	6,200
Total Existing and Planned Supplies	6,500	7,400	8,000	9,300	10,000
Difference (supply minus demand)	0	0	0	0	0
Difference as Percent of Supply	0	0	0	0	0
Difference as Percent of Demand	0	0	0	0	0

Study Area	2015	2020[1]	2025	2030	2035
Demand	98,400	103,900	116,000	128,700	140,800
Existing Water Supplies					
Groundwater	25,700	25,700	25,700	25,700	25,700
Imported water	9,100	10,200	11,300	12,500	12,500
Total Existing Supply	34,800	35,900	37,000	38,200	38,200
Difference (supply minus demand)	(63,600)	(68,000)	(79,000)	(90,500)	(102,600)
Difference as Percent of Supply	(183)	(189)	(214)	(237)	(269)
Difference as Percent of Demand	(65)	(65)	(68)	(70)	(73)
Planned Water Supplies					
Groundwater Banking	57,900	59,200	65,900	72,600	79,900
Anticipated New Supplies (Developer Fee)	300	600	2,200	4,000	5,800
Recycled Water	5,400	8,200	10,900	13,900	16,900
Total Planned Supply	63,600	68,000	79,000	90,500	102,600
Total Existing and Planned Supplies	98,400	103,900	116,000	128,700	140,800
Difference (supply minus demand)	0	0	0	0	0
Difference as Percent of Supply	0	0	0	0	0
Difference as Percent of Demand	0	0	0	0	0

TABLE 7-3: MULTI-DRY WATER YEAR ASSESSMENT 2011-2015

District No. 40	**2011**	**2012**	**2013**	**2014**	**2015**
Demand					
Existing Demand	59,800	59,800	59,800	59,800	59,800
Committed Demand	20,600	20,600	20,600	20,600	20,600
Projected Demand	2,300	4,600	6,900	9,200	11,500
Total Demand	82,700	85,000	87,300	89,600	91,900
Existing Water Supplies					
Groundwater	23,200	23,200	23,200	23,200	23,200
Imported water	34,600	34,600	34,600	34,600	35,600
Total Existing Supply	57,800	57,800	57,800	57,800	58,800
Difference (supply minus demand)	(24,900)	(27,200)	(29,500)	(31,800)	(33,100)
Difference as Percent of Supply	(43)	(47)	(51)	(55)	(56)
Difference as Percent of Demand	(30)	(32)	(34)	(35)	(36)
Planned Water Supplies					
Groundwater Banking	23,600	25,900	28,200	30,500	26,400
Anticipated New Supplies (Developer Fee)	1,300	1,300	1,300	1,300	1,300
Recycled Water	-	-	-	-	5,400
Total Planned Supply	24,900	27,200	29,500	31,800	33,100
Total Existing and Planned Supplies	82,700	85,000	87,300	89,600	91,900
Difference (supply minus demand)	0	0	0	0	0
Difference as Percent of Supply	0	0	0	0	0
Difference as Percent of Demand	0	0	0	0	0

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QHWD	2011	2012	2013	2014	2015
Demand	5,700	5,900	6,000	6,300	6,500
Existing Water Supplies					
Groundwater	2,500	2,500	2,500	2,500	2,500
Imported water	3,900	3,900	3,900	3,900	3,900
Total Existing Supply	6,400	6,400	6,400	6,400	6,400
Difference (supply minus demand)	700	500	400	100	(100)
Difference as Percent of Supply	11	8	6	2	(2)
Difference as Percent of Demand	12	8	7	2	(2)
Planned Water Supplies					
Groundwater Banking	-	-	-	-	100
Anticipated New Supplies (Developer Fee)	-	-	-	-	-
Recycled Water	-	-	-	-	-
Total Planned Supply	-	-	-	-	100
Total Existing and Planned Supplies	6,400	6,400	6,400	6,400	6,500
Difference (supply minus demand)	700	500	400	100	0
Difference as Percent of Supply	11	8	6	2	0
Difference as Percent of Demand	12	8	7	2	0

Study Area	2011	2012	2013	2014	2015
Demand	88,400	90,900	93,300	95,900	98,400
Existing Water Supplies					
Groundwater	25,700	25,700	25,700	25,700	25,700
Imported water	38,500	38,500	38,500	38,500	39,500
Total Existing Supply	64,200	64,200	64,200	64,200	65,200
Difference (supply minus demand)	(24,200)	(26,700)	(29,100)	(31,700)	(33,200)
Difference as Percent of Supply	(38)	(42)	(45)	(49)	(51)
Difference as Percent of Demand	(27)	(29)	(31)	(33)	(34)
Planned Water Supplies					
Groundwater Banking	23,600	25,900	28,200	30,500	26,400
Anticipated New Supplies (Developer Fee)	1,300	1,300	1,300	1,300	1,800
Recycled Water	-	-	-	-	5,400
Total Planned Supply	24,900	27,200	29,500	31,800	33,600
Total Existing and Planned Supplies	89,100	91,400	93,700	96,000	98,800
Difference (supply minus demand)	700	500	400	100	400
Difference as Percent of Supply	1	1	0	0	0
Difference as Percent of Demand	1	1	0	0	0

TABLE 7-4: MULTI-DRY WATER YEAR ASSESSMENT 2016-2020

District No. 40	2016	2017	2018	2019	2020[1]
Demand					
Existing Demand	59,800	59,800	59,800	59,800	53,000
Committed Demand	20,600	20,600	20,600	20,600	20,600
Projected Demand	13,800	16,000	18,300	20,600	22,900
Total Demand	94,200	96,400	98,700	101,000	96,500
Existing Water Supplies					
Groundwater	23,200	23,200	23,200	23,200	23,200
Imported water	35,600	35,600	35,600	35,600	35,600
Total Existing Supply	58,800	58,800	58,800	58,800	58,800
Difference (supply minus demand)	(35,400)	(37,600)	(39,900)	(42,200)	(37,700)
Difference as Percent of Supply	(60)	(64)	(68)	(72)	(64)
Difference as Percent of Demand	(38)	(39)	(40)	(42)	(39)
Planned Water Supplies					
Groundwater Banking	27,800	29,300	30,800	32,400	27,100
Anticipated New Supplies (Developer Fee)	1,600	1,800	2,000	2,200	2,400
Recycled Water	6,000	6,500	7,100	7,600	8,200
Total Planned Supply	35,400	37,600	39,900	42,200	37,700
Total Existing and Planned Supplies	94,200	96,400	98,700	101,000	96,500
Difference (supply minus demand)	0	0	0	0	0
Difference as Percent of Supply	0	0	0	0	0
Difference as Percent of Demand	0	0	0	0	0

Note:
(1) Demand projections beginning in 2020 reflect the SB X7-7 mandates

QHWD	2016	2017	2018	2019	2020[1]
Demand	6,600	6,800	7,000	7,200	7,400
Existing Water Supplies					
Groundwater	2,500	2,500	2,500	2,500	2,500
Imported water	3,900	3,900	3,900	4,000	4,000
Total Existing Supply	6,400	6,400	6,400	6,500	6,500
Difference (supply minus demand)	(200)	(400)	(600)	(700)	(900)
Difference as Percent of Supply	(3)	(6)	(9)	(11)	(14)
Difference as Percent of Demand	(3)	(6)	(9)	(10)	(12)
Planned Water Supplies					
Groundwater Banking	200	400	600	700	900
Anticipated New Supplies (Developer Fee)	-	-	-	-	-
Recycled Water	-	-	-	-	-
Total Planned Supply	200	400	600	700	900
Total Existing and Planned Supplies	6,600	6,800	7,000	7,200	7,400
Difference (supply minus demand)	0	0	0	0	0
Difference as Percent of Supply	0	0	0	0	0
Difference as Percent of Demand	0	0	0	0	0

Study Area	2016	2017	2018	2019	2020[1]
Demand	100,800	103,200	105,700	108,200	103,900
Existing Water Supplies					
Groundwater	25,700	25,700	25,700	25,700	25,700
Imported water	39,500	39,500	39,500	39,600	39,600
Total Existing Supply	65,200	65,200	65,200	65,300	65,300
Difference (supply minus demand)	(35,600)	(38,000)	(40,500)	(42,900)	(38,600)
Difference as Percent of Supply	(55)	(58)	(62)	(66)	(59)
Difference as Percent of Demand	(35)	(37)	(38)	(40)	(37)
Planned Water Supplies					
Groundwater Banking	28,000	29,700	31,400	33,100	28,000
Anticipated New Supplies (Developer Fee)	1,600	1,800	2,000	2,200	2,400
Recycled Water	6,000	6,500	7,100	7,600	8,200
Total Planned Supply	35,600	38,000	40,500	42,900	38,600
Total Existing and Planned Supplies	100,800	103,200	105,700	108,200	103,900
Difference (supply minus demand)	0	0	0	0	0
Difference as Percent of Supply	0	0	0	0	0
Difference as Percent of Demand	0	0	0	0	0

TABLE 7-5: MULTI-DRY WATER YEAR ASSESSMENT 2021-2025

District No. 40	**2021**	**2022**	**2023**	**2024**	**2025**
Demand					
Existing Demand	53,000	53,000	53,000	53,000	53,000
Committed Demand	20,600	20,600	20,600	20,600	20,600
Projected Demand	25,200	27,500	29,800	32,100	34,400
Total Demand	98,800	101,100	103,400	105,700	108,000
Existing Water Supplies					
Groundwater	23,200	23,200	23,200	23,200	23,200
Imported water	35,600	35,600	35,600	36,700	36,700
Total Existing Supply	58,800	58,800	58,800	59,900	59,900
Difference (supply minus demand)	(40,000)	(42,300)	(44,600)	(45,800)	(48,100)
Difference as Percent of Supply	(68)	(72)	(76)	(76)	(80)
Difference as Percent of Demand	(40)	(42)	(43)	(43)	(45)
Planned Water Supplies					
Groundwater Banking	27,900	28,600	29,300	28,800	29,500
Anticipated New Supplies (Developer Fee)	3,400	4,500	5,500	6,700	7,700
Recycled Water	8,700	9,200	9,800	10,300	10,900
Total Planned Supply	40,000	42,300	44,600	45,800	48,100
Total Existing and Planned Supplies	98,800	101,100	103,400	105,700	108,000
Difference (supply minus demand)	0	0	0	0	0
Difference as Percent of Supply	0	0	0	0	0
Difference as Percent of Demand	0	0	0	0	0

QHWD	2021	2022	2023	2024	2025
Demand	7,600	7,800	8,000	8,100	8,300
Existing Water Supplies					
Groundwater	2,500	2,500	2,500	2,500	2,500
Imported water	4,000	4,000	4,000	4,000	4,000
Total Existing Supply	6,500	6,500	6,500	6,500	6,500
Difference (supply minus demand)	(1,100)	(1,300)	(1,500)	(1,600)	(1,800)
Difference as Percent of Supply	(17)	(20)	(23)	(25)	(28)
Difference as Percent of Demand	(14)	(17)	(19)	(20)	(22)
Planned Water Supplies					
Groundwater Banking	1,100	1,300	1,500	1,600	1,800
Anticipated New Supplies (Developer Fee)	-	-	-	-	-
Recycled Water	-	-	-	-	-
Total Planned Supply	1,100	1,300	1,500	1,600	1,800
Total Existing and Planned Supplies	7,600	7,800	8,000	8,100	8,300
Difference (supply minus demand)	0	0	0	0	0
Difference as Percent of Supply	0	0	0	0	0
Difference as Percent of Demand	0	0	0	0	0

Study Area	2021	2022	2023	2024	2025
Demand	106,400	108,900	111,400	113,800	116,300
Existing Water Supplies					
Groundwater	25,700	25,700	25,700	25,700	25,700
Imported water	39,600	39,600	39,600	40,700	40,700
Total Existing Supply	65,300	65,300	65,300	66,400	66,400
Difference (supply minus demand)	(41,100)	(43,600)	(46,100)	(47,400)	(49,900)
Difference as Percent of Supply	(63)	(67)	(71)	(71)	(75)
Difference as Percent of Demand	(39)	(40)	(41)	(42)	(43)
Planned Water Supplies					
Groundwater Banking	29,000	29,900	30,800	30,400	31,300
Anticipated New Supplies (Developer Fee)	3,400	4,500	5,500	6,700	7,700
Recycled Water	8,700	9,200	9,800	10,300	10,900
Total Planned Supply	41,100	43,600	46,100	47,400	49,900
Total Existing and Planned Supplies	106,400	108,900	111,400	113,800	116,300
Difference (supply minus demand)	0	0	0	0	0
Difference as Percent of Supply	0	0	0	0	0
Difference as Percent of Demand	0	0	0	0	0

TABLE 7-6: MULTI-DRY WATER YEAR ASSESSMENT 2026-2030

District No. 40	**2026**	**2027**	**2028**	**2029**	**2030**
Demand					
Existing Demand	53,000	53,000	53,000	53,000	53,000
Committed Demand	20,600	20,600	20,600	20,600	20,600
Projected Demand	36,600	38,900	41,200	43,500	45,800
Total Demand	110,200	112,500	114,800	117,100	119,400
Existing Water Supplies					
Groundwater	23,200	23,200	23,200	23,200	23,200
Imported water	36,700	36,700	36,700	36,700	36,700
Total Existing Supply	59,900	59,900	59,900	59,900	59,900
Difference (supply minus demand)	(50,300)	(52,600)	(54,900)	(57,200)	(59,500)
Difference as Percent of Supply	(84)	(88)	(92)	(95)	(99)
Difference as Percent of Demand	(46)	(47)	(48)	(49)	(50)
Planned Water Supplies					
Groundwater Banking	30,100	30,800	31,500	32,200	32,900
Anticipated New Supplies (Developer Fee)	8,800	9,800	10,900	11,900	13,000
Recycled Water	11,400	12,000	12,500	13,100	13,600
Total Planned Supply	50,300	52,600	54,900	57,200	59,500
Total Existing and Planned Supplies	110,200	112,500	114,800	117,100	119,400
Difference (supply minus demand)	0	0	0	0	0
Difference as Percent of Supply	0	0	0	0	0
Difference as Percent of Demand	0	0	0	0	0

QHWD	2026	2027	2028	2029	2030
Demand	8,500	8,700	8,900	9,000	9,300
Existing Water Supplies					
Groundwater	2,500	2,500	2,500	2,500	2,500
Imported water	4,000	4,100	4,100	4,100	4,100
Total Existing Supply	6,500	6,600	6,600	6,600	6,600
Difference (supply minus demand)	(2,000)	(2,100)	(2,300)	(2,400)	(2,700)
Difference as Percent of Supply	(31)	(32)	(35)	(36)	(41)
Difference as Percent of Demand	(24)	(24)	(26)	(27)	(29)
Planned Water Supplies					
Groundwater Banking	2,000	2,100	2,300	2,400	2,400
Anticipated New Supplies (Developer Fee)			-	-	-
Recycled Water	-	-	-	-	300
Total Planned Supply	2,000	2,100	2,300	2,400	2,700
Total Existing and Planned Supplies	8,500	8,700	8,900	9,000	9,300
Difference (supply minus demand)	0	0	0	0	0
Difference as Percent of Supply	0	0	0	0	0
Difference as Percent of Demand	0	0	0	0	0

Study Area	2026	2027	2028	2029	2030
Demand	118,700	121,200	123,700	126,100	128,700
Existing Water Supplies					
Groundwater	25,700	25,700	25,700	25,700	25,700
Imported water	40,700	40,800	40,800	40,800	40,800
Total Existing Supply	66,400	66,500	66,500	66,500	66,500
Difference (supply minus demand)	(52,300)	(54,700)	(57,200)	(59,600)	(62,200)
Difference as Percent of Supply	(79)	(82)	(86)	(90)	(94)
Difference as Percent of Demand	(44)	(45)	(46)	(47)	(48)
Planned Water Supplies					
Groundwater Banking	32,100	32,900	33,800	34,600	35,300
Anticipated New Supplies (Developer Fee)	8,800	9,800	10,900	11,900	13,000
Recycled Water	11,400	12,000	12,500	13,100	13,900
Total Planned Supply	52,300	54,700	57,200	59,600	62,200
Total Existing and Planned Supplies	118,700	121,200	123,700	126,100	128,700
Difference (supply minus demand)	0	0	0	0	0
Difference as Percent of Supply	0	0	0	0	0
Difference as Percent of Demand	0	0	0	0	0

TABLE 7-7: MULTI-DRY WATER YEAR ASSESSMENT 2031-2035

District No. 40	**2031**	**2032**	**2033**	**2034**	**2035**
Demand					
Existing Demand	53,000	53,000	53,000	53,000	53,000
Committed Demand	20,600	20,600	20,600	20,600	20,600
Projected Demand	48,100	50,400	52,700	55,000	57,200
Total Demand	121,700	124,000	126,300	128,600	130,800
Existing Water Supplies					
Groundwater	23,200	23,200	23,200	23,200	23,200
Imported water	36,700	36,700	36,700	36,700	36,700
Total Existing Supply	59,900	59,900	59,900	59,900	59,900
Difference (supply minus demand)	(61,800)	(64,100)	(66,400)	(68,700)	(70,900)
Difference as Percent of Supply	(103)	(107)	(111)	(115)	(118)
Difference as Percent of Demand	(51)	(52)	(53)	(53)	(54)
Planned Water Supplies					
Groundwater Banking	33,600	34,400	35,000	35,800	36,300
Anticipated New Supplies (Developer Fee)	14,000	15,000	16,100	17,100	18,200
Recycled Water	14,200	14,700	15,300	15,800	16,400
Total Planned Supply	61,800	64,100	66,400	68,700	70,900
Total Existing and Planned Supplies	121,700	124,000	126,300	128,600	130,800
Difference (supply minus demand)	0	0	0	0	0
Difference as Percent of Supply	0	0	0	0	0
Difference as Percent of Demand	0	0	0	0	0

QHWD	2031	2032	2033	2034	2035
Demand	9,500	9,700	9,800	10,000	10,300
Existing Water Supplies					
Groundwater	2,500	2,500	2,500	2,500	2,500
Imported water	4,100	4,100	4,100	4,100	4,100
Total Existing Supply	6,600	6,600	6,600	6,600	6,600
Difference (supply minus demand)	(2,900)	(3,100)	(3,200)	(3,400)	(3,700)
Difference as Percent of Supply	(44)	(47)	(48)	(52)	(56)
Difference as Percent of Demand	(31)	(32)	(33)	(34)	(36)
Planned Water Supplies					
Groundwater Banking	2,500	2,300	2,300	2,400	2,600
Anticipated New Supplies (Developer Fee)	100	200	300	400	500
Recycled Water	300	600	600	600	600
Total Planned Supply	2,900	3,100	3,200	3,400	3,700
Total Existing and Planned Supplies	9,500	9,700	9,800	10,000	10,300
Difference (supply minus demand)	0	0	0	0	0
Difference as Percent of Supply	0	0	0	0	0
Difference as Percent of Demand	0	0	0	0	0

Study Area	2031	2032	2033	2034	2035
Demand	131,200	133,700	136,100	138,600	141,100
Existing Water Supplies					
Groundwater	25,700	25,700	25,700	25,700	25,700
Imported water	40,800	40,800	40,800	40,800	40,800
Total Existing Supply	66,500	66,500	66,500	66,500	66,500
Difference (supply minus demand)	(64,700)	(67,200)	(69,600)	(72,100)	(74,600)
Difference as Percent of Supply	(97)	(101)	(105)	(108)	(112)
Difference as Percent of Demand	(49)	(50)	(51)	(52)	(53)
Planned Water Supplies					
Groundwater Banking	36,100	36,700	37,300	38,200	38,900
Anticipated New Supplies (Developer Fee)	14,100	15,200	16,400	17,500	18,700
Recycled Water	14,500	15,300	15,900	16,400	17,000
Total Planned Supply	64,700	67,200	69,600	72,100	74,600
Total Existing and Planned Supplies	131,200	133,700	136,100	138,600	141,100
Difference (supply minus demand)	0	0	0	0	0
Difference as Percent of Supply	0	0	0	0	0
Difference as Percent of Demand	0	0	0	0	0

Section 8

Per Capita Water Use Targets

Section 8: Per Capita Water Use Targets

8.1 Per Capita Water Use Target for SB X7-7 Reduction

The SB X7-7 is a legislative mandate that requires the State to achieve a 20 percent reduction in urban per capita water use in California by December 31, 2020, with an interim target of 10 percent reduction by December 31, 2015. The legislation requires every urban water purveyor to develop: 1) baseline daily per capita water use; 2) urban water use target; 3) interim urban water use target; and 4) compliance daily per capita water use.

8.1.1 Base Period Ranges

Tables 8-1 and 8-2 provide the base period ranges used to calculate base daily capita water use for each of the water purveyors. Each water purveyor identified their demand reduction targets for years 2015 and 2020 by utilizing DWR's Methodology 1. Methodology 1 is based on calculating 80 percent of the water purveyor's baseline per capita water use (i.e., a 20 percent reduction).

8.1.1.1 District No. 40

TABLE 8-1: DISTRICT NO. 40 BASE PERIOD RANGES (AF)

Base	Parameter	Value	Units
10 to 15-year base period	2008 total water deliveries	52,000	AF
	2008 total volume of delivered recycled water	0	AF
	2008 recycled water as a percent of total deliveries	0	percent
	Number of years in base period[1]	10	years
	Year beginning base period range	1995	
	Year ending base period range[2]	2004	

Note:

[1] If the 2008 recycled water percent is less than 10 percent, then the first base period is a continuous 10-year period. If the amount of recycled water delivered in 2008 is 10 percent or greater, the first year base period is a continuous 10- to 15-year period.

[2] The ending year must be between December 31, 2004 and December 31, 2010.

8.1.1.2 QHWD

TABLE 8-2: QHWD BASE PERIOD RANGES (AF)

Base	Parameter	Value	Units
10 to 15-year base period	2008 total water deliveries	6,498	AF
	2008 total volume of delivered recycled water	0	AF
	2008 recycled water as a percent of total deliveries	0	percent
	Number of years in base period[1]	10	years
	Year beginning base period range	1995	
	Year ending base period range[2]	2004	

Note:

[1] If the 2008 recycled water percent is less than 10 percent, then the first base period is a continuous 10-year period. If the amount of recycled water delivered in 2008 is 10 percent or greater, the first year base period is a continuous 10- to 15-year period.

[2] The ending year must be between December 31, 2004 and December 31, 2010.

8.1.2 Base Daily Per Capita Water Use

Tables 8-3 through 8-6 provide the base daily capita water use for a 10-year range and 5-year range for each of the water purveyors. The calculation is used to determine whether the water supplier's 2015 and 2020 per capita water use targets meet the legislation's minimum water use reductions. The target has to be either 80 percent of the 10-year baseline (ending no earlier than December 31, 2004, and no later than December 31, 2010) or 95 percent of the 5-year baseline (ending no earlier than December 31, 2007, and no later than December 31, 2010), whichever is more conservative. Each water purveyor already meets the proposed 20 percent reduction by 2020 based on their selected baseline periods. Water conservation methods will still be practiced as discussed in Section 5.

8.1.2.1 District No. 40

District No. 40 used Methodology 1 (10-year base period) to determine the urban water use target baseline of 353 gpcd. The urban water use 2020 target (20 percent reduction) is 282 gpcd. The interim (10 percent reduction) urban water use for the 2015 target is 318 gpcd. The annual average water use in 2009 was 262 gpcd, thus currently meeting the 2015 and 2020 target.

TABLE 8-3: DISTRICT NO. 40 BASE DAILY PER CAPITA WATER USE – 10-YEAR RANGE

Base period year*		Distribution system population	Daily system gross water use (mgd)	Annual daily per capita water use (gpcd)
Sequence Year	Calendar Year			
1	1995	117,947	37	314
2	1996	118,633	41	349
3	1997	119,109	43	358
4	1998	120,188	38	314
5	1999	123,735	44	355
6	2000	126,566	47	372
7	2001	129,372	49	377
8	2002	132,830	49	367
9	2003	137,003	51	375
10	2004	141,775	49	347
			Base Daily Capita Water Use[1]	**353**
			80% of Baseline	**282**

Note:
[1]Add values in the column and divide by the number of rows.
*Most recent year in base period must end no earlier than December 31, 2004, and no later than December 31, 2010.

TABLE 8-4: DISTRICT NO. 40 BASE DAILY PER CAPITA WATER USE – 5-YEAR RANGE

Base period year*		Distribution system population	Daily system gross water use (mgd)	Annual daily per capita water use (gpcd)
Sequence Year	Calendar Year			
1	2003	137,003	48.46	354
2	2004	141,775	51.39	363
3	2005	148,634	49.17	331
4	2006	163,665	52.85	323
5	2007	168,518	53.25	316
			Base Daily Capita Water Use[1]	337
			95% of Baseline	320

Note:
[1]Add values in the column and divide by the number of rows.
*Most recent year in base period must end no earlier than December 31, 2007, and no later than December 31, 2010.

8.1.2.2 QHWD

QHWD used Methodology 1 (10-year base period) to determine the urban water use target baseline of 373 gpcd. The urban water use 2020 target (20 percent reduction) is 298 gpcd. The interim (10 percent reduction) urban water use for the 2015 target is 336 gpcd.

TABLE 8-5: QHWD BASE DAILY PER CAPITA WATER USE – 10-YEAR RANGE

Base period year*		Distribution system population	Daily system gross water use (mgd)	Annual daily per capita water use (gpcd)
Sequence Year	Calendar Year			
1	1995	10,250	4	391
2	1996	10,250	4	394
3	1997	10,500	4.3	413
4	1998	10,600	4.4	417
5	1999	10,600	4.4	412
6	2000	11,000	4.3	387
7	2001	12,000	4.3	362
8	2002	15,000	4.8	323
9	2003	15,000	4.7	313
10	2004	15,500	4.9	314
			Base Daily Capita Water Use[1]	**373**
			80% of Baseline	**298**

Note:
[1]Add values in the column and divide by the number of rows.
*Most recent year in base period must end no earlier than December 31, 2004, and no later than December 31, 2010.

TABLE 8-6: QHWD BASE DAILY PER CAPITA WATER USE – 5-YEAR RANGE

Base period year*		Distribution system population	Daily system gross water use (mgd)	Annual daily per capita water use (gpcd)
Sequence Year	Calendar year			
1	2003	15,000	4.7	313
2	2004	15,000	4.9	324
3	2005	15,500	4.8	311
4	2006	15,500	5.1	319
5	2007	16,000	5.9	369
			Base Daily Capita Water Use[1]	327
			95% of Baseline	311

Note:
[1]Add values in the column and divide by the number of rows.
*Most recent year in base period must end no earlier than December 31, 2007, and no later than December 31, 2010.

Section 9

Water Use Projections for Low Income Housing

Section 9: Water Use Projections for Low Income Housing

9.1 Low Income Housing

Section 10631.1 of the California Water Code requires 2010 UWMPs to include the projected water use for lower income single-family and multi-family residential households as identified in the housing element of any city, county, or city and county in the service area of the water purveyor. Lower income is established by the State as 80 percent of the area median income.

The projections are meant to assist water purveyors in complying with the requirements of the Government Code Section 65589.7, which requires water purveyors to "grant a priority for the provision of water and sewer services to proposed developments that include housing units affordable to lower income households".

Table 9-1 shows the estimated low income projected water demands for the Study Area. The low income water demand projections were based on 36 percent of demand for the Study Area. Housing Needs Assessment Populations and Household Income Maps from both the Cities of Lancaster and Palmdale were utilized to identify the projected low income housing units for the Study Area.

TABLE 9-1: LOW INCOME PROJECTED WATER DEMANDS (AF)

Low Income Water Demands	2015	2020	2025	2030	2035
District No. 40 service area	26,800	31,900	36,900	41,900	47,100
QHWD service area	2,200	2,500	2,900	3,200	3,700
Study Area Total	29,000	34,400	39,800	45,100	50,800

Note: All numbers are rounded to the nearest 100 AF.

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Section 10

Water Shortage Contingency Analysis

Section 10: Water Shortage Contingency Analysis

This water shortage contingency analysis is based on water shortages that arise not only from drought, but shortages resulting from earthquakes, fires, system failures, and water quality contamination as well. Recent drought-related water management experiences for water agencies in California have revealed the complexity of coping with a water supply shortage. These experiences are well-documented and ready for implementation in the future by most agencies. Various water shortage scenarios may require similar drought-related actions, but may involve different complications that must be taken into account to address the shortage.

10.1 Minimum Water Supply

As such, each water purveyor's three-year minimum water supply is provided in Table 10-1. The average normal water year was set as 2010. Three-year minimum supply was determined to occur for the base years 2011, 2012 and 2013. As shown, each water purveyor currently has a sufficient water supply portfolio to meet their current demands over the next 3 years given a worst case water supply scenario. Because the SWP allocation has already been set at 80 percent of Table A amounts for 2011, the water purveyors will be able to use their respective surplus supplies to help meet the demands in 2012 and 2013 even if the SWP allocations were 35 percent and 7 percent, respectively, of Table A amounts.

