



2010
Urban Water
Management Plan

June 28, 2011

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ABBREVIATIONS

2005 Plan	2005 Urban Water Management Plan
2010 Plan	2010 Urban Water Management Plan
AAC	All-American Canal
Act	Urban Water Management Planning Act
AF	acre-feet
AF/YR	acre-feet per year
BMPs	Best Management Practices (Water Conservation)
CC	Coachella Canal
CEQA	California Environmental Quality Act
CIMIS	California Irrigation Management Information System
CVWD	Coachella Valley Water District
CRA	Colorado River Aqueduct
CUWCC	California Urban Water Conservation Council
DMP	Drought Management Plan
DPH	Department of Public Health
DPS	Disinfection Byproducts
DWR	Department of Water Resources (State of California)
EWPCF	Encina Wastewater Pollution Control Facility
EPA	Environmental Protection Agency
ERP	Emergency Response Plan
ETo	Evapotranspiration
FY	Fiscal Year
IAWP	Interim Agricultural Water Program
IID	Imperial Irrigation District

lb/day	pounds per day
M&I	municipal & industrial
MAF	million acre-feet
MAF/YR	million acre-feet per year
MCL	California Maximum Contaminant Level
Metropolitan	Metropolitan Water District of Southern California
mg/l	milligrams per liter
MGD	million gallons per day
MOU	Memorandum of Understanding - Urban Water Conservation in California
pCi/l	picocuries per liter
QSA	Quantification Settlement Agreement
RO	reverse osmosis
ROD	Record of Decision
SANDAG	San Diego Association of Governments
SCADA	Supervisory Control and Data Acquisition
SEMS	Standardized Emergency Management System
SWA	Source Water Assessment
SWRP	Shadowridge Water Reclamation Plant
SWP	State Water Project
SWRCB	State Water Resources Control Board
TDS	total dissolved solids
UWMP	Urban Water Management Plan
µg/l	micrograms per liter
VID	Vista Irrigation District
Water Authority	San Diego County Water Authority
WRMP	Water Reclamation Master Plan
WTP	Water Treatment Plant

SECTION 1 – INTRODUCTION

1.1 CALIFORNIA URBAN WATER MANAGEMENT PLANNING ACT

The California Water Code requires all urban water suppliers in the state to prepare urban water management plans and update them every five years. These plans satisfy the requirements of the Urban Water Management Planning Act of 1984 (Act), including amendments that have been made to the Act. Sections 10610 through 10657 of the California Water Code detail the information that must be included in these plans, as well as who must file them. Appendix A contains the text of the Act.

Since 2005, a number of changes have been made to the Act. Amendments provided for reporting on lower income and affordable household water use projections as well as the feasibility of meeting recycled water demands. The following is a summary of significant changes in the Act that have occurred since the Vista Irrigation District (VID) prepared its 2005 Urban Water Management Plan:

- Water Code Section 10631.1 requires a plan by retail water suppliers to include water use projections for single- and multi-family residential housing needed for lower income and affordable households, to assist with compliance with the existing requirement under Section 65589.7 of the Government Code, that suppliers grant a priority for the provision of service to housing units affordable to lower income households.
- Water Code Section 10621(b) clarifies that every urban water supplier preparing a plan must give at least 60 days advanced notice to any city or county prior to the public hearing on the plan within which the supplier provides water supplies to allow for consultation on the proposed plan.
- Water Code Section 10631(j) deems water suppliers that are members of the California Urban Water Conservation Council (CUWCC) and comply with the Memorandum of Understanding (MOU), as it may be amended, to be in compliance with the requirement to describe the supplier’s water demand management measures in its UWMP.
- Water Code Section 10631.7 required DWR¹, in consultation with the CUWCC, to convene a technical panel, no later than January 1, 2009, to provide information and recommendations to DWR and the Legislature on new demand management measures, technologies, and approaches. The panel and DWR were to report to the Legislature on their findings no later than January 1, 2010 and each five years thereafter;
- Water Code Section 10633(d) clarifies that the “indirect potable reuse” of recycled water should be described and quantified in the plan, including a determination regarding the technical and economic feasibility of serving those uses.

¹ Due to subsequent changes in the law, DWR has not yet convened this technical panel or submitted a report to the Legislature.

- Water Code Section 10644(c) requires DWR to recognize exemplary efforts by water suppliers by obligating DWR to identify and report to the technical panel, described above, any “exemplary elements” of individual water suppliers’ plans, meaning any water demand management measures adopted and implemented by specific urban water suppliers that achieve water savings significantly above the levels required to meet the conditions to state grant or loan funding.

In addition, DWR will consider whether the urban water supplier has submitted an updated plan when determining eligibility for funds made available pursuant to any program administered by the department (Water Code Section 10631.5).

This Act requires every urban water supplier providing water for municipal purposes to more than 3,000 customers or supplying more than 3,000 acre-feet (AF) of water annually to prepare and adopt, in accordance with prescribed requirements, an urban water management plan. The Act requires each urban water supplier to prepare a plan that describes and evaluates reasonable and practical water uses, recycled water and conservation activities. These plans must be filed with DWR at least once every five years, or before December 31, in years ending in five and zero.²

1.2 SENATE BILL 7 OF THE SEVENTH EXTRAORDINARY SESSION

In addition to changes in the Act, the California Legislature passed Senate Bill 7 of the Seventh Extraordinary Session (SBX 7-7) on November 10, 2009. This new law seeks to achieve a 20 percent statewide reduction in urban per capita water use in California by December 31, 2020. The measure requires urban retail water suppliers to develop urban water use targets to help meet the 20 percent goal by 2020 and an interim goal of 10 percent by 2015.

The bill includes reporting requirements in upcoming urban water management plans. Specifically, urban retail water suppliers must include in their 2010 urban water management plans the following information from its target setting process: (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. An urban retail water supplier may update its 2020 target in its 2015 urban water management plan. Appendix A also contains the text of SBX 7-7.

VID addresses the reporting requirements as well as actions it is taking to help achieve the urban per capita water use target pursuant to SBX 7-7 in Section 2 of its 2010 Urban Water Management Plan (2010 Plan).

² Urban retail water suppliers were granted a six month extension to incorporate new reporting requirements set forth in SBX7-7 into their urban water management plans. Urban water management plans must be submitted to DWR by July 1, 2011.

1.3 SENATE BILLS 610 AND 221

Water Code Sections 10910 through 10914 and Government Code Sections 65867.5, 66455.3 and 66473.7 (commonly referred to as SB 610 and SB 221) amended state law to improve the link between information on water supply availability and certain land use decisions made by cities and counties. SB 610 requires that the water purveyor of the public water system prepare a water supply assessment to be included in the environmental documentation of certain large proposed projects. SB 221 requires affirmative written verification from the water purveyor of the public water system that sufficient water supplies are available for certain large residential subdivisions of property prior to approval of a tentative map.

Section 2 of VID's 2010 Plan contains documentation on the existing and planned water supplies being developed by VID and its wholesale water suppliers, the San Diego County Water Authority (Water Authority) and the Metropolitan Water District of Southern California (Metropolitan). Specific documentation verifying Water Authority and Metropolitan supplies can be found in their respective plans.

1.4 VID'S 2010 PLAN PREPARATION AND IMPLEMENTATION

To adequately demonstrate VID's water supply reliability over the next 25 years, the 2010 Plan quantifies existing and projected local and imported supplies necessary to meet future retail demands within VID's service area. While the 2010 Plan includes specific information on VID's supplies, the plans submitted by Water Authority and Metropolitan will provide details on their supplies that contribute to the reliability of supplies for VID.

1.4.1 Coordination and Notification

Reasonable consistency among the plans of water wholesalers, Metropolitan and Water Authority, and their member agencies' plans is important to accurately identify the projected supplies available to meet regional demands. Over the past year, VID staff has actively participated in member agency work group meetings coordinated by the Water Authority. VID staff, along with the other member agencies' personnel, have reviewed and provided input on data that was used to update Water Authority's 2010 Plan. VID has also been given the opportunity to provide input on Water Authority's draft 2010 Plan during various stages of its development. The coordination efforts ensured that the region's and member agencies' plans were developed using the most up to date information available, making the documents a solid basis for regional and local water management planning.

VID coordinated the preparation of its 2010 Plan with appropriate local agencies, including other water suppliers and relevant public agencies, to the extent practicable. In accordance with the Act, VID notified cities and the county within its service area sixty (60) days prior to the public hearing that it was preparing a 2010 Plan. The draft 2010 Plan was made available for public review on VID's website and in hardcopy at its office. Copies of the draft 2010 Plan (on CD) were sent to agencies listed in Table 1-1 as well as the Vista Chamber of Commerce and South Vista Communities (a non-profit community organization). Please refer to Table 1-1 for additional information on VID's coordination process.

TABLE 1-1: COORDINATION WITH APPROPRIATE AGENCIES

Agencies	Participated in UWMP Development	Commented on the Draft	Attended Public Meetings	Contacted for Assistance	Received Copy of the Draft	Sent Notice of Intention to Adopt	Not Involved/ No Information
<i>Metropolitan Water District of Southern California</i>					✓	✓	
<i>San Diego County Water Authority</i>	✓			✓	✓	✓	
<i>City of Vista</i>	✓			✓	✓	✓	
<i>City of Escondido</i>					✓	✓	
<i>City of Oceanside</i>					✓	✓	
<i>City of San Marcos</i>					✓	✓	
<i>County of San Diego</i>					✓	✓	
<i>Encina Wastewater Authority</i>					✓	✓	
<i>CA Dept. of Public Health, San Diego Drinking Water Branch</i>					✓	✓	
<i>Vista Unified School District</i>					✓	✓	

1.4.2 Public Hearing and Adoption

In accordance with the Act, the Water Conservation Act of 2009 (SBX 7-7) and Government Code Section 6066, the VID Board of Directors held a public hearing on June 28, 2011 at 8:30 AM and adopted the 2010 Plan following the closure of said public hearing. As stated in its public hearing notice, VID encouraged the active involvement of the diverse social, cultural, and economic elements of the population within its service area. Copies of plan preparation notices, public hearing notice, resolution adopting the 2010 Plan and minutes from the June 28, 2011 meeting are included in Appendix B.

1.4.3 Plan Distribution and Availability

Within 30 days of adoption, copies of the final 2010 Plan will be mailed to DWR, the California State Library, cities within VID’s service area and the County of San Diego. Once the Plan has been filed with DWR, it will be posted to VID’s website and be made available in hardcopy at VID’s office during normal business hours.

1.4.4 Water Supply Management Policy

VID’s water supply management policy can best be described by its mission statement. “The mission of the Vista Irrigation District is to manage available resources to meet the present and future water needs of our service area by providing a reliable supply of high quality water in an environmentally and economically responsible manner...” This means implementing water supply management programs, such as conjunctive use and conservation, to maximize the use of available local resources and minimize VID’s need to receive imported water. Below is a discussion of supply management programs used by VID.

Conjunctive Use Program

VID first employed the practice of conjunctive use in 1954 when it drilled 38 wells in the Warner Basin to supplement its local surface water supply, Lake Henshaw. Today, VID has 14 production wells that pump from depths of 150 to 350 feet, depending on rainfall and length and extent of pumping operations. VID's operational procedure is to use its surface water supply when available and conserve its groundwater for dry years when run-off is minimal and surface supplies are reduced.

In dry years, groundwater is pumped from the well field into Lake Henshaw and released from the lake as needed. In wet years, the surface water supply is used and pumping operations cease, permitting the basin to recharge and groundwater levels to rise. Thus, the groundwater basin can act as a water bank, allowing deposits in wet years and withdrawals in dry years.

Groundwater Program

VID does not participate in any groundwater storage (other than natural run-off percolation) or replenishment programs due to the remote location of its surface water supply. However, as described in the above section, VID's management of the Warner Basin ensures that groundwater is available as a supplemental supply source during dry periods.

Water Conservation Program

VID started its water conservation program in 1981. As drought gripped California in the early 1990's, water purveyors, including VID, increased their water conservation efforts to reduce demand. Over the years, these programs have been successful in managing water demand as populations grew.

VID's population served has increased by 33% from 1990 to 2010 (94,526 to 125,962). However, water received for delivery to its customers has remained relatively constant. Water received for delivery has averaged 21,575 acre-feet per year (AF/YR) over this period which is slightly lower than water received for delivery in 1990 (22,530 AF/YR).

VID and other member agencies partnered with the Metropolitan and/or Water Authority to offer conservation programs to their customers in the early 1990's. Since that time, Water Authority and its member agencies have jointly funded programs (public education and financial incentives) that benefit the region as a whole. Examples include residential and commercial, industrial and institutional voucher/rebate programs, water surveys, professional and homeowner landscape classes, and landscape assistance programs.

Recycled Water Program

Wastewater collection, treatment and disposal services within VID’s boundaries are provided by the Vista Sanitation District, Buena Sanitation District and Vallecitos Water District. VID is the distributor of recycled water produced by the City of Vista (Buena Sanitation District) at the Shadowridge Water Reclamation Plant (SWRP). When available, VID distributes up to 300 acre-feet (AF) per year of recycled water to the Shadowridge Golf Course.

The City of Vista suspended operation of the SWRP in December 2003 due to high production costs. In 2009, the City, with assistance from Water Authority and VID, initiated work to determine the feasibility of re-commissioning the SWRP. The study has been completed, and the City has provided a copy of it to the North County Regional Recycled Water Group, which was formed to evaluate the potential for a regional recycled water project in north San Diego County.

The North County Regional Recycled Water Group, comprised of water and wastewater agencies including VID and the City, has commenced work on a recycled water projects study for north San Diego County. Once the study is complete, it will be used as a basis to apply for state and federal financial assistance (e.g. grants, loans, etc) as well as Metropolitan Local Resource Program funding. The City will make a decision on whether to move forward with re-commissioning the plant once the regional effort is complete.

1.4.5 Plan Implementation

The programs and policies set forth in the 2010 Plan will be implemented to assist VID in meeting conservation goals stated in SBX 7-7 and balance available water supplies with demands. VID has and will continue to implement water-use efficiency measures as planned and shown in the California Urban Water Conservation Council Best Management Practices annual reports included as appendices to the 2005 and 2010 Plans. VID will also continue to work with the City of Vista, the Water Authority and the North County Regional Recycled Water Group to find funding sources to re-commission the Shadowridge Water Reclamation Plant as well as expand the distribution system.

VID plans, designs, and constructs water system facilities to meet projected ultimate demands to be placed upon the potable water system. Also, as documented in previous UWMPs, VID forecasts needs and plans for water supply requirements to meet projected demands at ultimate build out. The water facilities are constructed when development activities require them for adequate cost effective water service. VID continues to implement projects identified in its Potable Water Master Plan based on system demands.

1.4.6 DWR Checklist

DWR prepared a checklist of items based on the Act that must be addressed in an agency’s plan. This checklist allows an agency to identify where in its plan it has addressed each item. VID has completed the checklist, referencing the sections and page numbers included in the 2010 Plan. The completed checklist is included in Appendix C.

1.5 SERVICE AREA INFORMATION

1.5.1 Formation and Purpose

VID was formed in 1923 pursuant to Section 20500, et. seq., of the California Water Code. VID, through the Bueno Colorado Municipal Water District, joined Water Authority and Metropolitan in 1954 to acquire the right to purchase and distribute imported water throughout its service area. On November 23, 1993, the Bueno Colorado Municipal Water District was dissolved and reorganized into VID. VID then became a member agency of the Water Authority.

1.5.2 Service Area

VID covers an area of approximately 21,200 acres as shown on Figure 1-1. The service area includes the city of Vista and portions of Escondido, Oceanside, and San Marcos, and unincorporated areas of San Diego County. VID is responsible for the operation and maintenance of all its water supply and distribution facilities.

All water delivered by VID is filtered and includes imported water purchased from Water Authority and local water from VID's Lake Henshaw facilities. VID has major storage and water treatment facilities. Groundwater at Lake Henshaw is used to supplement the local water supply whenever surface runoff is insufficient to produce adequate supplies of local water. Wastewater collection, transmission, treatment and disposal services to developed areas within VID boundaries are provided by other agencies not associated with VID.

1.5.3 Relationship to Other Water Agencies

Bueno Colorado Municipal Water District

The Bueno Colorado Municipal Water District was formed in 1954 and generally encompassed those lands that today make up the Vista Irrigation District and the Vallecitos Water District (formerly the San Marcos County Water District). Bueno Colorado was formed primarily to act as the member agency of Water Authority and to wholesale water to VID and the Vallecitos Water District.

In 1980, the Vallecitos Water District detached from Bueno Colorado Municipal Water District, leaving only VID and several non-coterminous parcels inside the resulting Bueno Colorado Municipal Water District. Bueno Colorado Municipal Water District neither owned nor operated any water facilities. On November 23, 1993, the Bueno Colorado Municipal Water District was officially dissolved and VID took over all of the remaining rights and responsibilities of the agency. All property within Bueno Colorado Municipal Water District was annexed to either VID or an appropriate adjacent water service agency.

San Diego County Water Authority

The Water Authority was organized on June 9, 1944, under the County Water Authority Act for the express purpose of importing Colorado River water into San Diego County.

Imported water, now a combination of Colorado River Water and State Project Water (SWP), is sold wholesale to the 24 member agencies of Water Authority. The member agencies are autonomous, and their city councils or boards of directors set local policies and water pricing structures. Each member agency may appoint at least one representative (based on assessed valuation) to the Board of Directors of Water Authority.

VID is one of 24 member agencies of Water Authority. Member agency status entitles VID to directly purchase water for its needs from Water Authority to ensure, to the best of its ability, that adequate amounts of water will be available to satisfy future water requirements. A map of Water Authority, which also shows the position of VID within Water Authority's boundaries, is included as Figure 1-2.

A majority of the water distributed by Water Authority is purchased from the Metropolitan and is delivered into Water Authority pipelines from Metropolitan facilities located just south of the San Diego County/Riverside County boundary. Water Authority annexed to Metropolitan in 1946 and is now represented on the Metropolitan Board by four directors. Water Authority is the largest of the 26 member agencies of Metropolitan and currently purchases approximately 29% of the total Metropolitan water supply.

Metropolitan Water District of Southern California

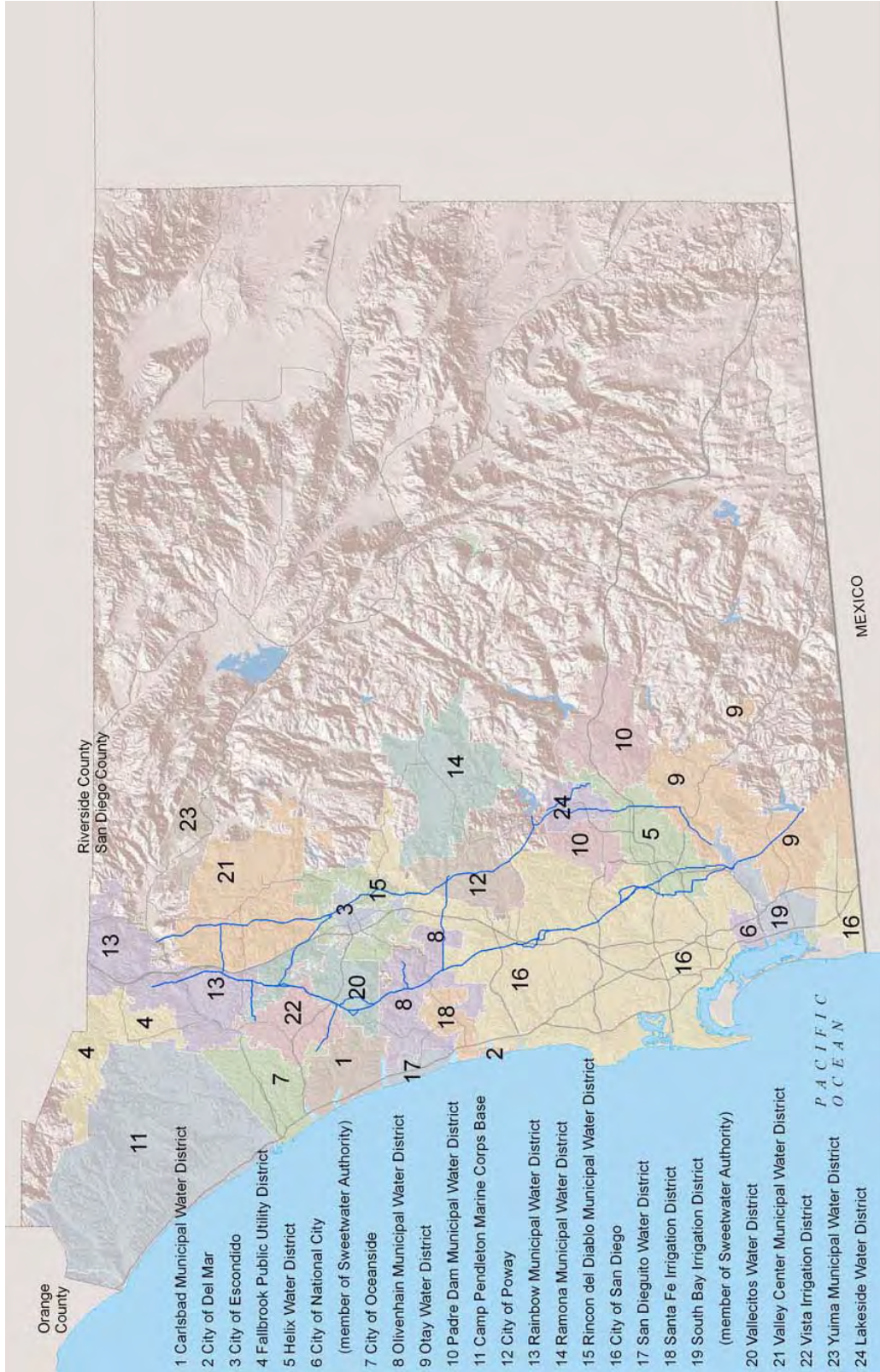
Metropolitan was created by a vote of the people in 1928 following the passage of the Metropolitan Water District Act by the California Legislature to provide supplemental water for cities and communities on the south coastal plain of California.

Since its formation, Metropolitan has grown to include 26 member agencies (including Water Authority), as shown on Figure 1-3, and currently covers an area which includes all or portions of Ventura, Los Angeles, Orange, Riverside, San Bernardino and San Diego counties. Acting as a water wholesaler and providing waters from both the Colorado River and Northern California, Metropolitan supplies almost half of the nearly 4 million acre feet a year used by an estimated 19.1 million people within its service area.

FIGURE 1-1: VISTA IRRIGATION DISTRICT SERVICE AREA MAP



FIGURE 1-2: SAN DIEGO COUNTY WATER AUTHORITY SERVICE AREA MAP



1.5.4 Population

According to the SANDAG 2050 Regional Growth Forecast, the region’s population will grow at a steady rate, although at a slightly slower pace than the previous 40 years. Based on projections presented in SANDAG’s 2050 Regional Growth Forecast, the population in VID’s service area is expected to increase from 125,962 in 2010 to 159,760 by 2035, a 27% increase. Table 1-2 shows the population projections for VID from 2010 to 2035.

TABLE 1-2: POPULATION – CURRENT AND PROJECTED

	2010	2015	2020	2025	2030	2035
Service Area Population	125,962	127,372	134,366	140,608	146,084	159,760

1.5.5 Climate

Climatic conditions within the service area are characteristically Mediterranean with mild temperatures year round. More than 80% of the region's rainfall occurs in the period between November through March. Average annual rainfall in Vista is approximately 13 inches per year. At Lake Henshaw, which is 25 miles inland from VID’s service area and the local source of 30% of VID's water supply, the average annual rainfall is about 25 inches per year. Table 1-3 contains detailed information regarding the climate for VID’s service area and local water supply.

TABLE 1-3: CLIMATE

	Jan	Feb	Mar	Apr	May	Jun
Standard Monthly ETo	2.81	2.76	3.78	5.31	6.10	6.97
Average Rainfall (Inches) Vista	2.80	2.55	2.28	1.04	0.22	0.11
Average Rainfall (Inches) Lake Henshaw	5.01	4.84	4.49	1.97	0.57	0.10
Average Temperature (Fahrenheit) Vista	55.7	56.4	57.3	59.7	63.2	66.5
Average Temperature (Fahrenheit) Lake Henshaw	44.6	46.6	48.9	52.8	58.2	64.8

	Jul	Aug	Sep	Oct	Nov	Dec	Annual
Standard Monthly ET ₀	7.08	6.83	5.67	4.15	3.31	2.56	57.33
Average Rainfall (Inches) Vista	0.06	0.07	0.26	0.51	1.39	1.72	13.03
Average Rainfall (Inches) Lake Henshaw	0.27	0.51	0.46	0.88	2.31	3.51	24.92
Average Temperature (Fahrenheit) Vista	70.9	72.3	71.1	66.5	60.4	55.7	62.9
Average Temperature (Fahrenheit) Lake Henshaw	72.5	72.9	68.2	59.3	50.6	45.0	57.0

Sources: California Irrigation Management Information System (CIMIS), Station 153 Western Regional Climate Center, Vista (049378) and Henshaw Dam (043914)

1.5.6 Water Use and Demographic Trends

Table 1-4 shows historical water received and sold on a fiscal year (FY) basis in VID’s service area. Water demands have varied from around 17,600 AF in FY 1985-86 to nearly 20,000 AF in FY 1990-91. Due to a number of factors, including lingering drought impacts and the implementation of aggressive water conservation measures, water use declined by 14% in FY 1991-92. Since that time, water demands have remained relatively constant, taking into consideration weather, water supply conditions and population growth.

Of the 18,273 AF of water used in FY 2009-10, 17,201 AF were used for municipal and industrial (M&I) purposes and 1,072 AF for agricultural purposes. The relative share of M&I water use to total water use has been increasing over time as agricultural water use has declined due to urbanization. Agricultural water use accounted for 18% of the water use in FY 1985-86, 10% in 1995-96, 7% in FY 2005-06 and 6% in FY 2009-10.

TABLE 1-4: HISTORICAL WATER SUPPLY SOURCES AND SALES

Fiscal Year	Water Received			Water Sales		
	Local ¹	Imported ²	Total	M&I	Agricultural	Total ³
1985-86	13,110	4,512	17,622	13,215	2,924	16,139
1986-87	12,809	5,155	17,964	13,935	2,803	16,738
1987-88	3,488	14,585	18,073	14,429	2,574	17,003
1988-89	10,878	9,465	20,343	17,045	2,612	19,657
1989-90	3,336	19,194	22,530	18,310	2,462	20,772
1990-91	4,755	15,249	20,004	16,584	2,596	19,180
1991-92	4,057	13,666	17,723	14,708	1,828	16,536
1992-93	9,901	8,851	18,752	15,784	1,873	17,657
1993-94	13,560	5,458	19,018	15,965	1,643	17,608
1994-95	11,513	7,322	18,835	15,780	1,563	17,343
1995-96	13,378	8,251	21,629	17,765	1,892	19,657
1996-97	9,659	12,108	21,767	18,747	1,953	20,700
1997-98	7,649	11,708	19,357	17,504	1,741	19,245
1998-99	14,001	7,476	21,477	17,280	1,965	19,245
1999-00	6,804	17,123	23,927	20,758	2,192	22,950
2000-01	4,664	17,556	22,220	19,370	2,408	21,778
2001-02	4,026	19,756	23,782	19,654	2,573	22,227
2002-03	1,578	21,192	22,770	19,665	2,226	21,891
2003-04	1,003	23,776	24,779	20,683	2,478	23,161
2004-05	1,170	21,229	22,399	19,119	1,859	20,978
2005-06	9,856	13,493	23,349	20,320	1,565	21,885
2006-07	5,062	18,968	24,030	21,191	1,637	22,828
2007-08	2,245	21,280	23,525	20,792	1,570	22,362
2008-09	6,296	15,668	21,964	19,746	1,120	20,866
2009-10	3,899	15,336	19,235	17,201	1,072	18,273

NOTE: Units of measure are in acre feet.

¹Local water is from Lake Henshaw (natural run-off and groundwater pumping).

²Imported water purchased from the San Diego County Water Authority.

³Total does not include unaccounted for water (e.g. system losses, fire suppression, etc.).

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SECTION 2 – WATER SUPPLY AND DEMAND

2.1 WATER SUPPLY

VID currently has a variety of water sources including imported, regional, local surface, groundwater and recycled water. However, the Water Authority will supply a growing percentage of future water demands. The Water Authority, in turn, currently purchases about half of its water from Metropolitan, but is pursuing projects to diversify its supplies. Due to VID’s reliance on these two agencies, this Plan includes information on the current and planned water supplies of Metropolitan and Water Authority.

VID is a public agency member of the Water Authority. The Water Authority is a public agency member of Metropolitan. The statutory relationships between the Water Authority and its member agencies, and Metropolitan and its member agencies, respectively, establish the scope of VID’s entitlements to water from those sources.

Table 2-1 provides total quantities of current and planned water supplies for VID in a normal year (NOTE: The quantities shown in the table below assume the implementation and achievement of SBX 7-7 conservation goals). Quantities are shown in acre-feet per year (AF/YR). More detailed information regarding the Water Authority and VID water sources are provided in subsections 2.2 and 2.3 respectively.

**TABLE 2-1: CURRENT AND PLANNED WATER SUPPLIES
(Normal Year - AF/YR)**

Water Supply Sources	2010	2015	2020	2025	2030	2035
Purchased from CWA	15,336	16,989	15,961	16,954	17,825	20,000
VID surface water diversions	3,899	5,411	5,411	5,411	5,411	5,411
VID produced groundwater	-	-	-	-	-	-
Recycled Water	0	0	0	0	0	0
Total	19,235	22,400	21,372	22,365	23,236	25,411

2.2 CURRENT AND PLANNED WATER AUTHORITY SUPPLIES

Historically, the Water Authority has relied on imported water supplies purchased from Metropolitan to meet the needs of its 24 member agencies. Metropolitan’s supplies come from two primary sources, the State Water Project (SWP) and the Colorado River. After experiencing severe shortages from Metropolitan during the 1987–1992 drought, the Water Authority began aggressively pursuing actions to diversify the region’s supply sources. Information about each water supply is contained in this subsection and was taken from the Water Authority’s 2010 Plan. Detailed documentation verifying the Water Authority’s and Metropolitan’s water supplies can be found each agency’s 2010 Plan.

2.2.1 Imported Water Supplies from Metropolitan

Colorado River

Metropolitan was formed to import water from the Colorado River. During the 1930s, Metropolitan built the Colorado River Aqueduct (CRA) to convey this water. Metropolitan's member agencies received the first deliveries in 1941. The aqueduct is more than 240 miles long, beginning at Lake Havasu on the Arizona/California border and ending at Lake Mathews in Riverside County. The aqueduct has capacity to deliver up to 1.3 million acre-feet per year (MAF/YR).

Before 1964, Metropolitan had a firm annual allocation of 1.212 million acre-feet (MAF) of Colorado River water through contracts with the U.S. Department of the Interior, which was enough to keep Metropolitan's aqueduct full. However, as a result of the U.S. Supreme Court decision in *Arizona vs. California*, Metropolitan's firm supply fell to 550,000 AF. Due to growth in demand from other states and drought conditions, since 2003, Metropolitan's deliveries have been limited to the base apportionment plus water from a conservation program with IID.

Water availability from the Colorado River is governed by a system of priorities and water rights that have been established over many years. The Colorado River Lower Basin states (California, Arizona, and Nevada) have an annual apportionment of 7.5 MAF of water divided as follows: (1) California, 4.4 MAF; (2) Arizona, 2.8 MAF; and (3) Nevada, 300,000 AF. The 1931 Seven Party Agreement established California's priorities for water with the first three priorities, totaling 3.85 MAF, going to agricultural agencies and the fourth priority (550,000 AF) going to Metropolitan. Additional water must come from surplus water from the Lower Basin states.

Metropolitan currently has a firm supply from two sources: its 550,000 AF, and the yield of a conservation program that Metropolitan completed with IID in 1998. This program currently yields about 106,000 AF, giving Metropolitan a total supply of approximately 656,000 AF. Under certain conditions, however, Metropolitan must provide 50,000 AF of the conservation program water to the Coachella Valley Water District (CVWD). Thus, Metropolitan's firm supply is now about 606,000 AF. The remaining 600,000 AF of water needed to fill the CRA must come from the unused apportionments of other states or from surplus water.

State Water Project

Metropolitan's other water source, the SWP, is owned by the State of California and operated by the DWR. The project stretches more than 600 miles, from Lake Oroville in the north to Lake Perris in the south. Water is stored at Lake Oroville and released when needed into the Feather River, which flows into the Sacramento River and to the Sacramento-San Joaquin River Delta. In the north Delta, water is pumped into the North Bay Aqueduct for delivery to Napa and Solano counties. In the south Delta, water is diverted into the SWP's Banks Pumping Plant, where it is lifted into the 444 mile-long California Aqueduct. Some of this water flows into the South Bay Aqueduct to serve areas in Alameda and Santa Clara counties. The remainder flows southward to cities and farms in central and southern California. In the winter, when demands are lower, water is stored at the San Luis Reservoir located south of the Delta.

The reliability of SWP supplies is limited by both the level of SWP supply development and pumping restrictions due to state and federal environmental regulations and hydrology. When approved by the voters in the 1960s, the SWP was planned to deliver 4.2 million AF to 32 contracting agencies. Subsequent contract amendments reduced total contracted deliveries to 4.13 million AF and the number of contracting agencies to 29. Metropolitan's contracted entitlement is 1,911,500 AF. Metropolitan's original long-term water supply contract for 2,011,500 AF was amended as part of the 2003 Quantification Settlement Agreement (QSA). Effective in 2005, the amendment resulted in an exchange agreement among CVWD, Desert Water Agency (DWA), and Metropolitan. The exchange agreement provides for the transfer of 88,100 AF of Metropolitan's Table A amounts to CVWD and 11,900 AF of Metropolitan's Table A amounts to DWA.

When voters approved construction of the SWP in 1960, state planners did not expect the full amount of contracted water to be needed for at least the first 20 years of the project. As a result, the planners anticipated that the facilities needed to produce the full contracted amount would be constructed over time as demands on the system increased. However, decisions about these additional facilities were repeatedly deferred as public attitudes and environmental regulations changed and costs increased. New state and federal environmental laws put some potential water supply sources off limits to development. More stringent water quality standards adopted by the SWRCB to protect the San Francisco Bay/Sacramento–San Joaquin River Delta have reduced the amount of water available for diversion. Environmental challenges to the SWP operations also resulted in the issuance of new biological opinions, which led to pumping restrictions that further reduced SWP exports. At the same time, California's population and water demand continued to grow.

DWR's *2009 State Water Project Delivery Reliability Report* updated DWR's estimate of the current and future water delivery reliability of the SWP. The 2009 report showed that future deliveries will be further impacted by significant restrictions due to operational requirements contained in federal biological opinions and forecasted effects of climate change, which is changing the hydrologic conditions of the state. The 2009 report projected that the primary component of the annual SWP deliveries will be less, when compared to the preceding 2007 report, where the 2007 report incorporated interim and less restrictive operational requirements established by federal Judge Oliver Wanger in 2007. For current conditions, the dominant factor for the SWP's reductions is the restrictive operational requirements contained in the federal biological opinions. For future conditions, it is the restrictive operational requirements coupled with the forecasted effects of climate change. Metropolitan's SWP deliveries projection listed in its 2010 Plan are based on DWR's *Draft 2009 Report*, which is substantially the same as the final report. For dry, below-normal conditions, Metropolitan also developed its Central Valley storage and transfer programs to increase its supply capabilities.

In developing its supply capabilities, Metropolitan assumed a new Delta conveyance as fully operational by 2022 and would return supply reliability similar to 2005 conditions, prior to supply regulatory restrictions being imposed. In terms of water supply impacts, Metropolitan identified reductions from regulatory restrictions of over one million AF between both the SWP and the federal Central Valley Project in 2010.

Metropolitan's 2010 Plan indicates that Metropolitan's SWP target for a dry year (based on 1977 hydrology) is 522,000 AF in 2015, 601,000 AF in 2020, and 651,000 AF in 2025. The 2010

Plan also estimates that in the 2030 to 2035 period, Metropolitan's annual supply range from the SWP will be between 609,000 and 610,000 AF, including the Central Valley transfer and storage program supplies conveyed by the aqueduct. The 2010 Plan estimates that the SWP will be capable of serving between 1.55 million to 1.73 million AF to Metropolitan from 2015 through 2035 in an average year.

Storage Management Programs

Metropolitan relies on water in storage to augment at times limited imported supplies. It manages its storage portfolio by storing water during wet years to meet the region's needs during critical droughts caused by varied hydrologic conditions and SWP pumping restrictions imposed to protect endangered or threatened fish species. Metropolitan's likelihood of having adequate supply capability before environmental issues that caused Delta pumping restrictions are addressed to meet projected demands, without implementing the Water Supply Allocation Plan (WSAP), is largely dependent on its storage resources. The principles that guide the management of supply and storage are based on the framework established in the Water Surplus and Drought Management (WSDM) Plan, and is being further refined through the WSAP update process. Currently, Metropolitan has about 30 storage programs in operation that provide flexibility to meet delivery requirements. The storage accounts include groundwater and surface storage programs and facilities, within and outside of Metropolitan's service area. Metropolitan's dry-year storage portfolio has the potential to store more than 5 million AF.

Metropolitan's 2010 Plan indicates that the in-region storage and transfer program target for a dry year (based on 1977 hydrology) is 685,000 AF in 2015, 931,000 AF in 2020, and 1,076,000 AF in 2025. The 2010 Plan also estimates that in the 2030–2035 period, Metropolitan's annual supply range from the SWP will be 964,000 and 830,000 AF, respectively. The 2010 Plan estimates that the in-region storage and transfer program will be capable of serving between 830,000 AF and 964,000 AF to Metropolitan from 2015 through 2035 in an average year.

Table 2-2 shows Water Authority’s projected deliveries from Metropolitan for 2015 through 2035.

TABLE 2-2: PROJECTED IMPORTED WATER DELIVERIES FROM METROPOLITAN TO WATER AUTHORITY (Normal Year - AF/YR)

2015	2020	2025	2030	2035
357,159	229,636	258,782	292,381	323,030

Source: San Diego County Water Authority 2010 Urban Water Management Plan.

2.2.2 Water Authority – IID Water Conservation and Transfer Agreement

On April 29, 1998, Water Authority signed a historic agreement with IID for the long-term transfer of conserved Colorado River water to San Diego County. The Water Authority-IID Water Conservation and Transfer Agreement (Transfer Agreement) is the largest agriculture-to-urban water transfer in United States history. Colorado River water will be conserved by Imperial Valley farmers who voluntarily participate in the program and then transferred to Water Authority for use in San Diego County.

On October 10, 2003, Water Authority and IID executed an amendment to the original 1998 Transfer Agreement. This amendment modified certain aspects of the 1998 Agreement to be consistent with the terms and conditions of the QSA and related agreements. It also modified other aspects of the agreement to lessen the environmental impacts of the transfer of conserved water. The amendment was expressly contingent on the approval and implementation of the QSA, which was also executed on October 10, 2003.

On November 5, 2003, IID filed a complaint in Imperial County Superior Court seeking validation of 13 contracts associated with the Transfer Agreement and the QSA. Imperial County and various private parties filed additional suits in Superior Court, alleging violations of the California Environmental Quality Act (CEQA), the California Water Code, and other laws related to the approval of the QSA, the water transfer, and related agreements. The lawsuits were coordinated for trial. The IID, Coachella Valley Water District, Metropolitan, the Water Authority, and state are defending these suits and coordinating to seek validation of the contracts. In January 2010, a California Superior Court judge ruled that the QSA and 11 related agreements were invalid, because one of the agreements created an open-ended financial obligation for the state, in violation of California’s constitution. The QSA parties appealed this decision and are continuing to seek validation of the contracts. The appeal is currently pending in the Third District Court of Appeal. A stay of the trial court judgment has been issued during the appeal. Implementation of the transfer provisions is proceeding during litigation.

Deliveries into San Diego County from the transfer began in 2003 with an initial transfer of 10,000 AF. The Water Authority received increasing amounts of transfer water each year, according to a water delivery schedule contained in the transfer agreement. In 2010, the Water Authority received 70,000 AF. The quantities will increase annually to 200,000 AF by 2021 then remain fixed for the duration of the transfer agreement. The initial term of the Transfer Agreement is 45 years, with a provision that either agency may extend the agreement for an additional 30-year term.

During dry years, when water availability is low, the conserved water will be transferred under IID’s Colorado River rights, which are among the most senior in the Lower Colorado River Basin. Without the protection of these rights, the Water Authority could suffer delivery cutbacks.

Based on the terms and conditions in the Transfer Agreement, Table 2-3 shows the anticipated delivery schedule of the conserved transfer water in 5-year increments. There is adequate documentation to demonstrate the availability of this supply, and therefore, the supply yields shown in Table 2-3 will be included in the reliability analysis found in Section 7 of this Plan.

**TABLE 2-3: CURRENT AND PROJECTED
WATER AUTHORITY – IID TRANSFER SUPPLIES
(Normal Year - AF/YR)**

2010	2015	2020	2025	2030	2035
70,000	100,000	190,000	200,000	200,000	200,000

Source: San Diego County Water Authority 2010 Urban Water Management Plan.

2.2.3 All-American and Coachella Canal Lining Projects

As part of the QSA and related contracts, the Water Authority contracted for 77,700 AF/YR of conserved water from projects that lined portions of the AAC and CC. The projects reduced the loss of water that occurred through seepage, and the conserved water is delivered to the Water Authority. This conserved water will provide the San Diego region with an additional 8.5 million AF over the 110-year life of the agreement.

The CC lining project began in November 2004 and was completed in 2006. Deliveries of conserved water to the Water Authority began in 2007. The project constructed a 37-mile parallel canal adjacent to the CC. The AAC lining project was begun in 2005 and was completed in 2010. The lining project constructed a concrete-lined canal parallel to 24 miles of the existing AAC from Pilot Knob to Drop 3.

The AAC lining project will yield 67,700 AF of Colorado River water per year available for allocation to the Water Authority and San Luis Rey Indian water rights settlement parties. The CC lining project will yield 26,000 AF of Colorado River water each year available for allocation. The 2003 Allocation Agreement provides for 16,000 AF/YR of conserved canal lining water to be allocated to the San Luis Rey Indian Water Rights Settlement Parties. The remaining amount, 77,700 AF/YR, is to be available to the Water Authority, with up to an additional 4,850 AF/YR available to the Water Authority depending on environmental requirements from the CC lining project. For planning purposes, the Water Authority assumes that 2,500 AF of the 4,850 AF will be available each year for delivery, for a total of 80,200 AF/FY of that supply. According to the Allocation Agreement, IID has call rights to a portion (5,000 AF/YR) of the conserved water upon termination of the QSA for the remainder of the 110 years of the Allocation Agreement and upon satisfying certain conditions. The term of the QSA is for up to 75 years.

Table 2-4 shows the anticipated delivery schedule of conserved supplies from the canal lining projects in 5-year increments. Adequate documentation exists to demonstrate the availability of this supply, and therefore, the reliability analysis found in Section 7 of this Plan will include the supply yields shown in Table 2-4 as part of the total supply numbers.

TABLE 2-4: WATER AUTHORITY CURRENT AND PROJECTED SUPPLY FROM CANAL LINING PROJECTS (Normal Year - AF/YR)

Water Supply Sources	2010	2015	2020	2025	2030	2035
CC Lining Project	24,000	24,000	24,000	24,000	24,000	24,000
AAC Lining Project	56,200	56,200	56,200	56,200	56,200	56,200
Total	80,200	80,200	80,200	80,200	80,200	80,200

Source: San Diego County Water Authority 2010 Urban Water Management Plan.

2.2.4 Carlsbad Seawater Desalination Project

Development of seawater desalination in San Diego County will assist the region in diversifying its water resources, reduce dependence on imported supplies, and provide a new drought-proof, locally treated water supply. The Carlsbad Desalination Project (Project) is a fully-permitted

seawater desalination plant and conveyance pipeline currently being developed by Poseidon, a private investor-owned company that develops water and wastewater infrastructure. The Project, located at the Encina Power Station in Carlsbad, has been in development since 1998 and was incorporated into the 2003 Water Facilities Master Plan and the 2005 Plan. The Project has obtained all required permits and environmental clearances and, when completed, will provide a highly reliable local supply of 56,000 AF/YR for the region.

In July 2010, the Water Authority Board approved a Term Sheet between the Water Authority and Poseidon and directed staff to prepare a Water Purchase Agreement based on its provisions. The Water Authority Board is expected to consider the Water Purchase Agreement by late 2011. The Project is expected to be completed and online by early 2016.

Table 2-5 shows the estimated annual yield in 5-year increments. Adequate documentation exists to demonstrate the availability of this potential supply in the future, and therefore, the reliability analysis in Section 7 of this 2010 Plan will include the supply yields shown in Table 2-5 as part of the total supply numbers.

TABLE 2-5: WATER AUTHORITY CURRENT AND PROJECTED SEAWATER DESALINATION SUPPLY (Normal Year - AF/YR)

2010	2015	2020	2025	2030	2035
0	0	56,000	56,000	56,000	56,000

Source: San Diego County Water Authority 2010 Urban Water Management Plan.

2.2.5 Other Water Authority Desalination Efforts

MCB Camp Pendleton Seawater Desalination Project

The Water Authority, in collaboration with Marine Corp Base (MCB) Camp Pendleton, is studying the potential for a 50 to 150 million gallon per day (MGD) seawater desalination project on Camp Pendleton. Technical studies are expected to be underway in early 2011 and be completed by the end of 2012. The earliest on-line date of a potential Camp Pendleton desalination project is 2020. The Camp Pendleton desalination project is considered an additional planned project and is utilized in the Water Authority’s scenario planning as a potential strategy to manage future uncertainty planning scenarios.

Rosarito Beach Bi-national Desalination Plant Feasibility Evaluation and Preliminary Design

The Water Authority is participating with U.S. and Mexican agencies in a bi-national review of potential water management and water supply programs that could benefit Colorado River water users of both countries. As part of this effort, a bi-national workgroup formed to study potential new water supplies recommended the evaluation and preliminary design of an initial 25 MGD (expandable to 50 MGD) seawater desalination plant that would be located at Rosarito Beach in Baja California, Mexico. U.S. water agencies, including the Water Authority, Metropolitan, Southern Nevada Water Authority (SNWA), and the Central Arizona Water Conservation District (CAWCD), have collaborated to fund a feasibility evaluation and preliminary design of the plant.

Currently, the Rosarito Beach Desalination Project is considered a conceptual-level project. If built, product water from the plant would be available to both U.S. and Mexican water users. For U.S. water users, the water could be delivered either directly to the San Diego region, using a cross-border pipeline, or possibly by exchange, with Mexican users taking delivery of the product water and leaving an equivalent amount of Colorado River water available for U.S. users.

2.2.6 Water Authority Total Projected Supplies

The Water Authority plans to use a combination of water supplies, as detailed in this subsection, to meet the demands of the region in normal, single-dry and multiple-dry years. Table 2-6 shows total projected water supplies (by source) for the Water Authority in a normal year.

**TABLE 2-6: WATER AUTHORITY TOTAL PROJECTED WATER SUPPLIES
(Normal Year - AF/YR)**

Water Supply Sources	2015	2020	2025	2030	2035
Imported Water from Metropolitan	357,159	229,636	258,782	292,381	323,030
Water Authority-IID Water Transfer	100,000	190,000	200,000	200,000	200,000
CC Lining Project	24,000	24,000	24,000	24,000	24,000
AAC Lining Project	56,200	56,200	56,200	56,200	56,200
Desalinated Seawater	0	56,000	56,000	56,000	56,000
Total	537,359	555,836	594,982	628,581	659,230

Source: San Diego County Water Authority 2010 Urban Water Management Plan.

2.3 CURRENT AND PLANNED VID WATER SUPPLIES

2.3.1 Local Surface Water Supply

In 1946, VID purchased the Warner Ranch, which included Henshaw Dam and Lake Henshaw. Lake Henshaw was VID's sole supply of water until the formation of the Bueno Colorado Municipal Water District in 1954. Since that time, approximately 30% of VID's supply of water has come from Lake Henshaw and 70% from Water Authority. Table 1-4 shows the amount of water received from both sources from FY 1985-86 through FY 2009-10.

Lake Henshaw is a 52,000 AF capacity water supply reservoir located on the San Luis Rey River, about 25 miles east of the VID service area. Incidental recreational opportunities, including camping, fishing, boating and seasonal waterfowl hunting, are managed by a concessionaire under contract with VID. The 200 square mile watershed is largely undeveloped and consists of a mix of grassland, chaparral, and oak and coniferous forests. About one third of the watershed is owned by VID and is managed to protect water quality. The undeveloped character of the watershed and VID's management activities contribute to the high quality of this local water supply.

Both natural run-off developed above Lake Henshaw and groundwater pumped from the Warner Basin are held as surface water in Lake Henshaw. The water is delivered to VID, the City of Escondido, and the Rincon Band of Indians under terms of several governing contracts. While the amount of water delivered to each party is dependent on annual hydrologic conditions, the median local water delivery to VID since 1960, including groundwater production and surface water run-off, is 5,411 AF/YR.

VID has yet unresolved litigation pertaining to its use of the waters of the San Luis Rey River, including both its Lake Henshaw and Warner Basin groundwater supplies. In 1969, five bands of Mission Indians (the Indian Bands) and the United States initiated litigation against the predecessors of City of Escondido and VID, disputing the relative rights among the litigants to the use of the waters of the San Luis Rey River. After years of court action, the parties reached an Agreement in Principle to settle the dispute in 1985. Legislation authorizing the settlement was enacted on November 17, 1988, as the San Luis Rey Indian Rights Settlement Act (Title I of Public Law 100-675). The Settlement Act authorized the Indian Bands to enter into a settlement agreement, established a federal trust in the amount of \$30,000,000 plus interest (from the date of enactment) for settlement implementation, and directed the Secretary of the Interior to arrange for the development of 16,000 AF of supplemental water per year for use by the settlement parties.

The parties are working toward implementation of the settlement. With the Secretary of the Interior reserving 16,000 AF of water produced by the All American and Coachella canal lining projects for the settlement parties as part of the QSA, all that remains is negotiation of the precise terms of the settlement agreement. The settlement parties will receive conserved water from the lining projects in perpetuity (which differs from Water Authority’s contract as discussed in subsection 2.2.3). It is anticipated that VID will be made whole with respect to its local water supply as a result of the settlement. Pending implementation of the settlement, the status quo has been maintained and VID has continued its historic diversions of water from the local supply.

Table 2-7 shows current and projected local surface water supply deliveries in 5 year increments.

**TABLE 2-7: VID CURRENT AND PROJECTED LOCAL SURFACE WATER SUPPLY
(Normal Year - AF/YR)**

2010	2015	2020	2025	2030	2035
3,899	5,411	5,411	5,411	5,411	5,411

2.3.2 Local Groundwater Supply

In low run-off years, VID may produce up to 18,000 AF of groundwater from the Warner Basin aquifer. This water is pumped into Lake Henshaw for storage and subsequent delivery to VID and the City of Escondido. Because the pumped groundwater is stored in an open reservoir where it blends with surface run-off, it is reported as surface water production. Approximately one-half of the groundwater production is distributed for VID use, while the other half is distributed to the City of Escondido by contract. The wellfield is comprised of 14 wells with groundwater levels ranging from 150 to 350 feet below surface, depending on hydrology and pumping history. The water quality is within the standards set for acceptable drinking water by the federal government and the California Department of Health Services.

The Warner Basin aquifer has not been adjudicated nor has it been identified as being in overdraft. VID studies indicate that it has about 150,000 AF of usable storage. Since 1960, the District’s median groundwater production has been 7,702 AF/YR. The last five years of total groundwater production is summarized in Table 2-8. The amount of groundwater projected to be pumped during the period covered by this Plan is shown in Table 2-9.

TABLE 2-8: HISTORICAL GROUNDWATER PRODUCTION (AF/YR)

	2006	2007	2008	2009	2010
Production	483	946	11,027	9,618	7,677

TABLE 2-9: PROJECTED GROUNDWATER PRODUCTION (AF/YR)

	2015	2020	2025	2030	2035
Production	7,702	7,702	7,702	7,702	7,702

2.3.3 Recycled Water Supply

The Buena Sanitation District owns the Shadowridge Water Reclamation Plant (SWRP). Recycled water produced at the SWRP was being used to supply the Shadowridge Golf Course. The City of Vista suspended operation of the SWRP in December 2003 due to high production costs. In December 2010, the Agreement for Distribution of Reclaimed Water between Buena Sanitation District and Vista Irrigation District expired.

In 2009, the City, with assistance from Water Authority and VID, initiated work to determine the feasibility of re-commissioning the SWRP. The feasibility study, which evaluated three alternatives including upgrading the plant to make it a 2 million gallon per day (MGD) facility, has been completed. The City has provided a copy of the study to North County Regional Recycled Water Group to incorporate into their evaluation of regional recycled water project in north San Diego County.