TABLE 10-1: THREE-YEAR MINIMUM WATER SUPPLY (AF)

Area	Source	2011	2012	2013	Normal[c]
District No. 40	Groundwater	23,200	23,200	23,200	7,600
	Imported Water[a]	*35,600	35,600	7,100	39,200
	Carry Over/ Banked Water [b]	0	0	29,900	0
	Recycled Water	0	0	0	0
	Total	**58,800**	**58,800**	**60,200**	**46,800**
QHWD	Groundwater	2,500	2,500	2,500	1,900
	Imported Water[a]	*4000	4,000	800	3,500
	Carry Over/ Banked Water [b]	0	0	5,000	0
	Recycled Water	0	0	0	0
	Total	**6,500**	**6,500**	**8,300**	**5,400**
Study Area	Groundwater	25,700	25,700	25,700	9,500
	Imported Water[a]	39,600	39,600	7,900	42,700
	Carry Over/ Banked Water [b]	0	0	34,900	0
	Recycled Water	0	0	0	0
	Total	**65,300**	**65,300**	**68,500**	**52,200**

Notes: All numbers are rounded to the nearest 100 AF.

(a) A 35-35-7 percent delivery reliability was assumed for the SWP as determined for a three-year dry period (worst case water supply scenario).

(b) Carryover/banked water supply available as a result of unused allocation of 2011 imported water supply and banking efforts.

(c) 2010 actuals were used for the normal base year.

* Due to an 80 percent allocation of Table A imported supplies in 2011, excess available water will either be banked or stored as carryover in San Luis Reservoir.

10.2 Coordinated Planning

Coordination among the Antelope Valley water purveyors is essential when planning for a loss of supply. This is especially true since the Antelope Valley water purveyors share the same

water sources and will be equally affected when a loss occurs. It is also essential for planning to be coordinated with AVEK, the wholesale water supplier, since AVEK will need to take similar actions for each water purveyor in the time of need.

10.3 Drought Conditions

Being located within an arid region of Southern California, the Antelope Valley is highly susceptible to drought conditions. Thus it is important for the water purveyors to have a plan in place to ease the impacts to the water supply during times of drought. The DMMs discussed in Section 5 will play an essential role in limiting water use during drought times, but further measures are often incorporated in a Water Shortage Contingency Plan (WSCP).

10.4 Earthquakes or Other Natural Disaster

The Antelope Valley is located in an earthquake zone. In the event of an earthquake or natural disaster, the Antelope Valley has the potential of losing its SWP supply. According to the California Division of Mines and Geology, a displacement along the San Andreas Fault could rupture the two aqueduct systems importing water to Southern California, resulting in a potential delay of three to six weeks in SWP water delivery. Additional delays may occur due to damage to pumping facilities. DWR estimates a four month delay if a major break should occur.

If such a delay occurs, each water purveyor could maximize its groundwater production and utilize its emergency storage to meet water demands until the aqueduct was repaired. In the event of a prolonged absence of SWP water, the water purveyors could implement their established "No Waste" Ordinances and WSCP Stages to substantially reduce demands until SWP supply is restored.

10.4.1 SWP Emergency Outage Scenarios

Following is a discussion of three possible scenarios for an outage of SWP water due to earthquake, power outage, or other event. In past years, slippage of side panels, flood events, and subsidence repairs were handled by DWR without interruption in delivery. This is mainly due to a key design feature of the aqueduct which allows isolation of various sections. Thus DWR can repair the damaged section without interrupting operation of another. However, three potential scenarios that would result in a loss of delivery to the Study Area are described below. They include a levee breach near the Sacramento-San Joaquin Delta, loss of the San Joaquin Valley transverse due to flood or earthquake, and loss of the East Branch due to earthquake. The water purveyors' ability to meet demands during the worst of these scenarios is also presented.

10.4.1.1 Levee Breach near Banks Pumping Plant

The Delta plays an essential role in the SWP operation. Water from the Delta is diverted to the SWP's main pumping facility, the Banks Pumping Plant located in the southern Delta, into the California Aqueduct. If a major levee breach were to occur near this facility, the freshwater in the Delta may become displaced with saltwater rushing in from the San Francisco Bay. Pumping from the Delta would cease until the water quality was restored. Depending on the time of the breach, the necessary fresh water inflows required to restore the Delta may not be available.

Historically levee breaks, such as the Jones Tract break, may take several months to completely restore. Assuming that the Banks Pumping Plant was down for six months, DWR could utilize water stored in the San Luis Reservoir to continue delivery of some SWP water to

Southern California. However, availability of supply will vary depending on the time of the breach. An occurrence in late summer early fall, would result in minimal delivery due to the typically low levels in San Luis Reservoir during this period. In addition to supply from San Luis Reservoir, the water purveyors could utilize storage from their facilities and maximize groundwater until the Delta is restored. The water purveyors could also utilize any water previously stored in groundwater banks.

10.4.1.2 Complete Disruption of the California Aqueduct in the San Joaquin Valley

As demonstrated by the past flood event at Arroyo Pasajero, which resulted in the temporary loss of the Edmund G Pat Brown portion of the California Aqueduct, the SWP facilities are vulnerable to flood. If a similar incident were to occur due to flood or earthquake, loss of deliveries from the San Luis Reservoir could result. DWR anticipates an outage of up to four months should a loss in this portion of the California Aqueduct occur. If delivery were prevented from the San Luis Reservoir, the water purveyors could receive water through the Domestic-Agricultural Water Network (DAWN) Project facilities and maximize groundwater until the supply is restored. The bulk of the water imported by AVEK is treated and distributed to customers throughout its service area through DAWN Project facilities. Additionally, the water purveyors could utilize any water previously banked.

10.4.1.3 Complete Disruption of the East Branch of the California Aqueduct

The East Branch of the California Aqueduct begins at a bifurcation of the aqueduct south of the Edmonston Pumping Plant. The East Branch conveys water through the Alamo Power Plant to the Pearblossom Pumping Plant, which pumps the water 540 feet uphill. The water is then conveyed in an open channel into the Mojave Siphon Power Plant and into Lake Silverwood. When needed, water is discharged to the Devil's Canyon Power Plant and its two afterbays. The Santa Ana Pipeline then conveys the water 28 miles underground to the California Aqueduct's terminus at Lake Perris.

If a portion of the East Branch were damaged due to a major earthquake, deliveries to the water purveyors could be interrupted depending on the location of the break. It is assumed that a single-location break occurred north of the Pearblossom Pumping Plant and prevented delivery of water stored in the DAWN Project facilities. The water purveyors could maximize groundwater and utilize water stored in groundwater banks until SWP delivery resumed.

Of the three scenarios, the disruption of the East Branch of the California Aqueduct would result in the worst-case scenario for the water purveyors of the Antelope Valley since it would prevent any delivery of SWP. In this case, the water purveyors would rely on local groundwater and water stored in groundwater banks. An assessment of water supply and demand for a six-month SWP interruption are presented in Table 10-2. Water supplies are assumed to be one half of the volumes available in a single dry year with the exception of recycled water.

Table 10-2 shows that with predicted adjudication groundwater pumping and utilization of banked water within the Antelope Valley, an additional 45 percent water conservation is estimated to meet projected demands in the Study Area. According to Table 10-2, District No. 40 would have to implement Phase 8 of their Phased Water Conservation Plan (PWCP) described in Section 10.7.1. QHWD would have to implement Phase 4 of their WSCP described in Section 10.7.2.

TABLE 10-2: PROJECTED SUPPLIES AND DEMAND DURING A SIX-MONTH DISRUPTION IN IMPORTED SUPPLY

	2015	2020	2025	2030	2035
Study Area Existing Supply					
Groundwater	12,900	12,900	12,900	12,900	12,900
Imported Water	4,600	5,100	5,700	6,300	6,300
Total Existing Supply	17,500	18,000	18,600	19,200	19,200
Study Area Planned Supply					
Groundwater Banking/New Supply	29,100	29,900	34,100	38,300	42,900
Recycled Water	5,400	8,200	10,900	13,900	16,900
Total Planned Supply	34,500	38,100	45,000	52,200	59,800
Total Existing and Planned Supply	**52,000**	**56,100**	**63,600**	**71,400**	**79,000**
Study Area Demand	**97,900**	**103,500**	**116,000**	**128,400**	**141,000**
Additional Conservation Required	45,900	47,400	52,400	57,000	62,000
Additional Conservation as a Percent of Demand	0.47	0.46	0.45	0.44	0.44

10.5 Power Outages

In the event of a power outage, the water purveyors would follow their established Emergency Response Procedures (ERPs). ERPs for a power outage include ensuring back-up power supply for all water supply facilities to continue supplying water to customers, communicating with the power company, activating emergency connections with adjacent water systems, continuing water quality monitoring, and issuing boil water advisories as necessary.

10.6 Contamination

Contamination of water supply can result from a number of different events including, a reduction in water supply, water main break, cross-connection condition, water source pollution or covert action. Water supplies for the Study Area are generally of good quality and no foreseeable permanent contamination issues are anticipated. In the event of a toxic spill or major contamination, the water purveyors would follow their ERPs to isolate the problem and reduce the impact to the water supply. Once the problem has been isolated, the contamination would be cleaned up using the outlined chlorination or other necessary procedures and the water supply returned to service as soon as possible. In the meantime, emergency storage or

alternative supply would be used to meet demand. Implementation of additional DMMs could also be utilized if the outage is anticipated to be of longer consequence.

10.7 Stages of Action

Each water purveyor has adopted individual WSCPs for their service area. The stages of action for each water purveyor are described in more detail below and copies are provided in Appendix F.

10.7.1 District No. 40

District No. 40 has implemented a PWCP comprised of nine stages or "Phases" that call for the reduction in water use in order to meet a conservation target. Table 10-3 summarizes the shortage stages and conditions. Implementation of a Phase requires determination of a shortage from the County of Los Angeles Board of Supervisors (Board of Supervisors). Water shortages could result from reduced availability of AVEK water, main breaks, natural disasters, or earthquakes. Once a shortage is determined, a public hearing is held to determine which Phase should be implemented.

TABLE 10-3: DISTRICT NO. 40 STAGES OF ACTION

Phase	1	2	3	4	5	6	7	8	9
Anticipated Shortage that Triggers Phase	10%	15%	20%	25%	30%	35%	40%	45%	50%
Conservation Target	90%	85%	80%	75%	70%	65%	60%	55%	50%
Type of Rationing	Voluntary	Mandatory	Mandatory	Mandatory	Mandatory	Mandatory	Mandatory	Mandatory	Mandatory

In addition to the PWCP, District No. 40 has recently developed an internal WSCP. The WSCP, in contrast to the PWCP, does not specifically state the measures that will take effect in a given stage. Instead, it will assist District No. 40 in the decision making process and identify the necessary actions to be taken prior to a recommendation to the Board of Supervisors.

10.7.1.1 Prohibitions, Consumption Reduction Methods and Penalties

An urgency ordinance amending Title 11 – Health and Safety of the Los Angeles County Code, relating to water conservation requirements for the Unincorporated Los Angeles Area took effect on October 7, 2008. The ordinance prohibits hose watering paved area, landscape watering between 10 am to 5 pm or causing runoff, usage of decorative fountains, washing vehicles at a non-commercial carwash and providing drinking water without customers' request, etc. The entire ordinance can be found at the following link:

http://dpw.lacounty.gov/wwd/web/docs/Water%20Wasting%20Ordinance%20final.pdf.

However, District No. 40's PWCP and WSCP incorporate prohibitions similar to those normally outlined in such an ordinance. Table 10-4 through 10-6 provides a summary of the mandatory prohibitions, consumption reduction methods and the stages in which they would take effect.

TABLE 10-4: MANDATORY PROHIBITIONS

Prohibition	Stage When Prohibition Becomes Mandatory
Repair all leaks	Always required
No runoff from lawns	Always required
Restaurants serve water to customers upon request only	Always required
Landscape watering between 10 a.m. and 5 p.m.	Always required
No construction meters will be issued	3
No new permanent meters will be installed	7

TABLE 10-5: DISTRICT NO. 40 CONSUMPTION REDUCTION METHODS

Consumption Reduction Methods	Stages Method Takes Effect
Demand reduction program	All stages
Restrict building permits	3,4,5,6,7,8,9
Use prohibitions	All stages
Water shortage pricing	All stages
Voluntary rationing	1
Mandatory rationing	2,3,4,5,6,7,8,9
Education program	All stages
Percentage reduction by customer type	All stages

TABLE 10-6: CONSUMPTION REDUCTION METHODS

Consumption Reduction Methods	Stage When Method Takes Effect	Projected Reduction (%)
Voluntary rationing	1	2.5%
Demand reduction program	All stages	2.5%
Restrict building permits	3	5%-10%
Use prohibitions	All stages	5%-10%
Water shortage pricing	All stages	2.5%
Mandatory rationing	2	5%-10%
Percentage reduction by customer type	All stages	2.5%

Penalties imposed for the various stages are as described in the PWCP. The conservation target is a percentage of the quantity used during a "base" billing period set by the Board of Supervisors. Water use up to the target quantities shall be billed at the established quantity charge or normal charge. Water use in excess of aforementioned target quantities shall be subject to the following conservation surcharges in addition to the established quantity charge or normal charge:

1. For all customers within Los Angeles County Waterworks Districts, an additional conservation surcharge of 1.0 times the established quantity charge or normal charge will be assessed for water use in excess of the target quantity, up to 115 percent of the target quantity.

2. For all customers within Los Angeles County Waterworks Districts, an additional conservation surcharge of 2.0 times the established quantity charge or normal charge will be assessed for water use in excess of 115 percent of the target quantity.

3. If the cost of purchased water obtained from the water wholesalers that sell water to the Los Angeles County Waterworks Districts increases beyond the amounts that can be offset and collected through the rates set in 1 and 2 of the provision, then the District Engineer is hereby authorized to revise the rates set in 1 and 2 of this provision in amounts necessary to offset the cost to purchase water.

10.7.1.2 Revenue and Expenditure Impacts

The implementation of the PWCP could potentially result in revenue losses ranging between 10 and 50 percent. There are four sources of funding availability to District No. 40 to cover these losses: service charge, facility surcharge, water quantity charge, and standby charges. The service charge is a fixed connection charge based on the size of the meter. The facility surcharge and water quantity charge are based on the actual quantity of water used each month. Standby charges are assessed on all properties. Thus a reduction in water use will only affect the facility surcharge and water quantity charges. In order to reduce the impact of these losses, District No. 40 can utilize the following measures: use extra revenues contributed by the conservation surcharge, delay capital improvement projects, and increase water rates.

10.7.1.3 Reduction Measuring Mechanism

In order to monitor the reduction in water use during a water shortage stage, supply and demand data is reported on a monthly basis with excess use violations reported to the County of Los Angeles Waterworks Districts and to the customer. Bi-monthly water meter readings are collected and compiled to determine if the water usage meets the target goal.

10.7.2 QHWD

QHWD adopted a four stage WSCP which is summarized in Table 10-7. The stages were designed to provide a minimum of 50 percent of normal supply during a water shortage event. Table 10-8 provides a description of the triggers for the rationing stages.

TABLE 10-7: QHWD STAGES OF ACTION

Phase	1	2	3	4
Anticipated Shortage that Triggers Phase	Up to 15%	15 to 25%	25 to 35%	35 to 50%
Conservation Target	85%	75%	65%	50%
Type of Rationing	Voluntary	Mandatory	Mandatory	Mandatory

TABLE 10-8: QHWD TRIGGERING MECHANISMS

Phase	1	2	3	4
Current Supply	85 to 90% of normal supply	75 to 85% of normal supply	65 to 75% of normal supply	Less than 65% of normal supply
Future Supply	Insufficient supply to provide 80% for next two years	Insufficient supply to provide 75% for next two years	Insufficient supply to provide 65% for next two years	Insufficient supply to provide 50% for next two years
Groundwater	No excess groundwater pumped	First year excess groundwater pumped	Second year excess groundwater pumped	No excess groundwater available
Water Quality	Loss of 10% from contamination	Loss of 20% from contamination	Loss of 30% from contamination	
Disaster Loss				Disaster Loss

10.7.2.1 Prohibitions, Consumption Reduction Methods and Penalties

The "No Waste" Ordinance adopted by QHWD outlines the mandatory prohibition on water wasting and describes the excessive use penalties enforced by QHWD. A copy of the ordinance is provided in Appendix F. Table 10-9 provides a summary of the consumption methods and the stages in which they take effect.

TABLE 10-9: QHWD CONSUMPTION REDUCTION METHODS

Consumption Reduction Methods	Stages Method Takes Effect
Demand reduction program	All stages
Flow restriction	4
Restrict building permits	2, 3, 4
Use prohibitions	All stages
Water shortage pricing	All stages
Voluntary rationing	1
Mandatory rationing	2, 3, 4
Education program	All stages
Percentage reduction by customer type	2, 3, 4

10.7.2.2 Revenue and Expenditure Impacts

QHWD uses all surplus revenues collected during the stages to fund a Rate Stabilization Fund, conservation, recycling, and capital improvements. The fund will be maintained at 75 percent of the normal water revenue and will be used to stabilize rates during periods of water shortage or disaster to minimize the need to adjust rates during the shortage. However, during prolonged shortages, rates may need to be increased. QHWD estimates the following percent increases for the given phases:

Stage 1: No increase
Stage 2: 25 percent increase
Stage 3: 50 percent increase
Stage 4: 100 percent increase

After a shortage ends, rates will be increased by 15 percent of the pre-shortage rate for one year.

10.7.2.3 Reduction Measuring Mechanism

In order to monitor the reduction in water use during a water shortage stage, daily production figures are recorded. During Stage 1 and 2, weekly production will be compared to the target weekly production. These weekly reports will be forwarded to the General Manager and Water Shortage Response Team. If goals are not met, QHWD Board of Directors is notified so corrective action can be taken. During Stage 3 and 4, the procedures are the same with the General Manager receiving the daily reports as well as the weekly reports.

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Appendix A

Urban Water Management Plan Act

CALIFORNIA WATER CODE DIVISION 6
PART 2.6. URBAN WATER MANAGEMENT PLANNING

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

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.

Appendix B

Notice of Public Hearing and Adoption of Resolution

Appendix B-1

District No. 40

Notice of Public Hearing and Adoption Resolution

COUNTY OF LOS ANGELES

DEPARTMENT OF PUBLIC WORKS

"To Enrich Lives Through Effective and Caring Service"

GAIL FARBER, Director

900 SOUTH FREMONT AVENUE
ALHAMBRA, CALIFORNIA 91803-1331
Telephone: (626) 458-5100
http://dpw.lacounty.gov

ADDRESS ALL CORRESPONDENCE TO:
P.O. BOX 1460
ALHAMBRA, CALIFORNIA 91802-1460

June 28, 2011

ADOPTED
BOARD OF SUPERVISORS
COUNTY OF LOS ANGELES
9 June 28, 2011
SACHI A. HAMAI
EXECUTIVE OFFICER

The Honorable Board of Supervisors
County of Los Angeles
383 Kenneth Hahn Hall of Administration
500 West Temple Street
Los Angeles, CA 90012

Dear Supervisors.

PUBLIC HEARING FOR THE 2010 URBAN WATER MANAGEMENT PLAN FOR THE LOS ANGELES COUNTY WATERWORKS DISTRICT NO. 29, MALIBU, AND THE MARINA DEL REY WATER SYSTEM, AND THE 2010 INTEGRATED REGIONAL URBAN WATER MANAGEMENT PLAN FOR THE ANTELOPE VALLEY FOR THE LOS ANGELES COUNTY WATERWORKS DISTRICT NO. 40, ANTELOPE VALLEY (SUPERVISORIAL DISTRICTS 3, 4, AND 5) (3 VOTES)

SUBJECT

This action is to adopt the 2010 Urban Water Management Plan for the Los Angeles County Waterworks District No 29, Malibu, and the Marina del Rey Water System, and the 2010 Integrated Regional Urban Water Management Plan for the Antelope Valley for the Los Angeles County Waterworks District No 40, Antelope Valley

IT IS RECOMMENDED THAT YOUR BOARD AFTER THE PUBLIC HEARING, AS THE GOVERNING BODY OF THE LOS ANGELES COUNTY WATERWORKS DISTRICT NO. 29, MALIBU, AND THE MARINA DEL REY WATER SYSTEM, AND THE LOS ANGELES COUNTY WATERWORKS DISTRICT NO. 40, ANTELOPE VALLEY:

1 Adopt the resolution approving the 2010 Urban Water Management Plan for the Los Angeles County Waterworks District No. 29, Malibu, and the Marina del Rey Water System.

2. Adopt the resolution approving the 2010 Integrated Regional Urban Water Management Plan for the Antelope Valley for the Los Angeles County Waterworks District No. 40, Antelope Valley

PURPOSE/JUSTIFICATION OF RECOMMENDED ACTION

The purpose of the recommended actions is to adopt the 2010 Urban Water Management Plan for the Los Angeles County Waterworks District No 29, Malibu, and the Marina del Rey Water System, and the 2010 Integrated Regional Urban Water Management Plan for the Antelope Valley for the Los Angeles County Waterworks District No. 40, Antelope Valley (collectively "2010 Urban Water Management Plans"), as required by the State Urban Water Management Planning Act.

Implementation of Strategic Plan Goals

The Countywide Strategic Plan directs the provision of Operational Effectiveness (Goal 1) and Community and Municipal Services (Goal 3) by supporting long-term resource planning and to ensure adequate water supplies are available to meet existing and future customer water demands in order to preserve the quality of life for the County of Los Angeles residents The 2010 Urban Water Management Plans will implement customer feedback to meet the requirements of the Urban Water Management Planning Act and better serve our customers' needs.

FISCAL IMPACT/FINANCING

There will be no impact to the County General Fund

FACTS AND PROVISIONS/LEGAL REQUIREMENTS

The Act (California Water Code §10610 through 10657) requires every water supplier with more than 3,000 service connections, or supplying more than 3,000 acre-feet of water annually, to prepare and adopt an Urban Water Management Plan every five years. The Los Angeles County Waterworks District No. 29, Malibu, and the Marina del Rey Water System have approximately 7,800 service connections; and the Los Angeles County Waterworks District No. 40, Antelope Valley, has approximately 55,000 service connections. A six-month extension was granted by the legislature for submittals of the 2010 Urban Water Management Plans to provide additional time for water suppliers to address Senate Bill X7-7 (Steinberg) requirements, of reducing per capita water use by 20 percent by the year 2020 from a prescribed base period.

Prior to adoption of an Urban Water Management Plan, California Water Code §10642 requires that the water supplier make the plan available for public inspection and hold a public hearing. Notice of the time and place of the hearing must be published pursuant to Government Code §6066, which states that the publication of the notice shall be once a week for two successive weeks with at least five intervening days. The notice must also be provided to any city within which the supplier provides water supplies.

The public hearing is being held pursuant to California Water Code §10642. Notice of the time and place of the hearing was published pursuant to Government Code §6066 and has been provided to the Cities of Malibu, Lancaster, and Palmdale.

County Counsel has reviewed and approved the proposed resolution approving the 2010 Urban Water Management Plan for the Los Angeles County Waterworks District No. 29, Malibu, and the Marina del Rey Water System (Enclosure A), the proposed resolution approving the 2010 Integrated Regional Urban Water Management Plan for the Antelope Valley for the Los Angeles County Waterworks District No. 40, Antelope Valley (Enclosure B); and Notices of Public Hearing (Enclosures C and D) as to form.

The 2010 Integrated Regional Urban Water Management Plan for the Antelope Valley was prepared in cooperation with all the other retail water agencies in the Antelope Valley. It fulfills the requirements of an Urban Water Management Plan for Los Angeles County Waterworks District No. 40, Antelope Valley; Quartz Hill Water District; and Rosamond Community Services District. The Antelope Valley Region recently received a grant award from the State of California to update the Antelope Valley Integrated Regional Water Management Plan (AVIRWMP) by the end of 2013. Once the update to the AVIRWMP is complete, we will return to your Board to adopt the update and will recommend the inclusion of the Integrated Regional Urban Water Management Plan as an Appendix to the AVIRWMP

ENVIRONMENTAL DOCUMENTATION

Pursuant to §10652 of the California Water Code, the California Environmental Quality Act does not apply to the preparation and adoption of Urban Water Management Plans.

IMPACT ON CURRENT SERVICES (OR PROJECTS)

There will be no negative impact on current County services or projects.

CONCLUSION

Please return two adopted copies of this letter and two copies of the signed resolutions to the Department of Public Works, Waterworks Division.

Respectfully submitted,

GAIL FARBER
Director of Public Works

GF:AA:cr

Enclosures

c: Chief Executive Office (Rita Robinson)
County Counsel
Executive Office

ENCLOSURE A

A RESOLUTION OF THE BOARD OF SUPERVISORS OF THE COUNTY OF LOS ANGELES, CALIFORNIA, APPROVING THE 2010 URBAN WATER MANAGEMENT PLAN FOR THE LOS ANGELES COUNTY WATERWORKS DISTRICT NO 29, MALIBU, AND THE MARINA DEL REY WATER SYSTEM

WHEREAS, the Urban Water Management Planning Act (Division 6 of the California Water Code) requires each water supplier with more than 3,000 customers (service connections), or annually supplying more than 3,000 acre-feet of water, to prepare and adopt an Urban Water Management Plan; and

WHEREAS, the Los Angeles County Waterworks District No 29, Malibu, and the Marina del Rey Water System (hereinafter referred to as DISTRICT) is considered one system; and

WHEREAS, the DISTRICT has approximately 7,800 service connections and is therefore required to prepare and adopt an Urban Water Management Plan; and

WHEREAS, the DISTRICT'S 2010 Urban Water Management Plan (Attachment 1) meets the requirements of the Urban Water Management Planning Act.

NOW, THEREFORE, BE IT RESOLVED, that the Board of Supervisors of the County of Los Angeles, as the Board of Directors of the DISTRICT, hereby adopts the DISTRICT'S 2010 Urban Water Management Plan.

The foregoing Resolution was on the 28th day of June, 2011, adopted by the Board of Supervisors of the County of Los Angeles as the governing body of the Los Angeles County Waterworks District No. 29, Malibu, and Marina del Rey Water System.

SACHI A. HAMAI
Executive Officer of the
Board of Supervisors of the
County of Los Angeles

By _____
Deputy

APPROVED AS TO FORM

ANDREA SHERIDAN ORDIN
County Counsel

By _____
Deputy

ENCLOSURE B

A RESOLUTION OF THE BOARD OF SUPERVISORS OF THE COUNTY OF LOS ANGELES, CALIFORNIA, APPROVING THE 2010 INTEGRATED REGIONAL URBAN WATER MANAGEMENT PLAN FOR THE ANTELOPE VALLEY FOR THE LOS ANGELES COUNTY WATERWORKS DISTRICT NO 40, ANTELOPE VALLEY

WHEREAS, the Urban Water Management Planning Act (Division 6 of the California Water Code) requires each water supplier with more than 3,000 customers (service connections), or annually supplying more than 3,000 acre-feet of water, to prepare and adopt an Urban Water Management Plan, and

WHEREAS, Los Angeles County Waterworks District No 40, Antelope Valley (hereinafter referred to as DISTRICT), has approximately 55,000 service connections, and is therefore required to prepare and adopt an Urban Water Management Plan, and

WHEREAS, the DISTRICT'S 2010 Integrated Regional Urban Water Management Plan for the Antelope Valley (Attachment 2) meets the requirements of the Urban Water Management Planning Act.

NOW, THEREFORE, BE IT RESOLVED, that the Board of Supervisors of the County of Los Angeles, as the Board of Directors of the DISTRICT hereby adopts the 2010 Integrated Regional Urban Water Management Plan for the Antelope Valley

The foregoing Resolution was on the 28th day of June, 2011, adopted by the Board of Supervisors of the County of Los Angeles as the governing body of the Los Angeles County Waterworks District No. 40, Antelope Valley

SACHI A. HAMAI
Executive Officer of the
Board of Supervisors of the
County of Los Angeles

By _____
Deputy

APPROVED AS TO FORM:

ANDREA SHERIDAN ORDIN
County Counsel

By _____
Deputy

ENCLOSURE C

INSTRUCTION SHEET FOR PUBLISHING
LEGAL ADVERTISEMENTS

TO: Executive Officer
Board of Supervisors
County of Los Angeles

FROM: Department of Public Works
Waterworks Division

NOTICE OF HEARING
2010 URBAN WATER MANAGEMENT PLAN FOR THE LOS ANGELES COUNTY WATERWORKS DISTRICT NO. 29, MALIBU, AND THE MARINA DEL REY WATER SYSTEM

Publishing

That the Executive Officer of the Board of Supervisors shall cause notice of the public hearing, in the form and manner specified in Section 6066 of the Government Code, to be published once a week for two consecutive weeks in the Malibu Times, Surfside News, and Topanga Messenger newspapers published and circulated in the County of Los Angeles, which is hereby designated for that purpose, such publication to be completed not less than ten (10) days prior to the date of said hearing. Copies of the Urban Water Management Plan (Plan) will be available for public review in all Public Libraries in the District's service areas. The Plan will also be available for review at http://www.lacwaterworks.org/.