The City has put its decision to move forward with re-commissioning the SWRP on-hold until the regional project is complete, including the evaluation of the funding sources for capital and operating costs. While operation of the SWRP is suspended, the Shadowridge Golf Course is supplied by VID’s potable water system. Due to the uncertainty of a recycled water source, a conservative approach was taken in the update of this report, and it was assumed that no recycled water would be supplied within VID’s service area, as shown illustrated in Table 2-10.

TABLE 2-10: VID CURRENT AND PROJECTED RECYCLED WATER SUPPLY (AF/YR)

2010	2015	2020	2025	2030	2035
0	0	0	0	0	0

2.3.4 VID Total Projected Local Water Supply

VID plans to use its local water supply, as described in detail in this subsection, in conjunction with water received from the Water Authority to meet demands in its services area. If VID delivers its local water supply as projected and the Water Authority’s and Metropolitan’s supplies are developed as planned, no shortages are anticipated within VID’s service area in a normal year. Table 2-11 shows total projected local water supplies (by source) for VID in a normal year.

**TABLE 2-11: VID TOTAL PROJECTED WATER SUPPLIES
(Normal Year - AF/YR)**

Water Supply Sources	2015	2020	2025	2030	2035
Local surface water supply	5,411	5,411	5,411	5,411	5,411
Local groundwater supply	-	-	-	-	-
Recycled Water	0	0	0	0	0
Total	5,411	5,411	5,411	5,411	5,411

2.4 RELIABILITY OF SUPPLY

The Act requires that every urban water supplier include, as part of its plan, an assessment of the reliability of its water supply and the vulnerability of the supply to seasonal or climatic shortages. The Act also requires that for any water source that may not be available at a consistent level of use, given specific legal, environmental or water quality factors, the agency must describe, to the extent practicable, plans to replace that source with alternative sources or water demand management measures.

As described in subsections 2.3.1 and 2.3.2, local water production is developed from both groundwater and surface water sources which are managed conjunctively to minimize the need for imported water supplies. The production available from this system is highly variable and is dependent on hydrologic conditions within the 200 square mile watershed of the upper San Luis Rey River. This local supply variability is influenced by many factors, including climactic conditions such as El Nino, the Pacific Decadal Oscillation and jet stream variations.

Further, the reliability of this supply is subject to the integrity of the transmission infrastructure necessary to deliver it to VID’s service area. After release from Henshaw Dam, local water travels in the streambed of the San Luis Rey River for about seven miles where it is diverted into the Escondido Canal. This structure, originally built in the 1890’s and expanded in the 1920’s, extends about 12 miles along the remote contours of steeply sloped hillsides with limited accessibility. At the end of the Escondido Canal, local water is delivered to Lake Wohlford. Water is released from Lake Wohlford through the Bear Valley power plant and several miles of pipeline before it is pumped into the headworks of the City of Escondido-VID Water Treatment Plant. Water treated here is released into the 14-mile long Vista Flume for delivery to VID’s service area.

The Escondido Canal is the most vulnerable link of this transmission system. In October 2003 the Paradise Fire burned 80% of the canal alignment, denuding slopes adjacent to it. The winters of 2004 and 2005 produced considerable siltation and erosion along the canal, with the result that significantly reduced local water deliveries were made despite the abundant availability of local water in 2005.

Finally, the reliability of local water supplies is also subject to the terms of the settlement of a 40 year old lawsuit between five local Indian bands (as plaintiffs) and the City of Escondido and VID (as defendants) over the waters of the San Luis Rey River (refer to subsection 2.1.2 for more details). While the present course of settlement negotiations does not suggest a significant reduction in local water production for Escondido or VID, final settlement of these issues has not been attained.

Table 2-12 show the basis for water year data, and Table 2-13 shows supply reliability

TABLE 2-12: BASIS OF WATER YEAR DATA

Water Year	Base Year(s)
Normal Water Year	2005
Single-Dry Water Year	2002
Multiple-Dry Water Year	2002 - 2004

TABLE 2-13: SUPPLY RELIABILITY (AF/YR)

	Normal Water Year	Single-Dry Water Year	Multiple-Dry Water Years		
			Year 1	Year 2	Year 3
Local Water Supply	5,411 ¹	4,026	4,026	1,578	1,003
Water Authority Supply	16,988	19,756	19,756	21,192	23,776
Total	22,399	23,782	23,782	22,770	24,779
	% of Normal Year	106%	106%	102%	111%

¹Normal water year data for local surface water and groundwater supplies are based on median production from 1960 to 2010. This figure is being used to more accurately depict the ratio of local water supply deliveries to Water Authority supply deliveries in normal conditions.

To the extent that local water supplies are insufficient to meet its total water needs for any given year, VID relies on Water Authority supplies to make up the difference. During the years identified in Tables 2-12, the Water Authority was able to provide enough water to meet all demands in VID’s service area. Based on information contained in the Water Authority’s 2010 Plan, it is anticipated that the Water Authority will be able to meet VID’s increased demands during a single-dry water year.

During multiple-dry water years, there is a potential for shortages, if Metropolitan allocates its supplies. If a shortage occurs, the Water Authority plans to utilize carryover storage and regional shortage management measures to fill the shortfall (refer to subsection 7.2 for more details.) Summary information regarding the reliability and vulnerability of the Water Authority’s and Metropolitan’s water supplies is contained subsection 2.2, and more detailed information can be found in each agency’s 2010 Plan.

2.5 TRANSFER OR EXCHANGE OPPORTUNITIES

VID currently has water system inter-ties with four of its neighboring water retailing agencies: Vallecitos Water District, Rincon del Diablo Municipal Water District, the City of Escondido and the City of Oceanside. These inter-ties are for the purpose of transferring limited amounts of water between agencies during emergencies and short-term planned or unanticipated water system outages.

As described in subsection 2.2.2, the Water Authority has engaged in a transfer with the IID. Under this agreement, water conserved by IID will be transported by Metropolitan through the Colorado River Aqueduct and delivered to the Water Authority.

2.6 DEVELOPMENT OF DESALINATED WATER

As stated in the Act, the plan shall describe opportunities for the development of desalinated water, including but not limited to, ocean water, brackish water and groundwater, as a long term supply. By virtue of its location, VID does not have an opportunity to develop its own desalination project. However, as a member agency of the Water Authority, VID is monitoring the planned implementation of the regional desalination facility in Carlsbad, and the availability of desalinated seawater as a regional supply. Subsections 2.2.4 and 2.2.5 provide more detailed information on the Water Authority’s desalination efforts.

2.7 FUTURE WATER SUPPLY PROJECTS

Currently, VID and the Water Authority are working with the City of Vista on a future water supply project that involves the re-commissioning/upgrading the SWRP so that recycled water use can be delivered to the Shadowridge Golf Course, and potentially, other customers in VID’s service area. However, as described in subsection 2.3.3 and Section 4, of this Plan, the City has put its decision to move forward with re-commissioning the SWRP on-hold pending the evaluation of the funding sources for capital and operating costs. Therefore, it is assumed that no recycled water would be supplied from this project during the period covered by this Plan, as illustrated in Table 2-14.

TABLE 2-14: FUTURE LOCAL WATER SUPPLY PROJECTS (AF/YR)

Project	2015	2020	2025	2030	2035
SWRP re-commissioning/upgrade	0	0	0	0	0

As documented in this Plan, VID will rely on the Water Authority to supply a growing percentage of future water demands. The Water Authority and Metropolitan are pursuing projects to diversify and enhance their supplies. Due to the reliance on these two agencies, VID’s 2010 Plan contains information on the current and future water supply projects of Metropolitan and the Water Authority. Subsection 2.2, Current and Planned Water Authority Supplies, describes future water supply projects and programs for both agencies, and Section 7 provides summary information on each agency’s supply reliability. Details regarding the Water Authority’s and Metropolitan’s future water supply projects and programs and supply reliability can be found in each agency’s 2010 Plan.

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SECTION 3 - WATER DEMAND

Water demand in VID’s service area falls into two classes of service, municipal and industrial (residential and non-residential) and agriculture. Municipal and industrial uses currently constitute about 90 to 95 percent of VID’s water consumption. The remaining percentage has historically been attributable to agricultural water use, primarily for irrigation of groves and nurseries. This Section describes VID’s historic, current and projected demands by customer-type; baseline demands and targets (SBX 7-7); and demand management measures.

3.1 PROJECTED WATER DEMANDS

Table 3-1 shows projected baseline water demand for VID’s service area through 2035. The projected demands are based on and are consistent with the Water Authority’s demand forecast for VID. As stated in the Water Authority’s 2010 Plan, SANDAG’s 2050 Regional Growth Forecast was used to forecast water demands ensuring there is a link between local jurisdictions’ general plans and projected water demands.

**TABLE 3-1: PROJECTED BASELINE WATER DEMANDS
(Normal Year - AF/YR)**

	2015	2020	2025	2030	2035
Projected Water Demands	21,491	24,985	27,360	29,916	31,823

3.2 WATER USE BY SECTOR: HISTORIC, CURRENT AND PROJECTED DEMANDS

Historic, current and projected water demands (from 2005 through 2035) within VID’s service area by water use sector are shown in Table 3-2 below.

TABLE 3-2: HISTORIC, CURRENT AND PROJECTED WATER DEMANDS (AF/YR)

Year		Water Use Sectors									
		Single Family	Multi-Family	Mobile Home	Commercial	Industrial	Instit/Gov	Land-scape	Agri-cultural ¹	Other/Fire	Total
2005	# of accts	22,114	1,419	31	1,133	411	78	782	753	833	27,554
	Deliveries ²	10,637	3,275	438	1,462	745	657	1,905	1,859	0	20,978
2010	# of accts	22,509	1,418	31	1,130	479	91	864	568	1,177	28,267
	Deliveries	9,554	2,988	383	1,319	570	664	1,720	1,075	0	18,273
2015	# of accts	23,409	1,474	32	1,175	498	93	898	545	1,224	29,348
	Deliveries	10,616	3,267	407	1,531	715	817	2,042	1,021	0	20,416
2020	# of accts	24,345	1,533	33	1,222	518	95	934	523	1,273	30,476
	Deliveries	12,535	3,784	472	1,774	828	946	2,365	946	0	23,650
2025	# of accts	25,319	1,595	34	1,271	538	97	971	502	1,323	31,650
	Deliveries	14,036	4,159	519	1,949	910	1,040	2,599	780	0	25,992

¹The agricultural water use sector includes single accounts that provide water for agricultural as well as domestic use. All accounts and deliveries for agricultural-domestic use are assigned to this sector.

²All accounts in the water use sectors identified in this table are metered.

**TABLE 3-2: HISTORIC, CURRENT AND PROJECTED WATER DEMANDS (AF/YR)
(CONTINUED)**

Year		Water Use Sectors									
		Single Family	Multi-Family	Mobile Home	Commercial	Industrial	Instit/Gov	Land-scape	Agricultural ¹	Other/Fire	Total
2030	# of accts	26,332	1,658	34	1,321	560	99	1,010	482	1,376	32,872
	Deliveries	15,347	4,547	567	2,132	995	1,137	2,842	853	0	28,421
2035	# of accts	27,385	1,725	34	1,374	582	101	1,051	463	1,432	34,147
	Deliveries	16,325	4,838	605	2,267	1,058	1,209	3,023	907	0	30,231

¹The agricultural water use sector includes single accounts that provide water for agricultural as well as domestic use. All accounts and deliveries for agricultural-domestic use are assigned to this sector.

²All accounts in the water use sectors identified in this table are metered.

3.2.1 Residential Water Use

Although single-family homes account for just over 60% of the total occupied housing stock, they account for nearly 75% of total residential water demands. This variation occurs because single-family households tend to use more water than households living in multi-family structures on a per unit basis. Single-family households tend to have more people living in the household and more landscaping per home. They also are more likely to have water-saving fixtures and appliances in the home.

3.2.2 Lower Income Housing Projected Water Use

As required by the Act, VID has included water use projections for low income households as defined by the Act. VID provides water service in the City of Vista and portions of the cities of Escondido, Oceanside, San Marcos and unincorporated area of the County of San Diego. Therefore, SANDAG’s regional housing needs assessment was used in to calculate projected low income household water needs based upon the area served by VID in each jurisdiction. Using that formula, VID’s projected low income housing need is 1,116 units. The estimated residential per unit water demand is .54 acre-feet per year and, 602.6 acre-feet per year is needed to supply these projected lower income housing units. Water demands for these units are included in future water demand projections for single, multi-family and mobile homes shown in the Table 3-6.

3.2.3 Non-residential Use

Commercial, industrial and institutional water use, including irrigation, accounts for about 23% of the total municipal and industrial water use within VID. The commercial sector has a complex mix of customers ranging from markets, restaurants and antique stores to multi-story office buildings and regional shopping centers. The industrial sector is primarily centered on light manufacturing. VID has a stable institutional and governmental sector consisting of local government, schools and a public hospital.

3.2.4 Agricultural Use

Climatic conditions within VID’s service area, which are traditionally Mediterranean with mild temperatures year round, provide an ideal climate to grow a number of crops. The primary crops grown are avocados, citrus and nursery products. Some livestock and local fresh market crops are produced within VID’s service area. Agricultural water use (as a percentage of the total water use) is projected to gradually decrease over the next twenty to thirty years due to urbanization.

3.3 SALES TO OTHER AGENCIES

VID does not sell water to other agencies. As noted previously, VID maintains distribution inter-ties with its neighboring water agencies. During local water supply interruptions, whether planned due to maintenance or unplanned due to an emergency, the agencies cooperatively transfer water between them for distribution to affected customers.

3.4 ADDITIONAL WATER USES AND LOSSES

Table 3-3 shows unaccounted for water losses between 2005 and 2035. Unaccounted for water loss (due to system losses, fire suppression, theft, etc.) between 2010 and 2035 is projected at 5%.

TABLE 3-3: ADDITIONAL WATER USES AND LOSSES (AF/YR)

Water Use	2005	2010	2015	2020	2025	2030	2035
Unaccounted-for (system losses, fire suppression, etc.)	1,421	962	1,075	1,245	1,368	1,496	1,591

3.5 TOTAL WATER USE

Table 3-4 below provides a summary of total water use (actual and projected) plus unaccounted for water loss in VID’s service area for 2005 through 2035. Total water use is the sum of use by customer-types and additional water uses and losses.

TABLE 3-4: TOTAL WATER USE (AF/YR)

Water Use	2005	2010	2015	2020	2025	2030	2035
Total Water Use	22,399	19,235	21,491	24,895	27,360	29,916	31,823

3.6 SBX 7-7 WATER REDUCTION TARGET

SBX 7-7 was enacted to require retail urban water agencies within the state to achieve a 20 percent reduction in urban per capita water use by December 31, 2020 (referred to as “20 X 2020”) and interim savings of 10 percent by 2015. As required by Water Code § 10608.2, this subsection includes VID’s baseline daily per capita water use, urban water use target, interim urban water use target and compliance daily per capita water use, along with the basis for determining those estimates, including references to supporting data. VID’s baseline and target daily per capita water use figures were developed individually, and in accordance with Methodologies for Calculating Baseline and Compliance Per Capita Water Use developed by

DWR. A copy of the Methodologies for Calculating Baseline and Compliance Per Capita Water Use is included in Appendix A.

Baseline Daily Per Capita Water Use

Since VID did not deliver any recycled water in 2008, its baseline per capita water use is based on gross average water use over a continuous 10-year period beginning June 1, 1995 and ending June 30, 2005. Water Authority’s invoices and Escondido-VID Treatment Plant monthly reports for fiscal years 1996 through 2005 were used to derive total water deliveries. The population estimates for fiscal years 1996 through 2005 are based on data from SANDAG.

Table 3-5 shows VID’s base period ranges. Table 3-6 shows the calculations of VID’s baseline daily per capita water use figure. The baseline daily per capita water use for VID is 175 gallons per capita per day (GPCD).

TABLE 3-5: BASE PERIOD RANGES

Base	Parameter	Value	Units
	2008 Water Deliveries		23,525 AF
	2008 Total Volume of Recycled Water Delivered		0 AF
10- to 15-Year Base Period	2008 Recycled Water as a Percent of Total Deliveries		0%
	Number of Years in Base Period	10	Years
	Year Beginning Base Period Range	1996	
	Year Ending Base Period Range	2005	
	Number of Years in Base Period	5	Years
5-year Base Period	Year Beginning Base Period Range	2004	
	Year Ending Base Period Range	2008	

TABLE 3-6: BASELINE DAILY PER CAPITA WATER USE – 10-YEAR GPCD

Sequence Year	Year	Gross Water Use (AF)	Population	GPCD
1	1996	21,629	105,399	183
2	1997	21,767	107,415	181
3	1998	19,357	109,470	158
4	1999	21,477	111,564	172
5	2000	23,927	113,704	188
6	2001	22,220	117,535	169
7	2002	23,783	118,568	179
8	2003	22,770	119,750	170
9	2004	24,779	120,415	184
10	2005	22,398	120,962	165
10-Year GPCD				175

Urban Water Use Target

According to SBX 7-7, urban water suppliers must set a year 2020 “urban water use target” and a year 2015 “interim water use target” using one of four methods: (1) 80 Percent of Baseline Water Use; (2) Sum of Performance Standards Applied to Water Use Categories; (3) 95 Percent of the State Hydrologic Region Target (142 GPCD for the South Coast Region); or (4) Savings by Water Use Type. Each of the methods is described below.

Method 1 – 80 Percent of Baseline Water Use: This method sets a target at 80 percent of the 10-year baseline. This value must be less than 95 percent of the 5-year baseline.

Method 2 – Performance Standards Applied to Water Use Categories: Method 2 calculates a target by summing performance standards applied to indoor residential, landscaped, and commercial, industrial, and institutional (CII) water use. The indoor residential target is set at 55 GPCD. The CII target is a 10 percent reduction in use. The landscaped water use target is set using standards of the Model Ordinance as set forth in Chapter 2.7 of Division 2 of Title 23 of the State of California Code of Regulations. This requires estimating the landscaped area for each parcel in the service area. This can be accomplished with field measurements, landscape plans, remote sensing, aerial or satellite imaging, or, for parcels less than one-half acre in size, a sampling of a group of similar parcels can be applied to the group.

Method 3 - 95 Percent of the State Hydrologic Region Target: These regional targets are contained in DWR’s “20x2020 Water Conservation Plan” dated February 2010. DWR divides the state into ten hydrologic regions and San Diego County falls within Region 4, “South Coast.” DWR calculated a 2005 baseline for the region of 180 GPCD; with a 20 percent reduction, the target would be 144 GPCD. DWR’s statewide target was calculated at 154 GPCD. Considering the region’s variance from the statewide target, and extra savings accumulated from high performing regions (Regions 1-3), DWR assigned Region 4 a target of 149 GPCD, a 5 GPCD reduction from the state target of 154 GPCD. Based on Method 3, the Region 4 target is then ninety-five percent of the 149, or 142 GPCD.

Method 4 – Savings by Water Use Type: In Urban Water Use Target Method 4 (hereinafter, “Method 4”), DWR breaks the potential savings into four categories, 1) Indoor Residential, 2) Metering, 3) Commercial, Industrial, and Institutional (CII), and 4) Landscaping plus Water Loss. Indoor residential savings can be calculated by tabulating the number of water-efficient toilets, showerheads, and washers that have been installed in the supplier’s service area, estimating the percent saturation, and the water use savings. As an alternative, the indoor savings can be set at a default value of 15 GPCD. Metering savings address those agencies that have unmetered connections, which generally does not apply in CWA’s service area. A reduction of 10 percent is applied to CII use. 20 percent is applied to landscape and water loss. Because landscaping water use is difficult to estimate, DWR calculates a combined landscape and water loss value as follows:

The Baseline is: 70 GPCD (indoor per capita water use) - CII water use in GPCD = Landscape/Water Loss. The target is then: Baseline - Indoor Residential Savings - Metering Savings - CII Reduction - Landscape/Water Loss Reduction = Target. This target must be less than the 5-year baseline value.

VID selected Method 3 as its reporting method for complying with SBX 7-7. Method 3 was adopted as part of the public hearing process for VID’s draft 2010 Plan. Method 3 was utilized for purposes of determining VID’s interim and urban water use targets.

As required by state law, VID is required to confirm that its target is no less than 5 percent of the baseline daily per capita water use. To confirm its compliance with this requirement, VID must calculate its gross average water use, reported in gallons per capita per day, over a continuous 5-year period ending no earlier than December 31, 2007, and no later than December 31, 2010.

VID’s 5-year baseline per capita water use is based on gross average water use over a continuous 5-year period beginning June 1, 2003 and ending June 30, 2008. The data sources referenced in the calculation of the 10-year baseline per capita water use (Water Authority invoices, Escondido-VID Water Treatment Plant monthly reports and SANDAG population estimates) were also used to calculate the 5-year baseline per capita water use. Table 3-7 shows the calculation of VID’s 5-year baseline daily per capita water use (5-year GPCD) as well as 95 % of the 5-Year GPCD. Since the SBX 7-7 target (142 GPCD) is less than 95% of the 5-year GPCD (164 GPCD), no adjustment to the SBX 7-7 target is required.

TABLE 3-7: BASELINE DAILY PER CAPITA WATER USE – 5-YEAR GPCD

Sequence Year	Year	Gross Water Use (AF)	Population	GPCD
1	2004	24,779	120,415	184
2	2005	22,398	120,962	165
3	2006	23,349	121,718	171
4	2007	24,030	122,248	175
5	2008	23,525	123,591	170
5-Year GPCD				173
95% of 5-Year GPCD				164

Interim Water Use Target

VID’s interim water use target for 2015 is 159 GPCD (175 GPCD plus 142 GPCD divided by 2).

Water Use Reduction Plan

In an effort to meet its water use reduction goals, VID plans to implement the water conservation programs and policies presented in subsection 3.7, Demand Management Measures. Over the next five years, VID will periodically assess trends in per capita water use and evaluate its programs/policies to ensure the attainment of SBX 7-7 targets (2015 and 2020).

Table 3-8 shows VID’s SBX 7-7 demand targets based on SANDAG population forecasts and SBX 7-7 GPCD targets for each five-year increment. SBX 7-7 does not require an agency to identify SBX 7-7 targets beyond 2020. For planning purposes, it was assumed that the 2020 target would remain in place through 2035.

TABLE 3-8: SBX 7-7 WATER DEMAND TARGETS (AF/YR)

	2015	2020	2025	2030	2035
GPCD Target	159	142	142	142	142
Population	127,372	134,366	140,608	146,084	159,760
SBX 7-7 Water Demand Target	22,685	21,372	22,365	23,236	25,411

Table 3-9 shows the additional water conservation VID will need to comply with SBX 7-7 for each five-year increment. The additional conservation figures are derived by subtracting SBX 7-7 water demand from VID’s projected baseline water demands. In cases where the projected baseline demands are less than the SBX 7-7 target, the additional conservation is set at 0.

TABLE 3-9: ADDITIONAL WATER CONSERVATION NEEDED FOR COMPLIANCE WITH SBX 7-7 (AF/YR)

	2015	2020	2025	2030	2035
Baseline Water Demand	21,491	24,985	27,360	29,916	31,823
SBX 7-7 Water Demand Target	22,685	21,372	22,365	23,236	25,411
Additional Conservation	0	3,613	4,995	6,680	6,412

Table 3-10 contains the wholesale demand projection based on the SBX 7-7 water demand for VID. These numbers were derived by subtracting the demands that can be met by VID’s local water supply (5,411 AF/YR) from SBX7-7 water demands.

TABLE 3-10: AGENCY DEMAND PROJECTIONS – WHOLSESALE SUPPLY (Normal Year - AF/YR)

	2015	2020	2025	2030	2035
Water Authority	16,080	19,484	21,949	24,505	26,412

Potential Economic Impacts

VID’s current urban per capita water use is below its SBX 7-7 targets for 2015 and 2020. VID will continue to implement the water conservation programs and policies described in subsection 3.7, Demand Management Measures, to attempt to maintain customer consumption levels that achieve SBX 7-7 targets. At this time, it is not anticipated that new water conservation program expenses will need to be made to meet SBX 7-7 targets.

VID has experienced reduced water sales as a result of the current conservation efforts of its customers. The fiscal impact over period covered by this plan will vary based on the level of conservation achieved and the rate at which operating expenses and capital outlay funded by this revenue source escalate. At this time, it is unknown when or if a water rate adjustment will be needed to offset the lost revenue attributable to compliance with SBX 7-7.

3.7 DEMAND MANAGEMENT MEASURES

Water conservation is an integral part of VID’s plan to meet future water demands as well as the requirements of SBX 7-7. VID is a signatory to the Memorandum of Understanding (MOU) with the California Urban Water Conservation Council (CUWCC) regarding Best Management Practices (BMPs). As a signatory, VID is required to submit biannual BMP reports to the CUWCC detailing the implementation of water conservation efforts undertaken by the District.

VID has included its annual activity reports to satisfy the requirements of subsections (f) and (g) of Water Code 10631 regarding Demand Management Measures (DMMs), as permitted by the Act. The relationship between BMPs and DMMs is illustrated in Table 3-11. The activity reports for reporting years 2007-08 and 2009-10 are attached as Appendix D, and describe the present and future implementation conditions and schedule for BMPs.