Forward five reprints of the attached advertisement to the County of Los Angeles Department of Public Works, Waterworks Division, P O Box 1460, Alhambra, California 91802-1460.

Should there be any questions regarding this matter, please contact Mr Adam Ariki, of this office, at (626) 300-3300, Monday through Thursday, 7 a.m. to 5:45 p.m.

LOS ANGELES COUNTY WATERWORKS DISTRICT NO. 29, MALIBU AND THE MARINA DEL REY WATER SYSTEM NOTICE OF PUBLIC HEARING FOR ADOPTION OF THE 2010 URBAN WATER MANAGEMENT PLAN

The County of Los Angeles Board of Supervisors, as the governing body of the Los Angeles County Waterworks District No 29, Malibu, and the Marina del Rey Water System, will hold a public hearing on June 28, 2011, at 9:30 a.m , in Room 381, Kenneth Hahn Hall of Administration, 500 West Temple Street, Los Angeles, California 90012, in the matter of adopting the Urban Water Management Plan (Plan) for the Los Angeles County Waterworks District No. 29, Malibu, and the Marina del Rey Water System.

The Plan has been prepared in compliance with the Urban Water Management Planning Act. The Plan includes a water-shortage contingency plan, projection of future water demands, an identification of sufficient water supplies to meet projected water demands, and an explanation of existing and future water conservation practices to meet the reduction of 20 percent per capita use by the year 2020 based on the Legislative Senate Bill X7-7

Copies of the Plan are available for public review at the Lloyd Taber Marina del Rey County Library, Malibu Library, City of Malibu, and at the Waterworks field office located at 23533 West Civic Center Way in Malibu.

The Board of Supervisors will consider and may approve the Plan as recommended by the Director of Public Works. For further information regarding this matter, please call (626) 300-3315.

ENCLOSURE D

INSTRUCTION SHEET FOR PUBLISHING
LEGAL ADVERTISEMENTS

TO: Executive Officer
Board of Supervisors
County of Los Angeles

FROM: Department of Public Works
Waterworks Division

NOTICE OF HEARING
2010 INTEGRATED REGIONAL URBAN WATER MANAGEMENT PLAN FOR THE LOS ANGELES COUNTY WATERWORKS DISTRICT NO. 40, ANTELOPE VALLEY

Publishing

That the Executive Officer of the Board of Supervisors shall cause notice of the public hearing, in the form and manner specified in Section 6066 of the Government Code, to be published once a week for two consecutive weeks in the Antelope Valley Press, a newspaper published and circulated in the County of Los Angeles, which is hereby designated for that purpose, such publication to be completed not less than ten days prior to the date of said hearing. Copies of this Plan will be available for review approximately two weeks prior to the public hearing in all Public Libraries in the District's service areas. The Plan will also be available for review at http://www.avwaterplan.org/

Forward five reprints of the attached advertisement to the County of Los Angeles Department of Public Works, Waterworks Division, P.O. Box 1460, Alhambra, California 91802-1460, City of Lancaster, 44933 North Fern Avenue, Lancaster, California 93534-2461, and City of Palmdale, 38300 North Sierra Highway, Palmdale, California 93550-4798.

Should there be any questions regarding this matter, please contact Mr Adam Ariki, of this office, at (626) 300-3300, Monday through Thursday, 7 a.m. to 5:45 p.m.

LOS ANGELES COUNTY WATERWORKS DISTRICT NO. 40, ANTELOPE VALLEY
NOTICE OF PUBLIC HEARING FOR ADOPTION OF THE 2010 INTEGRATED REGIONAL URBAN WATER MANAGEMENT PLAN FOR THE ANTELOPE VALLEY

The County of Los Angeles Board of Supervisors, as the governing body of the Los Angeles County Waterworks District No. 40, Antelope Valley, will hold a public hearing on June 28, 2011, at 9:30 a.m., in Room 381, Kenneth Hahn Hall of Administration, 500 West Temple Street, Los Angeles, California 90012, in the matter of adopting the 2010 Integrated Regional Urban Water Management Plan for the Antelope Valley

The Plan has been prepared in compliance with the Urban Water Management Planning Act and includes a water-shortage contingency plan, the projection of future water demands, identification of sufficient water supplies to meet projected water demands, and an explanation of existing and future water conservation practices to meet the reduction of 20 percent per capita use by the year 2020 based on the Legislative Senate Bill X7-7

The Plan has been prepared cooperatively by the Los Angeles County Waterworks District No. 40, Antelope Valley; Rosamond Community Services District; and Quartz Hill Water District. Copies of the Plan will be available for public review approximately two weeks prior to the public hearing at the County libraries located in Lake Los Angeles, Lancaster, Littlerock, and Quartz Hill and at the Waterworks field office located at 260 East Avenue K-8 in Lancaster

The Board of Supervisors will consider and may approve the Plan as recommended by the Director of Public Works. For further information regarding this matter, please call (626) 300-3315

STATEMENT OF PROCEEDINGS FOR THE

REGULAR MEETING OF THE BOARD OF SUPERVISORS

OF THE COUNTY OF LOS ANGELES HELD IN ROOM 381B

OF THE KENNETH HAHN HALL OF ADMINISTRATION

500 WEST TEMPLE STREET, LOS ANGELES, CALIFORNIA 90012

Tuesday, June 28, 2011

9:30 AM

9. Hearing on the adoption of resolution approving the 2010 Urban Water Management Plan acting as the County Waterworks District No 29, Malibu, and the Marina del Rey Water System (3 and 4), and adoption of the resolution of the 2010 Integrated Regional Urban Water Management Plan for the Antelope Valley, acting as the County Waterworks District No 40, Antelope Valley (5), as required by the State Urban Water Management Planning Act **(Department of Public Works)** (11-2612)

All persons wishing to testify were sworn in by the Executive Officer of the Board. Opportunity was given for interested persons to address the Board. No interested persons addressed the Board. No correspondence was presented.

On motion of Supervisor Yaroslavsky, seconded by Supervisor Antonovich, the Board, acting as the Governing Body of the Waterworks District No. 29, Malibu, and the Marina del Rey Water System and the Waterworks District No. 40, Antelope Valley, closed the public hearing and took the following actions:

1. **Adopted a resolution approving the 2010 Urban Water Management Plan for the Waterworks District No. 29, Malibu, and the Marina del Rey Water System; and**

2. **Adopted a resolution approving the 2010 Integrated Regional Urban Water Management Plan for the Antelope Valley Waterworks District No. 40, Antelope Valley.**

Ayes: 4 - Supervisor Molina, Supervisor Ridley-Thomas, Supervisor Yaroslavsky and Supervisor Antonovich

Absent: 1 - Supervisor Knabe

Attachments: Board Letter
Video
Audio

The foregoing is a fair statement of the proceedings of the regular meeting held June 28, 2011, by the Board of Supervisors of the County of Los Angeles and ex officio the governing body of all other special assessment and taxing districts, agencies and authorities for which said Board so acts

Sachi A. Hamai, Executive Officer
Executive Officer-Clerk
of the Board of Supervisors

By Sachi C. Hamai

Sachi A Hamai
Executive Officer

* 60-day notice to cities prior to Public Hearing *

Bunker, Jessica

From:	Bunker, Jessica
Sent:	Thursday, March 24, 2011 1:18 PM
To:	'rneal@cityoflancasterca.org': 'mmischel@cityofpalmdale org'
Cc:	Rydman, David; 'creed@qhwd.org', 'Jon Pernula': 'Nathaniel Rippee': 'Dassler, Steve': 'Gordon Phair'; 'Tom Barnes', 'bbones@lrcid.com': 'Russett, Anne'
Subject:	2010 Integrated Regional Urban Water Management Plan

Good afternoon,

As you already know, the LA County Waterworks District No 40 in conjunction with Quartz Hill Water District, Palmdale Water District, Rosamond Community Services District, Antelope Valley-East Kern Water Agency, and the Cities of Lancaster and Palmdale have been collaborating to update the 2010 Integrated Regional Urban Water Management Plan (IRUWMP) for the Antelope Valley The IRUWMP will be an Appendix to the Integrated Regional Water Management Plan which will incorporate all agreed upon water management strategy objectives, target projections, planned activities and actions, rather than continuing to prepare multiple water management plans

We had a kickoff meeting on June 24, 2009 with the cities representatives and the water agencies in the Antelope Valley Since then we have been working together to prepare the updates to the IRUWMP so that it meets the requirements of the California Urban Water Management Planning Act (Act), which requires every urban water supplier providing more than 3,000 acre-feet of water annually to prepare and adopt an Urban Water Management Plan The Act also requires that a public hearing be held prior to the adoption of the IRUWMP At least 60 days prior to the hearing in which the IRUWMP is to be reviewed, a water supplier is to notify any city or county within which it delivers water We have coordinated with your staff, and the water agencies listed above will hold a public hearing on May 31, 2011, at 6 15 p.m , in the Emergency Operations Center, Lancaster City Hall, 44933 N Fern Avenue, Lancaster, California, 93534

Please forward this notice to your respective Planning Departments If you have any questions, please feel free to contact me

Thank you,
Jessica Bunker, P.E.
Waterworks Division
(626)300-3315

LOS ANGELES COUNTY WATERWORKS DISTRICT NO. 40, ANTELOPE VALLEY, PALMDALE WATER DISTRICT, QUARTZ HILL WATER DISTRICT, AND ROSAMOND COMMUNITY SERVICES DISTRICT
NOTICE OF PUBLIC HEARING FOR ADOPTION OF THE 2010 INTEGRATED REGIONAL URBAN WATER MANAGEMENT PLAN FOR THE ANTELOPE VALLEY

The Los Angeles County Waterworks District No 40, Antelope Valley, Palmdale Water District, Quartz Hill Water District, and Rosamond Community Services District will hold a public hearing on May 31, 2011, at 6 15 p m., in the Emergency Operations Center, Lancaster City Hall, 44933 N Fern Avenue, Lancaster, California, 93534, in the matter of adopting the Integrated Regional Urban Water Management Plan for the Antelope Valley

The plan has been prepared in compliance with the Urban Water Management Planning Act and includes a water-shortage contingency plan, the projection of future water demands, identification of sufficient water supplies to meet projected water demands, and an explanation of existing and future water conservation practices to meet the reduction of 20 percent per capita use by the year 2020 based on the legislative Senate Bill X7-7

The plan has been prepared cooperatively by the above water agencies Copies of the plan will be available for public review approximately two weeks prior to the public hearing at the Los Angeles County libraries located in Lake Los Angeles, Lancaster, Littlerock, and Quartz Hill, in addition to the Kern County Library in Rosamond, and at the City of Lancaster, 44933 North Fern Avenue, Lancaster, California 93534, and the City of Palmdale, 38300 North Sierra Highway, Palmdale, California 93550

Adoption of the 2010 Urban Water Management Plan is required under the Urban Water Management Planning Act by July 1, 2011 For further information regarding this matter, please call (626) 300-3315

PROOF OF PUBLICATION

(2015.5 C.C.P.)

The space above for filing stamp only

STATE OF CALIFORNIA } ss

County of Los Angeles

LA CO WATER DISTRICT 40

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 Antelope Valley Press, a newspaper of general circulation, printed and published daily in the City of Palmdale, County of Los Angeles, and which newspaper has been adjudged a newspaper of general circulation by the Superior Court of the County of Los Angeles, State of California, under date of October 24, 1931, Case Number 328601; Modified Case Number 657770 April 11, 1956; also operating as the Ledger-Gazette, adjudicated a legal newspaper June 15, 1927, by Superior Court decree No. 224545; also operating as the Desert Mailer News, formerly known as the South Antelope Valley Foothill News, adjudicated a newspaper of general circulation by the Superior Court of the County of Los Angeles, State of California on May 29, 1967. Case Number NOC564 and adjudicated a newspaper of general circulation for the City of Lancaster, State of California on January 26, 1990, Case Number NOC10714, Modified October 22, 1990; that the notice, of which the annexed is a printed copy (set in type not smaller than nonpareil), has been published in each regular and entire issue of said newspaper and not in any supplement thereof on the following dates, to-wit:

May 12, 19, 2011

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

Signature

Dated. May 19, 2011
Executed at Palmdale, California

LOS ANGELES COUNTY WATERWORKS DISTRICT NO. 40, ANTELOPE VALLEY, PALMDALE WATER DISTRICT, QUARTZ HILL WATER DISTRICT, AND ROSAMOND COMMUNITY SERVICES DISTRICT NOTICE OF PUBLIC HEARING FOR ADOPTION OF THE 2010 INTEGRATED REGIONAL URBAN WATER MANAGEMENT PLAN FOR THE ANTELOPE VALLEY

The Los Angeles County Waterworks District No. 40, Antelope Valley, Palmdale Water District, Quartz Hill Water District, and Rosamond Community Services District will hold a public hearing on May 31, 2011, at 6:15 p.m. in the Emergency Operations Center, Lancaster City Hall, 44933 N. Fern Avenue, Lancaster, California, 93534, in the matter of adopting the Integrated Regional Urban Water Management Plan for the Antelope Valley.

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Adoption of the 2010 Urban Water Management Plan is required under the Urban Water Management Planning Act by July 1, 2011. For further information regarding this matter, please call (626) 300-3315.

Publish: 5/12, 5/19, 2011

Valley Press
37404 SIERRA HWY., PALMDALE CA 93550
Telephone (661)267-4112/Fax (661)947-4870

Appendix B-2

QHWD

Notice of Public Hearing and Adoption Resolution

RESOLUTION 11-0608A

RESOLUTION OF THE BOARD OF DIRECTORS OF THE QUARTZ HILL WATER DISTRICT, LOS ANGELES COUNTY, CALIFORNIA, APPROVING THE 2010 INTEGRATED URBAN WATER MANAGEMENT PLAN FOR QUART HILL WATER DISTRICT

WHEREAS, the Urban Water Management Planning Act (Division 6 of the California Water Code) requires each water supplier with more than 3000 customers (service connections), or annually supplying more than 3000 acre-feet of water to prepare and adopt an Urban Water Management Plan; and

WHEREAS, the Quartz Hill Water District has approximately 5,500 service connections and is therefore required to prepare and adopt an Urban Water Management Plan; and

WHEREAS, the District's 2010 Integrated Urban Water Management Plan for the Quartz Hill Water District (attachment A) meets the requirements of the Urban Water Management Planning Act.

NOW, THEREFORE, BE IT RESOLVED that the Board of Directors of the Quartz Hill Water District hereby adopts the 2010 Integrated Urban Water Management Plan for the Antelope Valley, Quartz Hill Water District, Rosamond Community Service District and Los Angeles County, Department of Public Works, Waterworks District No. 40.

Approved by the Board Members of Quartz Hill Water District at the Board Meeting on 6-8-11 at 42141 N 50th Street West, Quartz Hill, CA 93536.

Carried: FLICK, J POWELL, SCOTT, GROSS, P POWELL
Ayes: 5
Noes: 0
Abstained: 0
Absent: 0

Attested:

Allen G. Flick, Sr.
President of the Board of Directors

Debi Pizzo
Secretary to the Board of Directors

LOS ANGELES COUNTY WATERWORKS DISTRICT NO. 40, ANTELOPE VALLEY, PALMDALE WATER DISTRICT, QUARTZ HILL WATER DISTRICT, AND ROSAMOND COMMUNITY SERVICES DISTRICT
NOTICE OF PUBLIC HEARING FOR ADOPTION OF THE 2010 INTEGRATED REGIONAL URBAN WATER MANAGEMENT PLAN FOR THE ANTELOPE VALLEY

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Adoption of the 2010 Urban Water Management Plan is required under the Urban Water Management Planning Act by July 1, 2011 For further information regarding this matter, please call (626) 300-3315

PROOF OF PUBLICATION

(2015.5 C.C.P.)

The space above for filing stamp only

STATE OF CALIFORNIA } ss

County of Los Angeles

LA CO WATER DISTRICT 40

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 **Antelope Valley Press**, a newspaper of general circulation, printed and published daily in the **City of Palmdale**, County of Los Angeles, and which newspaper has been adjudged a newspaper of general circulation by the Superior Court of the County of Los Angeles, State of California, under date of October 24, 1931, Case Number 328601, Modified Case Number 657770 April 11, 1956; also operating as the Ledger-Gazette, adjudicated a legal newspaper June 15, 1927. by Superior Court decree No. 224545; also operating as the Desert Mailer News, formerly known as the South Antelope Valley Foothill News, adjudicated a newspaper of general circulation by the Superior Court of the County of Los Angeles, State of California on May 29, 1967. Case Number NOC564 and adjudicated a newspaper of general circulation for the **City of Lancaster**, State of California on January 26, 1990, Case Number NOC10714, Modified October 22, 1990; that the notice, of which the annexed is a printed copy (set in type not smaller than nonpareil), has been published in each regular and entire issue of said newspaper and not in any supplement thereof on the following dates, to-wit:

May 12, 19, 2011

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

Signature

Dated. May 19, 2011
Executed at Palmdale, California

LOS ANGELES COUNTY WATERWORKS DISTRICT NO. 40, ANTELOPE VALLEY, PALMDALE WATER DISTRICT, QUARTZ HILL WATER DISTRICT, AND ROSAMOND COMMUNITY SERVICES DISTRICT NOTICE OF PUBLIC HEARING FOR ADOPTION OF THE 2010 INTEGRATED REGIONAL URBAN WATER MANAGEMENT PLAN FOR THE ANTELOPE VALLEY

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Adoption of the 2010 Urban Water Management Plan is required under the Urban Water Management Planning Act by July 1, 2011. For further information regarding this matter, please call (626) 300-3316.
Publish: 5/12, 5/19, 2011

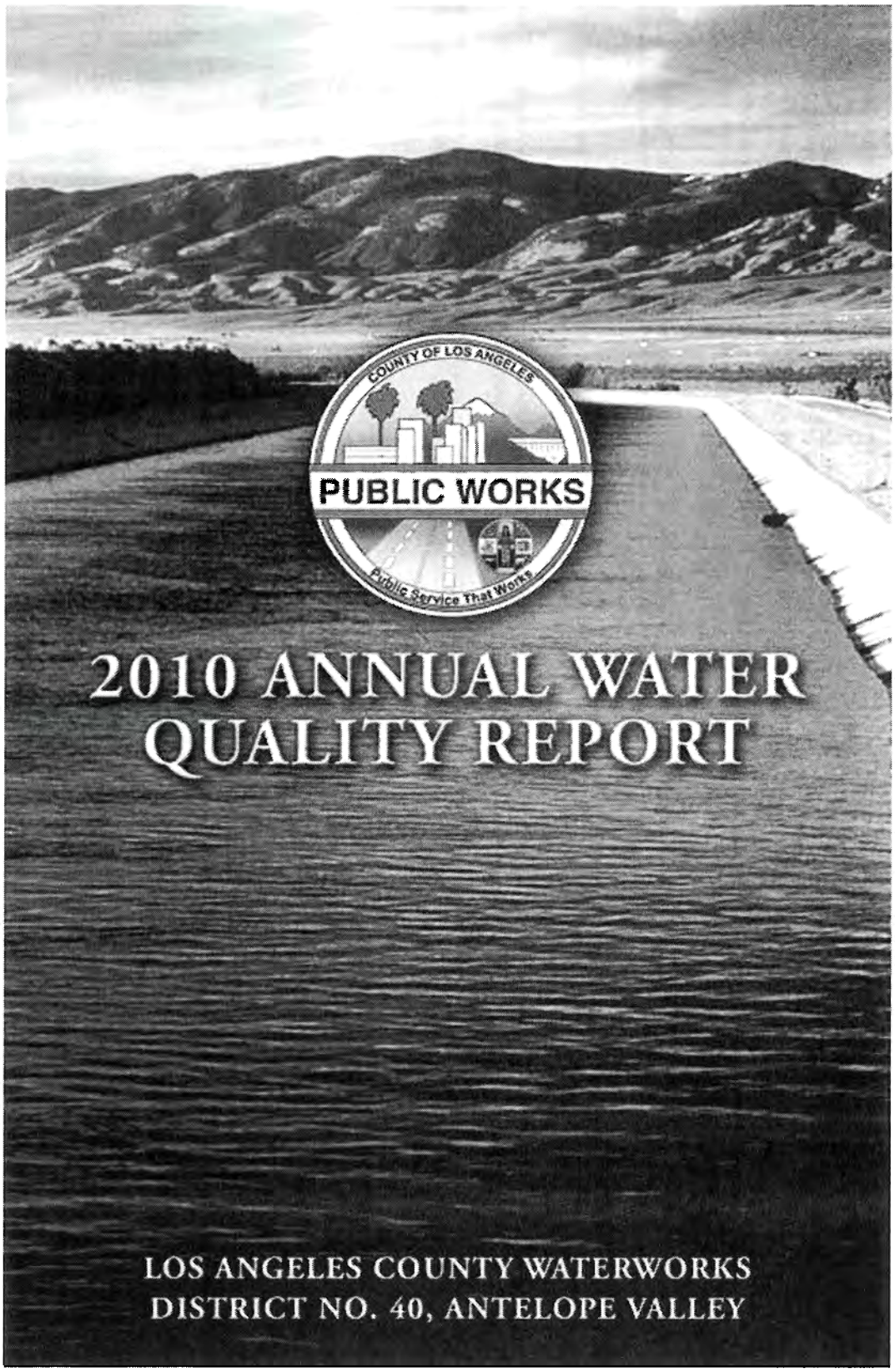
Valley Press
37404 SIERRA HWY., PALMDALE CA 93550
Telephone (661)267-4112/Fax (661)947-4870

Appendix C

Consumer Confidence Reports

Appendix C-1

District No. 40 Consumer Confidence Report



2010 ANNUAL WATER QUALITY REPORT

LOS ANGELES COUNTY WATERWORKS
DISTRICT NO. 40, ANTELOPE VALLEY

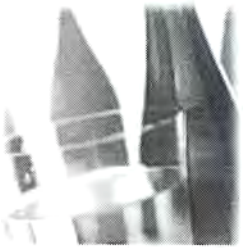
LOS ANGELES COUNTY WATERWORKS DISTRICT NO. 40, ANTELOPE VALLEY WATER QUALITY REPORT FOR CALENDAR YEAR 2010

The Los Angeles County Waterworks District is pleased to provide you with our 2010 Annual Water Quality Report. We are committed to serving you a reliable supply of high quality water that meets State and Federal standards. Our on-going efforts include increasing the capacity and reliability of the water system and ensuring the quality of our water supply through rigorous water quality testing.

There are two drinking water quality standards, Primary and Secondary Drinking Water Standards. Primary Drinking Water Standards are set for substances that are thought to pose a health risk at certain levels and are enforceable by law. Secondary Drinking Water Standards are set for substances that do not pose a health risk and are intended to control the aesthetic qualities related to the public acceptance of drinking water. Secondary Standards are not enforceable by law. We are pleased to inform you that during all of 2010, your drinking water met all Primary and Secondary Drinking Water Standards.

This report is intended to provide you with a better understanding of your drinking water It contains information about where your water comes from, how your water is treated and monitored, and what contaminants may be present in your water. Moreover, we have included source water assessments, results from our water quality testing, and general information about your drinking water.

Este informe contiene informacion muy importante sobre su agua potable Traduzcalo o hable con alguien que lo entienda bien.



WATER QUALITY MONITORING

To ensure that water is safe to drink, the United States Environmental Protection Agency (USEPA) and the California Department of Public Health (CDPH) prescribe regulations that limit the amount of certain contaminants in water provided by public water systems.

To meet these regulations, the District has contracted with a State-certified laboratory to conduct all water quality analyses. The source water is tested for chemical, physical, radiological, and bacteriological parameters as required by Federal and State regulations. We also test for additional organic and inorganic chemicals that are not regulated.

Key locations within the distribution system have been selected to monitor water quality. Every week, the distribution system is tested for bacteria and disinfectant levels to ensure that you receive safe and high quality drinking water The distribution system is also tested for color, odor, temperature, turbidity, and disinfection by-products monthly. All tests are conducted in a State-certified laboratory using Federally approved testing methods Our contracted laboratory is equipped with state-of-the-art instruments capable of detecting contaminants at very minute quantities

WHERE YOUR WATER COMES FROM

The sources of drinking water include rivers, lakes, streams, ponds, reservoirs, springs, and wells. The District's sources of drinking water in the Antelope Valley are local groundwater and surface ("imported") water purchased from the Antelope Valley-East Kern Water Agency (AVEK). AVEK's water primarily comes from the State Water Project (SWP), the 444 mile-long California Aqueduct that transports water from the Sacramento-San Joaquin River Delta to Southern California SWP contractors for use as agricultural or urban supply.

The surface water in your region comes from one of AVEK's facilities, Quartz Hill Water Treatment Plant (QHWTP) or Eastside Water Treatment Plant (EWTP). Water quality information is presented in the table contained in this report.

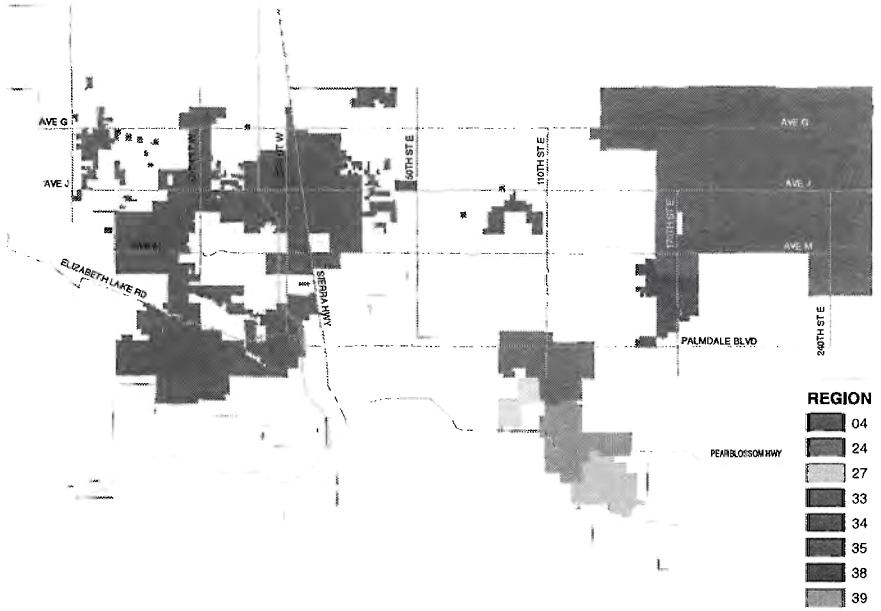
Regions 4 & 34 provides water to customers in Lancaster and Desert View Highlands Customers received approximately 12% local groundwater and 88% SWP water from QHWTP in 2010.

Regions 24, 27, & 33 provides water to customers in Pearblossom, Littlerock and Sun Village Customers received approximately 35% local groundwater and 65% SWP water from EWTP in 2010.

Region 35 provides water to customers in Northeast Los Angeles County. Customers received 100% local groundwater in 2010.

Region 38 provides water to customers in Lake Los Angeles. Customers received approximately 65% local groundwater and 35% SWP water from EWTP in 2010

Region 39 provides water to customers in Rock Creek. Customers received approximately 50% local groundwater and 50% water purchased from Region 24 in 2010



SOURCE WATER ASSESSMENT

CDPH completed a 2006 update of the Source Water Assessment (SWA) for the California Aqueduct, AVEK's water source. The SWA is used evaluate the vulnerability of water sources to contamination and helps determine whether more protective measures are needed Water supplies from the Sacramento-San Joaquin River Delta are most vulnerable to contamination from municipal, industrial and agricultural activities. Also influencing the quality of water pumped from the Delta is the impact of the estuarial nature of the Delta and the naturally occurring salt-water intrusion which is dependent to a large extent on the inflow from the contributing rivers. A copy of the complete assessment can be obtained by contacting AVEK by phone at (661) 943-3201.

An SWA for the District's groundwater sources was completed in January 2002. The wells in the Antelope Valley region are considered vulnerable to various contaminating activities including the following, dry cleaners, high density housing, sewer collection/septic systems, agriculture, automobile gas stations/repair and body shops, chemical processing/storage, above ground storage tanks, and other commercial/industrial activities. A copy of the complete assessment can be obtained by contacting CDPH by phone at (818) 551-2004

THE QUALITY OF YOUR WATER

Lead Infants and young children are typically more vulnerable to lead in drinking water than the general population. It is possible that lead levels at your home may be higher than at other homes in the community as a result of materials used in your home's plumbing. The District is responsible for providing high quality drinking water, but cannot control the variety of materials used in plumbing components. When your water has been sitting for several hours, you can minimize the potential for lead exposure by flushing your tap for 30 seconds to 2 minutes before using water for drinking or cooking. If you are concerned about lead in your water, you may wish to have your water tested Information on lead in drinking water, testing methods, and steps you can take to minimize exposure is available from the USEPA Safe Drinking Water Hotline (1-800-426-4791) or at http://www.epa gov/safewater/lead.

Arsenic: While your drinking water meets the federal and state standard of arsenic, it does contain low levels of arsenic The arsenic standard balances the current understanding of arsenic's possible health effects against the costs of removing arsenic from drinking water The U.S. Environmental Protection Agency continues to research the health effects of low levels of arsenic, which is a mineral known to cause cancer in humans at high concentrations and is linked to other health effects such as skin damage and circulatory problems.

Nitrate: Nitrate in drinking water at levels above 45 mg/L is a health risk for infants of less than six months of age. Such nitrate levels in drinking water can interfere with the capacity of the infant's blood to carry oxygen, resulting in a serious illness, symptoms include shortness of breath and blueness of the skin. Nitrate levels above 45 mg/L may also affect the ability of the blood to carry oxygen in other individuals, such as pregnant women and those with certain specific enzyme deficiencies. If you are caring for an infant, or you are pregnant, you should ask advice from your health care provider.

Disinfection by-products: Disinfection by-products, which include trihalomethanes (THMs) and haloacetic acids (HAA5), are generated by the interaction of between naturally occurring organic matter and disinfectants such as chlorine and ozone THMs and HAA5 are measured at several points in each system and averaged once per quarter and reported as a running annual average

Some people may be more vulnerable to contaminants in drinking water than the general population. Immuno-compromised persons such as persons with cancer undergoing chemotherapy, persons who have undergone organ transplants, people with HIV/AIDS or other immune system disorders, some elderly, and infants can be particularly at risk from infections These people should seek advice about drinking water from their health care providers. USEPA/Centers for Disease Control (CDC) guidelines on appropriate means to lessen the risk of infection by Cryptosporidium and other microbial contaminants are available from the Safe Drinking Water Hotline (1-800-426-4791)

CONTAMINANTS THAT MAY BE PRESENT IN WATER

The sources of drinking water (both tap and bottled water) include rivers, lakes, streams, ponds, reservoirs, springs, and wells. As water travels over the surface of the land or through the ground, it dissolves naturally occurring minerals and, in some cases, radioactive material, and can pick up substances resulting from the presence of animals or human activity. Contaminants that may be present in source water include:

Microbial contaminants, such as viruses and bacteria, that may come from sewage treatment plants, septic systems, agricultural livestock operations, and wildlife.

Inorganic contaminants, such as salts and metals, that can be naturally occurring or result from urban stormwater runoff, industrial or domestic wastewater discharges, oil and gas production, mining, or farming.

Pesticides and herbicides, that may come from a variety of sources such as agriculture, urban stormwater runoff, and residential use.

Organic chemical contaminants, including synthetic and volatile organic chemicals, that are byproducts of industrial processes and petroleum production, and can also come from gas stations, urban stormwater runoff and septic systems.

Radioactive contaminants, that can be naturally occurring or be the result of oil and gas production and mining activities.

In order to ensure tap water is safe to drink, the USEPA and CDPH prescribe regulations that limit the amount of certain contaminants in water provided by public water systems. CDPH regulations also establish limits for contaminants in bottled water that provide the same protection for public health

Drinking water, including bottled water, may reasonably be expected to contain at least small amounts of contaminants The presence of contaminants does not necessarily indicate that water poses a health risk. More information about contaminants and potential health effects can be obtained by calling the USEPA's Safe Drinking Water Hotline (1-800-426-4791)

WATER QUALITY DATA

The table below lists all drinking water contaminants that were detected during the 2010 calendar year. The presence of these contaminants in the water does not necessarily indicate that the water poses a health risk. The District tests weekly for bacteria in the distribution system. Trihalomethanes, haloacetic acids, and chlorine are also tested regularly in the distribution system and are reported below. The State requires us to monitor certain contaminants less frequently than once per year because the concentrations of these contaminants do not change frequently

PARAMETER	PHG or [MCLG]	MCL or [MRDL]	SURFACE WATER EASTSIDE PLANT		SURFACE WATER QUARTZ HILL PLANT		REGION 4 & 34 CHLORINATED GROUNDWATER		REGION 24, 27 & 33 CHLORINATED GROUNDWATER		REGION 35 CHLORINATED GROUNDWATER		REGION 38 CHLORINATED GROUNDWATER		REGION 39 CHLORINATED GROUNDWATER	
			RANGE OF DETECTION	AVERAGE LEVEL	RANGE OF DETECTION	AVERAGE LEVEL	RANGE OF DETECTION	AVERAGE LEVEL	RANGE OF DETECTION	AVERAGE LEVEL	RANGE OF DETECTION	AVERAGE LEVEL	RANGE OF DETECTION	AVERAGE LEVEL	RANGE OF DETECTION	AVERAGE LEVEL
PRIMARY DRINKING WATER STANDARDS																
INORGANIC CONTAMINANTS																
ALUMINUM (ppm)	0.6	1	ND	ND	ND	ND	ND-0.1	ND	ND	ND	ND	ND	ND	ND	ND	ND
ARSENIC (ppb)	0.004	10	ND	ND	ND	ND	ND-13.10	4.12	ND	ND	2.0	2.0	ND-2.1	1.0	ND	ND
CHROMIUM (ppb)	[100]	50	ND	ND	ND	ND	ND-20.3	6.5	ND	ND	13.4	13.4	ND	ND	ND	ND
FLUORIDE (ppm)	1	2	ND	ND	0.12	0.12	ND-0.76	0.35	ND-0.31	0.18	0.33	0.33	ND-0.25	0.13	0.45	0.45
NITRATE (AS NO_3) (ppm)	45	45	2.2	2.2	2.5	2.5	ND-19.6	4.1	ND-31.7	25.7	3.4	3.4	2.9-6.2	4.6	ND	ND
SELENIUM (ppb)	30	50	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND-5.6	2.8	ND	ND
MICROBIOLOGICAL CONTAMINANT																
TOTAL COLIFORM (%)	[0]	**					0-1.23	0.10	0	0	0	0	0-5.56**	0.46	0	0
DISINFECTANT BYPRODUCT PRECURSORS																
TOTAL ORGANIC CARBON (ppm)	N/A	TT	0.6-2.7	1.7	0.6-2.7	1.7										
RADIOLOGICAL CONTAMINANTS																
GROSS ALPHA PARTICLE ACTIVITY (pCi/L)	[0]	15					ND-5.75	2.27	3.39-4.71	3.94	1.81	1.81	4.02	4.02	3.14	3.14
RADIUM 226 (pCi/L)	0.05	5					ND-0.56	0.10	ND-0.12	0.05	0.53	0.53	0.10	0.10	0.17	0.17
RADIUM 228 (pCi/L)	0.019	5					ND-2.91	0.26	ND-0.09	0.02	0.28	0.28	ND	ND	0.71	0.71
URANIUM (pCi/L)	0.43	20					ND-6.47	1.77	0.8-3.29	1.87	1.65	1.65	2.20	2.20	0.80	0.80
GROSS BETA PARTICLE ACTIVITY (pCi/L)	[0]	50*					ND-1.84	0.66	0.62	0.62			1.41	1.41		
Year of Analysis							2005-2010		2005-2010		2006		2010		2006	
SECONDARY DRINKING WATER STANDARDS																
ALUMINUM (ppb)	600	200	ND	ND	ND	ND	ND-139	ND	ND	ND	ND	ND	ND	ND	ND	ND
CHLORIDE (ppm)	N/A	500	89	89	86	86	4-100	25	6-41	19	6	6	23-106	65	3	3
COPPER (ppm)	0.3	1.0	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	71	71
IRON (ppb)	N/A	300	ND	ND	ND	ND	ND-490	91	ND	ND	ND	ND	ND	ND	ND	ND
MANGANESE (ppb)	N/A	50	ND	ND	ND	ND	ND-41	1.8	ND	ND	ND	ND	ND	ND	ND	ND
SPECIFIC CONDUCTANCE (uS/cm)	N/A	1600	490	490	330-644	455	208-1100	398	352-808	539	367	367	452-587	520	548	548
SULFATE (ppm)	N/A	500	50	50	48	48	ND-220	53	39-94	58	64	64	64-75	70	69	69
TOTAL DISSOLVED SOLIDS (ppm)	N/A	1000	250	250	260	260	138-654	258	230-558	362	250	250	266-368	317	344	344
ZINC (ppm)	N/A	5	0.6	0.6	0.4	0.4	ND-0.1	ND	ND	ND	ND	ND	ND	ND	0.1	0.1
GENERAL PHYSICAL PARAMETERS																
COLOR (units)	N/A	15	<1-<5	<5	<1-<5	<5	ND-<5	<5	ND	ND	ND	ND	ND	ND	ND	ND
ODOR THRESHOLD (units)	N/A	3	<1	<1	<1	<1	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
TURBIDITY (units)	N/A	5	0.01-0.08	0.04	0.01-0.18	0.04	ND-4.21	0.97	0.12-0.44	0.26	0.21	0.21	0.22-0.28	0.25	0.20	0.20
UNREGULATED CONTAMINANTS																
BORON (ppb)	N/A	NL=1000					ND-760	158	ND-120	60	34-59	47	120	120	126	126
CHROMIUM VI (ppb)	N/A	N/A					ND-11.2	5.9	ND-3.5	1.6	9.8-12.4	11.1	9.0	9.0	ND	ND
VANADIUM (ppb)	N/A	NL=50					ND-33.5	13.4	3.0-12.9	9.8	8.4-12.3	10.4	8.0	8.0	5.2	5.2

PARAMETER	PHG or [MCLG]	MCL or [MRDL]	SURFACE WATER EASTSIDE PLANT		SURFACE WATER QUARTZ HILL PLANT		REGION 4 & 34 CHLORINATED GROUNDWATER		REGION 24, 27 & 33 CHLORINATED GROUNDWATER		REGION 35 CHLORINATED GROUNDWATER		REGION 38 CHLORINATED GROUNDWATER		REGION 39 CHLORINATED GROUNDWATER	
			RANGE OF DETECTION	AVERAGE LEVEL	RANGE OF DETECTION	AVERAGE LEVEL	RANGE OF DETECTION	AVERAGE LEVEL	RANGE OF DETECTION	AVERAGE LEVEL	RANGE OF DETECTION	AVERAGE LEVEL	RANGE OF DETECTION	AVERAGE LEVEL	RANGE OF DETECTION	AVERAGE LEVEL
GENERAL MINERAL CONSTITUENTS																
BICARBONATE ALKALINITY (ppm)	N/A	N/A	70	70	74	74	69-215	120	96-206	164	124	124	78-138	108	193	193
CALCIUM (ppm)	N/A	N/A	18	18	18	18	ND-100	27	24-74	53	28	28	28-40	34	70	70
MAGNESIUM (ppm)	N/A	N/A	13	13	12	12	ND-45	6	21	16	10	10	6-12	9	22	22
SODIUM (ppm)	N/A	N/A	58	58	57	57	18-134	52	22-94	47	43	43	34-70	52	20	20
TOTAL HARDNESS (ppm)	N/A	N/A	98	98	96	96	ND-435	91	127-270	196	110	110	120-150	135	264	264
pH (pH Units)	N/A	N/A	6.3-7.2	6.7	6.5-7.2	6.8	7.0-8.7	7.8	7.2-8.2	7.7	8.2	8.2	7.0-7.4	7.2	7.4	7.4
TOTAL ALKALINITY (as $CaCO_3$) (ppm)	N/A	N/A	57	57	60	60										
POTASSIUM (ppm)	N/A	N/A	2.8	2.8	2.7	2.7										
DISTRIBUTION SYSTEM WATER QUALITY																
DISINFECTANTS & DISINFECTION BYPRODUCTS	**MCLG or [MRDLG]**	**MCL or [MRDL]**					**RANGE OF DETECTION**	**HRAA**	**RANGE OF DETECTION**	**HRAA**	**RANGE OF DETECTION**	**HRAA**	**RANGE OF DETECTION**	**HRAA**	**RANGE OF DETECTION**	**HRAA**
TOTAL CHLORINE (ppm)	[4] as Cl_2	[4] as Cl_2					0.79-1.16	1.20	0.60-0.91	0.89	0.82-1.41	1.13	0.67-0.98	1.02	0.49-1.53	0.99
TOTAL TRIHALOMETHANES (ppb)	N/A	80					1-78	36	13-86	52	11-24	16	8-107	41	5-101	45
HALOACETIC ACIDS (ppb)	N/A	60					1-15	13	1-17	14	ND-4	3	ND-23	11	ND-37	13
RESIDENTIAL TAP WATER QUALITY																
LEAD AND COPPER* **							**RANGE**	**90TH%**	**ABOVE AL**	**RANGE**	**90TH%**	**ABOVE AL**	**RANGE**	**90TH%**	**ABOVE AL**	**RANGE**	**90TH%**	**ABOVE AL**	**RANGE**	**90TH%**	**ABOVE AL**
COPPER (ppm)	0.17	NL=1.3					ND-0.98	0.54	0	ND-0.55	0.32	0	ND-0.28	ND	0	ND-0.45	0.41	0	ND-0.19	0.19	0
LEAD (ppb)	2	NL=15					ND-6.5	ND	0	ND-131	ND	1	ND-5.7	ND	0	ND-75.7	ND	1	ND-29.4	14.2	2
NUMBER OF SITES TESTED							54			20			15			30			12		
YEAR OF ANALYSIS							2010			2008			2008			2008			2008		

TERMS AND ABBREVIATIONS USED IN THE WATER QUALITY DATA TABLE

Maximum Contaminant Level (MCL) is the highest level of a contaminant that is allowed in drinking water. MCLs are set as close to the PHGs and MCLGs as is economically or technologically feasible.

Maximum Contaminant Level Goal (MCLG) is the level of o contaminant in drinking water below which there is no known or expected risk to health. MCLGs are set by the USEPA.

Public Health Goal (PHG) is the level of a contaminant in drinking water below which there is no known or expected risk to health. PHGs ore set by the California Environmental Protection Agency.

Maximum Residual Disinfectant Level (MRDL) is the level of a disinfectant added for water treatment that may not be exceeded at the consumer's tap.

Maximum Residual Disinfectant Level Goal (MRDLG) is the level of a disinfectant added for water treatment below which there is no known or expected risk to health. MRDLs are set by the USEPA.

Primary Drinking Water Standards (PDWS) are MCLs and MRDLs for contaminants that affect health along with their monitoring and reporting requirements, and water treatment requirements.

Regulatory Action Level (AL) is the concentration of a contaminant which, if exceeded, triggers treatment or other requirements which a water system must follow.

Treatment Technique (TT) is a required process intended to reduce the level of o contaminont in drinking water.

* Effective 6/11/2006, the gross beta particle MCL is 4 millirem/year annual does equivalent to the total body or any internal organ. 50 pCi/L is used as a screening level.

** MCL: Systems that collect 40 or more samples per month: 5.0% of monthly samples are positive; Systems that collect less than 40 samples per month: no more than 1 positive month sample (12 samples per month collected in Region 38, the total coliform MCL was not exceeded in 2010)

*** The District is required to sample for lead and copper at specific consumer taps. The results for lead and copper are reported as the 90th percentile. The 90th percentile is the result that is greater than 90% of oll the results.

ppm = parts per million (milligrams per liter)
ppb = parts per billion (micrograms per liter)
pCi/L = picoCuries per liter
ppt = parts per trillion
N/A = Not Applicable
ND = None Detected
NL = Notification Level
AL = Action Level
HRAA = Highest Running Annual Average

BOTTLED WATER, HOME TREATMENT DEVICES, AND SOFTENERS

Bottled water need not be purchased for health reasons, since tap water meets the Federal and State drinking water standards. If taste is an issue, bottled water might be the answer, but keep in mind that it is over 1,000 times more expensive than tap water

Installation of a home treatment unit is a personal matter These devices are not required to make the water meet the Federal and State drinking water standards. In fact, if not properly maintained, these devices may actually cause water quality problems However, some people are concerned about the taste of their drinking water. If taste is an issue, then a home treatment unit might be appropriate All units require maintenance and should be bought from a reputable dealer. They should also be tested and validated against accepted performance standards like those used by the National Sanitation Foundation (NSF).

Hardness in drinking water is caused by two non-toxic minerals calcium and magnesium. Hard water reduces the amount of lather or suds produced by soap. Hard water also tends to leave deposits such as rings in the bathtub, scales on cooking pots and irons, and spots on glassware At a hardness level above 120 milligrams per liter, a water softener might be considered to reduce deposits in the hot water system and to make washing easier. Distilled water may be used in place of drinking water in irons to prevent deposits.

Water softeners generally replace the non-toxic hardness minerals in the water with sodium. Although the amount of sodium produced is relatively insignificant in comparison to the sodium found in food, people with sodium restricted diets should consult their doctor or install a softener for their hot water supply only.

CAPITAL IMPROVEMENTS

The construction of four new groundwater wells, disinfection facility and storage reservoir in Lancaster was completed in 2010 to increase water supply reliability in the Antelope Valley.

WATER CONSERVATION TIPS

"We all need to conserve water," is the resounding message from Mark Cowin, Director of the State Department of Water Resources. Despite recent storms California continues to face a water crisis resulting from the past three years of drought as well as environmental constraints. According to Mr. Cowin California's water shortage will continue this year. Residents are highly encouraged to make an extra effort to conserve water given the current condition of the region and District's water supply.

In addition to protecting the quality of water delivered to you, we also promote and implement water conservation programs for the Districts' customers. You can learn how to conserve water at home and save money by calling (626) 300-3391 or email irrosales@dpw.lacounty.gov to request a conservation specialist to visit your home at no cost to you. We will provide personalized recommendations for water conserving measures to reduce your water usage without affecting your quality of life. In addition, we offer rebates of up to $150 on water saving devices like high efficiency clothes washers. For more information visit www.lacwaterworks.org or contact Ms. Irma Rosales at (626) 300-3391.

Every California resident can take these simple steps to save water and reduce our impact on the planet.

- Consider replacing a green lawn with water-efficient landscape and plant native and drought-tolerant plants that use less water, permeable hardscape, and drip irrigation.
- For green lawn, adjust your sprinklers. Up to 70 percent of residential water use goes to maintaining our yards Try taking a minute or two off the timer.
- Check your system Do a weekly check for broken or clogged sprinkler heads and replace them right away.
- Fix those leaks. Just a drip can waste more than 10,000 gallons per month A leaking flapper on a toilet also increases flows at the water treatment plant.

Up to 70% of residential water use occurs outdoors. Make sure your sprinklers water the yard, not the sidewalk or street Landscaping your yard and garden with California native and drought-tolerant plants is also a smart alternative for residents who want to have a beautiful garden and save water and money These plants are accustomed to local weather and soil conditions and thrive with little summer watering. Using them not only saves water, but saves maintenance time and produces a habitat for native birds, beneficial insects and wildlife. The best time to plant native plants is between October and May each year.

PUBLIC PARTICIPATION AND CONTACT INFORMATION

The regular meetings of the Los Angeles County Board of Supervisors are held every Tuesday at 9:30 a.m. in the Board's Hearing Room located at 500 West Temple Street, Room 381B, Kenneth Hahn Hall of Administration in Los Angeles. The regular meeting of the Board held on the fourth Tuesday of each month is primarily for the purpose of conducting legally required public hearings on zoning matters, fee increases, special district proceedings, property transactions, etc. On Tuesdays following a Monday holiday, the meetings begin at 1:00 p.m.

The Los Angeles County Waterworks Districts welcome your comments on our Annual Water Quality Report. For questions or comments regarding water quality or this report, please contact Mr. Timothy Chen at (626) 300-3342. To view this report on the internet, please visit our website at **http://www.lacwaterworks.org/waterquality**.

PUBLIC WORKS

900 S. Fremont Ave.
Alhambra, CA 91803

To the Water Customer at:

Appendix C-2

QHWD Consumer Confidence Report

Quality First

Once again we are proud to present our annual water quality report covering all testing performed between January 1 and December 31, 2010. As in years past, we are committed to delivering the best-quality drinking water possible. To that end, we remain vigilant in meeting the challenges of new regulations, source water protection, water conservation, and community outreach and education while continuing to serve the needs of all of our water users. Thank you for allowing us to continue providing you and your family with high-quality drinking water.

We encourage you to share your thoughts with us on the information contained in this report. Should you ever have any questions or concerns, we are always available to assist you.

From the General Manager

The Quartz Hill Water District has historically relied upon two sources of water to supply all of our customers. The first source comes from the Antelope Valley Ground Water Basin and is commonly referred to as ground water. During the 2010 year, 35 percent of the total amount of water used by the District came from one of the nine district-owned wells. These wells vary in depth from 500 to 600 feet and are monitored daily to ensure that only the highest quality of water is distributed through our system. The second source of water that supplies the Quartz Hill Water District comes from Antelope Valley East Kern Water Agency's Quartz Hill Treatment Plant. This source provides 65 percent of the total water used during the 2010 year. This water is supplied to the district through two interconnections that are both located south of M-8.

Monthly general physical samples are tested on the distribution system as well as weekly bacteriological samples throughout the system to ensure that only the highest quality of water is delivered to our customers. Additional parameters, not shown in this pamphlet, were tested but not reported because the tests found no contaminants. All water quality analyses were conducted by a state certified laboratory in compliance with California Department of Public Health Drinking Water Standards.

Respectfully,

Chad J. Reed, General Manager

Impact of Zebra Mussels

The zebra mussel is a small mussel native to Russia. In 1988, it reached North America by a transatlantic freighter. Since then, they have continued to spread throughout the country. Zebra mussels are very successful invaders because they live and feed in many different aquatic habitats and breed prolifically (each female produces 1 million eggs per year) for their entire five-year lifespan.

Adult zebra mussels colonize on living and nonliving surfaces, including boats, buoys, piers, plants, and clams. They are a great concern to drinking water utilities because they can attach themselves to water intake pipes, severely restricting the flow of fresh water. They can also impact water quality by increasing taste-and-odor problems in the water supply.

Zebra mussels are almost impossible to eradicate once they become established. Water utilities have had to retool their water intake systems to prevent zebra-mussel-related problems, costing millions of dollars a year. Utilities rely on a variety of methods to remove mussels from intake pipes; since there is no single, ideal removal solution, new methods are constantly under investigation.

While complete removal may be impossible, preventing zebra mussel spread is not. Human activities have spread them into many inland lakes and streams, usually through recreational boating, fishing, and diving practices. Simple steps such as draining live wells, cleaning vegetation off boat trailers, removing attached zebra mussels from boat hulls, and not dumping bait into lakes or rivers can prevent the spread of zebra mussels into noninfested waters.

Lead and Drinking Water

If present, elevated levels of lead can cause serious health problems, especially for pregnant women and young children. Lead in drinking water is primarily from materials and components associated with service lines and home plumbing. We are responsible for providing high-quality drinking water, but we cannot control the variety of materials used in plumbing components. When your water has been sitting for several hours, you can minimize the potential for lead exposure by flushing your tap for 30 seconds to 2 minutes before using water for drinking or cooking. If you are concerned about lead in your water, you may wish to have your water tested. Information on lead in drinking water, testing methods, and steps you can take to minimize exposure is available from the Safe Drinking Water Hotline or at www.epa.gov/safewater/lead.

Community Participation

We welcome input from our rate payers. The Board of Directors meets in our Conference Room on the second Wednesday of each month at 7:00 p.m. The public is always welcome to attend Board Meetings.

Source Water Assessment

A Source Water Assessment Plan (SWAP) is available at our office. This plan is an assessment of the delineated area around our listed sources through which contaminants, if present, could migrate and reach our source water. It also includes an inventory of potential sources of contamination within the delineated area, and a determination of the water supply's susceptibility to contamination by the identified potential sources.

According to the Source Water Assessment Plan, our water system had a susceptibility rating of "medium." If you would like to review the Source Water Assessment Plan, please feel free to contact our office during regular business hours.

Important Health Information

Some people may be more vulnerable to contaminants in drinking water than the general population. Immunocompromised persons such as persons with cancer undergoing chemotherapy, persons who have undergone organ transplants, people with HIV/AIDS or other immune system disorders, some elderly, and infants may be particularly at risk from infections. These people should seek advice about drinking water from their health care providers. The U.S. EPA/CDC (Centers for Disease Control and Prevention) guidelines on appropriate means to lessen the risk of infection by *Cryptosporidium* and other microbial contaminants are available from the Safe Drinking Water Hotline at (800) 426-4791.

Questions?

For more information about this report, or for any questions relating to your drinking water, please call Chad J. Reed, General Manager, at (661) 943-3170. The Antelope Valley East Kern Water Agency (AVEK) 2010 Water Quality Report is available on request.

Substances That Could Be in Water

The sources of drinking water (both tap water and bottled water) include rivers, lakes, streams, ponds, reservoirs, springs, and wells. As water travels over the surface of the land or through the ground, it dissolves naturally occurring minerals and, in some cases, radioactive material and can pick up substances resulting from the presence of animals or from human activity.

In order to ensure that tap water is safe to drink, the U.S. Environmental Protection Agency (U.S. EPA) and the State Department of Public Health (Department) prescribe regulations that limit the amount of certain contaminants in water provided by public water systems. Department regulations also establish limits for contaminants in bottled water that must provide the same protection for public health. Drinking water, including bottled water, may reasonably be expected to contain at least small amounts of some contaminants. The presence of contaminants does not necessarily indicate that water poses a health risk.

Contaminants that may be present in source water include:

Microbial Contaminants, such as viruses and bacteria, that may come from sewage treatment plants, septic systems, agricultural livestock operations, and wildlife;

Inorganic Contaminants, such as salts and metals, that can be naturally occurring or can result from urban stormwater runoff, industrial or domestic wastewater discharges, oil and gas production, mining, or farming;

Pesticides and Herbicides, that may come from a variety of sources such as agriculture, urban stormwater runoff, and residential uses;

Organic Chemical Contaminants, including synthetic and volatile organic chemicals, which are by-products of industrial processes and petroleum production and which can also come from gas stations, urban stormwater runoff, agricultural applications, and septic systems;

Radioactive Contaminants, that can be naturally occurring or can be the result of oil and gas production and mining activities.

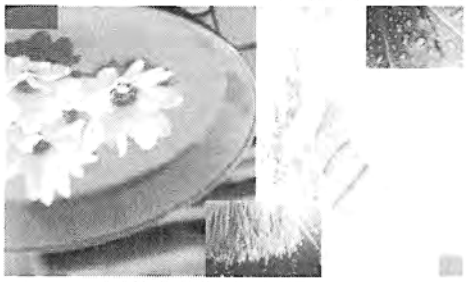
More information about contaminants and potential health effects can be obtained by calling the U.S. EPA's Safe Drinking Water Hotline at (800) 426-4791.

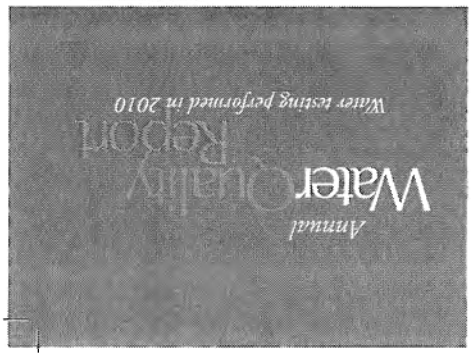
Quartz Hill Water District
42141 N 50th Street West
Quartz Hill, CA 93536

Este informe contiene información muy importante sobre su agua potable. Traduzcallo o hable con alguien que lo entienda bien.

PWS ID# 1910130

Presented By
Quartz Hill Water District





Sampling Results

During the past year we have taken hundreds of water samples in order to determine the presence of any radioactive, biological, inorganic, volatile organic, or synthetic organic contaminants. The tables below show only those contaminants that were detected in the water. The state requires us to monitor for certain substances less often than once per year because the concentrations of these substances do not change frequently. In these cases, the most recent sample data are included, along with the year in which the sample was taken.