Table 3-11: CUWCC BMP Organization and Names and UWMP DMMs

CUWCC BMP Organization and Names (2009 MOU)				UWMP DMMs	
Type	Category	BMP #	BMP name	DMM #	DMM name
Foundational	Operations Practices	1.1.1	Conservation Coordinator	L	Water conservation coordinator
		1.1.2	Water Waste Prevention	M	Water waste prohibition
		1.1.3	Wholesale Agency Assistance Programs	J	Wholesale agency programs
		1.2	Water Loss Control	C	System water audits, leak detection, and repair
		1.3	Metering with Commodity Rates for All New Connections and Retrofit of Existing Connections	D	Metering with commodity rates for all new connections and retrofit of existing connections
		1.4	Retail Conservation Pricing	K	Conservation pricing
	Education Programs	2.1	Public Information Programs	G	Public information programs
		2.2	School Education Programs	H	School education programs
Programmatic	Residential	3.1	Residential assistance program	A	Water survey programs for single-family residential and multifamily residential customers ¹
				B	Residential plumbing retrofit

¹Components of DMM A (Water survey programs for single-family residential and multifamily residential customers) applies to both BMP 3.1 (Residential assistance program) and BMP 3.2 (Landscape water survey)

Table 3-11 CUWCC BMP Organization and Names and UWMP DMMs (continued)

CUWCC BMP Organization and Names (2009 MOU)				UWMP DMMs	
Type	Category	BMP #	BMP name	DMM #	DMM name
Programmatic	Residential	3.2	Landscape water survey	A	Water survey programs for single-family residential and multifamily residential customers ¹
		3.3	High-Efficiency Clothes Washing Machine Financial Incentive Programs	F	High-efficiency washing machine rebate programs
		3.4	WaterSense Specification (WSS) toilets	N	Residential ultra-low-flush toilet replacement programs
	Commercial, Industrial, and Institutional	4	Commercial, Industrial, and Institutional	I	Conservation programs for commercial, industrial, and institutional accounts
	Landscape	5	Landscape	E	Large landscape conservation programs and incentives

3.7.1 VID Conservation Program

VID started its water conservation program in 1981. Early program efforts were oriented toward a long-term public information program and cooperation with the regional water conservation programs of Water Authority. VID recognizes water conservation as a priority in its water use planning. The long-term goal of VID’s water conservation program is to achieve maximum efficiency for various beneficial water uses. Specific objectives of VID’s conservation policy are the elimination of wasteful or inefficient practices in water use, the continued development and dissemination of information on both current and potential water conservation practices, and the on-going implementation of conservation practices.

VID's water conservation program is based on VID doing what it is most suited to accomplish within its service area. As such, VID pursues water conservation activities that are specific and local in nature while leaving the large-scale and regional water conservation programs to the appropriate regional water purveying agency.

3.7.2 Elements of VID's Conservation Programs

Participation in Metropolitan’s and Water Authority’s Regional Conservation Programs

A number of conservation activities are implemented at a regional level by the Metropolitan and Water Authority. A description of those activities is provided in Appendix D: the California Urban Water Conservation Council (CUWCC) Best Management Practices (BMP) Annual Reports for 2007-08 and 2009-10.

Implementation of Conservation Best Management Practices

The activity reports for reporting years 2009-10 (Appendix D) describe present and future implementation conditions and schedules for BMPs. VID has selected the gallons per capita per day (GPCD) approach to BMP compliance. This approach requires the District to implement all of the foundational BMPs shown in Table 3-10 and meet a GPCD target (18% reduction by 2018). VID’s GPCD target for 2018 is 143 GPCD (refer to GPCD included Appendix D for details).

Table 3-9 provides an estimate of additional conservation savings needed to meet SBX 7-7 targets. It is anticipated that the additional conservation savings needed will be achieved by implementing BMPs shown in Table 3-11.

Economic and Financial Incentives

VID has implemented a three-tiered water rate structure to encourage water use efficiency and conservation during normal and shortage conditions. The tier 3 water rate is only imposed during times of water delivery cutbacks by the Water Authority. When no water delivery cutbacks are imposed by the Water Authority, tier 3 water use is billed at the tier 2 water rate.

The District’s three-tiered water rate structure is based on meter size and applied to all customer classes. The tier thresholds for each meter size are different but the cost per unit in each tier remains the same. Table 3-12 shows the relationship between meter size and the monthly allotment in each tier as well as the current cost per unit (748 gallons). It is important to note that water rates are adjusted periodically so the amounts shown in the table are subject to change and have been included for reference purposes only.

TABLE 3-12: TIERED WATER RATE STRUCTURE

Meter Size	Tier 1 - \$3.01/unit	Tier 2 - \$3.55/unit	Tier 3 - \$4.78/unit
5/8"	0-7	8-42	43+
¾" & ¾"X1"	0-10	11-60	61+
1"	0-25	26-150	151+
1 ½"	0-50	51-300	300+
2"	0-80	81-480	481+
3"	0-160	161-960	961+
4"	0-250	251-1,500	1,501+
6"	0-500	501-3,000	3,000+
8"	0-800	801-4,800	4,801+
10"	0-1,150	1,151-6,900	6,901+

To assist customers with reducing their water consumption, VID offers financial incentives for residential customers to replace their old washing machines with high efficiency clothes washers and to install weather-based irrigation controllers. Commercial, industrial and institutional customers are also eligible to receive rebates on a range of water efficient devices (e.g. commercial high-efficiency toilets, cooling tower conductivity controllers, etc.). These incentive programs are described in the CUWCC BMP activity reports attached as Appendix D.

Water Use Regulation through Ordinances and Resolutions

VID adopted Ordinance No. 90-01 in 1990 that prohibited wasteful practices, such as gutter flooding, sidewalk and driveway washing, etc. The ordinance, which was updated in 2001 and 2002, was repealed and ultimately replaced by Resolution No. 11-19, also known as the Water Supply Response Program (Appendix E). Non-compliance with provisions of the Water Supply Response Program is enforced through a violation process which is detailed in Section 9 of the resolution.

Since 1990, VID has issued over 1,115 violations. Water used in violation of the Water Supply Response Program may result in the assessment of a Water Conservation Fee. The District enforces water use restrictions identified in each Water Supply Response Program level.

The cities of Escondido, Oceanside, San Marcos and Vista and the County of San Diego have either adopted their own water efficient landscape ordinance, pursuant to the California Water Conservation in Landscaping Act, AB 1881, or operate under the model ordinance contained in the Landscaping Act.

Public Relations and Community Education Programs

A description of public relations and community education activities is provided in Appendix D, which contains the CUWCC BMP activity reports for 2007-08 and 2009-10.

3.7.3 Evaluation of Demand Management Measures Not Implemented

As discussed in this Section, VID is a signatory of the MOU with the CUWCC. The activity reports included as an appendix to this Plan provide documentation that VID is in the process of implementing all BMPs.

As documented in DWR's Urban Water Management Plan Guidebook, urban water suppliers can self-certify compliance with the MOU if the new CUWCC database is not ready for use at the time the supplier is ready to release its urban water management plan for public review. Due to the CUWCC database not being ready for use, VID is self-certifying its compliance and coverage level by submitting its 2009-10 BMP reports. The CUWCC will provide DWR with coverage reports when they become available.

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SECTION 4 – WATER SHORTAGE CONTINGENCY PLAN

The Act requires that urban water suppliers conduct water shortage contingency analysis as part of their 2010 Plan. This section contains VID’s analysis, which is based on its Water Supply Response Program (Appendix E) and Emergency Response Plan.

4.1 STAGES OF ACTION

4.1.1 Water Authority Water Shortage and Drought Response Plan

In May 2006, the Water Authority Board approved a Drought Management Plan (DMP), now called the Water Shortage and Drought Management Plan. The Plan provides Water Authority and its member agencies, including VID, with a series of potential actions to take when faced with a shortage of imported water from Metropolitan due to drought conditions. The actions will minimize the impacts of shortages and ensure an equitable allocation of supplies throughout the region.

A Drought Response Matrix was developed to provide the Water Authority and its member agencies with potential regional actions that could be taken to lessen the severity of shortage conditions. The matrix is shown in Table 4-1. The matrix includes a list of potential actions available at each of the three main stages, Voluntary, Water Authority Supply Enhancement and Mandatory Cutbacks.

TABLE 4-1: DROUGHT RESPONSE MATRIX

POTENTIAL Water Authority DROUGHT ACTIONS	STAGES		
	Voluntary	Water Authority Supply Enhancement	Mandatory Cutbacks
Ongoing BMP Implementation	✓	✓	✓
Communication Strategy	✓	✓	✓
Monitoring supply conditions and storage levels	✓	✓	✓
Call for voluntary conservation	✓	✓	✓
Draw from Water Authority carryover storage	✓	✓	✓
Secure transfer option contracts	✓	✓	✓
Buy phase 1 spot transfers (cost at below Tier 2 rate)		✓	✓
Call transfer options		✓	✓
Buy phase 2 spot transfers (cost at below Tier 2 rate)		✓	✓
Implement allocation methodology			✓
Utilize Emergency Storage Project Supplies			✓

The voluntary stage would likely occur when Metropolitan is experiencing shortages in its imported supply (from the Colorado River and/or State Water Project) and is withdrawing from storage due to drought conditions to meet normal demands. The Water Authority Supply Enhancement stage could occur in year three or four of a dry period and represents a point and time when Metropolitan reduces water deliveries to its member agencies. The final stage, Mandatory Cutbacks, follows once Metropolitan and Water Authority have exhausted all supply enhancement options and mandatory cutbacks are required.

VID's Water Supply Response Program (Appendix E) contains levels and corresponding actions that will assist VID in meeting conservation targets. Specific water conservation measures implemented during each level are described in subsection 4.4.

4.1.2 Water Authority Allocation Methodology

As noted in subsection 4.1.1, the Water Authority's DMP includes provisions to allocate available water supplies once it has exhausted all supply enhancements options and can no longer avoid mandatory cutbacks. The goal of the allocation methodology is to provide an equitable means of apportioning Water Authority's municipal and industrial (M&I) supplies during periods of supply shortages. A summary of Water Authority's M&I allocation methodology is provided below.

- A. Determine each member agency's base period demands.
- B. Adjustments made to member agency's base period demands to account for local water supply conditions as well as local demand characteristics.
- C. Each member Agency's adjusted based demand determined.
- D. Determine the amount of M&I supplies available from Water Authority (Water Authority's own supplies along with supplies available from Metropolitan.)
- E. Calculate each member agency's percent share of the regional M&I base period demand.
- F. Each member agency's percentage share is multiplied by the total Water Authority M&I supplies available to come up with their allocation.

More detailed information regarding the Water Authority's DMP and allocation methodology can be found in the Water Authority's 2010 Urban Water Management Plan.

NOTE: Participants in Metropolitan's Interim Agricultural Water Program and Water Authority's Special Agricultural Water Rate Program (collectively referred to as agricultural water programs) have agreed to be cut back prior to and/or at a greater amount than M&I customers in exchange for a reduced water rate. Once a customer opts out of an agricultural water program or an agricultural water program terminates, the customer is subject to cut back levels set forth in the District's Drought Response Conservation Program. See Appendix E for the rules and regulations, including cutback levels, for each agricultural water program.

4.1.3 VID Shortage Allocation Plan

Although there is no written plan for water allocation during a shortage, VID has created priorities based on its past response during water shortage emergencies. Priorities for use of available potable water during shortages are based on legal requirements as set forth in the California Water Code, Sections 350-358. These are not binding priorities, only general guidelines for water allocation if no regional plan is adopted.

- A. Minimum health and safety allocations for interior residential needs (includes single family, multi-family, hospitals and convalescent facilities, retirement and mobile home communities, student housing, and fire fighting and public safety).

- B. 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 an economic base of the community (not for landscape uses).
- C. Permanent agriculture (orchards, vineyards, and other commercial agriculture which would require at least five years to return to production) that has not been part of the reduced Special Agricultural Water Rate (SAWR) from the Water Authority.
- D. Annual agriculture (floriculture, strawberries, other truck crops) that has not been part of the reduced SAWR from the Water Authority.
- E. Existing landscaping.
- F. New customers, proposed projects without permits when a shortage is declared.
- G. All agricultural customers that have been receiving the reduced SAWR from the Water Authority.

NOTE: It is not expected that any potable water supply reductions would result in recycled water shortages.

4.1.4 VID Water Supply Response Program

VID’s Water Supply Response Program (Appendix E) describes four potable water supply conditions (levels) under which its customers must take specific actions to reduce quantities of water used. The four levels are shown in Table 4-2. The specific actions required under each level can be found in Section 4 of the Water Supply Response Program.

TABLE 4-2: WATER SUPPLY RESPONSE LEVELS

Levels	Water Supply Conditions	% Shortage
I	Level 1 applies at all times unless the District Board of Directors has declared another level, per the procedures set forth in the Program.	None
II	Level 2 may be declared when the Water Authority notifies its member agencies that due to cutbacks caused by drought or other reduction in supplies, a consumer demand reduction of up to 20 percent is required in order to have sufficient supplies available to meet anticipated demands.	Up to 20%
III	Level 3 may be declared when the Water Authority notifies its member agencies that due to increasing cutbacks caused by drought or other reduction of supplies, a consumer demand reduction of up to 40 percent is required in order to have sufficient supplies available to meet anticipated demands.	Up to 40%
IV	Level 4 applies when the Water Authority Board of Directors declares a water shortage emergency pursuant to California Water Code section 350 and notifies its member agencies that Level 4 requires a demand reduction of more than 40 percent in order for the District to maximize supplies available to meet anticipated demands. <i>NOTE: Water conservation measures implemented during this level will have the ability to achieve a water reduction consistent with a 50% reduction in water supply (Water Code section 10632(e)).</i>	More than 40%

4.2 ESTIMATE OF MINIMUM SUPPLY FOR NEXT THREE YEARS

One of the requirements of the shortage contingency analysis included in the Act is an estimate of the minimum supplies available during each of the next three years. Table 7-3 contained in subsection 7.2 shows this estimate.

4.3 CATASTROPHIC SUPPLY INTERRUPTION PLAN

VID uses its Emergency Response Plan (ERP), based on the Standard Emergency Management Systems (SEMS) guidelines and, if necessary, Water Supply Response Program in responding to natural disasters and other events that interrupt potable water service to its customers.

VID's plan is consistent with provisions in the County of San Diego's (County) Emergency Response Plan. The ERP contains 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 County plan recommends the following: (1) the purchase of water purification equipment; (2) purchase of standby generators and auxiliary pumps; and (3) construction of emergency water conveyance and supply storage facilities. Because of the need for additional emergency water storage, the Water Authority has been constructing countywide emergency supply storage facilities.

In addition, specific water-critical customers (such as hospitals, nursing facilities, and schools) have been identified. Likely potable water distribution sites have been pinpointed. Standby procurement documents have been developed for emergency bulk purchases of bottled water. Treatment stations, when operating, are inspected daily. When not in operation, treatment stations, pumping plants and storage distribution reservoirs are monitored through VID's Supervisory Control and Data Acquisition (SCADA) system with level, intrusion and other operating alarms. Computers monitor these systems 24 hours a day, seven days a week.

VID recognizes the importance of the BMP's in reducing water demand and will continue to implement conservation programs in an emergency. Also, VID will increase media attention to the water supply situation during a shortage and will 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 installing water efficient plumbing fixtures and appliances.

Table 4-3 summarizes the actions that VID has taken to prepare itself for responding to various natural or man-made disasters.

TABLE 4-3: PREPARATION ACTIONS FOR CATASTROPHE

Possible Catastrophe	Summary of Actions
Regional Power Outage	Preparation of ERP and Water Supply Response Program; staff training and exercises; procurement of standby generators and auxiliary pumps; identification of key water-critical customers; public agency and media contact list; alternative communication system; implementation of SCADA to monitor treatment stations, pumping plants and storage distribution reservoirs; short-term exchange and transfer agreements with neighboring water agencies and mutual assistance agreement.
Natural Disasters - Earthquake, Flood and Storms	Preparation of ERP and Water Supply Response Program; staff training and exercises; procurement of standby generators and auxiliary pumps; standby procurement documents for the emergency purchase of bottled water and other equipment and supplies; identification of key water-critical customers; public agency and media contact list; alternative communication systems; implementation of SCADA to monitor treatment stations, pumping plants and storage distribution reservoirs; short-term exchange and transfer agreements with neighboring water agencies and mutual assistance agreement.
Imported Water Supply Failure	Preparation of ERP and Water Supply Response Program; staff training and exercises; procurement of standby generators and auxiliary pumps; identification of key water-critical customers; public agency and media contact list; implementation of SCADA to monitor treatment stations, pumping plants and storage distribution reservoirs; short-term exchange and transfer agreements with neighboring water agencies and mutual assistance agreement.
Contamination	Preparation of ERP and Water Supply Response Program; staff training and exercises; procurement of standby generators and auxiliary pumps; standby procurement documents for the emergency purchase of bottled water and other equipment and supplies; identification of key water-critical customers; public agency and media contact list; alternative communication systems; implementation of SCADA to monitor treatment stations, pumping plants and storage distribution reservoirs; short-term exchange and transfer agreements with neighboring water agencies and mutual assistance agreement.
Structural Failure – Storage Facilities and Pump Stations	Preparation of ERP and Water Supply Response Program; staff training and exercises; procurement of standby generators and auxiliary pumps; standby procurement documents for the emergency purchase of bottled water and other equipment and supplies; identification of key water-critical customers; public agency and media contact list; alternative communication systems; implementation of SCADA to monitor treatment stations, pumping plants and storage distribution reservoirs; short-term exchange and transfer agreements with neighboring water agencies and mutual assistance agreement.

4.4 PROHIBITIONS, CONSUMPTION REDUCTION METHODS AND PENALTIES

4.4.1 Mandatory Prohibitions

VID’s Water Supply Response Program (Exhibit E) prohibits various types of water use practices when certain water supply conditions exist. The table below list examples of prohibitions against specific water use practices during specified water supply conditions.

TABLE 4-4: MANDATORY PROHIBITIONS

Examples of Prohibitions	Level when Prohibition becomes Mandatory
Water leaving property as a result of irrigating or failure to repair known leaks	1
Spraying hard surfaces during irrigation	1
Surface irrigation during mid-day hours	1
Washing down paved surfaces (except to alleviate fire or sanitation hazards)	1
Washing a vehicle with a hose without an automatic shut-off valve	1
Operation of any ornamental fountain without a circulating pump	1
Failure to repair a leak	1
Limit residential and commercial irrigation to assigned days	2
Limit lawn watering and landscape irrigation to established time limits	2
Filling or re-filling ornamental lakes or ponds	3
Operating ornamental fountains or water features which spray or discharge water into the air	3
Washing vehicles except at a commercial carwashes that use re-circulated water	3
No new potable water service; no new temporary (constructions meters) or permanent water meters	3
Landscape irrigation	4

4.4.2 Consumption Reduction Methods

In addition to specifying prohibitions against water waste, VID’s Water Supply Response Program includes methods (many of them the same as prohibitions identified in Table 4-4) for reducing water use when mandatory cutbacks are required. It is anticipated that by implementing the prohibitions and consumption reduction methods identified in the Water Supply Response Program, the targeted reduction levels for each water supply response level can be achieved. Table 4-5 lists key consumption reduction methods used in each drought response level. A combination of these methods will be used to meet the higher consumption reduction levels.

TABLE 4-5: CONSUMPTION REDUCTION METHODS

Consumption Reduction Method	Level When Method Takes Effect	Projected Reduction
Water Use Restrictions (e.g. stop washing down paved surfaces, eliminate irrigation run-off, repair leaks with specified time period, etc.)	1	10%
Limit residential and commercial landscape irrigation to assigned days and established watering time limits	2	Up to 25%
No new potable water service; no new temporary (constructions meters) or permanent water meters	3	Up to 10%
Water allocations may be implemented for individual properties	3	Up to 20%
Landscape irrigation prohibited	4	Up to 30%

4.4.3 Penalties and Charges for Excessive Use

Any customer violating any provision of VID’s Water Supply Response Program receives a written warning for the first violation. Subsequent violations (within a “12-month moving year”) result in penalties ranging from the assessment of water conservation fees to discontinuance of service. Table 4-6 shows the penalties and corresponding fees for violating any provision of the Water Supply Response Program. It is important to note that penalties and charges are adjusted periodically so the amounts shown in the table are subject to change and have been included for reference purposes only.

TABLE 4-6: PENALTIES AND CHARGES

Penalty	Level When Penalty Takes Effect
First Violation – Warning	1
Second Violation - \$203 water conservation fee	1
Third Violation - \$372 water conservation fee	1
Subsequent Violations - \$541 water conservation fee; at the Board’s discretion, installation of a flow restrictor (\$236 – 1” or smaller meter; \$448 – 1 1/2” and 2” meters) or discontinuance of service.	1

NOTE: The water conservation fees and other charges shown in the table above are currently being assessed for violations of the District’s Water Supply Response Program.

4.5 REVENUE AND EXPENSE IMPACTS

VID has taken several steps to reduce revenue and expense impacts resulting from water shortages. The District has implemented a three-tiered water rate structure to encourage water use efficiency and conservation during normal and shortage conditions (see subsection 3.7.2 for more details regarding the tiered rate structure).

VID has a Working Capital Reserve that was established to cover operating revenue and expense variances, including reduced water sales. In the event of a prolonged drought and mandatory water use reductions, funds from this reserve could be used to help offset a severe increase in the water rate as a result of decreased water sales. If necessary, VID could also use funds from its Capital Improvement Reserve to stabilize rates.

Due to large fluctuations in the production of local water as a result of changing climatic or operational conditions, VID is constantly exposed to large swings in the cost of purchasing imported water. In June 2005, the VID Board created the Water Purchase Stabilization Reserve to accumulate the necessary funding during wet years to help offset the financial burden sustained during dry years. In wet years when local water production is in excess of its historical average, the Stabilization Reserve is funded by transferring the value of the excess local water. In years that local water production is less than the historical average, a transfer of funds equal to the current cost of purchasing raw imported water would be made from the Reserve in order to avoid an increase in water rates.

4.6 WATER SHORTAGE RESOLUTION

VID’s Water Supply Response Program, which specifies water conservation measures as well as consumption reduction methods to be implemented during a water shortage, is included as Appendix E to this document.

4.7 WATER USE MONITORING MEASURES

Under normal water supply conditions, potable water production figures are recorded daily, and totals are reported to the General Manager and staff on a weekly basis and to the Board of Directors on a monthly basis. During shortages, production figures are reported to the General Manager daily. Other data, such as reservoir levels and system pressures, is also reviewed to monitor progress in achieving required reductions. Table 4-7 summarizes the mechanism used by VID to monitor water use reductions.

TABLE 4-7: WATER USE MONITORING MECHANISMS

Mechanism for Determining Actual Reductions	Type and Quality of Data Expected
Monitor daily production and distribution records	SCADA real-time data
Monitor system pressures – peak demand periods	SCADA real-time data
Monitor reservoir levels – peak demand periods	SCADA real-time data

SECTION 5 - RECYCLED WATER PLAN

5.1 COORDINATION

VID’s Board of Directors approved a Water Reclamation Master Plan (WRMP) in August 1995. The goal was to reduce potable water demand within VID’s service area by providing recycled water to certain targeted customers. Upon implementing the recommended phases of the WRMP approximately 2,200 AF of recycled water could be available for distribution within VID on an annual basis. This would require significant investments in treatment, storage and distribution infrastructure by the City of Vista and the Buena Sanitation District. Currently, there is no recycled water being delivered to customers in VID’s service area.

During the development of the WRMP, agencies that provide wastewater service within VID’s jurisdictional boundaries, as well as the San Diego County Water Authority (Water Authority), were contacted to obtain information about existing and planned reclamation infrastructure and to identify a potential market for recycled water. Several of the agencies provide both water and wastewater services. Table 5-1 identifies the agencies that were contacted during the development of the WRMP and received copies of the WRMP.

TABLE 5-1: PARTICIPATING AGENCIES - WATER RECLAMATION MASTER PLAN

Participating Agencies	Role in Plan Development
City of Vista/Buena Sanitation District (wastewater)	Provided data and other information.
City of Oceanside (water and wastewater)	Provided data and other information.
Encina Wastewater Authority (wastewater)	Provided data and other information.
San Diego County Water Authority (water)	Provided data and other information.
Vallecitos Water District (water and wastewater)	Provided data and other information.

Currently, there is no coordinated regional recycling water plan. However, the Water Authority did complete a Regional Recycled Water System Study in March 2002, which found that there is an imbalance in the geographic locations of the recycled water sources and market. The Study did note that a regional system could be created by incorporating existing Water Authority facilities into other local agencies’ future recycled water system expansions, thereby linking recycled water production facilities with markets.

In June 2010, VID joined the Olivenhain Municipal Water District, Carlsbad Municipal Water District, Vallecitos Water District, Santa Fe Irrigation District, City of Oceanside, Leucadia Wastewater District, City of Vista/Buena Sanitation District, City of Escondido, Rincon Del Diablo Municipal Water District and the San Elijo Joint Powers Authority (North County Regional Recycled Water Group) to investigate the expanded use of recycled water within north San Diego County. The engineering report will analyze existing and proposed recycled water facilities and evaluate each of the participating agencies ability to interconnect and maximize the use of recycled water within their combined service areas. The report will be used to seek federal funding, Proposition 84 funding via Water Authority and Metropolitan Local Resource Program grant funding. It is unknown whether funding will be available to implement any of the report findings or whether the report findings will be fully implemented, resulting in recycled water being delivered within VID’s service area.

5.2 WASTEWATER QUANTITY, QUALITY AND CURRENT USES

City of Vista Wastewater Collection System

The City of Vista's wastewater collection system includes approximately 229 miles of public sewer mains and trunks ranging in size from 6 to 42 inches in diameter and one pump station serving about 16,000 parcels. The Vista system conveys an annual average flow of 6.53 million gallons per day. The cities of Vista and Carlsbad share ownership of an interceptor sewer which routes sewage over 7 miles through two pump stations and force mains to the Encina Water Pollution Control Facility (EWPCF).

Buena Sanitation District Collection System

The Buena Sanitation District wastewater collection system, which is operated and maintained by the City of Vista, is comprised of 106 miles of public sewer mains and trunks ranging in size from 4 to 30 inches in diameter and one pump station serving over 5,300 parcels. The Buena system conveys an annual average flow of just over 3 million gallons per day. Sewer collected by the Buena system flows about 5.5 miles through one pump station to the EWPCF.

Shadowridge Water Reclamation Plant

The Buena Sanitation District/City of Vista owns the Shadowridge Water Reclamation Plant (SWRP). Recycled water produced at the SWRP was being used to supply the Shadowridge Golf Course. The City of Vista suspended operation of the SWRP in December 2003 due to high production costs. In December 2010, the Agreement for Distribution of Reclaimed Water between Buena Sanitation District and Vista Irrigation District expired.

In 2009, the City, with assistance from the Water Authority and VID, initiated work to determine the feasibility of re-commissioning the SWRP. The feasibility study, which evaluated three alternatives including upgrading the plant to make it a 2 million gallon per day (MGD) facility, has been completed. The City has provided a copy of the study to the North County Regional Recycled Water Group to incorporate into their evaluation of regional recycled water project in north San Diego County.

The decision to move forward with re-commissioning the SWRP is on-hold until the regional project is complete, including the evaluation of the funding sources for capital and operating costs. While operation of the SWRP is suspended, the Shadowridge Golf Course is supplied by VID's potable water system. Due to the uncertainty of a recycled water source, a conservative approach was taken in the update of this report, and it was assumed that no recycled water would be supplied within VID's service area.

As noted above, the SWRP is not in service and is only used for the emergency storage of sewage in the event of a sewer force main failure.