REGULATED SUBSTANCES

SUBSTANCE (UNIT OF MEASURE)	YEAR SAMPLED	MCL [MRDL]	PHG (MCLG) [MRDLG]	AMOUNT DETECTED	RANGE LOW-HIGH	VIOLATION	TYPICAL SOURCE
Arsenic (ppb)	2010	10	0.004	3.26	ND–5.5	No	Erosion of natural deposits; runoff from orchards; glass and electronics production wastes
Barium (ppm)	2010	1	2	0.022	ND–0.11	No	Discharges of oil drilling wastes and from metal refineries; erosion of natural deposits
Chlorine (ppm)	2010	[4.0 (as Cl2)]	[4 (as Cl2)]	38	14–56	No	Drinking water disinfectant added for treatment
Gross Alpha Particle Activity (pCi/L)	2007	15	(0)	1.95	ND–4.2	No	Erosion of natural deposits
Gross Beta Particle Activity[1] (pCi/L)	2003	50	(0)	3.65	3.1–4.2	No	Decay of natural and man-made deposits
Haloacetic Acids [HAAs][2] (ppb)	2010	60	NA	3.5	ND–16.2	No	By-product of drinking water disinfection
Nitrate [as nitrate] (ppm)	2010	45	45	13.58	3–28	No	Runoff and leaching from fertilizer use; leaching from septic tanks and sewage; erosion of natural deposits
TTHMs [Total Trihalomethanes][2] (ppb)	2010	80	NA	16.7	ND–69.2	No	By-product of drinking water disinfection
Turbidity (NTU)	2010	TT	NA	0.4	ND–0.4	No	Soil runoff

Tap water samples were collected for lead and copper analyses from sample sites throughout the community

SUBSTANCE (UNIT OF MEASURE)	YEAR SAMPLED	AL	PHG (MCLG)	AMOUNT DETECTED (90TH %TILE)	SITES ABOVE AL/TOTAL SITES	VIOLATION	TYPICAL SOURCE
Copper (ppm)	2010	1.3	0.3	0.280	0/32	No	Internal corrosion of household plumbing systems; erosion of natural deposits; leaching from wood preservatives
Lead (ppb)	2010	15	0.2	9	0/32	No	Internal corrosion of household water plumbing systems; discharges from industrial manufacturers; erosion of natural deposits

SECONDARY SUBSTANCES

SUBSTANCE (UNIT OF MEASURE)	YEAR SAMPLED	SMCL	PHG (MCLG)	AMOUNT DETECTED	RANGE LOW-HIGH	VIOLATION	TYPICAL SOURCE
Corrosivity (Units)	2010	Noncorrosive	NS	11.65	11.54–11.81	No	Natural or industrially influenced balance of hydrogen, carbon, and oxygen in the water; affected by temperature and other factors
Odor–Threshold (Units)	2008	3	NS	1	1–1	No	Naturally occurring organic materials
Specific Conductance (µS/cm)	2010	1,600	NS	520	360–650	No	Substances that form ions when in water seawater influence
Sulfate (ppm)	2010	500	NS	57.6	32–93	No	Runoff/leaching from natural deposits; industrial wastes
Total Dissolved Solids (ppm)	2010	1,000	NS	371.6	220–390	No	Runoff/leaching from natural deposits
Turbidity (NTU)	2010	5	NS	0.3	0.2–0.5	No	Soil runoff

UNREGULATED SUBSTANCES

SUBSTANCE (UNIT OF MEASURE)	YEAR SAMPLED	AMOUNT DETECTED	RANGE LOW-HIGH
Boron (ppb)	2010	94	ND–120
Chromium VI [Hexavalent Chromium] (ppb)	2003	9.15	4.3–14
Sodium (ppm)	2010	66	60–77
Vanadium (ppb)	2010	17.8	15–22

[1] Effective 6/11/2006, the gross beta particle activity MCL is 4 millirem/year annual dose equivalent to the total body or any internal organ. 50 pCi/L is used as a screening level

[2] We were required by the U.S. EPA to conduct an evaluation of our distribution system. This is known as an Initial Distribution System Evaluation (IDSE) and is intended to identify locations in our distribution system that have elevated disinfection by-product concentrations. Disinfection by-products (e.g. HAAs and TTHMs) result from continuous disinfection of drinking water and form when disinfectants combine with organic matter that naturally occurs in the source water.

Definitions

AL (Regulatory Action Level): The concentration of a contaminant which, if exceeded, triggers treatment or other requirements that a water system must follow.

µS/cm (microsiemens per centimeter): A unit expressing the amount of electrical conductivity of a solution.

MCL (Maximum Contaminant Level): The highest level of a contaminant that is allowed in drinking water. Primary MCLs are set as close to the PHGs (or MCLGs) as is economically and technologically feasible. Secondary MCLs (SMCLs) are set to protect the odor, taste, and appearance of drinking water.

MCLG (Maximum Contaminant Level Goal): The level of a contaminant in drinking water below which there is no known or expected risk to health. MCLGs are set by the U.S. EPA.

MRDL (Maximum Residual Disinfectant Level): The highest level of a disinfectant allowed in drinking water. There is convincing evidence that addition of a disinfectant is necessary for control of microbial contaminants.

MRDLG (Maximum Residual Disinfectant Level Goal): The level of a drinking water disinfectant below which there is no known or expected risk to health. MRDLGs do not reflect the benefits of the use of disinfectants to control microbial contaminants.

NA: Not applicable

ND (Not detected): Indicates that the substance was not found by laboratory analysis.

NS: No standard

NTU (Nephelometric Turbidity Units): Measurement of the clarity, or turbidity, of water. Turbidity in excess of 5 NTU is just noticeable to the average person.

pCi/L (picocuries per liter): A measure of radioactivity.

PDWS (Primary Drinking Water Standard): MCLs and MRDLs for contaminants that affect health along with their monitoring and reporting requirements and water treatment requirements.

PHG (Public Health Goal): The level of a contaminant in drinking water below which there is no known or expected risk to health. PHGs are set by the California EPA.

ppb (parts per billion): One part substance per billion parts water (or micrograms per liter).

ppm (parts per million): One part substance per million parts water (or milligrams per liter).

TT (Treatment Technique): A required process intended to reduce the level of a contaminant in drinking water.

Q & A

Why do I get this report each year?

Community water system operators are required by Federal law to provide their customers an annual water quality report. The report helps people make informed choices about the water they drink. It lets people know what contaminants, if any, are in their drinking water and how these contaminants may affect their health. It also gives the system operators a chance to tell customers what it takes to deliver safe drinking water.

Why does my water sometimes look "milky"?

The "milky" look is caused by tiny air bubbles in the water. The water in the pipes coming into your home or business might be under a bit of pressure, and gasses (the air) are dissolved and trapped in the pressurized water as it flows into your glass. As the air bubbles rise in the glass, they break free at the surface, thus clearing up the water. Although the milky appearance might be disconcerting, the air bubbles won't affect the quality or taste of the water.

How can I keep my pet's water bowl germ free?

Veterinarians generally recommend that water bowls be washed daily with warm, soapy water — normally when you change the water. Scour the corners, nooks, and crannies of the water dish using a small scrub brush. In addition, once a week put water bowls into the dishwasher to sanitize them with hot water. In most situations, disinfectants like bleach are not needed; warm, soapy water is all you need to keep your pet's water clean and safe.

How much water is used during a typical shower?

The Federal Energy Policy Act set a nationwide regulation that limits showerheads to a maximum flow of 2.5 gallons per minute (GPM). Showerheads made before 1980 are rated at 5 GPM. Since the average shower is estimated to last 8.2 minutes, the old showerheads use 41 gallons of water while the newer, low-flow showerheads use only about 21 gallons.

How many contaminants are regulated in drinking water?

The U.S. EPA regulates over 80 contaminants in drinking water. Some states may choose to regulate additional contaminants or to set stricter standards, but all states must have standards at least as stringent as the U.S. EPA's.

Water Conservation

You can play a role in conserving water and saving yourself money in the process by becoming conscious of the amount of water your household is using and by looking for ways to use less whenever you can. It is not hard to conserve water. Here are a few tips:

- Automatic dishwashers use 15 gallons for every cycle, regardless of how many dishes are loaded. So get a run for your money and load it to capacity.
- Turn off the tap when brushing your teeth.
- Check every faucet in your home for leaks. Just a slow drip can waste 15 to 20 gallons a day. Fix it and you can save almost 6,000 gallons per year.
- Check your toilets for leaks by putting a few drops of food coloring in the tank. Watch for a few minutes to see if the color shows up in the bowl. It is not uncommon to lose up to 100 gallons a day from an invisible toilet leak. Fix it and you save more than 30,000 gallons a year.
- Use your water meter to detect hidden leaks (if you are allowed access). Simply turn off all taps and water using appliances. Then check the meter after 15 minutes. If it moved, you have a leak.

Appendix C-3

AVEK Consumer Confidence Report

Antelope Valley-East Kern Water Agency
2010 Annual Water Quality Report - Kern County System

The Antelope Valley-East Kern Water Agency provides treated surface water as a source of drinking water.
Treatment technique: Conventional
EPA Turbidity Performance Standards: Turbidity of the filtered water must:

1. Be less than or equal to 0.30 NTU in 95% of measurements in a month.
2. Not exceed 1 NTU at any time.

Lowest monthly percentage of samples that met Turbidity Performance Standard No. 1: **100%**
Highest single turbidity measurement during the year: **0.19 NTU**
Percentage of samples < 0.30 NTU: **100%**
The number of violations of any surface water treatment requirements: **NONE**
Turbidity (measured in NTU) is a measurement of the cloudiness of water and is a good indicator of water quality and filtration performance. Turbidity results which meet performance standards are considered to be in compliance with filtration requirements.

MICROBIOLOGICAL CONTAMINANTS

Type of Sample(s)	Parameter	Sampling Frequency	MCL	No. of Months in Violation	System Results Range	System Results Average
Distribution	Total Coliform Bacteria	76 - 91 / mo	5% positive	None	0%	0%
& Effluent	Fecal Coliform and E. coli	76 91 / mo	1 pos. with 2 TC pos.	None	0%	0%

INORGANIC CONTAMINANTS

Parameter	Units	MCL	DLR	PHG	RESULTS Plant Effluent (CWR) Range	Plant Effluent (CWR) Average	Raw Influent (Source) Range	Raw Influent (Source) Average
Aluminum	mg/L	1	0.05	0.6	ND	ND		ND
Antimony	µg/L	6	6.0	20		ND		ND
Arsenic	µg/L	10	2.0	0.004		ND		ND
Barium	mg/L	1	0.1	2		ND		ND
Beryllium	µg/L	4	1.0	1		ND		ND
Cadmium	µg/L	5	1.0	0.04		ND		ND
Chromium (Total)	µg/L	50	10			ND		ND
Cyanide	µg/L	150	100	150		ND		ND
Fluoride	mg/L	2	0.1	1		ND		ND
Lead	µg/L		5.0	0.2		ND		ND
Mercury	µg/L	2	1.0	1.2		ND		ND
Nickel	µg/L	100	10	12		ND		ND
Nitrate (as NO3)	mg/L	45	2.0	45		2.5	ND-3.1	2.1
Nitrite (as N)	mg/L	1	0.4	1		ND		ND
Nitrate+Nitrite (as N)	mg/L	10	0.4	10		1.0		1.0
Perchlorate	µg/L	6	4.0	6		ND		ND
Selenium	µg/L	50	5.0	30		ND		ND
Thallium	µg/L	2	1.0	0.1		ND		ND

RADIOLOGICAL CONTAMINANTS

Parameter	Units	MCL	DLR	PHG	RESULTS Raw Influent (Source)
Uranium	pCi/L	20	1.0	0.43	1.1

SYNTHETIC ORGANIC CHEMICALS

Parameter	Units	MCL	DLR	RESULTS Raw Influent (Source)
Silvex	µg/L	50	1.0	ND
2,4-D	µg/L	70	10	ND
Alachlor	µg/L	2	1.0	ND
Atrazine	µg/L	1	0.5	ND
Bentazon	µg/L	18	2.0	ND
Benzo(a)pyrene	µg/L	0.2	0.1	ND
Carbofuran	µg/L	18	5.0	ND
Chlordane	µg/L	0.1	0.1	ND
Dalapon	µg/L	200	10	ND
Di(2-ethylhexyl)adipate	µg/L	400	5.0	ND
Di(2-ethylhexyl)phthalate	µg/L	4	3.0	ND
Dibromochloropropane (DBCP)	µg/L	0.2	0.01	ND
Dinoseb	µg/L	7	2.0	ND
Endrin	µg/L	2	0.1	ND
Ethylene Dibromide (EDB)	µg/L	0.05	0.02	ND
Glyphosate	µg/L	700	25	ND
Heptachlor	µg/L	0.01	0.01	ND
Heptachlor Epoxide	µg/L	0.01	0.01	ND

Hexachlorobenzene	µg/L	1	0.5		ND
Hexachlorocyclopentadiene	µg/L	50	1.0		ND
Lindane	µg/L	2	0.2		ND
Methoxychlor	µg/L	30	10		ND
Molinate	µg/L	20	2.0		ND
Oxamyl	µg/L	50	20		ND
Pentachlorophenol	µg/L	1	0.2		ND
Picloram	µg/L	500	1.0		ND
Polychlorinated Biphenyls	µg/L	0.5	0.5		ND
Simazine	µg/L	4	1.0		ND
Thiobencarb (Bolero)	µg/L	70	1.0		ND
Toxaphene	µg/L	3	1.0		ND

VOLATILE ORGANIC CONTAMINANTS

Parameter	Units	MCL	DLR	PHG	RESULTS Raw Influent (Source)
1,1,1-Trichlorethane (1,1,1-TCA)	µg/L	200	0.5	100	ND
1,1,2,2-Tetrachloroethane	µg/L	1	0.5	0.1	ND
1,1,2-Trichloroethane (1,1,2-TCA)	µg/L	5	0.5	0.3	ND
1,1-Dichloroethane (1,1-DCA)	µg/L	5	0.5	3	ND
1,1-Dichloroethylene (1,1-DCE)	µg/L	6	0.5	10	ND
1,2,4-Trichlorobenzene	µg/L	5	0.5	5	ND
1,2-Dichlorobenzene (o-DCB)	µg/L	600	0.5	600	ND
1,2-Dichloroethane (1,2-DCA)	µg/L	0.5	0.5	0.4	ND
1,2-Dichloropropane	µg/L	5	0.5	0.5	ND
1,3-Dichloropropene (Total)	µg/L	0.5	0.5	0.2	ND
1,4-Dichlorobenzene (p-DCB)	µg/L	5	0.5	6	ND
Benzene	µg/L	1	0.5	0.15	ND
Carbon tetrachloride	µg/L	0.5	0.5	0.1	ND
cis-1,2-Dichloroethylene (c-1,2-DCE)	µg/L	6	0.5	100	ND
Dichloromethane (Methylene Chloride)	µg/L	5	0.5	4	ND
Ethylbenzene	µg/L	300	0.5	300	ND
Methyl-tert-butyl ether (MTBE)	µg/L	5	3.0	13	ND
Monochlorobenzene (Chlorobenzene)	µg/L	70	0.5	200	ND
Styrene	µg/L	100	0.5	0.5	ND
Tetrachloroethylene (PCE)	µg/L	5	0.5	0.06	ND
Toluene	µg/L	150	0.5	150	ND
trans-1,2-Dichloroethylene (t-1,2-DCE)	µg/L	10	0.5	60	ND
Trichloroethylene (TCE)	µg/L	5	0.5	1.7	ND
Trichlorofluromethane (Freon11)	µg/L	150	5.0	700	ND
Trichlorotrifluoroethane (Freon 113)	µg/L	1200	10	4000	ND
Vinyl Chloride (VC)	µg/L	0.5	0.5	0.05	ND
Xylenes (Total)	µg/L	1750	0.5	1800	<0.50

GENERAL PHYSICAL AND SECONDARY STANDARDS

				RESULTS			
				Plant Effluent (CWR)		Raw Influent (Source)	
Parameter	Units	MCL	DLR	Range	Average	Range	Average
Aluminum	µg/L	200	50	ND	ND		ND
Calcium	mg/L	no standard			18		20
Chloride	mg/L	250			89		82
Color	Units	15		<5	<5		
Copper	µg/L	1000	50		ND		ND
Foaming Agents (MBAS)	mg/L	0.5			<0.050		<0.050
Hardness (Total) as CaCO3	mg/L	no standard			97		100
Iron	µg/L	300	100		ND		ND
Magnesium	mg/L	no standard			13		13
Manganese	µg/L	50	20		ND		ND
Odor @ 60 C	Units	3	1	<1	<1		
pH	Units	no standard		6.4-7.1	6.8	6.8-9.0	7.8
Potassium	mg/L	no standard			2.8		2.9
Silver	µg/L	100	10		ND		ND
Sodium	mg/L	no standard			58		59
Specific Conductance	µmhos	900			490		460
Sulfate	mg/L	250	0.5		48		29
Thiobencarb (Bolero)	µg/L	1	1.0		ND		ND
Total Dissolved Solids	mg/L	500			260		350
Turbidity	Units	5		0.01-0.19	0.04		

Zinc	mg/L	5.0	0.05	0.990		ND
Total Alkalinity (as CaCO3)	mg/L	no standard		60	61-83	70
Bicarbonate Alkalinity(HCO3)	mg/L	no standard		73		
Carbonate Alkalinity	mg/L	no standard		<1.8		
Hydroxide Alkalinity	mg/L	no standard		<1.0		

DISINFECTION RESIDUAL, PRECURSORS, and BYPRODUCTS

Type of Sample(s)	Parameter	Units	MCL/MRDL	DLR	MRDLG	RESULTS Range	RESULTS Average
Distribution	Chlorine (as total Cl2)	mg/L	4.0**		4	0.03-1.55	0.81
Treated Water	Total Organic Carbon (TOC)	mg/L	Treatment Requirement		DLR=0.3	0.6-2.8	1.6
Source Water	Total Organic Carbon (TOC)	mg/L	Treatment Requirement		DLR=0.3	0.7-4.2	2.5
Distribution	Total Trihalomethanes	µg/L	80**	0.5	none	35-53	41 #
Distribution	Total Haloacetic Acids (5)	µg/L	60**	2		13-15	15 #

** Running Annual Average of distribution system samples. The MCLs are based upon Running Annual Averages.
# This average is a system-wide value, please see the attached summaries for site specific averages.

DEFINITIONS and FOOTNOTES:

Plant Effluent, CWR, is finished, treated drinking water
Raw Water is the Source Water, the California Aqueduct, prior to treatment.
Units. mg/L = milligrams per liter, parts per million (ppm)
µg/L = micrograms per liter, parts per billion (ppb)
µmhos = micromhos, a measure of specific conductance
MFL = million fibers per liter
pCi/L = pico Curies per liter
< = less than
> = greater than
ND = none detected above the DLR
NTU = nephelometric turbidity unit is a measure of the clarity of water. Turbidity in excess of 5 NTU is just noticeable to the average person.
MCL. Maximum Contaminant Level. The highest level of a contaminant that is allowed in drinking water. MCLs are set by the US Environmental Protection Agency or the California Department of Public Health as close to the PHGs and MCLGs as is economically or technologically feasible.
MRDL. Maximum Residual Disinfectant Level. The level of a disinfectant added for water treatment that may not be be exceeded at the consumer's tap.
DLR: Detection Limit for purposes of Reporting.
(DL): Detection limit determined by the Laboratory when no DLR has been established.
MCLG: The level of a contaminant in drinking water below which there is no known or expected risk to health. MCLGs are set by the U.S. Environmental Protection Agency.
MRDLG: Maximum Residual Disinfectant Level Goal. The level of a disinfectant added for water treatment below which there is no known or expected risk to health. MRDLGs are set by the US Environmental Protection Agency.
PHG: Public Health Goal: The level of a contaminant in drinking water below which there is no known or expected risk to health. PHGs are set by the California Office of Environmental Health Hazard Assessment.
Primary Drinking Water Standard: Primary MCLs, specific treatment techniques adopted in lieu of primary MCLs, and monitoring and reporting requirements for MCLs that are specified in regulations.
Secondary Standards: Aesthetic standards established by the California Department of Public Health.
AL. Action Level. There is no MCL, if this level is exceeded, action is required by the Califronia Department of Public Health.
This average is a system-wide value, please see the attached summary for site specific averages.
** Total Trihalomethanes and Haloacetic Acids(5) MCLs an annual running average of distribution system samples.
*** A corrosion inhibitor is added to the treated water before entry into the distribution system
All analyses performed by the ELAP certified laboratories: AVEK Water Agency, BSK Analytical Laboratories, or BSK subcontract lab.

Antelope Valley-East Kern Water Agency
2010 Annual Water Quality Report - Los Angeles County System

The Antelope Valley-East Kern Water Agency provides treated surface water as a source of drinking water.
Treatment technique: Conventional
EPA Turbidity Performance Standards. Turbidity of the filtered water must

1. Be less than or equal to 0.30 NTU in 95% of measurements in a month.
2. Not exceed 1 NTU at any time

Lowest monthly percentage of samples that met Turbidity Performance Standard No. 1: **100%**
Highest single turbidity measurement during the year: **0.20 NTU**
Percentage of samples < 0.30 NTU: **100%**
The number of violations of any surface water treatment requirements: **NONE**
Turbidity (measured in NTU) is a measurement of the cloudiness of water and is a good indicator of water quality and filtration performance. Turbidity results which meet performance standards are considered to be in compliance with filtration requirements.

MICROBIOLOGICAL CONTAMINANTS

Type of Sample(s)	Parameter	Sampling Frequency	MCL	No. of Months in Violation	System Results Range	System Results Average
Distribution	Total Coliform Bacteria	116 153 / mo	5% positive	None	0.0-0.6%	0%
Distribution	Fecal Coliform/*E. coli*	116 153 / mo	1 pos. with 2 TC pos.	None	0%	0%

INORGANIC CONTAMINANTS

					RESULTS							
					Acton Plant Effluent (CWR)		Eastside Plant Effluent (CWR)		Quartz Hill Plant Effluent (CWR)		Raw Influent (Source)	
Parameter	Units	MCL	DLR	PHG or (MCLG)	Range	Average	Range	Average	Range	Average	Range	Average
Aluminum	mg/L	1	0.05	0.6	ND	ND	ND	ND	ND	ND		ND
Antimony	µg/L	6	6.0	20		ND		ND		ND		ND
Arsenic	µg/L	10	2.0	0.004		ND		ND		ND		ND
Barium	mg/L	1	0.1	2		ND		ND		ND		ND
Beryllium	µg/L	4	1.0	1		ND		ND		ND		ND
Cadmium	µg/L	5	1.0	0.04		ND		ND		ND		ND
Chromium (Total)	µg/L	50	10			ND		ND		ND		ND
Cyanide	µg/L	150	100	150		ND		ND		ND		ND
Fluoride	mg/L	2	0.1	1		0.12		ND		0.12		ND
Lead	µg/L		5.0	0.2		ND		ND		ND		ND
Mercury	µg/L	2	1.0	1.2		ND		ND		ND		ND
Nickel	µg/L	100	10	12		ND		ND		ND		ND
Nitrate (as NO3)	mg/L	45	2.0	45		ND		2.2		2.5	ND-3.1	2.1
Nitrite (as N)	mg/L	1	0.4	1		ND		ND		ND		ND
Nitrate+Nitrite (as N)	mg/L	10	0.4	10		ND		1.0		1.0		1.0
Perchlorate	µg/L	6	4.0	6		ND		ND		ND		ND
Selenium	µg/L	50	5.0	30		ND		ND		ND		ND
Thallium	µg/L	2	1.0	0.1		ND		ND		ND		ND

RADIOLOGICAL CONTAMINANTS

					RESULTS
Parameter	Units	MCL	DLR	PHG	Raw Influent (Source)
Uranium	pCi/L	20	1.0	0.43	1.1

SYNTHETIC ORGANIC CHEMICALS

				RESULTS
Parameter	Units	MCL	DLR	Raw Influent (Source)
Silvex	µg/L	50	1.0	ND
2,4-D	µg/L	70	10	ND
Alachlor	µg/L	2	1.0	ND
Atrazine	µg/L	1	0.5	ND
Bentazon	µg/L	18	2.0	ND
Benzo(a)pyrene	µg/L	0.2	0.1	ND
Carbofuran	µg/L	18	5.0	ND
Chlordane	µg/L	0.1	0.1	ND
Dalapon	µg/L	200	10	ND
Di(2-ethylhexyl)adipate	µg/L	400	5.0	ND
Di(2-ethylhexyl)phthalate	µg/L	4	3.0	ND
Dibromochloropropane (DBCP)	µg/L	0.2	0.01	ND
Dinoseb	µg/L	7	2.0	ND
Endrin	µg/L	2	0.1	ND
Ethylene Dibromide (EDB)	µg/L	0.05	0.02	ND
Glyphosate	µg/L	700	25	ND
Heptachlor	µg/L	0.01	0.01	ND
Heptachlor Epoxide	µg/L	0.01	0.01	ND
Hexachlorobenzene	µg/L	1	0.5	ND
Hexachlorocyclopentadiene	µg/L	50	1.0	ND
Lindane	µg/L	2	0.2	ND
Methoxychlor	µg/L	30	10	ND
Molinate	µg/L	20	2.0	ND
Oxamyl	µg/L	50	20	ND
Pentachlorophenol	µg/L	1	0.2	ND
Picloram	µg/L	500	1.0	ND
Polychlorinated Biphenyls	µg/L	0.5	0.5	ND
Simazine	µg/L	4	1.0	ND
Thiobencarb (Bolero)	µg/L	70	1.0	ND
Toxaphene	µg/L	3	1.0	ND

VOLATILE ORGANIC CONTAMINANTS

					RESULTS
Parameter	Units	MCL	DLR	PHG	Raw Influent (Source)
1,1,1-Trichloroethane (1,1,1-TCA)	µg/L	200	0.5	100	ND
1,1,2,2-Tetrachloroethane	µg/L	1	0.5	0.1	ND
1,1,2-Trichloroethane (1,1,2-TCA)	µg/L	5	0.5	0.3	ND
1,1-Dichloroethane (1,1-DCA)	µg/L	5	0.5	3	ND
1,1-Dichloroethylene (1,1-DCE)	µg/L	6	0.5	10	ND
1,2,4-Trichlorobenzene	µg/L	5	0.5	5	ND
1,2-Dichlorobenzene (o-DCB)	µg/L	600	0.5	600	ND
1,2-Dichloroethane (1,2-DCA)	µg/L	0.5	0.5	0.4	ND

1,2-Dichloropropane	µg/L	5	0.5	0.5	ND
1,3-Dichloropropene (Total)	µg/L	0.5	0.5	0.2	ND
1,4-Dichlorobenzene (p-DCB)	µg/L	5	0.5	6	ND
Benzene	µg/L	1	0.5	0.15	ND
Carbon tetrachloride	µg/L	0.5	0.5	0.1	ND
cis-1,2-Dichloroethylene (c-1,2-DCE)	µg/L	6	0.5	100	ND
Dichloromethane (Methylene Chloride)	µg/L	5	0.5	4	ND
Ethylbenzene	µg/L	300	0.5	300	ND
Methyl-tert-butyl ether (MTBE)	µg/L	5	3.0	13	ND
Monochlorobenzene (Chlorobenzene)	µg/L	70	0.5	200	ND
Styrene	µg/L	100	0.5	0.5	ND
Tetrachloroethylene (PCE)	µg/L	5	0.5	0.06	ND
Toluene	µg/L	150	0.5	150	ND
trans-1,2-Dichloroethylene (t-1,2-DCE)	µg/L	10	0.5	60	ND
Trichloroethylene (TCE)	µg/L	5	0.5	1.7	ND
Trichlorofluoromethane (Freon11)	µg/L	150	5.0	700	ND
Trichlorotrifluoroethane (Freon 113)	µg/L	1200	10	4000	ND
Vinyl Chloride (VC)	µg/L	0.5	0.5	0.05	ND
Xylenes (Total)	µg/L	1750	0.5	1800	<0.50

GENERAL PHYSICAL AND SECONDARY STANDARDS

				RESULTS							
				Acton Plant Effluent (CWR)		Eastside Plant Effluent (CWR)		Quartz Hill Plant Effluent (CWR)		Raw Influent (Source)	
Parameter	Units	MCL	DLR	Range	Average	Range	Average	Range	Average	Range	Average
Aluminum	µg/L	200	50	ND	ND	ND	ND	ND	ND		ND
Calcium	mg/L	no standard			18		18		18		20
Chloride	mg/L	250			91		89		86		82
Color	Units	15		<1-<5	<5	<1-<5	<5	<1-<5	<5		
Copper	µg/L	1000	50		ND		ND		ND		ND
Foaming Agents (MBAS)	mg/L	0.5			<0.050		<0.050		<0.050		<0.050
Hardness (Total) as CaCO3	mg/L	no standard			98		98		96		100
Iron	µg/L	300	100		ND		ND		ND		ND
Magnesium	mg/L	no standard			13		13		12		13
Manganese	µg/L	50	20		ND		ND		ND		ND
Odor @ 60 C	Units	3	1	<1	<1	<1	<1	<1	<1		
pH	Units	no standard		6.1-7.5	6.7	6.3-7.2	6.7	6.5-7.2	6.8	6.8-9.4	7.9
Potassium	mg/L	no standard			2.9		2.8		2.7		2.9
Silver	µg/L	100	10		ND		ND		ND		ND
Sodium	mg/L	no standard			60		58		57		59
Specific Conductance	µmhos	900			500		490	330 - 644	455		460
Sulfate	mg/L	250	0.5		47		50		48		29
Thiobencarb (Bolero)	µg/L	1	1.0		ND		ND		ND		ND
Total Dissolved Solids	mg/L	500			260		250		260		350
Turbidity	Units	5		0.01-0.20	0.05	0.01-0.08	0.04	0.01-0.18	0.04		
Zinc	mg/L	5.0	0.05		0.100		0.590		0.440		ND
Total Alkalinity (as CaCO3)	mg/L	no standard			61		57		60	55-84	69
Bicarbonate Alkalinity(HCO3)	mg/L	no standard			75		70		74		
Carbonate Alkalinity	mg/L	no standard			<1.8		<1.8		<1.8		
Hydroxide Alkalinity	mg/L	no standard			<1.0		<1.0		<1.0		

DISINFECTION RESIDUAL, PRECURSORS, and BYPRODUCTS

						RESULTS	
Type of Sample(s)	Parameter	Units	MCL/MRDL	DLR	MRDLG	Range	Average
Distribution	Chlorine (as total Cl2)	mg/L	4.0**		4	0.10 - 1.60	0.87
Treated Water	Total Organic Carbon (TOC)	mg/L	Treatment Requirement	0.3		0.6 - 2.7	1.7
Source Water	Total Organic Carbon (TOC)	mg/L	Treatment Requirement	0.3		0.8 - 4.3	2.7
Distribution	Total Trihalomethanes	µg/L	80**	0.5	None	18 - 24	21 #
Distribution	Total Haloacetic Acids (5)	µg/L	60**	2		7.0 - 9.3	8.5 #

** Running Annual Average of distribution system samples. The MCLs are based upon Running Annual Averages
# This average is a system-wide value, please see the attached summaries for site specific averages.

DEFINITIONS and FOOTNOTES:

Plant Effluent, CWR, is finished, treated drinking water.
Raw Water is the Source Water, the California Aqueduct, prior to treatment.
Units mg/L = milligrams per liter, parts per million (ppm)
µg/L = micrograms per liter, parts per billion (ppb)
µmhos = micromhos, a measure of specific conductance
MFL = million fibers per liter
pCi/L = pico Curies per liter
< = less than
> = greater than
ND = none detected above the DLR
NTU = nephelometric turbidity unit is a measure of the clarity of water. Turbidity in excess of 5 NTU is just noticeable to the average person.
MCL: Maximum Contaminant Level. The highest level of a contaminant that is allowed in drinking water. MCLs are set by the U.S. Environmental Protection Agency or the California Department of Public Health as close to the PHGs and MCLGs as is economically or technologically feasible
MRDL: Maximum Residual Disinfectant Level. The level of a disinfectant added for water treatment that may not be exceeded at the consumer's tap.
DLR: Detection Limit for purposes of Reporting.
(DL): Detection limit determined by the Laboratory when no DLR has been established.
MCLG: The level of a contaminant in drinking water below which there is no known or expected risk to health. MCLGs are set by the U.S. Environmental Protection Agency
MRDLG: Maximum Residual Disinfectant Level Goal. The level of a disinfectant added for water treatment below which there is no known or expected risk to health. MRDLGs are set by the U.S. Environmental Protection Agency.
PHG: Public Health Goal: The level of a contaminant in drinking water below which there is no known or expected risk to health. PHGs are set by the California Office of Environmental Health Hazard Assessment.
Primary Drinking Water Standard: Primary MCLs, specific treatment techniques adopted in lieu of primary MCLs, and monitoring and reporting requirements for MCLs that are specified in regulations
Secondary Standards: Aesthetic standards established by the California Department of Public Health
AL: Action Level. There is no MCL, if this level is exceeded, action is required by the California Department of Public Health.
This average is a system-wide value, please see the attached summary for site specific averages
** Total Trihalomethanes and Haloacetic Acids(5) MCLs an annual running average of distribution system samples
*** A corrosion inhibitor is added to the treated water before entry into the distribution system
All analyses performed by the ELAP certified laboratories: AVEK Water Agency, BSK Analytical Laboratories, or BSK subcontract lab

Appendix D

District No. 40 BMPs/DMMs

CUWCC BMP RETAIL COVERAGE REPORT 2009-2010

Foundation Best Management Practices for Urban Water Efficiency

Agency: Los Angeles County Waterworks Districts **District Name:** Los Angeles County Waterworks Districts 40 - Antelope Valley **CUWCC Unit #:** 5029
Retail

Primary Contact Virginia Maloles-Fowler **Telephone** 626-300-3362 **Email:** vmfowler@dpw.lacounty.gov

Compliance Option Chosen By Reporting Agency: Traditional

Foundational BMPs

BMP 1.1 Operational Practices

		2009	2010	
1.Conservation Coordinator provided with necessary resources to implement BMPs?	Name	Virginia Maloles-Fowler	Virginia Maloles-Fowler	Conservation Coordinator provided with necessary resources to implement BMPs?
	Title	Water Conservation Coordinator	Water Conservation Coordinator	
	Email		vmfowler@dpw.la	
		On Track	On Track	

2. Water waste prevention documentation

Descriptive File	0		
Descriptive File 2010		0	On Track if any one of the 6 ordinance actions done, plus documentation or links provided
URL	L.A. County, Title 11 - Health and Safety of the L.A. County Code, Ordinance No.		
URL 2010		http://search.municode.com/html/16274/_DATA/TITLE11/Chapter_11_38_WATER_ANI	
Describe Ordinance Terms	L.A. County, Title 11 - Health and Safety of the L.A. County Code, Ordinance No.		
Describe Ordinance Terms 2010		L.A. County, Title 11 - Health and Safety of the L.A. County Code, Ordinance No. 91-0046U	
	On Track	On Track	

Agency: Los Angeles County Waterworks Districts
Retail

District Name: Los Angeles County Waterworks Districts 40 - Antelope Valley

CUWCC Unit #: 5029

CUWCC BMP RETAIL COVERAGE REPORT 2009-2010

Foundation Best Management Practices for Urban Water Efficiency

BMP 1.2 Water Loss Control

	2009		
Complete a prescreening Audit	yes	On Track	On Track if Yes
Metered Sales	47,866		
Verifiable Other Uses	0		
Total Supply	48,842		
(Metered Sales + System uses)/ Total Supply >0.89	0.98	On Track	On Track if =>.89, Not on Track if No
If ratio is less than 0.9, complete a full scale Audit in 2009?	Yes	On Track	On Track if Yes
Verify Data with Records on File?	Yes	On Track	On Track if Yes
Operate a system Leak Detection Program?	Yes	On Track	On Track if Yes

	2010		
Compile Standard Water Audit using AWWA Software?	Yes	On Track	On Track if Yes, Not on Track if No
AWWA file provided to CUWCC?	Water Audit District 40 2010	On Track	On Track if Yes, Not on Track if No
AWWA Water Audit Validity Score?	70		Info only until 2012
Completed Training in AWWA Audit Method?	no		
Completed Training in Component Analysis Process?	No		Info only until 2012
Complete Component Analysis?	No		Info only until 2012
Repaired all leaks and breaks to the extent cost effective?	Yes	On Track	On Track if Yes, Not on Track if No
Locate and repair unreported leaks to the extent cost effective.	Yes	On Track	On Track if Yes, Not on Track if No
Maintain a record-keeping system for the repair of reported leaks, including time of report, leak location, type of leaking pipe segment or fitting, and leak running time from report to repair.			Info only until 2012

Provided 7 types of Water Loss Control Info

Leaks Repaired	Value Real Losses	Value Apparent Losses	Miles Surveyed	Press Reduction	Cost of Interventions	Water Saved
0	$ -	$ -	0	Off	$ -	0

Info only until 2012

Agency: Los Angeles County Waterworks Districts | District Name: Los Angeles County Waterworks Districts 40 - Antelope Valley | CUWCC Unit #: 5029
Retail

CUWCC BMP RETAIL COVERAGE REPORT 2009-2010

Foundation Best Management Practices for Urban Water Efficiency

1.3 METERING WITH COMMODITY RATES FOR ALL NEW CONNECTIONS AND RETROFIT OF EXISTING CONNECTIONS

		2009		2010		
Exemption or 'At least as Effective As' accepted by CUWCC						If signed MOU prior to 31 Dec 1997, On Track if all connections metered; If signed after 31 Dec 1997, complete meter installations by 1 July 2012 or within 6 yrs of signing and 20% biannual reduction of unmetered connections.
Numbered Unmetered Accounts	2008	0	On Track	0	On Track	On Track if no unmetered accounts
Metered Accounts billed by volume of use		Yes	On Track	Yes	On Track	Volumetric billing required for all connections on same schedule as metering
Number of CII accounts with Mixed Use meters		451		467		Info only
Conducted a feasibility study to assess merits of a program to provide incentives to switch mixed-use accounts to dedicated landscape meters?		No		No		Info only until 2012
Feasibility Study provided to CUWCC?		Yes	On Track	No	On Track	On Track if Yes, Not on Track if No
Completed a written plan, policy or program to test, repair and replace meters		Yes	On Track	Yes	On Track	On Track if Yes, Not on Track if No

CUWCC BMP RETAIL COVERAGE REPORT 2009-2010

Foundation Best Management Practices for Urban Water Efficiency

Agency: Los Angeles County Waterworks Districts **District Name:** Los Angeles County Waterworks District 40 - Antelope Valley **CUWCC Unit #:** 5029

Retail

Coverage Report Date: June 9, 2011

Primary Contact Virginia Maloles-Fowler **Email:** vmfowler@dpw.lacounty.gov

1.4 Retail Conservation Pricing

Metered Water Rate Structure

Date 2009 data received June 1, 2011

Date 2010 data received June 1, 2011

On Track if: Increasing Block, Uniform, Allocation, Standby Service; Not on Track if otherwise

Customer Class	2009 Rate Type	Conserving Rate?
Single-Family	Increasing Block	Yes
Multi-Family	Uniform	Yes
Commercial	Uniform	Yes
Industrial	Uniform	Yes
Dedicated Irrigation	Uniform	Yes
	On Track	

Customer Class	2010 Rate Type	Conserving Rate?
Single-Family	Increasing Block	Yes
Multi-Family	Uniform	Yes
Commercial	Uniform	Yes
Industrial	Uniform	Yes
Dedicated Irrigation	Uniform	Yes
	On Track	

Year Volumetric Rates began for Agencies with some Unmetered Accounts

Info only

Agencies with Partially Metered Service Areas: If signed MOU prior to 31 Dec. 1997, implementation starts no later than 1July 2010. If signed MOU after 31 Dec. 1997, implementation starts no later than 1July 2013, or within seven years of signing the MOU,

Agency: **Los Angeles County Waterworks Districts** District Name: **Los Angeles County Waterworks District 40 - Antelope Valley** CUWCC Unit #: **5029**
Retail Coverage Report Date: June 9, 2011

CUWCC BMP RETAIL COVERAGE REPORT 2009-2010

Foundation Best Management Practices for Urban Water Efficiency

Adequacy of Volumetric Rates) for Agencies with No Unmetered Accounts

Customer Class	2009 Rate Type	2009 Volumetric Revenues $1000s	2010 Rate Type	2010 Volumetric Revenues $1000s
Single-Family	Increasing Block	$ 12,741	Single-Family	$ 12,004
Multi-Family	Uniform	$ 1,357	Multi-Family	$ 1,386
Commercial	Uniform	$ 1,474	Commercial	$ 1,487
Industrial	Uniform	$ 27	Industrial	$ 34
Dedicated Irrigation	Uniform	$ 1,550	Dedicated Irrigation	$ 1,418
Other		$ 1,415		$ 1,393
Other		$ -		$ -
Total Revenue Commodity Charges (V):		$ 18,565		$ 17,721
Total Revenue Fixed Charges (M):		$ 12,871		$ 13,345
Calculate: V / (V + M):		59%		57%
		On Track		On Track

Agency Choices for rates:

A) Agencies signing MOU prior to 13 June2007, implementation starts 1 July2007: On Track if (V / (V + M) ≥ 70% x .8 = **56% for 2009** and 70%x0.90 = **63% for 2010**; Not on track if (V / (V + M)) < 70%;

B) Use Canadian model. Agencies signing MOU after 13June2007, implementation starts July 1 of year following signing.

Canadian Water & Wastewater Rate Design Model Used and Provided to CUWCC	**No**	**No**
If Canadian Model is used, was 1 year or 3 year period applied?		

Wastewater Rates

	2009		2010
Does Agency Provide Sewer Service?	**No**	If 'No', then wastewater rate info not required.	**No**

Customer Class	2009 Rate Type	Conserving Rate?	Customer Class	2010 Rate Type	Conserving Rate?
		Yes			Yes
		Yes			Yes
		Yes			Yes
		Yes			Yes
		Yes			Yes
		Yes			Yes
		Yes			Yes
		On Track			On Track

On Track if: 'Increasing Block', 'Uniform', 'based on long term marginal cost' or 'next unit of capacity'

CUWCC BMP RETAIL COVERAGE REPORT 2009-2010

Foundation Best Management Practices for Urban Water Efficiency

BMP 2. EDUCATION PROGRAMS

BMP 2.1 Public Outreach Actions Implemented and Reported to CUWCC

	2009	2010	
Does a wholesale agency implement Public Outrach Programs for this unility's benefit?	No	No	Yes/No
1) Contacts with the public (minimum = 4 times per year)	6	11	
2) Water supplier contacts with media (minimum = 4 times per year, i.e., at least quarterly).	22	22	
3) An actively maintained website that is updated regularly (minimum = 4 times per year, i.e., at least quarterly).	Yes	Yes	All 6 action types implemented and reported to CUWCC to be 'On Track')
4) Description of materials used to meet minimum requirement.	Newsletter articles on conservation General water conservation information Articles or stories resulting from outreach News releases Newspaper contacts Radio contacts	Newsletter articles on conservation General water conservation information Articles or stories resulting from outreach News releases Newspaper contacts Radio contacts	
5) Annual budget for public outreach program.	$ 255,825	$ 205,825	
6) Description of all other outreach programs	Description is too large for text area. Data will be stored in the BMP Reporting database when online.	Description is too large for text area. Data will be stored in the BMP Reporting database when online.	
	OnTrack for 5 Actions	**OnTrack for 5 Actions**	

CUWCC BMP RETAIL COVERAGE REPORT 2009-2010

Foundation Best Management Practices for Urban Water Efficiency

2.2 School Education Programs Implemented and Reported to CUWCC

	2009	2010	
Does a wholesale agency implement School Education Programs for this unility's benefit?	Yes	Yes	
Name of Wholesale Supplier?	LA Department of Public Works	LA Department of Public Works	
1) Curriculum materials developed and/or provided by agency	Water Conservation is included in the Countywide Environmental Defender and Generation Earth Program which provides Integrated State teaching standard based education to all students K-12 throughout the County of Los Angeles. These programs are implemented and paid for by the Department of Public Works.	Water Conservation is included in the Countywide Environmental Defender and Generation Earth Program which provides Integrated State teaching standard based education to all students K-12 throughout the County of Los Angeles. These programs are implemented and paid for by the Department of Public Works.	Yes/ No
2) Materials meet state education framework requirements and are grade-level appropriate?	Yes	Yes	All 5 actions types implemented and reported to CUWCC to be
3) Materials Distributed to K-6?	Yes	Yes	
Describe K-6 Materials	Water Conservation is included in the Countywide Environmental Defender and Generation Earth Program which provides Integrated State teaching standard based education to all students K-12 throughout the County of Los Angeles. These programs are implemented and paid for by the Department of Public Works.	Water Conservation is included in the Countywide Environmental Defender and Generation Earth Program which provides Integrated State teaching standard based education to all students K-12 throughout the County of Los Angeles. These programs are implemented and paid for by the Department of Public Works.	Describe materials to meet minimum requirements
Materials distributed to 7-12 students?	Yes	Yes	Info Only
4) Annual budget for school education program.	$ -	$ -	
5) Description of all other water supplier education programs			
	See Wholesale Report	**See Wholesale Report**	
	Not on Track	**Not On Track**	

Water Co

CUWCC BMP COVERAGE REPORT BMP 3 RESIDENTIAL

Agency: Los Angeles County Waterworks **District Name:** District 40 - Antelope Valley **CUWCC Unit #:** 5029

Date: June 30, 2011

Primary Contact Virginia Maloles-Fowler **Email** vmfowler@dpw.lacounty.gov

Compliance Option Chosen By Reporting Agency: Traditional

Date 2009 Data Downloaded from PDF June 1, 2011
Date 2019 Data Downloaded from PDF June 1, 2011

BMP 3 C 1) Residential Assistance

	2009 Single Family Accounts	2009 SF Target	2009 Multi Family Units	2009 MF Targets	2010 Single Family Accounts	2010 SF Target	2010 Multi Family Units	2010 MF Targets
Total Number of Customers	50,001		940		50,781		947	
Total Participants during Reporting Period	342		0		667		1	
Number of Leak Detection Surveys or Assistance on Customer Property	99	750	0	14	115	762	1	14
Number of Faucet Aerators Distributed	558		0		959		11	
Number of WSS Showerheads Distributed	400		0		754		18	
		Not on Track		Not on Track		Not on Track		Not on Track

"On Track" if annual number of surveys/assistance >= 1.5% of SF accounts and MF units

Agency: Los Angeles County Waterworks **District Name:** District 40 - Antelope Valley **CUWCC Unit #:** 5029

BMP 3 C2) Landscape Water Surveys	2009 SF		2010 SF		"On Track" if annual number of landscape surveys >= 1.5% of SF accounts
Number of SF account landscape water surveys completed	99	750		762	
Surveys as Percent of SF Accounts	0.20%		0.00%		
	Not on Track		Not on Track		

BMP 3 C3) High Efficiency Clothes Washers	2009		2010		"On Track" if number of incentives for HECW (WF,=5.0) => 0.9% SF accounts in 2009 and 1.0 % in 2010
Number Financial Incentives Provided to Customers	121	450	134	508	
Percent	0.24%		0.26%		
	Not on Track		Not on Track		

BMP 3 C4) Water Sense Specification Toilets	2009		2010		Ordinance must require replacement of toilets => 3.5 gpf when property is sold On Track if ordinance exists
Retrofit 'On Resale' Ordinance exists	No		No		
	Not On Track		Not On Track		
75% Market Penetration Achieved					On Track if 75% penetration achieved and documentation provided
If 'Yes' is documentation provided?					

	SF	MF Units	SF	MF Units	On Track If number of toilets installed => average resale rate X number toilets per residence (from Base Year Data)
Five year average Resale Rate	4%	9%	4%	9%	
Number Toilets per Household	2	1	2	1	
Number WSS Toilets Installed	199	1,041	170	1,435	
Ave Resale Rate X Toilets /residence	2000	42	2031	43	
	Not On Track	On Track	Not On Track	On Track	

Agency: **Los Angeles County Waterworks** District Name: **District 40 - Antelope Valley** CUWCC Unit #: **5029**

BMP 3 C5) WSS for New Residential Development

	2009 SF	2009 MF	2010 SF	2010 MF
Does an Ordinance Exists Requiring WSS Fixtures and Appliances in new SF and MF	No	No	No	No
If 'Yes' is documentation provided?				
Incentives				
Number of new SF & MF units built				

On Track if ordinance exists requiring WSS in new residential units and documentation is provided

If no ordinance, to be On Track, provide incentives and describe, Including:

List Incentive Types, $ amounts, number of WSS fixtures installed; and number of participating SF & MF homes

2009 New Residential Development Incentives and Results

Types of Incentives	Incentive Value SF	Number WSS Fixtures Installed	Number SF Participants	Number MF Participants	Measured SF Water Savings AF	Measured MF Water Savings AF
HE Toilet	$ 150	1,240	130	4		
HE Clothes Washers	$ 150	121	121	0		

On Track

But missing the # of new SF and MF units built

2010 New Residential Development Incentives and Results

Types of Incentives	Incentive Value SF	Number WSS Fixtures Installed	Number SF Participants	Number MF Participants	Measured SF Water Savings AF	Measured MF Water Savings AF
HE Toilet	$ 150	1,605	115	6		
HE Clothes Washers	$ 150	134	134	0		

CUWCC BMP COVERAGE REPORT

Traditional BMP 4 - Comercial Industrial Institutional

Agency: LA County Antelope **District Name:** **CUWCC Unit #:** 5029
Primary Contact **Email:** **Report Date:**
Compliance Option Chosen By Reporting Age Trad Trad /Flex
Date Agency Signed MOU: **Initial 10 year period completed:** yes **If "Yes" , 50% credit for past BMP 9 Implementation?** yes
Water Savings Credit (AF) 41.2

CII Baseline Water Use (AF) 4027 Target CII Water Use Reduction (AF) 402.7
Target 2010 Reduction (AF) 20.135

Target Reduction is 10% of Baseline CII water use over 10 years.

Water Efficiency Measures	**2009 Quantity Installed**	**2009 Water Savings AF**	**2010 Quantity Installed**	**2010 Water Savings AF**
1 High Efficiency Toilets (1.2 GPF or less)	**31**	**1**	**0**	**0**
2 High Efficiency Urinals (0.5 GPF or less)	0	**0**	0	**0**
3 Ultra Low Flow Urinals	0	**0**	0	**0**
4 Zero Consumption Urinals	4	**0**	0	**0**
5 Commercial High Efficiency Single Load Clothes Washers	0	**0**	0	**0**
6 Cooling Tower Conductivity Controllers	0	**0**	0	**0**
7 Cooling Tower pH Controllers	0	**0**	0	**0**
8 Connectionless Food Steamers	0	**0**	0	**0**
9 Medical Equipment Steam Sterilizers	0	**0**	0	**0**
10 Water Efficient Ice Machines	0	**0**	0	**0**
11 Pressurized Water Brooms	0	**0**	0	**0**
12 Dry Vacuum Pumps	0	**0**	0	**0**
Total Water Savings		1.7		0

Guideline: 'On Track' if estimated savings as percent of baseline:
0.5% by the end of first reporting pe
2.4% by end of yr 4,
6.4% by end of year 8
9 % by end of yr 10

CII List of Efficiency Measures from MOU Compliance Policies Tier 3, page 5, dated 10-06-09

ON TRACK

CUWCC BMP COVERAGE REPORT

Traditional BMP 5 - Landscape

Agency: LACW **District Name:** Antelope **CUWCC Unit #:** 5029
Primary Contact **Email:** **Report Date:** June 27, 2011
Compliance Option Chosen By Reporting Agency: Trad /Flex
Date Agency Signed MOU: **Initial 10 year period completed:** Y/N **If "Yes" , 50% credit for past BMP 9 Implementation?** y/n

Required Documentation

	2009	2010
Number of dedicated irrigation meter accounts	811	824
Number of dedicated irrigation meter accounts with water budgets.	0	0
Percent of dedicated irrigation meters with water budgets	0	0

ETo-based water use budgets developed for 90% of CII accounts with dedicated irrigation meters at an average rate of 9% per year over 10 years

Not On Track — Target Rate for Year 1: 9% — Target Rate for Year 2: 18%

Aggregate water use for dedicated non-recreational landscape accounts with budgets

Aggregate acreage assigned water budgets and average ET for dedicated non-recreational landscape accounts with budgets.

2009 Acres	2009 Average ET	2010 Acres	2010 Average ET

Offer site-specific technical assistance annually to all accounts that are 20% over budget within six years of the date implementation was to commence.

2009 Accounts ≥20% over-budget			2010 Accounts ≥20% over-budget		
Number of Accounts	Offered Technical Assistance	Accepting Technical Assistance	Number of Accounts	Offered Technical Assistance	Accepting Technical Assistance
0	0	0			

Aggregate acreage of recreational areas assigned water budgets and average ET for dedicated recreational landscape accounts with budgets.

2009 Acres	2009 Average ET	2010 Acres	2010 Average ET

CII Accounts without Meters or with Mixed-Use Meters

Agency: LACW **District Name:** Antelope **CUWCC Unit #:** 5029

	2009	2010
Number of mixed use and un-metered accounts.	451	467

Incentive Type	2009 Incentives and Responses: Incentive Value $	Number offered to Customers	Number accepted by Customers	2010 Incentives and Responses: Incentive Value $	Number offered to Customers	Number accepted by Customers
Nozzles	3680		920	3180		795
Controllers	3450		23	1050		7
Synthetic turf	1781.1		5937	1757.1		5857
Drip irrigation	200		4	50		1
Type 5 rebates loans						

Agency will implement and maintain a customer incentive program(s) for irrigation equipment retrofits.

	2009 Surveys: Number offered.	Number accepted	2010 Surveys: Number offered.	Number accepted
Landscape Irrigation Surveys	811	24	824	24

Complete irrigation water use surveys for not less than 15% of CII accounts with mixed-use meters and un-metered accounts within 10 years of the date implementation is to commence. (Note: CII surveys that include both indoor and outdoor components can be credited against coverage requirements for both the Landscape and CII BMPs.)

On Track if the percent of CII accounts with mixed-use meters receiving a landscape water use survey equals or exceeds the following: 1.5% by the end of the first reporting period (year two) following the date implementation is to commence; 3.6% by the end of year four; 6.3% by the end of year six; 9.6% by the end of year

	2009 Savings AF	2010 Savings AF
Estimated annual water savings by customers receiving surveys and implementing recommendations.		

On Track

Appendix E

QHWD “No Waste” Ordinance

QHWD's WATER SHORTAGE INFORMATION

No-Waste Policy

Resolution to Declare a Water Shortage Emergency

Moratorium on New Connections During a Declared Water Shortage

Water Shortage Rationing Allocation Method (TO BE ADDED)

No Waste Policy

QUARTZ HILL WATER DISTRICT
LOS COUNTY, CALIFORNIA
Date

The Board of Directors of the Quartz Hill Water District has adopted the following Policy No. xxxxx. Waste to be prevented:

XXXXXXX Waste to be prevented. Consumers shall prevent all waste of water and for the purposed of this chapter the word "waste" shall be defined as:

A. Where water is uable to be absorbed within the limits of the cultivated area upon which it is being used;
B. Where water is allowed to gather, from any cause whatsoever, into a pool where it serves no useful purpose; but may act as a harbor or breeding place for mosquitoes;
C. Where water is allowed to run into a gutter or upon land which has no need for it at the time. (Ord. 1046 para.1 (Exh. A(part)), 2000.

Resolution To Declare A Water Shortage Emergency

QUARTZ HILL WATER DISTRICT
LOS ANGELES COUNTY, CALIFORNIA
Date

The District Board of Directors of the Quartz Hill Water District does hereby resolve as follows:

PURSUANT to California Water Code Section 350 et seq., the Board of Directors has conducted duly noticed public hearings to establish the criteria under which a water shortage emergency may be declared.

WHEREAS, the Board of Directors finds, determines and declares as follows:

(a) The District is the water purveyor for the property owners and inhabitants of QHWD;

(b) The demand for water service is not expected to lessen.

(c) When the combined total amount of water supply available to the District from all sources falls at or below the Stage II triggering levels described in the 2002 Urban Water Management Plan, the Board of Directors will declare a water shortage emergency The water supply would not be adequate to meet the ordinary demands and requirements of water consumers without depleting the District's water supply to the extent that there may be insufficient water for human consumption, sanitation, fire protection, and environmental requirements. This condition is likely to exist until precipitation and inflow dramatically increases or until water system damage resulting from a disaster are repaired and normal water service is restored.

NOW, THEREFORE, BE IT RESOLVED that the Board of Directors of the Quartz Hill Water District hereby directs the General Manager to find, determine, declare and conclude that a water shortage emergency condition exists that threatens the adequacy of water supply, until the District's water supply is deemed adequate. After the declaration of a water shortage emergency, the General Manager is directed to determine the appropriate Rationing Stage and implement the District's Water Shortage Emergency Response.

FURTHERMORE, the Board of Directors shall periodically conduct proceedings to determine additional restrictions and regulations which may be necessary to safeguard the adequacy of the water supply for domestic, sanitation, fire protection, and environmental requirements.

Moratorium On New Connections During A Water Supply Reduction

QUARTZ HILL WATER DISTRICT
LOS ANGELES COUNTY, CALIFORNIA
Date

The Board of Directors of the Quartz Hill Water District does hereby resolve as follows:
The Municipal Code of the Quartz Hill Water District is hereby amended to read as follows:

XX-1 MORATORIUM ON SERVICE COMMITMENTS AND CONNECTIONS

1 When the District declares a water shortage emergency, the following regulations shall become effective immediately and shall continue in full force and effect to prohibit the following while it remains in full force and effect:
   a. The District shall not issue oral or written commitments to provide new or expanded water service, including will-serve letters.
   b. The District shall not sell meters for water service connections, despite the prior issuance of will-serve letters or other oral or written service commitments, unless building permits have been issued.
   c. The District shall not provide new or expanded water service connections, despite the prior issuance of will-serve letters or other oral or written service commitments and meters, unless building permits have been issued.
   d. The District shall not provide water for use on any new plantings installed after the declaration of a Water Shortage Emergency.
   e. The District shall not annex territory located outside the District's service boundary.