Distribution System

California Water Code Sections 13555.2 and 13555.3 enacted in 1992 encourage new developments in areas where recycled water is available, or planned to be available, to provide separate plumbing systems to accommodate the use of recycled water. Any California community with more than 3,000 customer connections is required to comply with this code section. VID has encouraged developers to install dual plumbing systems since 1992. However, developers have not been required to install dual pipeline since recycled water supplies are limited and the stability of the recycled water source in Vista is uncertain.

Encina Water Pollution Control Facility

Encina Wastewater Authority manages wastewater collection and treatment for the City of Vista and other north county cities and special districts. Currently, all of the wastewater from the City of Vista (excluding storm water run-off), is conveyed to and treated at the Encina Water Pollution Control Facility (EWPCF). The facility is located on the Pacific coast in the City of Carlsbad approximately 7 miles west of VID’s service area.

EWPCF, designed with an ocean outfall for wastewater disposal, began treating county-wide wastewater in 1965. EWPCF has a treatment capacity of 36 million gallons per day (MGD). Wastewater is treated to secondary standards, which means that the entire volume of wastewater that is processed at the facility has the potential to be used as recycled water.

The tables below summarize the collection, treatment, use and disposal of wastewater within VID.

TABLE 5-2: WASTEWATER COLLECTED AND TREATED (AF/DAY)

	2005	2010	2015	2020	2025	2030	2035
Wastewater Collected and Treated in Service Area	26.10	27.02	30.70	35.61	40.52	45.44	50.66
Quantity that Meets Recycled Water Standard	0	0	0	0	0	0	0

Source: City of Vista

TABLE 5-3: DISPOSAL OF WASTEWATER (NON-RECYCLED) (AF/DAY)

Method of Disposal	Treatment Level	2010	2015	2020	2025	2030	2035
Ocean Outfall	Secondary	27.02	30.70	35.61	40.52	45.44	50.66

Source: City of Vista

TABLE 5-4: RECYCLED WATER USE - ACTUAL (AF/YR)

Type of Use	Treatment Level	2010 AF/YR
Golf Course Irrigation	Secondary	0

5.3 RECYCLED WATER USE – ACTUAL, POTENTIAL AND PROJECTED

At this time, it does not appear that any recycled water will be distributed during the period covered by the 2010 UWMP, unless it becomes economically feasible to re-commission the SWRP and the Buena Sanitation District/City of Vista begins treating wastewater at the facility once again. Due to the uncertainty of a recycled water source, it is assumed that no recycled water will be supplied within VID through 2035.

VID and the Water Authority, along with the City of Vista, will continue to pursue funding to re-commission the plant and expand the distribution system to serve recycled water customers. VID will also continue to support and participate in regional efforts to implement recycled water projects.

In its 2005 UWMP, VID anticipated distributing 0 AF of recycled water annually (2005 - 2030) to the Shadowridge Golf Course (see table below). As projected, VID has not distributed any recycled water to the golf course. The golf course is currently using potable water for irrigation purposes.

**TABLE 5-5: RECYCLED WATER USES
2005 PROJECTION COMPARED WITH 2010 ACTUAL (AF/YR)**

Type of Use	2005 Projection for 2010	2010 Actual Use
Golf Course Irrigation	0	0

5.4 ENCOURAGING RECYCLED WATER USE

With the SWRP decommissioned, VID does not have the ability to deliver any recycled water to customers. Due to the uncertainty of any recycled water source and the uncertainty whether a regional recycled water project would bring another source into its service area, VID has not pursued ways to distribute recycled water to potential customers. It is unlikely that additional recycled water will be distributed during the period covered by this Plan.

Once recycled water is available for distribution, VID could use one or a combination of the following incentives to encourage customers to convert to recycled water use:

- Pay for the design of customer retrofits.
- Establish a grant program to pay for the retrofit, based on the size of the facility and the volume of recycled water to be used.
- Establish a 0% interest loan program for retrofits. The customer would pay potable rates until the loan is paid off.
- Establish an incentive program whereby the customer would receive a credit towards their loan repayment for every acre-foot of recycled water used that offsets current potable water use.
- Establish a low interest loan program for retrofits with a 5 or 10 year pay back.
- The customer could pay for on-site retrofits, and VID could pay for the distribution main, service connection, water meters, signage, and the labels at the controllers.
- Offer new users a 20% rate discount for three years.
- “Guarantee” recycled water supply reliability (excluding disaster conditions).
- Initiate a public education campaign regarding the safety and reliability of recycled water.

Table 5-6 provides a listing of methods that could be used by VID to increase recycled water use. However, VID does not plan to consider implementing any of these measures until such time that a stable source of recycled water exists. For this reason, the projected use numbers for each method will be zero.

TABLE 5-6: METHODS TO ENCOURAGE RECYCLED WATER USE

METHOD
Dual Plumbing
Grants/Matching Funds
Low Interest Loans
Rate Discounts
Guarantee Recycled Water Supply Reliability (excluding disaster conditions)
Public Education/Information

5.5 OPTIMIZING THE USE OF RECYCLED WATER

As previously stated, VID continues to work with the City of Vista to find a funding source to re-commission the SWRP and expand the distribution system. If financial resources become available to perform the necessary upgrades to re-start the plant and expand the system, VID would be able to initially supply the SWRP at an estimated annual amount of 300 AF. Additional deliveries would be contingent on the SWRP capacity, recycled water customers, distribution system expansion and other regional facilities that may become available.

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SECTION 6 - WATER QUALITY

The Act requires that the 2010 Plan include information, to the extent practicable, on the quality of existing supply sources and the manner in which water quality affects water management strategies and supply reliability. This section summarizes water quality issues associated with supplies serving VID. Information on imported and regional water supplies was taken from Metropolitan's and the Water Authority's 2010 Plans.

Water agencies treat all water to meet stringent state and federal drinking water standards before delivering it to customers. However, source water of poor quality will make it increasingly expensive and difficult to meet those standards.

6.1 COLORADO RIVER

The Colorado River is the primary source of the Water Authority's imported water supply. High salinity levels, uranium, and perchlorate contamination represent the primary areas of concern with the quality of Colorado River supplies. Managing the watershed of the Colorado River has been the most effective method for controlling these elements of concern.

Salinity

Salts in the Colorado River System are indigenous and pervasive, mostly resulting from saline sediments in the basin that were deposited in prehistoric marine environments. They are easily eroded, dissolved, and transported into the river system. Agricultural development and water diversions over the past 50 years increase the already high naturally occurring levels of total dissolved solids (TDS).

Water imported via the CRA has a TDS averaging approximately 650 milligrams per liter (mg/l) during normal water years. During the high water flows of 1983-1986, salinity levels in the CRA dropped to a historic low of 525 mg/l. However, during the 1987-1990 drought, higher salinity levels returned. During an extreme drought, CRA supplies could exceed 900 mg/l. High TDS in water supplies leads to high TDS in wastewater, which lowers the usefulness of the water and increases the cost of recycled water. In addition to the link between water supply and water quality, high levels of TDS in water supplies can damage water delivery systems and home appliances.

To reduce the effects of high TDS levels on water supply reliability, Metropolitan approved a Salinity Management Policy in April 1999. One of the policy goals is to blend Colorado River supplies with lower-salinity water from the State Water Project (SWP) to achieve delivered water salinity levels less than 500 mg/l TDS. In addition, to foster interstate cooperation on this issue, the seven basin states formed the Colorado River Basin Salinity Control Forum (Forum). To lower TDS levels in Colorado River supplies, the Forum develops programs designed to prevent a portion of the abundant salt supply from moving into the river system. The Colorado River Basin Salinity Control Program targets the interception and control of non-point sources, such as surface runoff, as well as wastewater and saline hot springs.

Perchlorate

Perchlorate is used as the main component in solid rocket propellant, and it can also be found in some types of munitions and fireworks. Perchlorate and other perchlorate salts are readily soluble in water, dissociating into the perchlorate ion, which does not readily interact with the soil matrix or degrade in the environment. The primary human health concern related to perchlorate is its effects on the thyroid. Perchlorate has been detected at low levels in Metropolitan's CRA water supply.

Because of the growing concerns over perchlorate levels in drinking water, in 2002 Metropolitan adopted a Perchlorate Action Plan. Objectives include expanded monitoring and reporting programs and continued tracking of remediation efforts in the Las Vegas Wash. Metropolitan has been conducting monthly monitoring of Colorado River supplies. The perchlorate originated in the Las Vegas Wash, and the most likely source was a chemical manufacturing site located in Henderson, Nevada. The Nevada Department of Environmental Protection manages a comprehensive groundwater remediation program in the Henderson area. As of December 2004, the amount of perchlorate entering the Colorado River system from Henderson has been reduced from approximately 900 pounds per day (lb/day) to less than 150 lb/day.

Uranium

Naturally occurring uranium has always been present in Colorado River water and has always been under the California Maximum Contaminant Level (MCL) of 20 picocuries per liter (pCi/l). The risks to water quality have primarily come from upstream mining in Moab, Utah and other potential mining sites in the west. Currently the U.S. Department of Energy (DOE) is working to remove and dispose of mine tailings and improve groundwater quality on the Colorado River Watershed near Moab. The expected completion of this cleanup is between 2019 and 2025. Current levels are below MCL and can be treated by regional water treatment plants.

Nutrients

The Colorado River system has historically been low in nutrients, but with population growth in the watershed nutrients are still a concern. Metropolitan is involved with upstream entities along the lower Colorado River to enhance wastewater management to control nutrient loading, especially phosphorus. The Colorado River's low nutrient level has been important for blending with SWP water to reduce the nutrient level delivered to retail agencies.

Arsenic

Arsenic is another naturally occurring element that is being monitored by drinking water agencies. The state detection level for purposes of reporting is 2 micrograms per liter ($\mu\text{g/l}$), and the MCL for domestic water supplies is 10 $\mu\text{g/l}$. Between 2001 and 2008, arsenic levels in Colorado River water have ranged from not detected to 3.5 $\mu\text{g/l}$. Increasing coagulant doses at water treatment plants can reduce arsenic levels for retail deliveries.

6.2 STATE WATER PROJECT

The quality of State Water Project (SWP) water as a drinking water source is affected by a number of factors, most notably seawater intrusion and agricultural drainage from peat soil islands in the Delta. SWP water contains relatively high levels of bromide and total organic carbon, two elements that are of particular concern to drinking water agencies. Bromide and total organic carbon combine with chemicals used in the water treatment process to form disinfection by-products that are strictly regulated under the federal Safe Drinking Water Act (SDWA). Wastewater discharges from cities and towns surrounding the Delta also add salts and pathogens to Delta water, influencing its suitability for drinking and recycling.

The 2000 Record of Decision (ROD) adopted by CALFED states that CALFED will either achieve water quality targets at Clifton Court Forebay and drinking water intakes in the south and central Delta, or it will achieve an “equivalent level of public health protection using a cost-effective combination of alternative source waters, source control, and treatment technologies.”

Actions to protect Delta fisheries have exacerbated existing water quality problems by forcing the SWP to shift its diversions from the springtime to the fall, when salinity and bromide levels are higher. Closure of the Delta Cross-Channel gates to protect migrating fish has also degraded SWP water quality by reducing the flow of higher quality Sacramento River water to the SWP pumps at critical times.

Total Organic Carbon and Bromide

Total organic carbon and bromide are naturally occurring but are elevated due to agricultural drainage and seawater intrusion as water moves through the delta. The concern with both total organic carbon and bromide is that they form disinfection byproducts (DBPs) when treated with disinfectants such as chlorine. Some DBPs have been identified and are regulated under SDWA; there are others that are not yet identified. The potential adverse health effects may not be fully understood, but associations with certain cancers, reproductive and developmental effects are of significant concern. Water agencies began complying with new regulations to protect against the risk of DBP exposure in January 2002 under the Disinfection Byproducts (D/DBP) rule Stage 1. The U. S. Environmental Protection Agency (EPA) promulgated the Stage 2 D/DBP rule in January 2006, which has made compliance more challenging. CALFED’s Bay-Delta Program calls for a wide array of actions to improve Bay-Delta water quality, which remains the best method for controlling these elements of concern in the drinking water supply.

Nutrients

SWP supplies have significantly higher nutrient levels over the Colorado River supplies. Elevated levels of nutrients can increase nuisance algal and aquatic weed growth, which in turn affects taste and odor in product water and can reduce filter run times at water treatment plants (WTPs). Nutrient rich soils in the Delta, agricultural drainage, and wastewater discharges are primary sources of nutrient loading to the SWP. Water agencies receiving Delta water have been engaged in efforts to minimize the effects of nutrient loading from Delta wastewater plants. Taste and odor complaints due to Delta nutrients are dependent on the blend of imported water delivered through Metropolitan. Metropolitan developed a program to provide early warning of algae-related problems, taste, and odor events to best manage water quality in the system.

Salinity

Water supplies from the SWP have significantly lower TDS levels than the Colorado River, averaging 250 mg/l in water supplied through the East Branch and 325 mg/l on the West Branch. Because of this lower salinity, Metropolitan blends SWP water with high salinity CRA water to reduce the salinity levels of delivered water. However, both the supply and the TDS levels of SWP water can vary significantly in response to hydrologic conditions in the Sacramento–San Joaquin watersheds.

The TDS levels of SWP water can also vary widely over short periods of time. These variations reflect seasonal and tidal flow patterns, and they pose an additional problem to blending as a management tool to lower the higher TDS from the CRA supply. For example, in the 1977 drought, the salinity of SWP water reaching Metropolitan increased to 430 mg/l, and supplies became limited. During this same event, salinity at the Banks pumping plant exceeded 700 mg/l. Under similar circumstances, Metropolitan’s 500 mg/l salinity objectives could only be achieved by reducing imported water from the CRA. Thus, it may not be possible to maintain both salinity standards and water supply reliability unless salinity levels of source supplies can be reduced.

The CALFED Bay-Delta Program’s Environmental Impact Statement/Environmental Impact Report (EIS/EIR), Technical Appendix, July 2000 Water Quality Program Plan, identified targets that are consistent with TDS objectives in Article 19 of the SWP Water Service Contract: a ten-year average of 220 mg/l and a maximum monthly average of 440 mg/l. These objectives were set in the 1960s when Metropolitan expected to obtain a greater proportion of its total supplies from the SWP. Because of reductions in expected SWP deliveries, Metropolitan’s Board believes that this standard is no longer appropriate, so it has adopted a statement of needs from the Bay-Delta. Under the drinking water quality and salinity targets element, the Board states its need “to meet Metropolitan’s 500 mg/l salinity-by blending objective in a cost-effective manner while minimizing resource losses and ensuring the viability of recycling and groundwater management programs.”

Arsenic

Between 2001 and 2008, arsenic levels in SWP water have ranged from not detected to 4.0 µg/l. Increasing coagulant doses at water treatment plants can reduce arsenic levels for retail deliveries. Groundwater storage programs in the SWP appear to provide the greatest risk of arsenic contamination; therefore, a pilot arsenic treatment facility is being tested by one of the groundwater partners.

6.3 SURFACE WATER

The region’s water quality is influenced by a variety of factors depending on its source. As stated above, water from the Colorado River and from Northern California are vulnerable to a number of contributors to water quality degradation. Regional surface and groundwater are primarily vulnerable to increasing urbanization in the watershed, agriculture, recreational uses, wildlife, and fires.

Surface water protection is fundamentally important to all of California. The Department of Public Health (DPH) requires large utilities delivering surface water to complete a watershed sanitary survey every five years to examine possible sources of drinking water contamination. The survey includes suggestions on how to protect water quality at the source.

In 2006, VID, in conjunction with the City of Escondido, prepared a watershed sanitary survey (which includes a source water assessment) for the local watershed. The survey assessed activities that had the potential to influence the quality of water delivered from Lake Henshaw, Dixon Lake and Lake Wohlford. While the survey identified a number of activities that have the potential to adversely affect water quality, including residential septic facilities, highway run-off, and agricultural and recreational activities, no contaminants from these activities have been detected in the local water supply. An updated survey is currently being prepared.

The United States Environmental Protection Agency (EPA) also requires utilities to complete a Source Water Assessment (SWA). Information collected in SWAs is used to evaluate the vulnerability of water sources to contamination and any changes in potential sources of contamination to help determine if more protection measures are needed. EPA requires utilities to complete a SWA that uses information collected in the sanitary surveys.

Metropolitan completed its SWA of its Colorado River and SWP supplies in December 2002. According to the assessment, Colorado River supplies are considered to be most vulnerable to impacts from recreation, urban/storm water run-off, increasing urbanization in the watershed and wastewater. SWP supplies are most vulnerable to contamination from urban/storm water run-off, wildlife, agriculture, recreation and wastewater. Metropolitan also completed watershed sanitary surveys of its source water supplies from the Colorado River in December 2006 and the SWP in June 2007.

In the past, regional surface water quality has been considered good to excellent. Water quality can vary with imported water inflows and surface water contamination. Surface water protection is considered a key element in regional water quality. Currently, the most significant water quality issue that affects the public is algae blooms, which can create taste and odor problems.

6.4 GROUNDWATER

Groundwater is pumped from the Warner Ranch wellfield through a series of open channels and siphons to Lake Henshaw, where it becomes part of the surface water supply. Like surface water, the groundwater quality in the Warner Basin has the potential of being affected by urbanization in the watershed, agriculture and recreation. While the 2006 Watershed Sanitary Survey identified a number of activities, including, but not limited to, highway run-off, agricultural operations and recreation, that have the potential to adversely impact the groundwater quality in the Warner Basin, no contaminants from these activities have been detected in the local water supply.

6.5 RECYCLED WATER

Water quality, as it pertains to high salinity supplies, is a significant implementation issue for recycled water projects. High TDS source water poses a special problem for water recycling facilities because conventional treatment processes are designed to remove suspended particles, but not dissolved particles. TDS removal, or demineralization, requires an advanced treatment process, which can increase project costs significantly.

Residential use of water typically adds 200 to 300 mg/l of TDS to the wastewater stream. Self-regenerating water softeners can add another 60 to 100 mg/l. Infiltration of brackish groundwater into sewer lines can also cause an increase in TDS. If an area receives a water supply with TDS of more than 700 mg/l, and residents add 300 mg/l or more through normal use, the recycling facility will produce recycled water with a TDS concentration of 1,000 mg/l or higher. In general, TDS concentrations over 1,000 mg/l become problematic for irrigation and industrial reuse customers. This problem greatly limits the potential uses and marketability of recycled water, particularly for agricultural purposes, because certain crops and nursery stock are sensitive to irrigation water with TDS levels exceeding 1,000 mg/l.

6.6 SEAWATER DESALINATION

The feedwater source for the proposed regional seawater desalination project at the Encina Power Station in Carlsbad is the Pacific Ocean. The salinity of the Pacific Ocean in San Diego County is fairly stable, with a TDS concentration around 34,000 mg/l. To address TDS concentrations at this level, the desalination facility will use a reverse osmosis (RO) membrane treatment process to reduce the TDS to less than 350 mg/l, resulting in approximately 99 percent removal of TDS and a supply that meets drinking water standards.

Prior to the RO process, the feedwater will be pretreated to remove suspended solids, including organic material. The RO process will then remove the dissolved solids. Next, the product water will be post-treated to prevent corrosion in the distribution system and improve the aesthetic quality of the water. This process generally involves adding alkalinity to the treated water. The final step, a disinfection process, provides a disinfection residual in the treated water.

A single-pass RO process of seawater generally results in about 50 percent recovery of treated water. The remaining 50 percent is discharged as concentrate, with about twice the salinity of the original feedwater. The concentrate will be diluted to avoid negative impacts to the marine environment from the elevated salinity levels at the point of discharge.

SECTION 7 - WATER SUPPLY RELIABILITY

The Act requires that an urban water supplier include, as part of its plan, an assessment of the reliability of its water supply. The assessment must compare the total projected water use with the expected supply over the next 20 years in five-year increments. The reliability assessment is required for normal, single-dry and multiple-dry water years. The assessment contained in the 2010 Plan projects reliability for the next 25 years. This section presents a summary of water supplies and demands within VID’s service area as well as an assessment of water supply reliability.

7.1 NORMAL WATER YEAR ASSESSMENT

If Water Authority, Metropolitan and VID supplies are developed as planned and SBX 7-7 conservation targets are achieved, no shortages are anticipated within VID’s service area in a normal year through 2035. Table 7-1 shows a normal assessment year.

TABLE 7-1: NORMAL WATER SUPPLY AND DEMAND ASSESSMENT (AF/YR)

	2015	2020	2025	2030	2035
Water Authority Supplies	16,989	15,961	16,954	17,825	20,000
VID Surface Water & Groundwater	5,411	5,411	5,411	5,411	5,411
Total Projected Supply	22,400	21,372	22,365	23,236	25,411
Total Projected Demand	22,400	21,372	22,365	23,236	25,411
Difference	0	0	0	0	0

Notes:

1. Water Authority normal year assessment data based on 1960 – 2008 hydrologies.
2. VID local water production based on median of years 1960 – 2010.

7.2 DRY WATER YEAR ASSESSMENT

In addition to a normal year assessment, the Act requires an assessment to compare supply and demand under single-dry year and multiple-dry water years of the next 20 years in five-year increments. Table 7-2 shows the single dry-year assessment. The projections are based on VID’s 2002 supply and information developed by the Water Authority and Metropolitan. The Water Authority’s existing and planned supplies from the IID transfer, canal lining projects and seawater desalination projects are considered “drought proof” supplies as discussed in Section 4 of its 2010 Plan.

For this single dry-year assessment, it was assumed that Metropolitan would have adequate supplies in storage and would not be allocating supplies. With the previous years leading up to the single dry-year being wet or average hydrologic conditions, Metropolitan should have adequate supplies in storage to cover potential shortfalls in core supplies and would not need to allocate.

Based on a statistical evaluation of relevant data (climate factors, including rainfall/run-off, population growth and water demands) from 1995 to 2009, it is estimated that hot-dry weather may generate 5% greater demands than during normal years. This percentage was utilized to calculate single-dry and multiple-dry year demands shown in tables 7-2 through 7-7.

If Water Authority, Metropolitan and VID supplies are developed as planned and SBX 7-7 conservation targets are achieved, no shortages are anticipated within VID’s service area in a single-dry year through 2035. VID will use local water resources whenever possible; however, if there is a shortfall, VID will rely on the Water Authority supplies.

TABLE 7-2: SINGLE-DRY WATER SUPPLY AND DEMAND ASSESSMENT (AF/YR)

	2015	2020	2025	2030	2035
Water Authority Supplies	21,494	18,415	19,457	20,372	22,620
VID Surface Water & Groundwater	4,026	4,026	4,026	4,026	4,026
Total Projected Supply	23,520	22,441	23,483	24,398	26,682
Total Projected Demand	23,520	22,441	23,483	24,398	26,682
Difference	0	0	0	0	0

In accordance with the Act, Tables 7-3, 7-4, 7-5, 7-6 and 7-7 illustrate multiple-dry water year assessments in five-year increments. VID surface water projections are reflective of supplies available during 2002, 2003 and 2004. The Water Authority supplies consist of the yield from the IID transfer, canal lining projects and Carlsbad Seawater Desalination Projects.

MULTIPLE-DRY WATER YEAR SUPPLY AND DEMAND ASSESSMENT (AF/YR)

TABLE 7-3

	2011	2012	2013
Water Authority Supplies	16,836	21,527	21,159
VID Surface Water & Groundwater	4,026	1,578	1,033
Total Projected Supply	20,862	21,527	22,192
Total Projected Demand	20,862	21,527	22,192
Difference	0	0	0

TABLE 7-4

	2016	2017	2018
Water Authority Supplies	19,278	21,510	21,839
VID Surface Water & Groundwater	4,026	1,578	1,033
Total Projected Supply	23,304	23,088	22,872
Total Projected Demand	23,304	23,088	22,872
Difference	0	0	0

TABLE 7-5

	2021	2022	2023
Water Authority Supplies	18,623	21,279	22,032
VID Surface Water & Groundwater	4,026	1,578	1,033
Total Projected Supply	22,649	22,857	23,065
Total Projected Demand	22,649	22,857	23,065
Difference	0	0	0

TABLE 7-6

	2026	2027	2028
Water Authority Supplies	19,640	22,271	22,999
VID Surface Water & Groundwater	4,026	1,578	1,033
Total Projected Supply	23,666	23,849	24,032
Total Projected Demand	23,666	23,849	24,032
Difference	0	0	0

TABLE 7-7

	2031	2032	2033
Water Authority Supplies	20,829	23,734	24,736
VID Surface Water & Groundwater	4,026	1,578	1,033
Total Projected Supply	24,855	24,855	24,855
Total Projected Demand	24,855	24,855	24,855
Difference	0	0	0

For the multi-dry year reliability analysis, the conservative planning assumption is that Metropolitan will be allocating supplies to its member agencies. As a result, some level of shortage could be potentially experienced. When shortages occur, the Water Authority will use carryover storage, as discussed in Section 9.3 of its 2010 Plan.

The Water Authority has invested in carryover storage supply capacity, which can be utilized in dry-years to improve reliability. Carryover storage includes both in-region surface water storage and out-of-region groundwater storage in California’s central valley. These verifiable dry-year storage supplies are described in Section 11 of the Water Authority’s 2010 Plan.

In years where shortages may still occur after the utilization of carryover storage, additional regional shortage management measures, consistent with the Water Authority’s Water Shortage and Drought Response Plan will be taken to fill the shortfall. These measures could include securing dry-year water transfers and/or the implementation of voluntary or mandatory water use restrictions. During the latest shortage period, VID achieved over a 20% reduction in consumption by implementing mandatory water use restrictions and a tiered water structure. As discussed in the following subsection, the amount of savings achieved through extraordinary conservation measures could be limited due to demand hardening, especially following compliance with SBX7-7 conservation savings.

As stated in the Water Authority's 2010 Plan, the unavailability of any one supply source will be buffered because of the diversity of supplies (see subsection 2.2 for the discussion of existing and planned supplies). In other words, the region is not reliant on a single supply. To replace or supplement existing supplies, the Water Authority could take steps to increase the development of water transfers or seawater desalination. Member agencies with groundwater supplies, like VID, could also maximize their production. In order to adequately plan for potential supply uncertainties and identify alternative sources, the Water Authority's 2010 Plan contains a scenario planning process.

7.3 DEMAND HARDENING

It should be emphasized that the amount of extraordinary conservation savings expected to be achieved through mandatory measures, such as water-use restrictions, could be less than that experienced during the most recent shortage period. This is due to the concept known as demand hardening. Demand hardening diminishes the ability or willingness of a customer to reduce demands during shortages as a result of having implemented long-term conservation measures. Responsiveness to drought pricing and general price increases will diminish because remaining essential uses are less responsive to price. The required reduction levels through SBX7-7 compliance have the potential to reduce customer discretionary demands and create less flexibility in the managing of demand during shortages. As noted in the Water Authority's Plan, this will increase the importance of acquiring supplemental dry-year supplies to eliminate or reduce potential supply shortages.