2. The following uses are exempt from the moratorium and upon application to the District shall receive necessary water service commitments and connections to receive water from the District:
   a. Uses, including but not limited to, commercial, industrial, single and multifamily residential, for which a building permit has been issued by the District on or before the declaration of a Water Shortage Emergency.
   b Uses, including but not limited to, commercial, industrial, single and multifamily residential, for which a retail meter had been purchased from the District before the declaration of a Water Shortage Emergency, as evidenced by a written receipt and for which a building permit has been issued and remains in full force and effect.
   c. Publicly owned and operated facilities, including but not limited to schools, fire stations, police stations, and hospitals and other facilities as necessary to protect the public health, safety and welfare.

Appendix F

Water Shortage Contingency Plans

Appendix F-1

District No. 40 Water Shortage Contingency Plan

PART 5 - PHASED WATER CONSERVATION PLAN

SECTION A - STATEMENT OF POLICY AND DECLARATION OF PURPOSE

5-A-1 STATEMENT OF POLICY AND DECLARATION OF PURPOSE

Because of the water supply conditions prevailing in any or all of the County Waterworks Districts and/or in the area from which any or all of the Districts obtain all or a portion of their supply, the general welfare requires that the water resources available to any or all of the Districts be put to the maximum beneficial use to the extent to which they are capable, and that the unreasonable use, or unreasonable method of use of water be discouraged and that the conservation of such water be practiced with a view to the reasonable and beneficial use thereof in the interest of the people of any or all of the Districts and for the public welfare. The purpose of this Phased Water Conservation Plan is to minimize the effect of a shortage of water supplies on the customers of any or all of the Districts during a water shortage emergency

SECTION B - AUTHORIZATION TO IMPLEMENT WATER CONSERVATION

5-B-1 AUTHORIZATION TO IMPLEMENT WATER CONSERVATION

5-B-1a The Board of Directors of the Waterworks Districts may implement the applicable provisions of this conservation plan, following the public hearing required by Rule 5-B-1b, upon its determination that such implementation is necessary to protect the public welfare and safety

5-B-1b The Board of Directors of the Waterworks Districts shall hold a public hearing for the purpose of determining whether a shortage exists in any or all of the Districts and which measures provided by this ordinance should be implemented Notice of the time and place of the public hearing shall be published not less than ten (10) days before the hearing in a newspaper of general circulation within the affected District or Districts.

5-B-1c The Board of Directors shall issue its determination of shortage and corrective measures by resolution published in a daily newspaper of general circulation within the affected District or Districts Conservation surcharges assessed per Rule 5-0-1 shall become effective no sooner than the first full billing period commencing on or after the date of such publication

Part 5	Added 5/23/91 Ordenance No 91-0075M
5-A-1	Rev 7/25/91
5-B-1	Rev. 7/25/91

PART 5 - PHASED WATER CONSERVATION PLAN (CONTINUED)

SECTION C - GENERAL PROHIBITION

5-C-1 GENERAL PROHIBITION

5-C-1a No customer of the District or Districts shall make, cause, use, or permit the use of water from the District or Districts in a manner contrary to any provision of this ordinance.

5-C-1b In the area of District No 34 Desert View Highlands known as Ritter Ranch, as defined in Agreement No 66407 as amended between the District and Ritter Park Associates, the water use limitations contained in Agreement No. 66407 as amended shall be implemented in addition to those required by this Part of these rules.

SECTION D - PHASE I SHORTAGE

5-D-1 PHASE I SHORTAGE

5-D-1a A Phase I Shortage shall be declared whenever the Board of Directors determines that it is likely that the District will suffer a ten percent (10%) shortage in its water supplies.

5-D-1b A customer with a meter size of one and one-half (1 1/2) inches or larger shall be billed at his or her normal established water rate for all water used up to a target quantity of ninety percent (90%) of the base quantity All water used in excess of the target quantity shall be subject to a conservation surcharge per Rule 5-0-1 The base quantity shall be determined by the amount of water used on the customer's premises during the corresponding billing period of a base period to be defined by the Board of Directors

5-D-1c For meter sizes of one (1) inch or less, a base quantity shall be the average of the water usage for all similar sized meters during the corresponding billing period of a base period to be defined by the BOARD

A customer with a meter size of one (1) inch or less shall be billed at his or her normal established water rate for all water used up to a target quantity of ninety percent (90%) of the base quantity All water used in excess of the target quantity shall be subject to a conservation surcharge per Rule 5-0-1

PART 5 - PHASED WATER CONSERVATION PLAN (CONTINUED)

SECTION E - PHASE II SHORTAGE

5-E-1 PHASE II SHORTAGE

5-E-1a A Phase II Shortage shall be declared whenever the Board of Directors determines that it is likely that the District will suffer a shortage of between ten percent (10%) and fifteen percent (15%) in its water supplies.

5-E-1b A customer with a meter size of one and one-half (1 1/2) inches or larger shall be billed at his or her normal established water rate for all water used up to a target quantity of eighty-five percent (85%) of the base quantity All water used in excess of the target quantity shall be subject to a conservation surcharge per Rule 5-0-1 The base quantity shall be determined by the amount of water used on the customer's premises during the corresponding billing period of a base period to be defined by the Board of Directors

5-E-1c For meter sizes of one (1) inch or less, a base quantity shall be the average of the water usage for all similar sized meters during the corresponding billing period of a base period to be defined by the BOARD

A customer with a meter size of one (1) inch or less shall be billed at his or her normal established water rate for all water used up to a target quantity of eighty-five percent (85%) of the base quantity All water used in excess of the target quantity shall be subject to a conservation surcharge per Rule 5-0-1

SECTION F - PHASE III SHORTAGE

5-F-1 PHASE III SHORTAGE

5-F-1a A Phase III Shortage shall be declared whenever the Board of Directors determines that it is likely that the District will suffer a shortage of between fifteen percent (15%) and twenty percent (20%) in its water supplies

5-E-1c Rev. 7/24/91
5-F 1c Rev 7/91,Rev. 1/09

PART 5 - PHASED WATER CONSERVATION PLAN (CONTINUED)
SECTION F – PHASE III SHORTAGE (continued)

5-F-1b A customer with a meter size of one and one-half (1-1/2) inches or larger shall be billed at his or her normal established water rate for all water used up to a target quantity of eighty percent (80%) of the base quantity All water used in excess of the target quantity shall be subject to a conservation surcharge per Rule 5-0-1. The base quantity shall be determined by the amount of water used on the customer's premises during the corresponding billing period of a base period to be defined by the Board of Directors.

5-F-1c For meter sizes of one (1) inch or less, a base quantity shall be the average of the water usage for all similar sized meters during the corresponding billing period of a base period to be defined by the BOARD

A customer with a meter size of one (1) inch or less shall be billed at his or her normal established water rate for all water used up to a target quantity of eighty percent (80%) of the base quantity All water used in excess of the target quantity shall be subject to a surcharge per Rule 5-0-1

5-F-1d New meters to provide construction water service shall not be issued

5-F-1e Water service ("Will Serve") letters will be issued, but such letters will be issued with the condition that permanent metered service to any newly created lot will be prohibited until the Board of Directors determines that the provisions of the Phased Water Conservation Plan are no longer in effect or that the severity of the water supply condition may be reduced to a Phase I or Phase II shortage

SECTION G - PHASE IV SHORTAGE

5-G-1 PHASE IV SHORTAGE

5-G-1a A Phase IV Shortage shall be declared whenever the Board of Directors determines that it is likely that the District will suffer a shortage of between twenty percent (20%) and twenty-five percent (25%) in its water supplies.

PART 5 - PHASED WATER CONSERVATION PLAN (CONTINUED)
SECTION G - PHASE IV SHORTAGE (continued)

5-G-1b A customer with a meter size of one and one-half (1-1/2) inches or larger shall be billed at his or her normal established water rate for all water used up to a target quantity of seventy-five percent (75%) of the base quantity All water used in excess of the target quantity shall be subject to a conservation surcharge per Rule 5-0-1 The base quantity shall be determined by the amount of water used on the customer's premises during the corresponding billing period of a base period to be defined by the Board of Directors

5-G-1c For meter sizes of one (1) inch or less, a base quantity shall be the average of the water usage for all similar sized meters during the corresponding billing period of a base period to be defined by the BOARD

A customer with a meter size of one (1) inch or less shall be billed at his or her normal established water rate for all water used up to a target quantity of seventy-five percent (75%) of the base quantity All water used in excess of the target quantity shall be subject to a conservation surcharge per Rule 5-0-1

5-G-1d The watering of lawn, landscape or other turf area with water supplied by the District shall be limited to not more than every other day and shall be prohibited between the hours of 10:00 a.m. and 5:00 p.m.

5-G-1e New meters to provide construction water service shall not be issued

5-G-1f Water Service ("Will Serve") letters will be issued but such letters will be issued with the condition that permanent metered service to any newly created lot will be prohibited until the Board of Directors determines that the provisions of the Phased Water Conservation Plan are no longer in effect or that the severity of the water supply condition may be reduced to a Phase I or Phase II shortage

PART 5 - PHASED WATER CONSERVATION PLAN (CONTINUED)

SECTION H - PHASE V SHORTAGE

5-H-1 PHASE V SHORTAGE

5-H-1a A Phase V Shortage shall be declared whenever the Board of Directors determines that it is likely that the District will suffer a shortage of between twenty-five (25%) and thirty percent (30%) in its water supplies

5-H-1b A customer with a meter size of one and one-half (1-1/2) inches or larger shall be billed at his or her normal established water rate for all water used up to a target quantity of seventy percent (70%) of the base quantity All water used in excess of the target quantity shall be subject to a conservation surcharge per Rule 5-0-1 The base quantity shall be determined by the amount of water used on the customer's premises during the corresponding billing period of a base period to be defined by the Board of Supervisors.

5-H-1c For meter sizes of one (1) inch or less, a base quantity shall be the average of the water usage for all similar sized meters during the corresponding billing period of a base period to be defined by the BOARD

A customer with a meter size of one (1) inch or less shall be billed at his or her normal established water rate for all water used up to a target quantity of seventy percent (70%) of the base quantity All water used in excess of the target quantity shall be subject to a conservation surcharge per Rule 5-0-1

5-H-d The watering of lawn, landscape or other turf area with water supplied by the district shall be limited to not more than every other day and shall be prohibited between the hours of 10:00 a.m. and 5:00 p.m.

5-H-1e New meters to provide construction water service shall not be issued

5-H-1f Water service ("Will Serve") letters will be issued but such letters will be issued with the condition that permanent metered service to any newly created lot will be prohibited until the Board of Directors determines that the provisions of the Phased Water Conservation Plan are no longer in effect or that the severity of the water supply condition may be reduced to a Phase I or Phase II shortage

PART 5 - PHASED WATER CONSERVATION PLAN (CONTINUED)
SECTION I - PHASE VI SHORTAGE

5-I-1 PHASE VI SHORTAGE

5-I-1a A Phase VI Shortage shall be declared whenever the Board of Directors determines that it is likely that the District will suffer a shortage of between thirty (30%) and thirty-five percent (35%) in its water supplies

5-I-1b A customer with a meter size of one and one-half (1-1/2) inches or larger shall be billed at his or her normal established water rate for all water used up to a target quantity of sixty-five percent (65%) of the base quantity All water used in excess of the target quantity shall be subject to a conservation surcharge per Rule 5-0-1 The base quantity shall be determined by the amount of water used on the customer's premises during the corresponding billing period of a base period to be defined by the Board of Directors

5-I-1c For meter sizes of one (1) inch or less, a base quantity shall be the average of the water usage for all similar sized meters during the corresponding billing period of a base period to be defined by the BOARD

A customer with a meter size of one (1) inch or less shall be billed at his or her normal established water rate for all water used up to a target quantity of sixty-five percent (65%) of the base quantity All water used in excess of the target quantity shall be subject to a conservation surcharge per Rule 5-0-1

5-I-1d The watering of lawn, landscape or other turf area with water supplied by the District shall be limited to not more than every third day and shall be prohibited between the hours of 10:00 a.m. and 5:00 p.m

5-I-1e New meters to provide construction water service shall not be issued

5-I-1f Water service ("Will Serve") letters will be issued but such letters will be issued with the condition that permanent metered service to any newly created lot will be prohibited until the Board of Directors determines that the provisions of the Phased Water Conservation Plan are no longer in effect or that the severity of the water supply condition may be reduced to a Phase I or Phase II shortage

Part 5 Added 5/23/91 Ordinance No. 91-0075M, Rev 1/09

PART 5 - PHASED WATER CONSERVATION PLAN (CONTINUED)
SECTION J - PHASE VII SHORTAGE

5-J-1 PHASE VII SHORTAGE

5-J-1a A Phase VII Shortage shall be declared whenever the Board of Directors determined that it is likely that the District will suffer a shortage of between thirty-five (35%) and forty percent (40%) in its water supplies.

5-J-1b A customer with a meter size of one and one-half (1 1/2) inches or larger shall be billed at his or her normal established water rate for all water used up to a target quantity of sixty percent (60%) of the base quantity All water used in excess of the target quantity shall be subject to a conservation surcharge per Rule 5-0-1 The base quantity shall be determined by the amount of water used on the customer's premises during the corresponding billing period of a base period to be defined by the Board of Directors.

5-J-1c For meter sizes of one (1) inch or less, a base quantity shall be computed by averaging the water usage for all similar sized meters during the corresponding billing period of a base period to be defined by the Board of Directors A customer with a meter size of one (1) inch or less shall be billed at his or her normal established water rate for all water used up to a target quantity of sixty percent (60%) of the base quantity All water used in excess of the target quantity shall be subject to a surcharge per Rule 6-0-1

5-J-1d The watering of lawn, landscape or other turf area with water supplied by the District shall be prohibited, except that trees and shrubs may be watered at any time by bucket.

5-J-1e All meters to provide construction water shall be removed.

5-J-1f Water service ("Will Serve") letters will be issued, but such letters will be issued with the condition that permanent metered service to any newly created lot will be prohibited until the Board of Directors determines that the provisions of the Phased Water Conservation Plan are no longer in effect or that the severity of the water supply condition may be reduced to a Phase I or Phase II shortage.

5-J-1g No new permanent meters shall be installed

Part 5 Added 5/23/91 Ordinance No. 91

PART 5 - PHASED WATER CONSERVATION PLAN (CONTINUED)
SECTION K - PHASE VIII SHORTAGE

5-K-1 PHASE VIII SHORTAGE

5-K-1a A Phase VIII Shortage shall be declared whenever the Board of Directors determines that it is likely that the District will suffer a shortage of between forty percent (40%) and forty-five percent (45%) in its water supplies.

5-K-1b A customer with a meter size of one and one-half (1-1/2) inches or larger shall be billed at his or her normal established water rate for all water used up to a target quantity of fifty-five percent (55%) of the base quantity All water used in excess of the target quantity shall be subject to a conservation surcharge per Rule 5-0-1 The base quantity shall be determined by the amount of water used on the customer's premises during the corresponding billing period of a base period to be defined by the Board of Directors

5-K-1c For meter sizes of one (1) inch or less, a base quantity shall be computed by averaging the water usage for all similar sized meters during the corresponding billing period of a base period to be defined by the Board of Directors. A customer with a meter size of one (1) inch or less shall be billed at his or her normal established water rate for all water used up to fifty-five percent (55%) of the base quantity All water used in excess of the target quantity shall be subject to a conservation surcharge per Rule 5-0-1

5-K-1d The watering of lawn, landscape or other turf area with water supplied by the District shall be prohibited except that trees and shrubs may be watered at any time by bucket.

5-K-1e All meters to provide construction water shall be removed

5-K-1f Water service ("Will Serve") letters will be issued but such letters will be issued with the condition that permanent metered service to any newly created lot will be prohibited until the Board of Directors determines that the provisions of the Phased Water Conservation Plan are no longer in effect or that the severity of the water supply condition may be reduced to a Phase I or Phase II shortage

5-K-1g No new permanent meters shall be installed

Part 5 Added 5/23/91 Ordinance No. 91-0075M

PART 5 - PHASED WATER CONSERVATION PLAN (CONTINUED)

SECTION L - PHASE IX SHORTAGE

5-L-1 PHASE IX SHORTAGE

5-L-1a A Phase IX Shortage shall be declared whenever the Board of Directors determines that it is likely that the District will suffer a shortage of between forty-five (45%) and fifty percent (50%) in its water supplies.

5-L-1b A customer with a meter size of one and one-half (1 1/2) inches or larger shall be billed at his or her normal established water rate for all water used up to a target quantity of fifty percent (50%) of the base quantity All water used in excess of the target quantity shall be subject to a conservation surcharge per Rule 5-0-1 The base quantity shall be determined by the amount of water used on the customer's premises during the corresponding billing period of a base period to be defined by the Board of Directors

5-L-1c For meter sizes of one (1) inch or less, a base quantity shall be computed by averaging the water usage for all similar sized meters during the corresponding billing period of a base period to be defined by the Board of Directors A customer with a meter size of one (1) inch or less shall be billed at his or her normal established water rate for all water used up to a target quantity of fifty percent (50%) of the base quantity All water used in excess of the target quantity shall be subject to a conservation surcharge per Rule 5-0-1

5-L-1d The watering of lawn, landscape or other turf area including trees and shrubs, with water supplied by the District shall be prohibited.

5-L-1e All meters to provide construction water shall be removed.

5-L-1f Water service ("Will Serve") letters will be issued, but such letters will be issued with the condition that permanent metered service to any newly created lot will be prohibited until the Board of Directors determines that the provisions of the Phased Water Conservation Plan are no longer in effect or that the severity of the water supply condition may be reduced to a Phase I or Phase II shortage

5-L-1g No new permanent meters shall be installed

Part 5 Added 5/23/91 Ordinance No. 91-0075M

PART 5 - PHASED WATER CONSERVATION PLAN (CONTINUED)
SECTION M - RELIEF FROM COMPLIANCE

5-M-1 RELIEF FROM COMPLIANCE

5-M-1a A customer may file an application for relief from any provisions of this ordinance The Director of Public Works shall develop such procedures as he or she considers necessary to resolve such applications and shall, upon the filling by a customer of an application for relief, take such steps as he or she deems reasonable to resolve the application for relief The decision of the Director of Public Works shall be final. The Director of Public Works may delegate his or her duties and responsibilities under this Rule as appropriate

5-M-1b The application for relief may include a request that the customer be relieved, in whole or in part, from the conservation surcharge provisions of Rules 5-D-1b, 5-D-1c, 5-E-1b, 5-E-1c, 5-F-1b, 5-F-1c, 5-G-1b, 5-G-1c, 5-H-1b, 5-H-1c, 5-I-1b, 5-I-1c, 5-J-1b, 5-J-1c, 5-K-1b, 5-K-1c, 5-L-1b, and 5-L-1c.

5-M-1c In determining whether to grant relief, and the nature of any relief, the Director of Public Works shall take into consideration all relevant factors including, but not limited to:

1 Whether any additional reduction in water consumption will result in unemployment;

2 Whether additional members have been added to the household,

3. Whether any additional landscaped property has been added to the property since the corresponding billing period of the base year;

4 Changes in vacancy factors in multi-family housing,

5. Increased number of employees in commercial, industrial, and governmental offices,

6. Increased production requiring increased process water;

7 Water uses during new construction,

8 Adjustments to water use caused by emergency health or safety hazards,

9 First filling of a permit-constructed swimming pool, and

10. Water use necessary for reasons related to family illness or health

Part 5 Added 5/23/91 Ordinance No. 91-0075M

11 Whether the basic period for billing should be adjusted due to the unique circumstances of the type of facility, such as a boat, which results in irregular, intermittent periods of consumption

5-M-1d In order to be considered, an application for relief must be filed with the District within twenty (20) days from the date the provision from which relief is sought becomes applicable to the applicant. No relief shall be granted unless the customer shows that he or she has achieved the maximum practical reduction in water consumption other than in the specific areas in which relief is being sought No relief shall be granted to any customer who, when requested by the Director of Public Works or designee, fails to provide any information necessary for resolution of the customer's application for relief The decision shall be issued within twenty (20) days and provided to the customer

SECTION N - NOTIFICATION OF CUSTOMERS

5-N-1 NOTIFICATION OF CUSTOMERS

5-N-1a Each customer will be notified on his or her bill as to what the target quantity and the base quantity will be for the applicable billing period

SECTION O - CONSERVATION SURCHARGES

5-O-1 CONSERVATION SURCHARGES

5-O-1a Water use up to the target quantities specified in Rules 5-D-1b, 5-D-1c, 5-E-1b, 5-E-1c, 5-F-1b, 5-F-1c, 5-G-1b, 5-G-1c, 5-H-1b, 5-H-1c, 5-I-1b, 5-I-1c, 5-J-1b, 5-J-1c, 5-K-1b, 5-K-1c, 5-L-1b, and 5-L-1c shall be billed at the established QUANTITY CHARGE or NORMAL USE CHARGE Water use in excess of the aforementioned target quantities shall be subject to the following conservation surcharges in addition to the established QUANTITY CHARGE or NORMAL USE CHARGE

1 For all customers within Los Angeles County Waterworks Districts and Marina Del Rey Water System, an additional conservation surcharge of 1 0 times the established QUANTITY CHARGE or NORMAL USE CHARGE will be assessed for water use in excess of the target quantity, up to 115 percent of the target quantity

2 For all customers within Los Angeles County Waterworks Districts and Marina Del Rey Water System, an additional conservation surcharge of 2 0 times the established QUALITY CHARGE or NORMAL USE CHARGE will be assessed for water use in excess of 115 percent of the target quantity

3. If cost of purchased water obtained from the water wholesalers that sell water to the Los Angeles County Waterworks Districts increases beyond the amounts that can be offset and collected through the rates set in 1 and 2 of this provision, then the District Engineer is hereby authorized to revise the rates set in 1 and 2 of this provision in amounts necessary to offset the cost to purchase the water

5-O-1b Violation by any customer of the water use prohibitions of Rules 5-G-1d, 5-H-1d, 5-I-1d, 5-J-1d, 5-K-1d, and 5-L-1d shall be penalized as follows.

1 First violation The Director of Public Works or designee shall issue a written notice of the fact of a first violation to the customer

2 Second violation. For a second violation during any one water shortage emergency, the Director of Public Works or designee shall issue a written notice of the fact of a second violation to the customer

3. Third and subsequent violations. For a third and each subsequent violation during any one water shortage emergency, the Director of Public Works or designee may install a flow-restricting device or the service of the customer at the premises at which the violation occurred for installing and for removing the flow-restricting devices and for restoration of normal service The charge shall be paid before normal service can be restored

5-O-1c All monies collected by a District pursuant to this ordinance shall be deposited in that District's General Fund as reimbursement for the District's costs and expenses of administering this conservation plan

5-O-1d The District shall give notice to customer of water conservation surcharges or of water usage violations as follows

a Notice of water conservation surcharges or of first and second violations of the water use prohibitions of Rules 5-G-1d, 5-H-1d, 5-I-1d, 5-J-1d, 5-K-1d, and 5-L-1d shall be given to the customer in person or by regular mail.

b If the customer is absent from or unavailable at the premises at which the violation occurred, by leaving a copy with some person of suitable age and discretion at the premises and sending a copy through the regular mail to the address at which the customer is normally billed, or

c. If a person of suitable age or discretion cannot be found, then by affixing a copy in a conspicuous place at the premises at which the violation occurred and also sending a copy through the regular mail to the address at which the customer is normally billed

PART 5 **PHASED WATER CONSERVATION PLAN (CONTINUED)**
SECTION O - CONSERVATION SURCHARGES (continued)

5-O-1e The notice of a violation of the water use prohibitions of Rules 5-G-1d, 5-H-1d, 5-I-1d, 5-J-1d, 5-K-1d, and 5-L-1d shall contain a description of the facts of the violation, a statement of the possible penalties for each violation and a statement informing the customer of his right to a hearing on the merits of the violation pursuant to Rule 5-P-1

5-O-1f Nothing in these regulations shall prohibit any customer from either installing sub-meters or from pro-rating and collecting from the ultimate users any conservation surcharges assessed when the customer's master meter measures consumption of water for multiple tenancy facilities However, unless the sub-meters are subsequently billed directly by the District, the customer responsible for the master meter shall continue to be responsible directly to the District for all payments including conservation surcharges.

SECTION P - HEARING REGARDING VIOLATIONS

5-P-1 HEARING REGARDING VIOLATIONS

5-P-1a Any customer receiving notice of a third or subsequent violations of the water use prohibitions of Rules 5-G-1d, 5-H-1d, 5-I-1d, 5-J-1d, 5-K-1d or 5-L-1d shall have a right to a hearing by the Director of Public Works or his designee within fifteen (15) days of a mailing or other delivery of the notice of violation

5-P-1b The customer's written request for a hearing must be received within ten (10) days of the issuance of the notice of violation This request shall stay installation of a flow-restricting device on the customer's premises and the assessment of any surcharge until the Director of Public Works or designee renders his or her decision The decision shall be issued within ten (10) days of the hearing, a copy of which shall be provided to the customer

5-P-1c The decision of the Director of Public Works shall be final except for judicial review

PART 5 PHASED WATER CONSERVATION PLAN (CONTINUED)

SECTION Q - ADDITIONAL WATER SHORTAGE MEASURES

5-Q-1 ADDITIONAL WATER SHORTAGE MEASURES

The Board of Directors may order implementation of water conservation measures in addition to those set forth in Rules 5-D-1, 5-E-1, 5-F-1, 5-G-1, 5-H-1, 5-I-1, 5-J-1, 5-K-1, and 5-L-1. Such additional water conservation measures shall be implemented in the manner provided in Rule 5-B-1

SECTION R - PUBLIC HEALTH AND SAFETY NOT TO BE AFFECTED

5-R-1 PUBLIC HEALTH AND SAFETY NOT TO BE AFFECTED

Nothing in this ordinance shall be construed to require the District to curtail the supply of water to any customer when such water is required by that customer to maintain an adequate level of public health and safety

SECTION S - SEVERABILITY

5-S-1 SEVERABILITY

If any part of this ordinance or the application thereof to any person or circumstances is for any reason held invalid or unconstitutional by a decision of any court of competent jurisdiction, the validity of the remainder of the ordinance or the application of such provision to other persons or circumstances shall not be affected The Board of Directors of the District or Districts declares that it would have adopted this ordinance and all provisions hereof irrespective of the fact that any one or more of the provisions be declared invalid or unconstitutional

Part 5 Added 5/23/91 Ordinance No. 91-0075

ORDINANCE NO. 91-0046U

An urgency ordinance amending Title 11 - Health and Safety of the Los Angeles County Code, relating to water conservation requirements for the Unincorporated Los Angeles County Area

The Board of Supervisors of the County of Los Angeles ordains as follows

SECTION 1. Chapter 11.38, Part 4, is hereby readopted as amended to read as follows

Part 4. Water Conservation Requirements for the Unincorporated Los Angeles County Area

11.38.620 Hose watering prohibition.

No person shall hose water or wash down any sidewalks, walkways, driveways, parking areas or other paved surfaces, except as is required for the benefit of public health and safety Willful violation hereof shall be subject to a written warning for the first violation, and shall be an infraction punishable by a fine of $100 00 for each subsequent violation

11.38.630 Watering of lawns and landscaping.

A. No person shall water or cause to be watered any lawn or landscaping between the hours of 10:00 a.m. and 5:00 p.m.

B. No person shall water or cause to be watered any lawn or landscaping more than once a day

C No person shall water or cause to be watered any lawn or landscaping to such an extent that runoff into adjoining streets, parking lots or alleys

occurs due to incorrectly directed or maintained sprinklers or excessive watering.

D It shall be the duty of all persons to inspect all hoses, faucets and sprinkling systems for leaks, and to cause all leaks to be repaired as soon as is reasonably practicable.

E Willful violation hereof shall be subject to a written warning for the first violation, and shall be an infraction punishable by a fine of $100 00 for each subsequent violation

11.38.640 Indoor plumbing and fixtures.

A. It shall be the duty of all persons to inspect all accessible indoor plumbing and faucets for leaks, and to cause all leaks to be repaired as soon as is reasonably practicable.

B Willful violation hereof shall be subject to a written warning for the first violation, and shall be an infraction punishable by a fine of $100 00 for each subsequent violation.