APPENDIX A

Urban Water Management Planning Act

Senate Bill 7 of the Seventh Extraordinary Session (SBX 7-7)
(Water Conservation Act of 2009)

Methodologies for Calculating Baseline and Compliance per Capita
Water Use

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Section K: California Water Code, Division 6, Part 2.6: Urban Water Management Planning

The following sections of California Water Code Division 6, Part 2.6, are available online at <http://www.leginfo.ca.gov/calaw.html>.

Chapter 1. General Declaration and Policy	§10610-10610.4
Chapter 2. Definitions	§10611-10617
Chapter 3. Urban Water Management Plans	
Article 1. General Provisions	§10620-10621
Article 2. Contents of Plans	§10630-10634
Article 2.5. Water Service Reliability	§10635
Article 3. Adoption And Implementation of Plans	§10640-10645
Chapter 4. Miscellaneous Provisions	§10650-10656

Chapter 1. General Declaration and Policy

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.

Chapter 2. Definitions

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.

Chapter 3. Urban Water Management Plans

Article 1. General Provisions

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).

Article 2. Contents of Plans

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 annual 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. 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:

- (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.
- (b) 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.
- (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.
- (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.
- (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.
- (f) Penalties or charges for excessive use, where applicable.
- (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, and proposed measures to overcome those impacts, such as the development of reserves and rate adjustments.
- (h) A draft water shortage contingency resolution or ordinance.
- (i) A mechanism for determining actual reductions in water use pursuant to the urban water shortage contingency analysis.

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.

Article 2.5. Water Service Reliability

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.

Article 3. Adoption and Implementation of Plans

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.

Chapter 4. Miscellaneous Provisions

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.

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Section L: California Water Code, Division 6, Part 2.55: Water Conservation

The following sections of California Water Code Division 6, Part 2.55, are available online at <http://www.leginfo.ca.gov/calaw.html>.

Chapter 1. General Declarations and Policy	§10608-10608.8
Chapter 2. Definitions	§10608.12
Chapter 3. Urban Retail Water Suppliers	§10608.16-10608.44

Legislative Counsel's Digest

Senate Bill No. 7

Chapter 4

An act to amend and repeal Section 10631.5 of, to add Part 2.55 (commencing with Section 10608) to Division 6 of, and to repeal and add Part 2.8 (commencing with Section 10800) of Division 6 of, the Water Code, relating to water.

[Approved by Governor November 10, 2009. Filed with Secretary of State November 10, 2009.]

Legislative Counsel's Digest

SB 7, Steinberg. Water conservation.

(1) Existing law requires the Department of Water Resources to convene an independent technical panel to provide information to the department and the Legislature on new demand management measures, technologies, and approaches. "Demand management measures" means those water conservation measures, programs, and incentives that prevent the waste of water and promote the reasonable and efficient use and reuse of available supplies.

This bill would require the state to achieve a 20% reduction in urban per capita water use in California by December 31, 2020. The state would be required to make incremental progress towards this goal by reducing per capita water use by at least 10% on or before December 31, 2015. The bill would require each urban retail water supplier to develop urban water use targets and an interim urban water use target, in accordance with specified requirements. The bill would require agricultural water suppliers to implement efficient water management practices. The bill would require the department, in consultation with other state agencies, to develop a single standardized water use reporting form. The bill, with certain exceptions, would provide that urban retail water suppliers, on and after July 1, 2016, and agricultural water suppliers, on and after July 1, 2013, are not eligible for state water grants or loans unless they comply with the water conservation requirements established by the bill. The bill would repeal, on July 1, 2016, an existing requirement that conditions

eligibility for certain water management grants or loans to an urban water supplier on the implementation of certain water demand management measures.

(2) Existing law, until January 1, 1993, and thereafter only as specified, requires certain agricultural water suppliers to prepare and adopt water management plans.

This bill would revise existing law relating to agricultural water management planning to require agricultural water suppliers to prepare and adopt agricultural water management plans with specified components on or before December 31, 2012, and update those plans on or before December 31, 2015, and on or before December 31 every 5 years thereafter. An agricultural water supplier that becomes an agricultural water supplier after December 31, 2012, would be required to prepare and adopt an agricultural water management plan within one year after becoming an agricultural water supplier. The agricultural water supplier would be required to notify each city or county within which the supplier provides water supplies with regard to the preparation or review of the plan. The bill would require the agricultural water supplier to submit copies of the plan to the department and other specified entities. The bill would provide that an agricultural water supplier is not eligible for state water grants or loans unless the supplier complies with the water management planning requirements established by the bill.

(3) The bill would take effect only if SB 1 and SB 6 of the 2009–10 7th Extraordinary Session of the Legislature are enacted and become effective.

The people of the State of California do enact as follows:

SECTION 1. Part 2.55 (commencing with Section 10608) is added to Division 6 of the Water Code, to read:

Part 2.55. Sustainable Water Use and Demand Reduction

Chapter 1. General Declarations and Policy

10608. The Legislature finds and declares all of the following:

- (a) Water is a public resource that the California Constitution protects against waste and unreasonable use.
- (b) Growing population, climate change, and the need to protect and grow California's economy while protecting and restoring our fish and wildlife habitats make it essential that the state manage its water resources as efficiently as possible.
- (c) Diverse regional water supply portfolios will increase water supply reliability and reduce dependence on the Delta.

- (d) Reduced water use through conservation provides significant energy and environmental benefits, and can help protect water quality, improve streamflows, and reduce greenhouse gas emissions.
- (e) The success of state and local water conservation programs to increase efficiency of water use is best determined on the basis of measurable outcomes related to water use or efficiency.
- (f) Improvements in technology and management practices offer the potential for increasing water efficiency in California over time, providing an essential water management tool to meet the need for water for urban, agricultural, and environmental uses.
- (g) The Governor has called for a 20 percent per capita reduction in urban water use statewide by 2020.
- (h) The factors used to formulate water use efficiency targets can vary significantly from location to location based on factors including weather, patterns of urban and suburban development, and past efforts to enhance water use efficiency.
- (i) Per capita water use is a valid measure of a water provider's efforts to reduce urban water use within its service area. However, per capita water use is less useful for measuring relative water use efficiency between different water providers. Differences in weather, historical patterns of urban and suburban development, and density of housing in a particular location need to be considered when assessing per capita water use as a measure of efficiency.

10608.4. It is the intent of the Legislature, by the enactment of this part, to do all of the following:

- (a) Require all water suppliers to increase the efficiency of use of this essential resource.
- (b) Establish a framework to meet the state targets for urban water conservation identified in this part and called for by the Governor.
- (c) Measure increased efficiency of urban water use on a per capita basis.
- (d) Establish a method or methods for urban retail water suppliers to determine targets for achieving increased water use efficiency by the year 2020, in accordance with the Governor's goal of a 20-percent reduction.
- (e) Establish consistent water use efficiency planning and implementation standards for urban water suppliers and agricultural water suppliers.

- (f) Promote urban water conservation standards that are consistent with the California Urban Water Conservation Council's adopted best management practices and the requirements for demand management in Section 10631.
- (g) Establish standards that recognize and provide credit to water suppliers that made substantial capital investments in urban water conservation since the drought of the early 1990s.
- (h) Recognize and account for the investment of urban retail water suppliers in providing recycled water for beneficial uses.
- (i) Require implementation of specified efficient water management practices for agricultural water suppliers.
- (j) Support the economic productivity of California's agricultural, commercial, and industrial sectors.
- (k) Advance regional water resources management.

10608.8.

- (a) (1) Water use efficiency measures adopted and implemented pursuant to this part or Part 2.8 (commencing with Section 10800) are water conservation measures subject to the protections provided under Section 1011.
 - (2) Because an urban agency is not required to meet its urban water use target until 2020 pursuant to subdivision (b) of Section 10608.24, an urban retail water supplier's failure to meet those targets shall not establish a violation of law for purposes of any state administrative or judicial proceeding prior to January 1, 2021. Nothing in this paragraph limits the use of data reported to the department or the board in litigation or an administrative proceeding. This paragraph shall become inoperative on January 1, 2021.
 - (3) To the extent feasible, the department and the board shall provide for the use of water conservation reports required under this part to meet the requirements of Section 1011 for water conservation reporting.
- (b) This part does not limit or otherwise affect the application of Chapter 3.5 (commencing with Section 11340), Chapter 4 (commencing with Section 11370), Chapter 4.5 (commencing with Section 11400), and Chapter 5 (commencing with Section 11500) of Part 1 of Division 3 of Title 2 of the Government Code.
 - (c) This part does not require a reduction in the total water used in the agricultural or urban sectors, because other factors, including, but not limited to, changes in agricultural economics or population growth may have greater effects on water

use. This part does not limit the economic productivity of California's agricultural, commercial, or industrial sectors.

- (d) The requirements of this part do not apply to an agricultural water supplier that is a party to the Quantification Settlement Agreement, as defined in subdivision (a) of Section 1 of Chapter 617 of the Statutes of 2002, during the period within which the Quantification Settlement Agreement remains in effect. After the expiration of the Quantification Settlement Agreement, to the extent conservation water projects implemented as part of the Quantification Settlement Agreement remain in effect, the conserved water created as part of those projects shall be credited against the obligations of the agricultural water supplier pursuant to this part.

Chapter 2. Definitions

10608.12. Unless the context otherwise requires, the following definitions govern the construction of this part:

- (a) “Agricultural water supplier” means a water supplier, either publicly or privately owned, providing water to 10,000 or more irrigated acres, excluding recycled water. “Agricultural water supplier” includes a supplier or contractor for water, regardless of the basis of right, that distributes or sells water for ultimate resale to customers. “Agricultural water supplier” does not include the department.
- (b) “Base daily per capita water use” means any of the following:
 - (1) The urban retail water supplier's estimate of its average gross water use, reported in gallons per capita per day and calculated over a continuous 10-year period ending no earlier than December 31, 2004, and no later than December 31, 2010.
 - (2) For an urban retail water supplier that meets at least 10 percent of its 2008 measured retail water demand through recycled water that is delivered within the service area of an urban retail water supplier or its urban wholesale water supplier, the urban retail water supplier may extend the calculation described in paragraph (1) up to an additional five years to a maximum of a continuous 15-year period ending no earlier than December 31, 2004, and no later than December 31, 2010.
 - (3) For the purposes of Section 10608.22, the urban retail water supplier's estimate of its average gross water use, reported in gallons per capita per day and calculated over a continuous five-year period ending no earlier than December 31, 2007, and no later than December 31, 2010.

- (c) “Baseline commercial, industrial, and institutional water use” means an urban retail water supplier's base daily per capita water use for commercial, industrial, and institutional users.
- (d) “Commercial water user” means a water user that provides or distributes a product or service.
- (e) “Compliance daily per capita water use” means the gross water use during the final year of the reporting period, reported in gallons per capita per day.
- (f) “Disadvantaged community” means a community with an annual median household income that is less than 80 percent of the statewide annual median household income.
- (g) “Gross water use” means the total volume of water, whether treated or untreated, entering the distribution system of an urban retail water supplier, excluding all of the following:
 - (1) Recycled water that is delivered within the service area of an urban retail water supplier or its urban wholesale water supplier.
 - (2) The net volume of water that the urban retail water supplier places into long-term storage.
 - (3) The volume of water the urban retail water supplier conveys for use by another urban water supplier.
 - (4) The volume of water delivered for agricultural use, except as otherwise provided in subdivision (f) of Section 10608.24.
- (h) “Industrial water user” means a water user that is primarily a manufacturer or processor of materials as defined by the North American Industry Classification System code sectors 31 to 33, inclusive, or an entity that is a water user primarily engaged in research and development.
- (i) “Institutional water user” means a water user dedicated to public service. This type of user includes, among other users, higher education institutions, schools, courts, churches, hospitals, government facilities, and nonprofit research institutions.
- (j) “Interim urban water use target” means the midpoint between the urban retail water supplier's base daily per capita water use and the urban retail water supplier's urban water use target for 2020.

- (k) “Locally cost effective” means that the present value of the local benefits of implementing an agricultural efficiency water management practice is greater than or equal to the present value of the local cost of implementing that measure.
- (l) “Process water” means water used for producing a product or product content or water used for research and development, including, but not limited to, continuous manufacturing processes, water used for testing and maintaining equipment used in producing a product or product content, and water used in combined heat and power facilities used in producing a product or product content. Process water does not mean incidental water uses not related to the production of a product or product content, including, but not limited to, water used for restrooms, landscaping, air conditioning, heating, kitchens, and laundry.
- (m) “Recycled water” means recycled water, as defined in subdivision (n) of Section 13050, that is used to offset potable demand, including recycled water supplied for direct use and indirect potable reuse, that meets the following requirements, where applicable:
 - (1) For groundwater recharge, including recharge through spreading basins, water supplies that are all of the following:
 - (A) Metered.
 - (B) Developed through planned investment by the urban water supplier or a wastewater treatment agency.
 - (C) Treated to a minimum tertiary level.
 - (D) Delivered within the service area of an urban retail water supplier or its urban wholesale water supplier that helps an urban retail water supplier meet its urban water use target.
 - (2) For reservoir augmentation, water supplies that meet the criteria of paragraph (1) and are conveyed through a distribution system constructed specifically for recycled water.
- (n) “Regional water resources management” means sources of supply resulting from watershed-based planning for sustainable local water reliability or any of the following alternative sources of water:
 - (1) The capture and reuse of stormwater or rainwater.
 - (2) The use of recycled water.
 - (3) The desalination of brackish groundwater.

- (4) The conjunctive use of surface water and groundwater in a manner that is consistent with the safe yield of the groundwater basin.
- (o) “Reporting period” means the years for which an urban retail water supplier reports compliance with the urban water use targets.
- (p) “Urban retail water supplier” means a water supplier, either publicly or privately owned, that directly provides potable municipal water to more than 3,000 end users or that supplies more than 3,000 acre-feet of potable water annually at retail for municipal purposes.
- (q) “Urban water use target” means the urban retail water supplier’s targeted future daily per capita water use.
- (r) “Urban wholesale water supplier,” means a water supplier, either publicly or privately owned, that provides more than 3,000 acre-feet of water annually at wholesale for potable municipal purposes.

Chapter 3. Urban Retail Water Suppliers

10608.16.

- (a) The state shall achieve a 20-percent reduction in urban per capita water use in California on or before December 31, 2020.
- (b) The state shall make incremental progress towards the state target specified in subdivision (a) by reducing urban per capita water use by at least 10 percent on or before December 31, 2015.

10608.20.

- (a) (1) Each urban retail water supplier shall develop urban water use targets and an interim urban water use target by July 1, 2011. Urban retail water suppliers may elect to determine and report progress toward achieving these targets on an individual or regional basis, as provided in subdivision (a) of Section 10608.28, and may determine the targets on a fiscal year or calendar year basis.
- (2) It is the intent of the Legislature that the urban water use targets described in subdivision (a) cumulatively result in a 20-percent reduction from the baseline daily per capita water use by December 31, 2020.
- (b) An urban retail water supplier shall adopt one of the following methods for determining its urban water use target pursuant to subdivision (a):
 - (1) Eighty percent of the urban retail water supplier's baseline per capita daily water use.

- (2) The per capita daily water use that is estimated using the sum of the following performance standards:
 - (A) For indoor residential water use, 55 gallons per capita daily water use as a provisional standard. Upon completion of the department's 2016 report to the Legislature pursuant to Section 10608.42, this standard may be adjusted by the Legislature by statute.
 - (B) For landscape irrigated through dedicated or residential meters or connections, water efficiency equivalent to the standards of the Model Water Efficient Landscape Ordinance set forth in Chapter 2.7 (commencing with Section 490) of Division 2 of Title 23 of the California Code of Regulations, as in effect the later of the year of the landscape's installation or 1992. An urban retail water supplier using the approach specified in this subparagraph shall use satellite imagery, site visits, or other best available technology to develop an accurate estimate of landscaped areas.
 - (C) For commercial, industrial, and institutional uses, a 10-percent reduction in water use from the baseline commercial, industrial, and institutional water use by 2020.
- (3) Ninety-five percent of the applicable state hydrologic region target, as set forth in the state's draft 20x2020 Water Conservation Plan (dated April 30, 2009). If the service area of an urban water supplier includes more than one hydrologic region, the supplier shall apportion its service area to each region based on population or area.
- (4) A method that shall be identified and developed by the department, through a public process, and reported to the Legislature no later than December 31, 2010. The method developed by the department shall identify per capita targets that cumulatively result in a statewide 20-percent reduction in urban daily per capita water use by December 31, 2020. In developing urban daily per capita water use targets, the department shall do all of the following:
 - (A) Consider climatic differences within the state.
 - (B) Consider population density differences within the state.
 - (C) Provide flexibility to communities and regions in meeting the targets.
 - (D) Consider different levels of per capita water use according to plant water needs in different regions.
 - (E) Consider different levels of commercial, industrial, and institutional water use in different regions of the state.

- (F) Avoid placing an undue hardship on communities that have implemented conservation measures or taken actions to keep per capita water use low.
- (c) If the department adopts a regulation pursuant to paragraph (4) of subdivision (b) that results in a requirement that an urban retail water supplier achieve a reduction in daily per capita water use that is greater than 20 percent by December 31, 2020, an urban retail water supplier that adopted the method described in paragraph (4) of subdivision (b) may limit its urban water use target to a reduction of not more than 20 percent by December 31, 2020, by adopting the method described in paragraph (1) of subdivision (b).
- (d) The department shall update the method described in paragraph (4) of subdivision (b) and report to the Legislature by December 31, 2014. An urban retail water supplier that adopted the method described in paragraph (4) of subdivision (b) may adopt a new urban daily per capita water use target pursuant to this updated method.
- (e) An urban retail water supplier shall include in its urban water management plan required pursuant to Part 2.6 (commencing with Section 10610) due in 2010 the baseline daily per capita water use, urban water use target, interim urban water use target, and compliance daily per capita water use, along with the bases for determining those estimates, including references to supporting data.
- (f) When calculating per capita values for the purposes of this chapter, an urban retail water supplier shall determine population using federal, state, and local population reports and projections.
- (g) An urban retail water supplier may update its 2020 urban water use target in its 2015 urban water management plan required pursuant to Part 2.6 (commencing with Section 10610).
- (h) (1) The department, through a public process and in consultation with the California Urban Water Conservation Council, shall develop technical methodologies and criteria for the consistent implementation of this part, including, but not limited to, both of the following:
- (A) Methodologies for calculating base daily per capita water use, baseline commercial, industrial, and institutional water use, compliance daily per capita water use, gross water use, service area population, indoor residential water use, and landscaped area water use.
- (B) Criteria for adjustments pursuant to subdivisions (d) and (e) of Section 10608.24.
- (2) The department shall post the methodologies and criteria developed pursuant to this subdivision on its Internet Web site, and make written copies

available, by October 1, 2010. An urban retail water supplier shall use the methods developed by the department in compliance with this part.

- (i) (1) The department shall adopt regulations for implementation of the provisions relating to process water in accordance with subdivision (l) of Section 10608.12, subdivision (e) of Section 10608.24, and subdivision (d) of Section 10608.26.
- (2) The initial adoption of a regulation authorized by this subdivision is deemed to address an emergency, for purposes of Sections 11346.1 and 11349.6 of the Government Code, and the department is hereby exempted for that purpose from the requirements of subdivision (b) of Section 11346.1 of the Government Code. After the initial adoption of an emergency regulation pursuant to this subdivision, the department shall not request approval from the Office of Administrative Law to readopt the regulation as an emergency regulation pursuant to Section 11346.1 of the Government Code.
- (j) An urban retail water supplier shall be granted an extension to July 1, 2011, for adoption of an urban water management plan pursuant to Part 2.6 (commencing with Section 10610) due in 2010 to allow use of technical methodologies developed by the department pursuant to paragraph (4) of subdivision (b) and subdivision (h). An urban retail water supplier that adopts an urban water management plan due in 2010 that does not use the methodologies developed by the department pursuant to subdivision (h) shall amend the plan by July 1, 2011, to comply with this part.

10608.22. Notwithstanding the method adopted by an urban retail water supplier pursuant to Section 10608.20, an urban retail water supplier's per capita daily water use reduction shall be no less than 5 percent of base daily per capita water use as defined in paragraph (3) of subdivision (b) of Section 10608.12. This section does not apply to an urban retail water supplier with a base daily per capita water use at or below 100 gallons per capita per day.

10608.24.

- (a) Each urban retail water supplier shall meet its interim urban water use target by December 31, 2015.
- (b) Each urban retail water supplier shall meet its urban water use target by December 31, 2020.
- (c) An urban retail water supplier's compliance daily per capita water use shall be the measure of progress toward achievement of its urban water use target.
- (d) (1) When determining compliance daily per capita water use, an urban retail water supplier may consider the following factors:

- (A) Differences in evapotranspiration and rainfall in the baseline period compared to the compliance reporting period.
 - (B) Substantial changes to commercial or industrial water use resulting from increased business output and economic development that have occurred during the reporting period.
 - (C) Substantial changes to institutional water use resulting from fire suppression services or other extraordinary events, or from new or expanded operations, that have occurred during the reporting period.
- (2) If the urban retail water supplier elects to adjust its estimate of compliance daily per capita water use due to one or more of the factors described in paragraph (1), it shall provide the basis for, and data supporting, the adjustment in the report required by Section 10608.40.
- (e) When developing the urban water use target pursuant to Section 10608.20, an urban retail water supplier that has a substantial percentage of industrial water use in its service area, may exclude process water from the calculation of gross water use to avoid a disproportionate burden on another customer sector.
- (f) (1) An urban retail water supplier that includes agricultural water use in an urban water management plan pursuant to Part 2.6 (commencing with Section 10610) may include the agricultural water use in determining gross water use. An urban retail water supplier that includes agricultural water use in determining gross water use and develops its urban water use target pursuant to paragraph (2) of subdivision (b) of Section 10608.20 shall use a water efficient standard for agricultural irrigation of 100 percent of reference evapotranspiration multiplied by the crop coefficient for irrigated acres.
- (2) An urban retail water supplier, that is also an agricultural water supplier, is not subject to the requirements of Chapter 4 (commencing with Section 10608.48), if the agricultural water use is incorporated into its urban water use target pursuant to paragraph (1).

10608.26.

- (a) In complying with this part, an urban retail water supplier shall conduct at least one public hearing to accomplish all of the following:
- (1) Allow community input regarding the urban retail water supplier's implementation plan for complying with this part.
 - (2) Consider the economic impacts of the urban retail water supplier's implementation plan for complying with this part.

- (3) Adopt a method, pursuant to subdivision (b) of Section 10608.20, for determining its urban water use target.
- (b) In complying with this part, an urban retail water supplier may meet its urban water use target through efficiency improvements in any combination among its customer sectors. An urban retail water supplier shall avoid placing a disproportionate burden on any customer sector.
- (c) For an urban retail water supplier that supplies water to a United States Department of Defense military installation, the urban retail water supplier's implementation plan for complying with this part shall consider the United States Department of Defense military installation's requirements under federal Executive Order 13423.
- (d)
 - (1) Any ordinance or resolution adopted by an urban retail water supplier after the effective date of this section shall not require existing customers as of the effective date of this section, to undertake changes in product formulation, operations, or equipment that would reduce process water use, but may provide technical assistance and financial incentives to those customers to implement efficiency measures for process water. This section shall not limit an ordinance or resolution adopted pursuant to a declaration of drought emergency by an urban retail water supplier.
 - (2) This part shall not be construed or enforced so as to interfere with the requirements of Chapter 4 (commencing with Section 113980) to Chapter 13 (commencing with Section 114380), inclusive, of Part 7 of Division 104 of the Health and Safety Code, or any requirement or standard for the protection of public health, public safety, or worker safety established by federal, state, or local government or recommended by recognized standard setting organizations or trade associations.

10608.28.

- (a) An urban retail water supplier may meet its urban water use target within its retail service area, or through mutual agreement, by any of the following:
 - (1) Through an urban wholesale water supplier.
 - (2) Through a regional agency authorized to plan and implement water conservation, including, but not limited to, an agency established under the Bay Area Water Supply and Conservation Agency Act (Division 31 (commencing with Section 81300)).
 - (3) Through a regional water management group as defined in Section 10537.
 - (4) By an integrated regional water management funding area.

- (5) By hydrologic region.
 - (6) Through other appropriate geographic scales for which computation methods have been developed by the department.
- (b) A regional water management group, with the written consent of its member agencies, may undertake any or all planning, reporting, and implementation functions under this chapter for the member agencies that consent to those activities. Any data or reports shall provide information both for the regional water management group and separately for each consenting urban retail water supplier and urban wholesale water supplier.

10608.32. All costs incurred pursuant to this part by a water utility regulated by the Public Utilities Commission may be recoverable in rates subject to review and approval by the Public Utilities Commission, and may be recorded in a memorandum account and reviewed for reasonableness by the Public Utilities Commission.

10608.36. Urban wholesale water suppliers shall include in the urban water management plans required pursuant to Part 2.6 (commencing with Section 10610) an assessment of their present and proposed future measures, programs, and policies to help achieve the water use reductions required by this part.

10608.40. Urban water retail suppliers shall report to the department on their progress in meeting their urban water use targets as part of their urban water management plans submitted pursuant to Section 10631. The data shall be reported using a standardized form developed pursuant to Section 10608.52.

10608.42. The department shall review the 2015 urban water management plans and report to the Legislature by December 31, 2016, on progress towards achieving a 20-percent reduction in urban water use by December 31, 2020. The report shall include recommendations on changes to water efficiency standards or urban water use targets in order to achieve the 20-percent reduction and to reflect updated efficiency information and technology changes.

10608.43. The department, in conjunction with the California Urban Water Conservation Council, by April 1, 2010, shall convene a representative task force consisting of academic experts, urban retail water suppliers, environmental organizations, commercial water users, industrial water users, and institutional water users to develop alternative best management practices for commercial, industrial, and institutional users and an assessment of the potential statewide water use efficiency improvement in the commercial, industrial, and institutional sectors that would result from implementation of these best management practices. The taskforce, in conjunction with the department, shall submit a report to the Legislature by April 1, 2012, that shall include a review of multiple sectors within commercial, industrial, and institutional users and that shall recommend water use efficiency standards for

commercial, industrial, and institutional users among various sectors of water use. The report shall include, but not be limited to, the following:

- (a) Appropriate metrics for evaluating commercial, industrial, and institutional water use.
- (b) Evaluation of water demands for manufacturing processes, goods, and cooling.
- (c) Evaluation of public infrastructure necessary for delivery of recycled water to the commercial, industrial, and institutional sectors.
- (d) Evaluation of institutional and economic barriers to increased recycled water use within the commercial, industrial, and institutional sectors.
- (e) Identification of technical feasibility and cost of the best management practices to achieve more efficient water use statewide in the commercial, industrial, and institutional sectors that is consistent with the public interest and reflects past investments in water use efficiency.

10608.44. Each state agency shall reduce water use on facilities it operates to support urban retail water suppliers in meeting the target identified in Section 10608.16.

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Methodologies for Calculating Baseline and Compliance Urban Per Capita Water Use

*(For the Consistent Implementation of the
Water Conservation Act of 2009)*

February 2011

California Department of Water Resources
Division of Statewide Integrated Water Management
Water Use and Efficiency Branch

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California Department of Water Resources
Division of Statewide Integrated Water Management
Water Use and Efficiency Branch

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Acknowledgement:

Methodologies for Calculating Baseline and Compliance Urban Per Capita Water Use was written with the assistance of the following consultants:

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The Urban Stakeholder Committee provided significant guidance in developing this document. The Department of Water Resources would like to thank the members for their help.

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Introduction

In February 2008, Governor Arnold Schwarzenegger introduced a seven-part comprehensive plan for improving the Sacramento-San Joaquin Delta. A key component of his plan was a goal to achieve a 20 percent reduction in per capita water use statewide by the year 2020. The governor's inclusion of water conservation in the Delta plan emphasizes the importance of water conservation in reducing demand on the Delta and in reducing demand on the overall California water supply. In response to Schwarzenegger's call for statewide per capita savings, the Department of Water Resources (DWR) and the State Water Resources Control Board convened the 20x2020 Agency Team on Water Conservation. DWR released a draft 20x2020 Water Conservation Plan in April 2009 and the final 20x2020 Water Conservation Plan in February 2010. The water conservation plan developed estimates of statewide and regional baseline per capita water use and outlined recommendations to the governor on how a statewide per capita water use reduction plan could be implemented.

In November 2009, SBX7-7, The Water Conservation Act of 2009, was signed into law as part of a comprehensive water legislation package. The Water Conservation Act addresses both urban and agricultural water conservation. The urban provisions reflect the approach taken in the 20x2020 Water Conservation Plan. The legislation sets a goal of achieving a 20 percent statewide reduction in urban per capita water use and directs urban retail water suppliers to set 2020 urban water use targets. The Water Conservation Act of 2009 directs DWR to develop technical methodologies and criteria to ensure the consistent implementation of the Act and to provide guidance to urban retail water suppliers in developing baseline and compliance water use. These technical methodologies were developed through a public process with stakeholder input. DWR has held two public listening sessions, five public stakeholder meetings, and two public workshops to receive comment on the technical methodologies. One of the methodologies, the Criteria for Compliance -Year Adjustment will be released in 2011. This methodology is not needed by urban water suppliers to develop 2010 urban water management plans, and additional time is needed to develop the weather normalization model, which will be a major component of the methodology.

Background documents, stakeholder meeting summaries and public comments related to the development of these methodologies are available at the Water Conservation Act of 2009 website: <http://www.water.ca.gov/wateruseefficiency/sb7/>

Or contact:

SBX7-7 Urban Water Conservation Program Manager

Water Use and Efficiency Branch

Department of Water Resources, 1416 Ninth Street, Sacramento CA 95814

Overview of Methodologies, Water Use Targets, and Reporting

The Water Conservation Act of 2009 was incorporated into Division 6 of the California Water Code, commencing with Section 10608 of Part 2.55. All quotations of the Water Code in this report are from sections added by this legislation, unless otherwise noted.

The methodologies, water use targets, and reporting apply to urban retail water suppliers that meet a threshold of number of end users or annual volume of potable water supplied. Section 10698.12 (p) defines the water suppliers affected:

“Urban retail water supplier” means a water supplier, either publicly or privately owned, that directly provides potable municipal water to more than 3,000 end users or that supplies more than 3,000 acre-feet of potable water annually at retail for municipal purposes.

This overview summarizes the process that urban retail water suppliers must follow and the options they have for complying with the legislation.

Methodologies

The legislation specifically calls for developing seven methodologies and a set of criteria for adjusting daily per capita water use at the time compliance is required (the 2015 and 2020 compliance years) under Section 10608.20(h):

- (1) *The department, through a public process and in consultation with the California Urban Water Conservation Council, shall develop technical methodologies and criteria for the consistent implementation of this part, including, but not limited to, both of the following:*
 - (A) *Methodologies for calculating base daily per capita water use, baseline commercial, industrial, and institutional water use, compliance daily per capita water use, gross water use, service area population, indoor residential water use, and landscaped area water use.*
 - (B) *Criteria for adjustments pursuant to subdivisions (d) and (e) of Section 10608.24.*

Sections 10608.20 and 10608.28 of the Water Code allow water suppliers the choice of complying individually or regionally by mutual agreement with other water suppliers or regional agencies. DWR has also developed a methodology for regional compliance.

The following methodologies are included in this report:

- Methodology 1: Gross Water Use
- Methodology 2: Service Area Population
- Methodology 3: Base Daily Per Capita Water Use
- Methodology 4: Compliance Daily Per Capita Water Use

- Methodology 5: Indoor Residential Use
- Methodology 6: Landscaped Area Water Use
- Methodology 7: Baseline Commercial, Industrial, and Institutional (CII) Water Use
- Methodology 8: Criteria for Adjustments to Compliance Daily Per Capita Water Use
- Methodology 9: Regional Compliance

The methodologies provide specific guidance to water suppliers on how to calculate baseline, target, and compliance-year water use. Each methodology defines how its calculations are to be used, with direct reference to the applicable section of the Water Code.

Each methodology describes the calculations, data needed, and, where applicable, optional steps and alternative approaches that water suppliers may use depending on their specific circumstances.

The methodologies for indoor residential water use; landscaped area water use; and baseline CII water use (Methodologies 5, 6, and 7) apply only to urban retail water suppliers who use Method 2 (see Water Use Targets below) to set water use targets.

Baseline Water Use

Water suppliers must define a 10- or 15-year base (or baseline) period for water use that will be used to develop their target levels of per capita water use. Water suppliers must also calculate water use for a 5-year baseline period, and use that value to determine a minimum required reduction in water use by 2020. The longer baseline period applies to a water supplier that meets at least 10 percent of its 2008 measured retail water demand through recycled water. Methodology 3: Base Daily Per Capita Water Use describes the calculations.

Water Use Targets

An urban retail water supplier, as defined above, must set a 2020 water use target and a 2015 interim target using one of four methods. Three of these are defined in Section 10608.20(a)(1), with the fourth developed by DWR by the end of 2010. The 2020 water use target will be calculated using one of the following four methods:

- Method 1: Eighty percent of the water supplier's baseline per capita water use
- Method 2: Per capita daily water use estimated using the sum of performance standards applied to indoor residential use; landscaped area water use; and CII uses
- Method 3: Ninety-five percent of the applicable state hydrologic region target as stated in the State's April 30, 2009, draft 20x2020 Water Conservation Plan
- Method 4: An approach developed by DWR and reported to the Legislature by December 2010 (a description of this target method will be included as Appendix C)

The target may need to be adjusted further to achieve a minimum reduction in water use regardless of the target method (this is explained in Methodology 3). The Water Code directs that water suppliers must compare their actual water use in 2020 with their calculated targets to assess compliance. In addition, water suppliers will report interim compliance in 2015 as compared to an interim target (generally halfway between the

baseline water use and the 2020 target level). The years 2015 and 2020 are referred to in the methodologies as compliance years. All baseline, target, and compliance-year water use estimates must be calculated and reported in gallons per capita per day (GPCD).

Water suppliers have some flexibility in setting and revising water use targets:

- A water supplier may set its water use target and comply individually, or as part of a regional alliance (see Methodology 9: Regional Compliance).
- A water supplier may revise its water use target in its 2015 or 2020 urban water management plan or in an amended plan.
- A water supplier may change the method it uses to set its water use target and report it in a 2010 amended plan or in its 2015 urban water management plan. Urban water suppliers are not permitted to change target methods after they have submitted their 2015 UWMP.

Data Reporting

DWR will collect data pertaining to urban water use targets through three documents: (1) through the individual supplier urban water management plans; (2) through the regional urban water management plans; and (3) through regional alliance reports.

Water suppliers that comply individually must report the following data in their urban water management plans (applicable urban water management plan dates are included in parentheses).

- Baseline Gross Water Use and Service Area Population (2010, 2015, 2020)
- Individual 2020 Urban Water Use Target (2010, 2015, 2020) and Interim 2015 Urban Water Use Target (2010)
- Compliance Year Gross Water Use (2015 and 2020) and Service Area Population (2010, 2015, 2020)
- Adjustments to Gross Water Use in the compliance year (2015, 2020)
- Water suppliers who choose Target Method 2 also must provide Landscaped Area Water Use and Baseline CII Water Use data (2010, 2015, and 2020).
- Water Suppliers who choose Target Method 4 must provide the components of calculation as required by Target Method 4. Appendix C describes Target Method 4 and the regional compliance reporting that applies to that method (2010, 2015, and 2020).

Water suppliers that comply regionally must fulfill additional reporting requirements. These are described in greater detail in Methodology 9: Regional Compliance.

Consequences if Water Supplier Does Not Meet Water Use Targets

Each urban retail water supplier, as defined above, must comply by establishing 2015 and 2020 water use targets, demonstrating that its water use is in compliance with its targets,

and reporting water use baselines, targets, compliance year water use, and supporting data in its urban water management plan. Section 10608.56 (a) states that a water supplier not in compliance will not be eligible for water grants or loans that may be administered by DWR or other state agencies:

On and after July 1, 2016, an urban retail water supplier is not eligible for a water grant or loan awarded or administered by the state unless the supplier complies with this part.

Two exceptions to this are allowed. Section 10608.56 (c) states that a water supplier shall be eligible for a water loan or grant if it “has submitted to the department for approval a schedule, financing plan, and budget, to be included in the grant or loan agreement, for achieving the per capita reductions.”

Section 10608.56 (e) states that a water supplier can also be eligible for a water loan or grant if it “has submitted to the department for approval documentation demonstrating that its entire service area qualifies as a disadvantaged community.”

Methodology 1: Gross Water Use

Definition of Gross Water Use

Section 10608.12(g) of the Water Code defines “Gross Water Use” as:

the total volume of water, whether treated or untreated, entering the distribution system of an urban retail water supplier, excluding all of the following:

- (1) Recycled water that is delivered within the service area of an urban retail water supplier or its urban wholesale water supplier*
- (2) The net volume of water that the urban retail water supplier places into long term storage*
- (3) The volume of water the urban retail water supplier conveys for use by another urban water supplier*
- (4) The volume of water delivered for agricultural use, except as otherwise provided in subdivision (f) of Section 10608.24*

Calculation of Gross Water Use

Gross Water Use is a measure of water supplied to the distribution system over 12 months and adjusted for changes in distribution system storage and deliveries to other water suppliers that pass through the distribution system. Recycled water deliveries are to be excluded from the calculation of Gross Water Use. Water delivered through the distribution system for agricultural use may be deducted from the calculation of Gross Water Use. Under certain conditions, industrial process water use also may be deducted from Gross Water Use.

The methodology for calculating Gross Water Use broadly follows American Water Works Association (AWWA) Manual M36 guidance for calculating Distribution System Input Volume.¹ Calculating Gross Water Use entails 12 basic steps, two of which are optional.²

Step 1: Define the 12-month Calculation Period

Gross Water Use shall be calculated over a continuous 12-month period. This period can be based on the calendar year or the utility’s fiscal year.³ The same 12-month period must be used in calculations of Gross Water Use for determining Base Daily Per Capita Water Use and Compliance Daily Per Capita Water Use.

¹American Water Works Association, Manual of Water Supply Practices – M36: Water Audits and Loss Control Programs, 3rd Edition, 2009. M36 defines Distribution System Input Volume as the volume of water entering the distribution system to provide service to customers. It is equal to the water volume derived from the water utility’s own source waters, plus water imported or purchased, plus or minus the net change in water storage (if applicable and significant).

²AWWA Manual M36 contains several forms and worksheets that retail urban water suppliers can use to compile and organize data required to calculate Gross Water Use.

³As stipulated in paragraph (1) of subdivision (a) of Section 10608.20 of SBX7-7.

Step 2: Delineate Distribution System Boundary

Water supply systems can be broadly subdivided between the transmission systems that convey large amounts of water to local storage reservoirs or treatment plants, and the distribution systems that supply water to residential, commercial, industrial, and public uses such as fire safety. Water distribution systems generally comprise large networks of pipes with complex branched and loop topologies with multiple flow paths to many delivery points.⁴ In some systems, some retail customers receive water for municipal and industrial (M&I) uses directly from transmission canals and pipes, in which case the retail water supplier may treat the sections of the transmission canals and pipes delivering water to the retail M&I customers as part of its distribution system. However, transmission canals and pipelines not used for delivering water directly to retail customers should not be included as part of the distribution system.

Wherever possible, distribution system boundary limits should be defined by points of metering or measurement⁵ of the water supply. Typical measurement locations for distribution include exit points for treatment plants, treated water reservoirs, wells feeding directly into the distribution system, and imported water entering directly into the distribution system. A schematic of a typical urban retail water supply system is shown in Figure 1; actual distribution systems may vary greatly in configuration. Therefore, each urban retail water supplier must define and delineate its distribution system for purposes of calculating Gross Water Use. The rules for defining and delineating the distribution system boundary must be applied consistently in the base period and compliance years.⁶

Step 3: Compile Water Volume from Own Sources

The water supplier's own sources of supply entering the distribution system shall be identified and tallied. For systems that provide only treated water, this may consist mostly or entirely of water entering the distribution system from treatment plants (as in Figure 1). It may also include water from wells or other sources controlled by the water supplier that directly supply the distribution system (as in Figure 1).

Recycled water, as defined in subdivision (m) of Section 10608.12, directly entering the distribution system shall be excluded from the tally of own sources. Step 8 addresses how to account for recycled water indirectly entering the distribution system through potable reuse.

Measurement records for each source shall be compiled into annual volumes. AWWA's M36 manual or other appropriate references should be consulted in situations where water sources are unmetered or the water meters have not been routinely calibrated. Volumes for each source shall be reviewed and corrected for known errors that may exist in the raw

⁴ <http://censam.mit.edu/news/posters/whittle/1.pdf>

⁵ Measurements of unmetered agricultural and raw water deliveries must, at a minimum, meet an accuracy standard of +/- 6% by volume, as defined in the U.S. Bureau of Reclamation, Mid-Pacific Region's "2008 Conservation and Efficiency Criteria". Metered deliveries of M&I water must meet the measurement accuracy and calibration standards described in American Water Works Association Manual M6.

⁶ For guidance on situations in which the distribution system boundary changed during the base period, see Methodology 3: Base Daily Per Capita Water Use. For situations in which the distribution system boundary changed during the compliance period, see Methodology 4: Compliance Daily Per Capita Water Use.

measurement data. Uncorrected metered volumes shall be adjusted based on the registration accuracy of the meter, as follows:⁷

$$\text{metered volume correction} = \frac{\text{uncorrected metered volume}}{\text{registration accuracy expressed as a decimal}} - \text{uncorrected meter volume}$$

Step 4: Compile Imported Water Volume

Outside sources of finished water imported directly into the distribution system shall be identified and tabulated, excluding the following:

- Recycled water, as defined in subdivision (m) of Section 10608.12, imported from another water supplier
- Imported raw water passing through the urban retail water supplier's treatment plants, if that water has already been counted under Step 3 (as in Figure 1)

The raw measurement data shall be corrected for known errors in the same manner as for own source water.⁸

Step 5: Compile Exported Water Volume

Any water volumes sent through the distribution system to another water utility or jurisdiction shall be identified and tabulated. Recycled water, as defined in subdivision (m) of Section 10608.12, exiting the distribution system shall be excluded from the tabulation.⁹

Bulk water exports that do not pass through the distribution system also shall not be counted. The raw metering data shall be corrected for known errors in the same manner as for own source and imported water.

Step 6: Calculate Net Change in Distribution System Storage

If distribution system storage is greater at the end of the year than at the beginning, it indicates that water has entered the distribution system but has not been delivered to customers. This water would have been counted in Steps 3 and 4, but because it has not been delivered to customers, it must be deducted from the calculation of Gross Water Use.

Conversely, a decrease in end-of-year distribution system storage indicates that water has been drawn from storage to meet customer demands. This water would not have been counted in Steps 1 and 2, and therefore must be added to the calculation of Gross Water Use. Note that these calculations apply only to storage in the distribution system. Do not include changes in storage outside the distribution system. If the change in distribution system storage is expected to be insignificant, or if data needed to calculate the change in distribution system storage are not available, the water supplier may forgo this step.

⁷AWWA Manual M36 should be consulted if additional guidance on correcting raw meter data for meter registration inaccuracy is needed. Meters with errors exceeding AWWA standards should be recalibrated, repaired, or replaced.

⁸Generally, bulk water sale meters are routinely monitored for accuracy because they provide the basis for payment between the wholesaler and retailer.

⁹It is necessary to subtract recycled water exiting the system only if it was included in the tabulations of water entering the distribution system performed in Steps 3 and 4. However, the easiest way to handle recycled water directly entering the distribution system in the calculation of Gross Water Use is to exclude it entirely from each calculation step.

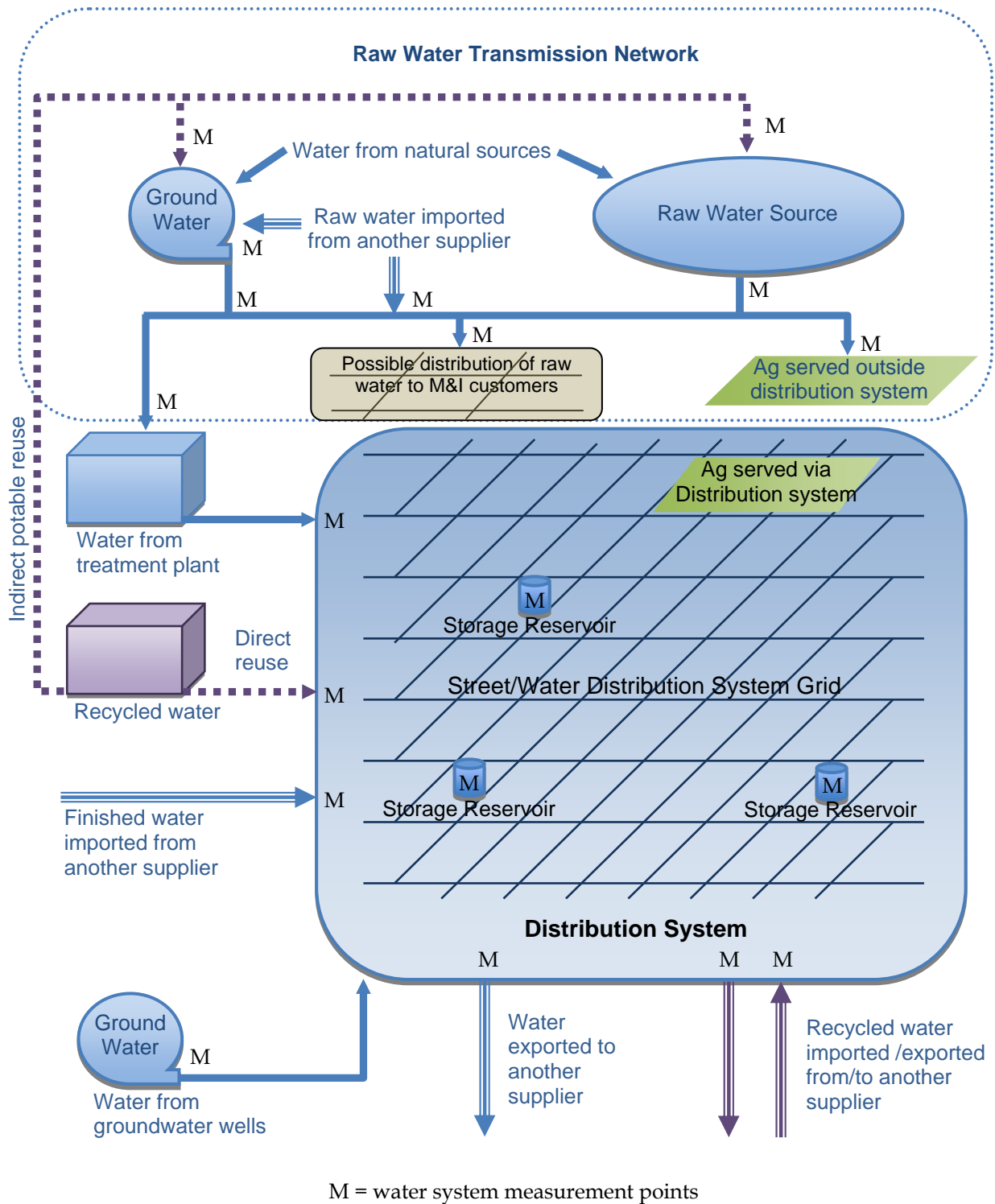


FIGURE 1
URBAN RETAIL WATER SUPPLIER SYSTEM SCHEMATIC¹⁰

¹⁰Figure 1 provides a general depiction of all of the elements that may affect the calculation of Gross Water Use. Not all of these elements may be present in a particular water system, nor is it expected that Figure 1 will accurately characterize a particular system configuration.

Step 7: Calculate Gross Water Use before Indirect Recycled Water Use Deductions

Gross Water Use before Indirect Recycled Water Use Deductions equals the volume of water from own sources entering the distribution system determined in Step 3, plus the volume of water from imported water sources entering the distribution system determined in Step 4, less the volume of water delivered via the distribution system to other utilities determined in Step 5, less the net change in distribution system storage determined in Step 6.¹¹ Table 1 provides an example calculation.

Step 8: Deduct Recycled Water Used for Indirect Potable Reuse from Gross Water Use

This step is necessary only if the urban retail water supplier uses recycled water (as defined in Subdivision (m) of Section 10608.12) to supplement raw surface or groundwater for indirect potable reuse. The Step 8 deduction requires the urban retail water supplier to estimate the amount of recycled water indirectly entering the distribution system through a surface or groundwater source (as in Figure 1).¹² This calculation requires three steps: (1) estimate the amount of recycled water used to supplement a surface reservoir source of supply, (2) estimate the amount of recycled water in extracted groundwater sources of supply, and (3) adjust these volumes for losses during transmission and treatment before the water enters the distribution system.

1. **Estimate recycled water used for surface reservoir augmentation.** The allowable deduction depends on the recycled water blend percentage in the surface reservoir water entering the potable water treatment plant. For example, if the raw surface water source is 95 percent fresh water and 5 percent recycled water, no more than 5 percent of the volume from this water source can be deducted from Gross Water Use calculated in Step 7. If the blend percentage of a surface water source is unknown, it shall be estimated based on the measured or estimated volumes of recycled water, local runoff, and imported water that entered the reservoir for the three years before the year for which Gross Water Use is being calculated. For example, if Gross Water Use is being calculated for 2005, the blend percentage is estimated by dividing the volume of recycled water that entered the reservoir by the total volume of water that entered the reservoir from 2002 through 2004.
2. **Estimate recycled water used for groundwater recharge.** Three approaches are allowed to estimate the amount of recycled water extracted from groundwater and introduced into a distribution system. Because year-to-year variations can occur in the amount of recycled water applied in a groundwater recharge operation, long-term running averages are required.

¹¹If the net change is negative, Gross Water Use will increase. If it is positive, Gross Water Use will decrease.

¹²Recycled water used for indirect potable use should only be subtracted at the time it enters the potable distribution system. It cannot be subtracted when placed into storage and again when extracted for potable use.

- a. **Monitoring data at extraction wells.** If monitoring data are available to enable determination of the percent of extracted water at each extraction well that originated as recycled water (for example, using geochemical analysis), then such data can be used to estimate the amount of recycled water entering a distribution system. To account for year-to-year variations, the credit for recycled water is a five year running monthly average percentage for each well for the preceding 60 months. For recharge projects in operation less than 60 months, a period of 60 months can be created using a combination of actual monitoring data since initiation of recharge operations and projected data. The projected data can be based on an acceptable groundwater model as described in paragraph b below or a projected average of extraction using the procedure described in paragraph c below.
- b. **Groundwater model for extraction wells.** If a groundwater model is available that has the capability of tracking the movement of recycled water from recharge operations to extraction wells and estimating the percent of extracted groundwater that originated as recycled water at each well operated by the water supplier based on actual historic data of recycled water applied at groundwater recharge operations, then such data can be used to determine the amount of recycled water entering a distribution system. The groundwater model must be calibrated and approved as part of an adjudication or other regulatory process, such as the groundwater permitting process by the California Department of Public Health or a California Regional Water Quality Control Board. To account for year-to-year variations, the credit for recycled water is a five-year running monthly average percentage at each well for the preceding 60 months. For recharge projects in operation less than 60 months, the monthly running average may be derived from the model using all months of actual recycled water applied in a recharge operation and projected recycled water amounts planned to be applied for a future period to reach a combined total of 60 months of operation.
- c. **Recharge data less in-basin losses.** Where actual extraction well monitoring data or estimated data obtained from an accepted groundwater model, as described in paragraph b above, are unavailable, an estimate can be made of extracted recycled water based on amounts of recycled water applied in recharge operations adjusted for an in-basin loss factor. The allowable deduction depends on the product of three factors:
 - i. The average annual volume of recycled water recharged into the groundwater basin for the purpose of indirect potable reuse over the 5 years before the year for which Gross Water Use is being calculated. For recharge projects in operation less than 60 months, data from all months of actual recharge operations may be combined with projected volumes of recycled water recharge to reach a combined total of 60 months of operation to calculate the average annual volume of recycled water recharged.
 - ii. A loss factor to account for water losses during recharge and extraction. If a loss factor has been developed as part of a groundwater management plan,

a basin adjudication process, or some similar regulatory process, the water supplier shall use that loss factor and provide reference to the appropriate documentation. If a loss factor has not been developed as part of a local regulatory process, the water supplier shall use a default loss factor of 10 percent.¹³ The default loss factor of 10 percent is not applicable to groundwater recharge operations intended as seawater intrusion barriers. For seawater intrusion barriers, the loss factor will be determined on a case-by-case basis.