11.38.650 Washing vehicles.

No motor vehicle, boat, trailer, or other type of mobile equipment may be washed, except at a commercial carwash or with reclaimed water, unless such vehicle is washed by using a hand-held bucket or a water-hose equipped with an automatic shutoff nozzle No person shall leave a water hose running while washing a vehicle or at any other time Willful violation hereof shall be subject to a written warning for the first violation, and shall be an infraction punishable by a

fine of $100 00 for each subsequent violation

11.38.660 Public eating places.

No restaurant, hotel, cafeteria, café, or other public place where food is sold or served shall serve drinking water to any customer unless specifically requested to do so by such customer Willful violation hereof shall be subject to a written warning for the first violation, and shall be an infraction punishable by a fine of $100.00 for each subsequent violation

11.38.670 Decorative fountains.

No person shall use water to clean, fill, or maintain levels in decorative fountains, ponds, lakes, or other similar aesthetic structures unless such water flows through a recycling system. Willful violation hereof shall be subject to a written warning for the first violation, and shall be an infraction punishable by a fine of $100.00 for each subsequent violation

11.38.680 Procedural requirements.

The Director of Public Works, with input and concurrence from the Director of Public Health, shall periodically review the provisions of this Part and recommend necessary updates to the Board of Supervisor The review of the provisions and preparation of resulting recommendations, if any shall be performed, at a minimum, every two years following the first review, which shall to be completed by December 31, 2010

SECTION 2. Due to the severity of the drought in the State of California, there is an immediate need to prohibit the wasting of water in the Los Angeles County unincorporated area to better utilize the available water supplies. This ordinance is urgently needed for the preservation of the public health, safety, and general welfare, and shall take effect immediately

Appendix F-2

QHWD Water Shortage Contingency Plan

IMPLEMENTATION SCHEDULE: The District will continue to implement this DMM until the District's goal is met: at least 80% of all non-conserving and low-flush model toilets in the District will be replaced with ultra-low flush models.

Table 13
ULFT Retrofit Program

Year	# of ULFT Retrofits
2002	0
2003	10e
2004	20e
2005	20e
2006	20e
2007	20e
2008	20e
2009	20e
2010	20e
2011	20e
2012	20e
e = estimate	

METHODS TO EVALUATE EFFECTIVENESS: The District will calculate annual ULFT replacement program water savings to confirm the savings are within 10% of calculated retrofit-on-resale water savings, using the CUWCC MOU Exhibit 6 methodology and water savings estimates. Exhibit 6 has become an industry standard for evaluation of ULFT replacement programs.

CONSERVATION SAVINGS: Projected total annual water savings from toilet retrofits at full implementation are 0.5 AFY per year.

BUDGET: Proposed annual budget: $130,000, for materials, rebates, and administrative costs.

Agricultural Water Conservation Programs

The District has no agricultural water accounts, although it interacts with area agricultural business for information exchange.

The District may consider becoming a signatory to the Memorandum of Understanding Regarding Efficient Water Management Practices by Agricultural Water Suppliers in California in 2 to 3 years.

Water Shortage Contingency Plan

Preparation for Catastrophic Water Supply Interruption

Law

10632. The plan shall provide an urban water shortage contingency analysis which includes each of the following elements which are within the authority of the urban water supplier

10632 (c) 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

Water Shortage Emergency Response

In 2001, in accordance with the requirements of Assembly Bill 11X, the District water, fire, and emergency services departments developed a comprehensive water shortage contingency plan, which was incorporated into the District's Emergency Response Plan in early 2002. The District's plan is consistent with provisions in the County's Emergency Response Plan. Both plans contain procedures for the distribution of potable water in a disaster: these procedures are consistent with guidelines prepared by the California State Office of Emergency Services.

The District plan recommended the following: (1) the purchase of water purification equipment; (2) purchase of standby generators and auxiliary pumps; and (3) development of emergency water conveyance and supply storage facilities. Steps (1) and (2) have been or are currently being implemented. Step (3) is in the study and design phases.

In addition, specific water-critical customers (such as hospitals, nursing facilities, schools, and a few individual customers with medical conditions dependent on continuous water availability) have been identified. Likely potable water distribution sites have been identified.

Be assured that the District recognizes the importance of the DMMs in reducing water demand and would continue to implement the programs. Also, the District would increase media attention to the water supply situation during a shortage and would step up public water education programs, encourage property owners to apply for a landscape and interior water use survey and continue to advertise the importance of customers to install ULF plumbing fixtures.

During declared shortages, or when a shortage declaration appears imminent, the District General Manager, who serves as the temporary chair, activates a District water shortage response team The Chairman of the Board of Directors assumes the responsible director's role when he/she has arrived at the operational control center The team includes: Board of Directors, General Manager, Operations Foreman, Clerical Staff Director During a declared water shortage, the District will accept applications for new building permits but will not issue permits until the shortage declaration is rescinded. An appeal process has been established.

Supplemental Water Supplies

To offset future potential water shortages due to drought or disaster, the District is considering the following supplemental water supplies.

Water Transfers

See the Transfer or Exchange Opportunities section.

Long Term Additional Water Supply Options

To meet future long-term water demand beyond 2020, the District has purchased land for additional wells.

The following table summarizes the actions the water district will take during a water supply catastrophe.

Table 14 Preparation Actions for a Catastrophe	
Examples of Actions	**Check if Discussed**
Determine what constitutes a proclamation of a water shortage.	✓
Stretch existing water storage.	✓
Obtain additional water supplies.	✓
Develop alternative water supplies.	✓
Determine where the funding will come from.	✓
Contact and coordinate with other agencies.	✓
Create an Emergency Response Team/Coordinator.	✓
Create a catastrophe preparedness plan.	✓
Put employees/contractors on-call.	✓
Develop methods to communicate with the public.	✓
Develop methods to prepare for water quality interruptions.	✓

Water Shortage Contingency Ordinance/Resolution

Law

> 10632. The plan shall provide an urban water shortage contingency analysis which includes each of the following elements which are within the authority of the urban water supplier:
>
> 10632 (h) A draft water shortage contingency resolution or ordinance.

Quartz Hill Water District Water Shortage Response

As mentioned earlier, the District adopted a "No-Waste" Ordinance in 1997, and based on rationing experience, the District has developed a Resolution to Declare a Water Shortage Emergency. The District adopted a policy in 1998 to implement a Moratorium on New Connections during declared water shortages see Appendix C.

Stages of Action

Law

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

Rationing Stages and Reduction Goals

The District has developed a four stage rationing plan (see Table 15) to invoke during declared water shortages. The rationing plan includes voluntary and mandatory rationing, depending on the causes, severity, and anticipated duration of the water supply shortage.

Table 15
Water Rationing Stages and Reduction Goals

Shortage Condition	Stage	Customer Reduction Goal	Type of Rationing Program
Up to 15%	I	15%	Voluntary
15 – 25%	II	25%	Mandatory
25 - 35%	III	35%	Mandatory
35 - 50%	IV	50% or >	Mandatory

Priority by Use

Priorities for use of available potable water during shortages were based on input from the District Emergency Response Team, citizen groups, and legal requirements set forth in the California Water Code, Sections 350-358. Water allocations are established for all customers according to the following ranking system.

- Minimum health and safety allocations for interior residential needs (includes single family, multi-family, hospitals and convalescent facilities, retirement and mobile home communities, and student housing, and fire fighting and public safety)
- Commercial, industrial, institutional/governmental operations (where water is used for manufacturing and for minimum health and safety allocations for employees and visitors), to maintain jobs and economic base of the community (not for landscape uses)
- Permanent agriculture (orchards, vineyards, and other commercial agriculture which would require at least five years to return to production).
- Annual agriculture (floriculture, strawberries, other truck crops)
- Existing landscaping
- New customers, proposed projects without permits when shortage declared.

Health and Safety Requirements

Based on commonly accepted estimates of interior residential water use in the United States, Table 18 indicates per capita health and safety water requirements. In Stage I shortages, customers may adjust either interior or outdoor water use (or both), in order to meet the voluntary water reduction goal.

However, under Stage II, Stage III and Stage IV mandatory rationing programs, the District has established a health and safety allotment of 68 gpcd (which translates to 33 HCF per person per year), because that amount of water is sufficient for essential interior water with no habit or plumbing fixture changes. If customers wish to change water use habits or plumbing fixtures, 68 gpcd is sufficient to provide for limited non-essential (i.e. outdoor) uses.

Stage IV mandatory rationing, which is likely to be declared only as the result of a prolonged water shortage or as a result of a disaster, would require that customers make changes in their interior water use habits (for instance, not flushing toilets unless "necessary" or taking less frequent showers).

Table 16
Per Capita Health and Safety Water Quantity Calculations

	Non-Conserving Fixtures		Habit Changes 1		Conserving Fixtures 2	
Toilets	5 flushes x 5.5 gpf	27.5	3 flushes x 5.5 gpf	16.5	5 flushes x 1.6 gpf	8.0
Shower	5 min x 4.0 gpm	20.0	4 min x 3.0 gpm	12.0	5 min x 2.0	10.0
Washer	12.5 gpcd	12.5	11.5 gpcd	11.5	11.5 gpcd	11.5
Kitchen	4 gpcd	4.0	4 gpcd	4.0	4 gpcd	4.0
other	4 gpcd	4.0	4 gpcd	4.0	4 gpcd	4.0
Total (gpcd)		68.0		48.0		37.5
HCF per capita per year		33.0		23.0		18.0

1 Reduced shower use results from shorter and reduced flow Reduced washer use results from fuller loads.
2 Fixtures include ULF 1.6 gpf toilets, 2.0 gpm showerheads and efficient clothes washers.

Water Shortage Stages and Triggering Mechanisms

As the water purveyor, the Quartz Hill Water District must provide the minimum health and safety water needs of the community at all times. The water shortage response is designed to provide a minimum of 50% of normal supply during a severe or extended water shortage. The rationing program triggering levels shown below were established to ensure that this goal is met.

Rationing stages may be triggered by a shortage in one water source or a combination of sources. Although an actual shortage may occur at any time during the year, a shortage (if one occurs) is usually forecasted by the Water Department on or about April 1 each year If it appears that it may be a dry year, the District contacts its agricultural customers in March, so that they can minimize potential financial impacts.

The District's potable water sources are groundwater and imported surface. Rationing stages may be triggered by a supply shortage or by contamination in one source or a combination of sources. Because shortages overlap Stages, triggers automatically implement the more restrictive Stage. Specific criteria for triggering the District's rationing stages are shown in Table 19.

Table 17
Water Shortage Stages and Triggering Mechanisms

Percent Reduction of Supply	Stage I Up to 15%	Stage II 15 - 25%	Stage III 25 - 35%	Stage IV 35 - 50% >
Water Supply Condition				
Current Supply	Total supply is 85 – 90% of "normal." And Below "normal" year is declared. Or	Total supply is 75 – 85% of "normal." Or Below "normal" year is declared Or	Total supply is 65 – 75% of "normal." Or Fourth consecutive below "normal" year is declared. Or	Total supply is less than 65% of "normal." Or Fifth consecutive below "normal" year is declared. Or
Future Supply	Projected supply insufficient to provide 80% of "normal" deliveries for the next two years. Or	Projected supply insufficient to provide 75% of "normal" deliveries for the next two years. Or	Projected supply insufficient to provide 65% of "normal" deliveries for the next two years. Or	Projected supply insufficient to provide 50% of "normal" deliveries for the next two years. Or
Groundwater	No excess groundwater pumping undertaken. Or	First year of excess groundwater pumping taken, must be "replaced" within four years. Or	Second year of excess groundwater pumping taken, must be "replaced" within four years. Or	No excess groundwater pumping available. Or Reduced groundwater pumping due to replenishment of previously pumped groundwater Or
Water Quality	Contamination of 10% of water supply (exceeds primary drinking water standards)	Contamination of 20% of water supply (exceeds primary drinking water standards)	Contamination of 30% of water supply (exceeds primary drinking water standards)	Or
Disaster Loss				Disaster Loss

Water Allotment Methods

The District has established the following allocation method for each customer type. See Appendix C for sample water shortage rationing allocation method.

Single Family	Hybrid of Per-capita and Percentage Reduction
Multifamily	Hybrid of Per-capita and Percentage Reduction
Commercial	Percentage Reduction
Industrial	Percentage Reduction
Gov'ment/Institutional	Percentage Reduction
Agricultural-Permanent	Percentage Reduction - vary by efficiency
Agricultural-Annual	Percentage Reduction - vary by efficiency
Recreational	Percentage Reduction - vary by efficiency
New Customers	Per-capita (no allocation for new landscaping during a declared water shortage.)

Based on current and projected customer demand, Appendix C indicates the water allocated to each customer type by priority and rationing stage during a declared water shortage.

Individual customer allotments are based on a five-year period. This gives the District a more accurate view of the usual water needs of each customer and provides additional flexibility in determining allotments and reviewing appeals. However, no allotment may be greater than the amount used in the most recent year of the five-year base period.

The Water Department Manager shall classify each customer and calculate each customer's allotment according to the Sample Water Rationing Allocation Method. The allotment shall reflect seasonal patterns. Each customer shall be notified of their classification and allotment by mail before the effective date of the Water Shortage Emergency. New customers will be notified at the time the application for service is made. In a disaster, prior notice of allotment may not be possible; notice will be provided by other means. Any customer may appeal the Water Department Manager's classification on the basis of use or the allotment on the basis of incorrect calculation.

Prohibitions, Consumption Reduction Methods and Penalties

Law

> 10632. The plan shall provide an urban water shortage contingency analysis which includes each of the following elements which are within the authority of the urban water supplier:
>
> 10632 (d) Additional, mandatory prohibitions against specific water use practices during water shortages, including, but not limited to, prohibiting the use of potable water for street cleaning.
> 10632 (e) Consumption reduction methods in the most restrictive stages. Each urban water supplier may use any type of consumption reduction methods in its water shortage contingency analysis that would reduce water use, are appropriate for its area, and have the ability to achieve a water use reduction consistent with up to a 50 percent reduction in water supply.
> 10632 (f) Penalties or charges for excessive use, where applicable.

Mandatory Prohibitions on Water Wasting

The QHWD "No Waste" Ordinance (see Appendix C) includes prohibitions on various wasteful water uses such as lawn watering during mid-day hours, washing sidewalks and driveways with potable water and allowing plumbing leaks to go uncorrected more than 24 hours after customer notification.

Table 18 Consumption Reduction Methods	
Examples of Consumption Reduction Methods	**Stage When Method Takes Effect**
Demand reduction program	All stages
Reduce pressure in water lines	
Flow restriction	IV
Restrict building permits	II, III, IV
Restrict for only priority uses	
Use prohibitions	All stages
Water shortage pricing	All stages
Per capita allotment by customer type	IV
Plumbing fixture replacement	
Voluntary rationing	I
Mandatory rationing	II, III, IV
Incentives to reduce water consumption	
Education Program	All Stages
Percentage reduction by customer type	II, III, IV
Other	
Other	

See Appendix C, the "No Waste" Ordinance and Moratorium on New Connections - which details the reduction methods - regarding Table 18.

Excessive Use Penalties

Any customer violating the regulations and restrictions on water use set forth in the "No Waste" Ordinance shall receive a written warning for the first such violation. Upon a second violation, the customer shall receive a written warning and the district may cause a flow-restrictor to be installed in the service. If a flow-restrictor is placed, the violator shall pay the cost of the installation and removal. Any willful violation occurring subsequent to the issuance of the second written warning shall constitute a misdemeanor and may be referred to the Los Angeles County District Attorney's office for prosecution pursuant. If water service is disconnected, it shall be restored only upon payment of the turn-on charge fixed by the Board of Directors.

Revenue and Expenditure Impacts and Measures to Overcome Impacts

Law

> 10632. The plan shall provide an urban water shortage contingency analysis which includes each of the following elements which are within the authority of the urban water supplier

> 10632 (g) An analysis of the impacts of each of the actions and conditions described in subdivisions (a) to (f), inclusive, on the revenues and expenditures of the urban water supplier..

> 10632 (g) [An analysis of the impacts of each of the] proposed measures to overcome those [revenue and expenditure] impacts, such as the development of reserves and rate adjustments.

All surplus revenues that the District collects are currently used to fund the Rate Stabilization Fund. conservation, recycling, and other capital improvements. The District estimated projected ranges of water sales by shortage stage to best understand the impact each level of shortage will have on projected revenues and expenditures by each shortage stage.

This analysis is undertaken first with no additional water purchases and no rate increases and then with a 25% rate increase at Stage II; 50% at Stage III, and a 100% increase at Stage IV To cover increased expenses and decreased sales, rate increases would need to be "severe"

See Appendix D for the District's efforts to establish an Emergency Fund and a Rate Stabilization Fund.

Reduction Measuring Mechanism

Law

> 10632. The plan shall provide an urban water shortage contingency analysis which includes each of the following elements which are within the authority of the urban water supplier:
>
> 10632 (i) A mechanism for determining actual reductions in water use pursuant to the
> urban water shortage contingency analysis.

Mechanism to Determine Reductions in Water Use

Under normal water supply conditions, potable water production figures are recorded daily Totals are reported weekly to the General Manager Totals are reported monthly to the Board of Directors and incorporated into the water supply report.

During a Stage I or Stage II water shortage, daily production figures are reported to the Operations Supervisor The Operations Supervisor compares the weekly production to the target weekly production to verify that the reduction goal is being met. Weekly reports are forwarded to the General Manager and the Water Shortage Response Team. Monthly reports are sent to the Board of Directors. If reduction goals are not met, the Manager will notify the Board of Directors so that corrective action can be taken.

During a Stage III or Stage IV water shortage, the procedure listed above will be followed, with the addition of a daily production report to the General Manager

During emergency shortages, production figures are reported to the Operations Supervisor hourly and to the General Manager and the Water Shortage Response Team daily Daily reports will also be provided to the Board of Directors.

Appendix G

UWMP Checklist

Table I-1 Urban Water Management Plan checklist, organized by legislation number

No.	UWMP requirement [a]	Calif Water Code reference	Subject [b]	Additional clarification	UWMP location
1	Provide baseline daily per capita water use, urban water use target, interim urban water use target, and compliance daily per capita water use, along with the bases for determining those estimates, including references to supporting data	10608.20(e)	System Demands		Section 8.1
2	*Wholesalers.* Include an assessment of present and proposed future measures, programs, and policies to help achieve the water use reductions. *Retailers.* Conduct at least one public hearing that includes general discussion of the urban retail water supplier's implementation plan for complying with the Water Conservation Bill of 2009.	10608.36 10608.26(a)	System Demands	Retailer and wholesalers have slightly different requirements	Appendix B
3	Report progress in meeting urban water use targets using the standardized form.	10608.40	Not applicable	Standardized form not yet available	N/A
4	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.	10620(d)(2)	Plan Preparation		Section 1 1 2; Table 1-1
5	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.	10620(f)	Water Supply Reliability		Section 1 4; Section 2; Section 3
6	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.	10621(b)	Plan Preparation		Appendix B

No.	UWMP requirement [a]	Calif Water Code reference	Subject [b]	Additional clarification	UWMP location
7	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).	10621(c)	Plan Preparation		Section 1 1.2
8	Describe the service area of the supplier	10631(a)	System Description		Section 1.2
9	(Describe the service area) climate	10631(a)	System Description		Section 1 3
10	(Describe the serv ce area) current and projected population . . 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 .	10631(a)	System Description	Provide the most recent population data possible Use the method described in "Baseline Daily Per Capita Water Use " See Section M.	Section 4 3
11	(population projections) shall be in five-year increments to 20 years or as far as data is available	10631(a)	System Description	2035 and 2040 can also be provided to support consistency with Water Supply Assessments and Written Verification of Water Supply documents.	Table 4-4, Table 1-3
12	Describe . . other demographic factors affecting the supplier's water management planning	10631(a)	System Description		Section 1.3.2
13	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).	10631(b)	System Supplies	The 'existing' water sources should be for the same year as the "current population" in line 10. 2035 and 2040 can also be provided to support consistency with Water Supply Assessments and Written Verification of Water Supply documents.	Section 2; Section 3; Table 2-9

No	UWMP requirement [a]	Calif Water Code reference	Subject [b]	Additional clarification	UWMP location
14	(Is) groundwater . . . identified as an existing or planned source of water available to the supplier . . .?	10631(b)	System Supplies	Source classifications are surface water, groundwater, recycled water, storm water, desalinated sea water, desalinated brackish groundwater, and other	Section 2 1
15	(Provide 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. Indicate whether a groundwater management plan been adopted by the water supplier or if there is any other specific authorization for groundwater management. Include a copy of the plan or authorization.	10631(b)(1)	System Supplies		Section 2 1
16	(Provide a) description of any groundwater basin or basins from which the urban water supplier pumps groundwater	10631(b)(2)	System Supplies		Section 2.1 1
17	For those basins for which a court or the board has adjudicated the rights to pump groundwater, (provide) a copy of the order or decree adopted by the court or the board	10631(b)(2)	System Supplies		N/A
18	(Provide) a description of the amount of groundwater the urban water supplier has the legal right to pump under the order or decree.	10631(b)(2)	System Supplies		N/A
19	For basins that have not been adjudicated, (provide) 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.	10631(b)(2)	System Supplies		Section 2 1.2

No.	UWMP requirement [a]	Calif. Water Code reference	Subject [b]	Additional clarification	UWMP location
20	(Provide a) detailed description and analysis of the location, amount, and sufficiency of groundwater pumped by the urban water supplier for the past five years. The description and analysis shall be based on information that is reasonably available, including, but not limited to, historic use records.	10631(b)(3)	System Supplies		Section 2.1; Table 2-1
21	(Provide 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.	10631(b)(4)	System Supplies	Provide projections for 2015, 2020, 2025, and 2030.	Section 2.1; Table 2-3
22	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.	10631(c)(1)	Water Supply Reliability . .		Section 2.2.2; Table 2-7; Table 2-8
23	For any water source that may not be available at a consistent level of use - given specific legal, environmental, water quality, or climatic factors - describe plans to supplement or replace that source with alternative sources or water demand management measures, to the extent practicable	10631(c)(2)	Water Supply Reliability . . .		Section 2.2.2 (The Study Area has no inconsistent sources of supply)
24	Describe the opportunities for exchanges or transfers of water on a short-term or long-term basis.	10631(d)	System Supplies		Section 3.1
25	Quantify, to the extent records are available, past and current water use, and projected water use (over the same five-year increments described in subdivision (a)), 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	10631(e)(1)	System Demands	Consider "past" to be 2005, present to be 2010, and projected to be 2015, 2020, 2025, and 2030. Provide numbers for each category for each of these years.	Section 4; Table 4-1; Table 4-2; Table 4-8

No.	UWMP requirement [a]	Calif. Water Code reference	Subject [b]	Additional clarification	UWMP location
26	(Describe and provide a schedule of implementation for) 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.	10631(f)(1)	DMMs	Discuss each DMM, even if it is not currently or planned for implementation. Provide any appropriate schedules.	Section 5; Appendix D
27	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.	10631(f)(3)	DMMs		Section 5; Appendix D
28	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.	10631(f)(4)	DMMs		Section 5; Appendix D

No	UWMP requirement [a]	Calif Water Code reference	Subject [b]	Additional clarification	UWMP location
29	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.	10631(g)	DMMs	See 10631(g) for additional wording.	Section 5; Appendix D
30	(Describe) 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	10631(h)	System Supplies		Section 3.2
31	Describe the opportunities for development of desalinated water, including, but not limited to, ocean water, brackish water, and groundwater, as a long-term supply.	10631(i)	System Supplies		Section 3.4

No.	UWMP requirement [a]	Calif Water Code reference	Subject [b]	Additional clarification	UWMP location
32	Include the annual reports submitted to meet the Section 6.2 requirement (of the MOU), if a member of the CUWCC and signer of the December 10, 2008 MOU	10631(j)	DMMs	Signers of the MOU that submit the annual reports are deemed compliant with Items 28 and 29.	Section 5.2.1: Appendix D
33	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(k)	System Demands	Average year, single dry year, multiple dry years for 2015, 2020, 2025, and 2030.	Section 2 2
34	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.	10631 1(a)	System Demands		Section 9.1
35	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 which are applicable to each stage.	10632(a)	Water Supply Reliability . .		Section 10.7
36	Provide an estimate of the minimum water supply available during each of the next three water years based on the driest three-year historic sequence for the agency's water supply	10632(b)	Water Supply Reliability .		Section 10.1
37	(Identify) actions to be undertaken by the urban water supplier to prepare for, and implement during, a catastrophic interruption of water supplies including, but not limited to, a regional power outage, an earthquake, or other disaster	10632(c)	Water Supply Reliability .		Sections 10.2 through10.6

No.	UWMP requirement [a]	Calif Water Code reference	Subject [b]	Additional clarification	UWMP location
38	(Identify) additional, mandatory prohibitions against specific water use practices during water shortages, including, but not limited to, prohibiting the use of potable water for street cleaning.	10632(d)	Water Supply Reliability . .		Section 10.7
39	(Specify) consumption reduction methods in the most restrictive stages. Each urban water supplier may use any type of consumption reduction methods in its water shortage contingency analysis that would reduce water use, are appropriate for its area, and have the ability to achieve a water use reduction consistent with up to a 50 percent reduction in water supply.	10632(e)	Water Supply Reliability . . .		Section 10.7
40	(Indicated) penalties or charges for excessive use, where applicable	10632(f)	Water Supply Reliability .		Section 10.7
41	An analysis of the impacts of each of the actions and conditions described in subdivisions (a) to (f), inclusive, on the revenues and expenditures of the urban water supplier and proposed measures to overcome those impacts, such as the development of reserves and rate adjustments.	10632(g)	Water Supply Reliability . .		Section 10.7
42	(Provide) a draft water shortage contingency resolution or ordinance	10632(h)	Water Supply Reliability . .		Appendix F
43	(Indicate) a mechanism for determining actual reductions in water use pursuant to the urban water shortage contingency analysis.	10632(i)	Water Supply Reliability .		Section 10.7
44	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	10633	System Supplies		Section 6.1
45	(Describe) the wastewater collection and treatment systems in the supplier's service area, including a quantification of the amount of wastewater collected and treated and the methods of wastewater disposal.	10633(a)	System Supplies		Section 6.1, Table 6-1
46	(Describe) the quantity of treated wastewater that meets recycled water standards, is being discharged, and is otherwise available for use in a recycled water project.	10633(b)	System Supplies		Section 6.1

No.	UWMP requirement [a]	Calif Water Code reference	Subject [b]	Additional clarification	UWMP location
47	(Describe) the recycled water currently being used in the supplier's service area, including, but not limited to, the type, place, and quantity of use	10633(c)	System Supplies		Section 6.1
48	(Describe and quantify) the potential uses of recycled water, including, but not limited to, agricultural irrigation, landscape irrigation, wildlife habitat enhancement, wetlands, industrial reuse, groundwater recharge, indirect potable reuse, and other appropriate uses, and a determination with regard to the technical and economic feasibility of serving those uses.	10633(d)	System Supplies		Section 6.1; Table 6-4
49	(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 pursuant to this subdivision.	10633(e)	System Supplies		Section 6.1 Table 6-3
50	(Describe the) actions, including financial incentives, which may be taken to encourage the use of recycled water. and the projected results of these actions in terms of acre-feet of recycled water used per year	10633(f)	System Supplies		Section 6.1
51	(Provide a) plan for optimizing the use of recycled water in the supplier's service area, including actions to facilitate the installation of dual distribution systems, to promote recirculating uses, to facilitate the increased use of treated wastewater that meets recycled water standards, and to overcome any obstacles to achieving that increased use.	10633(g)	System Supplies		Section 6.1
52	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	10634	Water Supply Reliability . . .	For years 2010, 2015, 2020, 2025, and 2030	Section 2.2 3; Section 7.2

No.	UWMP requirement [a]	Calif. Water Code reference	Subject [b]	Additional clarification	UWMP location
53	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	10635(a)	Water Supply Reliability . . .		Section 7
54	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.	10635(b)	Plan Preparation		Table 1-1 (Cities have participated & will receive another copy)
55	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.	10642	Plan Preparation		Table 1-1
56	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.	10642	Plan Preparation		Appendix B
57	After the hearing, the plan shall be adopted as prepared or as modified after the hearing.	10642	Plan Preparation		Appendix B
58	An urban water supplier shall implement its plan adopted pursuant to this chapter in accordance with the schedule set forth in its plan.	10643	Plan Preparation		Ok

No.	UWMP requirement [a]	Calif Water Code reference	Subject [b]	Additional clarification	UWMP location
59	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.	10644(a)	Plan Preparation		Ok
60	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.	10645	Plan Preparation		Ok; (available for public review online)

a The UWMP Requirement descriptions are general summaries of what is provided in the legislation. Urban water suppliers should review the exact legislative wording prior to submitting its UWMP.

b The Subject classification is provided for clarification only. It is aligned with the organization presented in Part I of this guidebook. A water supplier is free to address the UWMP Requirement anywhere with its UWMP but is urged to provide clarification to DWR to facilitate review.