- iii. The volume of water pumped from the basin by the urban retail water supplier expressed as a percentage of the total volume of water pumped by all water users extracting water from the basin in the year for which Gross Water Use is being calculated.

For example, if the average annual recharge of recycled water for the five years before the year for which Gross Water Use is being calculated is 500 acre-feet (AF), the recharge loss factor is 10 percent, and the urban retail water supplier accounted for 25 percent of the volume of water pumped from the basin in the year for which Gross Water Use is being calculated, then no more than 113AF $= (500 \times (1.0 - 0.10) \times 0.25)$ from this supply source can be deducted from Gross Water Use calculated in Step 7.

3. Adjust for losses. Only deduct the volume of recycled water used for indirect potable reuse that enters the distribution system from Gross Water Use calculated in Step 7.

Loss factors for transmission and treatment based on recent system audit data (or other reliable sources for estimating transmission and treatment losses) shall be applied to the estimated volumes of recycled water. For example, if the volume of recycled water before transmission and treatment is estimated to be 1,000 AF, and combined losses from transmission and treatment are estimated to be 3 percent, only 970 AF shall be deducted from Gross Water Use calculated in Step 7.

Table 2 shows an example calculation of the volume of recycled water used for indirect potable reuse based on approach 2.c above.

¹³The default value of 10 percent is based on the loss factors applied to groundwater storage in the Arvin-Edison and Semitropic Water Storage Districts. It also is consistent with the range of 0 to 15 percent loss factors applied to California water storage projects identified in the Groundwater Banking Programs Survey-Results and Summary Report prepared for the Sacramento Groundwater Authority by Kennedy/Jenks Consultants (2008). The projects they surveyed primarily used modeling and observation to determine the specific loss factor for each project.

Step 9: Calculate Gross Water Use after Deducting Indirect Recycled Water Use

This equals the volume of water determined in Step 7 less the volume of water determined in Step 8. Table 1 shows an example calculation of Gross Water Use after indirect recycled water use deductions.

Step 10 (Optional): Deduct from Gross Water Use the Volume of Water Delivered for Agricultural Use

This step is necessary only if the urban retail water supplier has chosen to exclude from the calculation of Gross Water Use water delivered for agriculture per Section 10608.12 (g) (4).

Consideration of agricultural water use must be the same for calculations of Gross Water Use for determining Base Daily Per Capita Water Use and Compliance Daily Per Capita Water Use.

Identify and tabulate the volume of water delivered through the distribution system for agricultural water uses. Do not include deliveries that bypass the distribution system (see Figure 1 for examples of agricultural deliveries inside and outside the distribution system).

Delivery volumes shall be based on account records and meter data for connections in the distribution system used to supply water for the commercial production of agricultural crops or livestock.¹⁴

Step 11 (Optional): Deduct Volume of Water Delivered for Process Water Use

This step is necessary only if the urban retail water supplier has elected to exclude process water from the calculation of Gross Water Use and the supplier is eligible to do so. An urban retail water supplier is eligible to exclude process water from the calculation of Gross Water Use only if its industrial water use comprises a substantial percentage of total water use.

[NOTE: See Appendix D for guidance on whether to include or exclude process water.]

Step 12: Calculate Gross Water Use after Optional Deductions

This equals the volume of water determined in Step 9 less the volume of water determined in Steps 10 and 11. Table 1 provides an example calculation of Gross Water Use after optional deductions.

¹⁴The standard used to identify distribution system connections supplying agricultural water uses is based on subdivision (b) of Section 535 of the California Water Code. Commercial agricultural production is defined by the U.S. Department of Agriculture and the Census Bureau as any place from which \$1,000 or more of agricultural products (crops and livestock) were sold or normally would have been sold during the year. For the purposes of calculating Gross Water Use, retail nursery water use is not considered to be an agricultural water use.

TABLE 1

EXAMPLE URBAN RETAIL WATER SUPPLIER GROSS WATER USE CALCULATION

Utility Name:	12-month period:					Volume Units: Million Gallons				
	1-Jan to 31-Dec					Year 6	Year 7	Year 8	Year 9	Year 10
Calculation	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6	Year 7	Year 8	Year 9	Year 10
1 Volume from Own Sources (raw data)	3,480.8									
Meter error adjustment (+/-)	136.9									
Subtotal: Corrected Volume from Own Sources	3,617.7									
Volume from Imported Sources (raw data)	1,005.0									
Meter error adjustment (+/-)	39.5									
Subtotal: Corrected Volume from Imported Sources	1,044.5									
3 Total Volume Into Dist. System = Line 1 + Line 2	4,662.2									
Volume Exported to Other Utilities (raw data)	432.0									
Meter error adjustment (+/-)	17.3									
Subtotal: Corrected Volume Exported to Other Utilities	449.3									
5 Change in Dist. System Storage (+/-)	-8.6									
6 Gross Water Use Before Indirect Recycled Water Use Deductions = Line 3 - Line 4 - Line 5	4,221.5									
7 Indirect Recycled Water Use Deduction	304.3									
8 Gross Water Use After Indirect Recycled Water Use Deductions = Line 6 - Line 7	3,917.2									
9 Water Delivered for Ag. Use (optional deduction)	0.0									
10 Process Water Use (optional deduction)	278.8									
11 Gross Water Use After Optional Deductions = Line 8 - Line 9 - Line 10	3,638.4									

TABLE 2

EXAMPLE CALCULATION OF ANNUAL DEDUCTIBLE VOLUME OF INDIRECT RECYCLED WATER ENTERING DISTRIBUTION SYSTEM

Surface Reservoir Augmentation			Volume Discharged from Reservoir for Distribution System Delivery	Recycled Water Blend	Recycled Water Delivered to Treatment Plant	Transmission/Treatment Loss	Transmission/Treatment Losses	Volume Entering Distribution System
			(MG)		(MG)		(MG)	(MG)
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
					(4) x (5)		(6) x (7)	(6) – (8)
Source 1			1,000	5%	50	3%	1.5	48.5
Source 2			500	10%	50	3%	1.5	48.5
<i>Subtotal Reservoir Augmentation:</i>								97

Groundwater Recharge	5-Year Annual Average Recharge	Recharge Recovery Factor	Recycled Water Pumped from Basin	Utility Pumping as % of Basin Total	Recycled Water Pumped by Utility	Transmission/Treatment Loss	Transmission/ Treatment Losses	Volume Entering Distribution System
	(MG)		(MG)		(MG)		(MG)	(MG)
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
			(2) x (3)		(4) x (5)		(6) x (7)	(6) – (8)
Basin 1	500	90%	450	25%	113	3%	3.4	109.1
Basin 2	750	90%	675	15%	101	3%	3	
<i>Subtotal Groundwater Recharge:</i>								207.3
Deductable Volume of Indirect Recycled Water Entering Distribution System:								304.3

MG = million gallons

Methodology 2: Service Area Population

Definition of the Service Area Population

Section 10608.20(f) states:

When calculating per capita values for the purposes of this chapter, an urban retail water supplier shall determine population using federal, state, and local population reports and projections.

The legislation directs DWR to develop consistent methodologies and criteria for determining Service Area Population.

To obtain an accurate estimate of GPCD, water suppliers must estimate population of the areas that they actually serve, which may or may not coincide with either their jurisdictional boundaries or with the boundaries of cities. Customers may be in the distribution area with a wholly private supply during the baseline and compliance years, and new areas may be annexed into a water supplier's distribution system over time. The area used for calculating Service Area Population shall be the same as the distribution system area used in Methodology 1, Gross Water Use.

Figure 2 illustrates the many different situations that may arise, with the background grid indicating the census blocks that overlap with the water supplier's service area boundary.

Examples include the following:

- The actual distribution area may cover only a portion of the jurisdictional boundary.
- Large water users that depend wholly or partially on a private groundwater supply (e.g., college campus, a military installation, a correctional facility) may exist in the distribution area. If such a user is wholly dependent on private supply, its residents should be excluded. If the user is partially dependent (for example, it uses a municipal source for indoor use and private groundwater wells for irrigation only), its residents served by the municipal source should be included. Estimation of compliance GPCD for customers that switch their irrigation to a municipal source between the baseline and compliance years is addressed in Methodology 4: Compliance Daily Per Capita Water Use.
- New customers outside the present distribution area may connect to the water supplier's distribution system in the future for various reasons.
- The water supplier's distribution system can geographically expand over time as a result of economic and population growth.

Although a water supplier may consult any or all federal, State, and local data sources to estimate population, these estimates must account for the above-mentioned complexities.

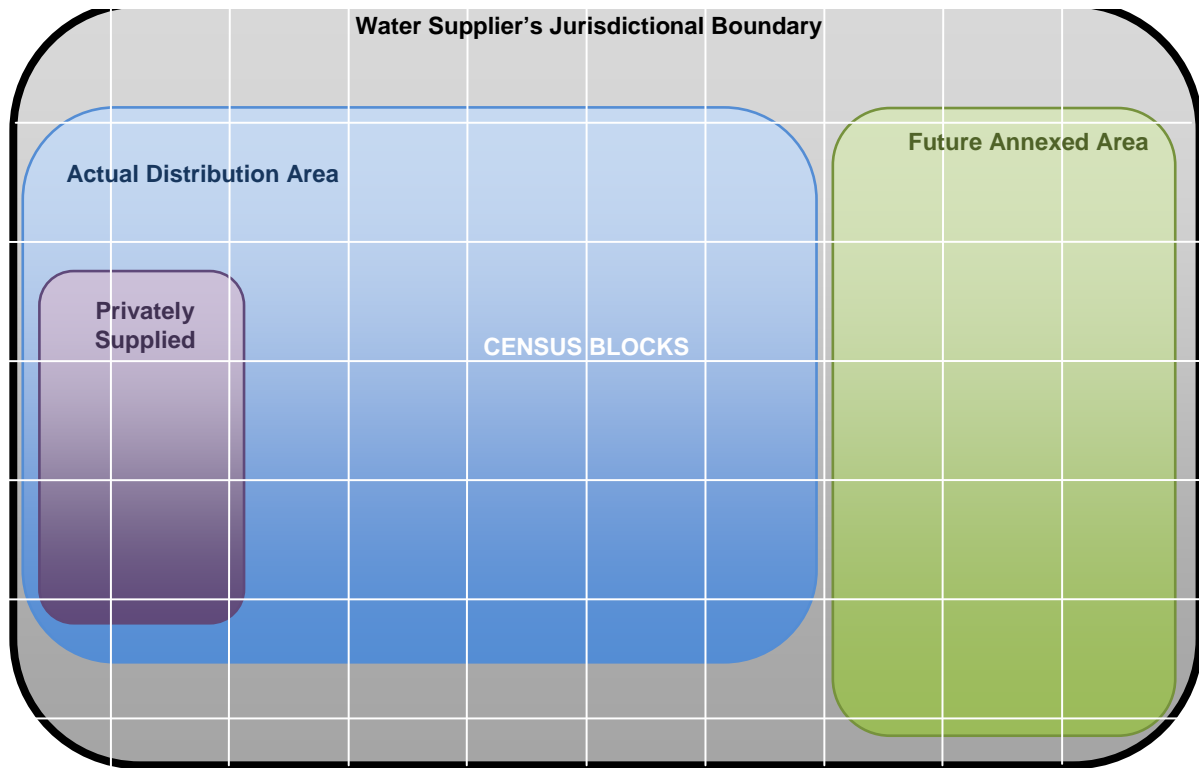


FIGURE 2
DEFINING AREA FOR POPULATION CALCULATION

Estimating the Service Area Population

Data published by the California Department of Finance (DOF) or the U.S. Census Bureau must serve as the foundational building block for population estimates. In some instances, data published by these two sources may be directly applicable. In other instances, additional refinements may be necessary. For example, to account for distribution areas that do not match city boundaries, customers with private sources of supply, or other unique local circumstances, water suppliers may have to supplement the above sources of data with additional local data sources such as county assessor data, building permits data, and traffic analysis zone data. These refinements are acceptable as long as they are consistently applied over time, and as long as they build upon population data resources of the DOF or the U.S.

Census Bureau. Suppliers in any category listed below may use the persons per-connection or person per housing unit population calculation method described in Appendix A.

Retail water suppliers will generally fall into one of the following three categories:

- Category 1: Water suppliers whose actual distribution area overlaps substantially ($\geq 95\%$) with city boundaries (may be a single city or a group of cities) during baseline and compliance years
- Category 2: Water suppliers not falling in Category 1 but having an electronic geographic information system (GIS) map of their distribution area

- Category 3: Water suppliers not falling in Category 1 and lacking an electronic GIS map of their distribution area.

Category 1 Water Suppliers

These water suppliers are encouraged to use population data published by the DOF's demography unit. However, population data may also be available through a water wholesaler, a local government agency, or an association of local governments. A list of associations of local governments is available through the California Association of Councils of Government (CALCOG: www.calcog.org). Many of these associations serve as census data repositories and also have GIS capabilities.

Category 1 water suppliers may use population estimates from any of these federal, state, or local agencies, as long as they clearly cite their data source, use the same source for both the baseline and compliance years, and correct these estimates for privately supplied large customers that may exist in their actual distribution area (for development of these corrections, see Appendix A).

Category 2 Water Suppliers

These water suppliers have two options:

- Water suppliers that are members of an association of local governments (or a water wholesaler) that develop population estimates for its members using GIS maps of actual distribution areas and population data from the DOF or Census Bureau should use these data for the baseline and compliance years. These suppliers are not required to use the per-connection or per-housing unit methodology described in Appendix A. The water suppliers should coordinate with the local government association or wholesaler to complete the task of identifying and removing large institutions with wholly private systems in their distribution area.
- Water suppliers without such membership must develop population estimates using either a per-connection or per-housing unit methodology described in Appendix A or another equivalent method that uses data either from the DOF or the U.S. Census Bureau as its basis.

Category 3 Water Suppliers

These water suppliers have the same two options as Category 2 water suppliers. The only difference is that to access the U.S. Census Bureau's population data resources, they first must identify which census blocks fall in their distribution area. This exercise can be performed manually (see Appendix A), or the distribution area map boundary can be digitized. Category 3 water suppliers may be able to access these digitization capabilities and census-based population estimation capabilities through their local association of governments. Alternatively, they can develop population estimates using either the per-connection or per-housing unit methodology described in Appendix A or another equivalent method that uses data from either the DOF or the U.S. Census Bureau as its basis.

Determining Adequacy of Current Population Estimate Methodology

Figure 3 provides a flow chart to help water suppliers determine whether their existing population estimation methodology is adequate or must be refined. If refinement is needed,

it should be coordinated with the water wholesaler or the local association of governments that currently provides population estimates. Water suppliers that currently lack access to reliable population estimates that reflect characteristics of their actual distribution areas can use the per-connection methodology described in Appendix A.

Adjusting Population Estimates

Population increases in existing developed areas or high-density infill redevelopments are estimated annually by DOF for incorporated cities and unincorporated portions of counties. These and other sources of local data may be used to estimate population for the non-census years. For water suppliers using the methodology described in Appendix A, population changes largely will be captured through the persons-per-connection ratios applied to changes in counts of active connections over time.

Water suppliers may revise population estimates for baseline years between 2000 and 2010 when 2010 census information becomes available. DWR will examine discrepancy between the actual 2010 population estimate and the DOF's projections for 2010. If significant discrepancies are discovered, DWR may require some or all suppliers to update their baseline population estimates.

Service area boundaries may also contract or expand during the baseline period. The latter could occur because of annexation of previously developed areas that may have been dependent upon private groundwater wells in the past but have subsequently become part of an urban retail water supplier's system. The following list provides guidance under various annexation scenarios. Additional adjustments may be required to population estimates for events that occur between the baseline and compliance years. These issues are discussed in Methodology 4: Compliance Daily Per Capita Use.

- If a portion of the distribution area is removed during one of the baseline years, water suppliers must compute their baseline after eliminating this removed portion from all their baseline years.
- If an area was annexed before the first baseline year, or the annexation involves merger with another urban retail water supplier, no data issues arise. In the latter case, population and connections data would be available for each water supplier separately. If not, appropriate estimates should be developed and documented.
- If the area was annexed before 2000, population estimates should be developed for the annexed area using the census block and person-per-connection method outlined in Appendix A, or an equivalent method.
- If the area was annexed after 2000, the water supplier will know the connection count only in the year of the annexation, not in 2000 and corresponding to the population estimate. Water suppliers may apply person-per-connection ratios developed for their pre-annexation distribution area to estimate population in the annexed area, or use other defensible techniques. For example, they could obtain county assessor data to back-cast what connection counts would have been in the annexed area in 2000 to permit scaling of census population estimates for the annexed areas to the post-annexation years. These can be further improved after 2012 once data from the 2010 census become available.

Water suppliers in other unique situations, such as those experiencing a significant change in their seasonal workforce or seasonal resident population between the baseline and compliance years, may adjust their population estimates using other techniques. The water supplier must provide documentation that the technique is based on or consistent with DOF or U.S. Census Bureau population data.

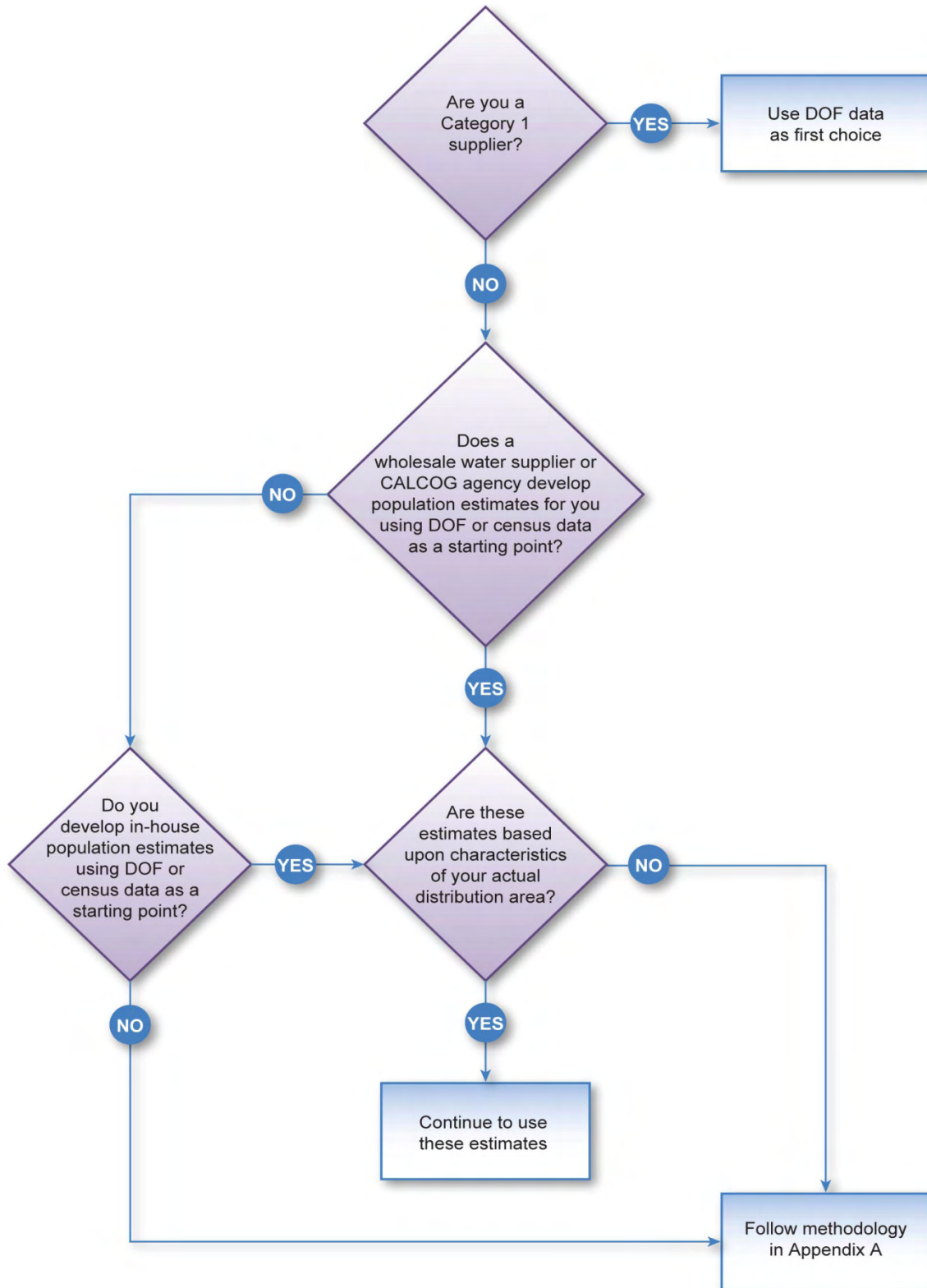


FIGURE 3
SUGGESTED PROCESS FOR DETERMINING ADEQUACY OF SERVICE AREA POPULATION ESTIMATE METHODOLOGY

Methodology 3: Base Daily Per Capita Water Use

Definition of Base Daily Per Capita Water Use

Base Daily Per Capita Water Use is defined as average gross water use, expressed in GPCD, for a continuous, multiyear base period. The Water Code specifies two different base periods for calculating Base Daily Per Capita Water Use under Section 10608.20 and Section 10608.22:

- The first base period is a 10- to 15-year continuous period, and is used to calculate baseline per capita water use per Section 10608.20.
- The second base period is a continuous five-year period, and is used to determine whether the 2020 per capita water use target meets the legislation's minimum water use reduction requirement per Section 10608.22.

Unless the urban retail water supplier's five year Base Daily Per Capita Water Use per Section 10608.12 (b) (3) is 100 GPCD or less, Base Daily Per Capita Water Use must be calculated for both baseline periods.

Calculation of Base Daily Per Capita Water Use

Calculating Base Daily Per Capita Water Use entails four steps:

1. Estimate Service Area Population for each year in the base period using Methodology 2.
2. Calculate Gross Water Use for each year in the base period using Methodology 1. Express Gross Water Use in gallons per day (gpd).¹⁵
3. Calculate daily per capita water use for each year in the base period. Divide Gross Water Use (determined in Step 2) by Service Area Population (determined in Step 1).
4. Calculate Base Daily Per Capita Water Use. Calculate average per capita water use by summing the values calculated in Step 3 and dividing by the number of years in the base period. The result is Base Daily Per Capita Water Use for the selected base period.

¹⁵If Gross Water Use is expressed in million gallons per year, multiply by 1,000,000 and then divide the result by 365. If Gross Water Use is expressed in acre-feet, multiply by 325,851 and then divide the result by 365.

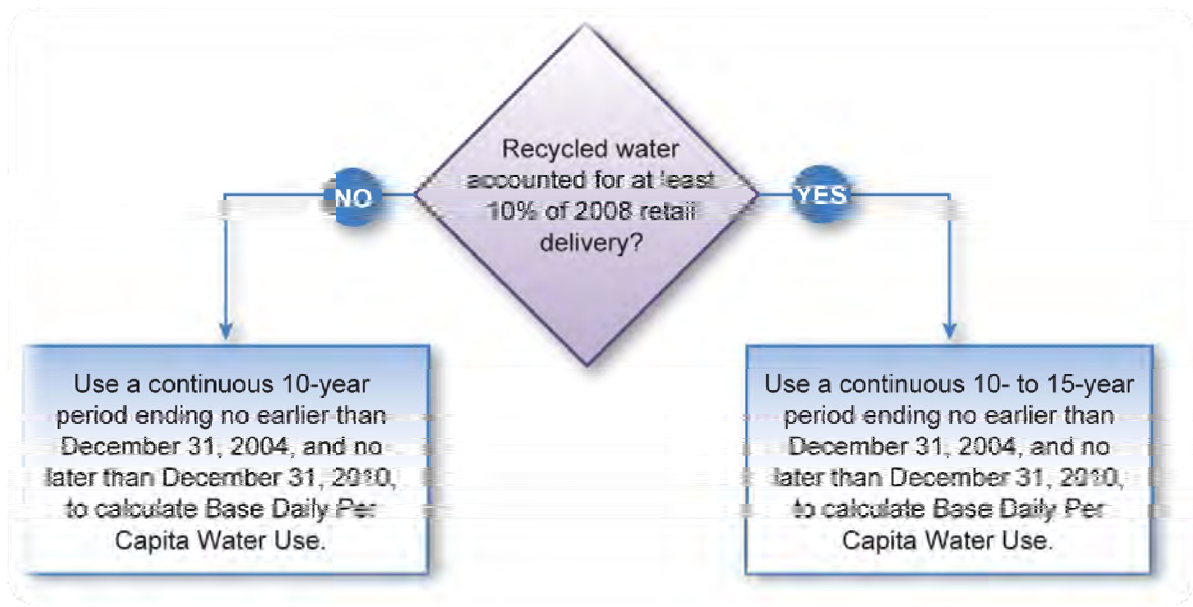


FIGURE 4
10 TO 15 YEAR BASE DAILY PER CAPITA WATER USE CALCULATIONS

Calculating Base Daily Per Capita Water Use per Section 10608.20

Calculate Base Daily Per Capita Water Use using one of the following base periods:

- If recycled water made up less than 10 percent of 2008 retail water delivery, use a continuous 10-year period ending no earlier than December 31, 2004, and no later than December 31, 2010.
- If recycled water made up 10 percent or more of 2008 retail water delivery, use a continuous 10- to 15-year period ending no earlier than December 31, 2004, and no later than December 31, 2010.

Figure 4 illustrates the procedure. If Gross Water Use and/or population are not available for the full base period, the water supplier shall calculate base daily per capita water use for the maximum number of years for which data are available. When selecting between base periods, the water supplier shall select the base period for which the most data are available.

For example, if gross water use and/or population data are not available before 1997, the water supplier shall select a base period starting in 1997.

Distribution Area Expansion Caused by Mergers

If two or more water suppliers merged wholly, or one water supplier acquired a portion of another's service area, during a year that falls in the baseline period of the merged entity, they should derive their baseline GPCD as if they were a single entity for the entire baseline period to stay consistent with the targets and compliance GPCDs that would represent the merged entity.

Distribution Area Contraction

If during the baseline period a previously served portion of the distribution system is removed from a water supplier's service area, the baseline GPCD shall be corrected to reflect only that portion of the service area that remained consistently supplied during the baseline and compliance years.

Distribution Area Expansion by Annexation of Already Developed Areas¹⁶

For areas annexed during the baseline years, water suppliers can select one of two choices:

- Include these areas for baseline GPCD estimation and test compliance for the combined entity.
- Track baseline and compliance GPCDs for the annexed areas separately.

Determining the Minimum Water Use Reduction Requirement per Section 10608.22

The following calculation is required only if the five-year baseline per capita water use per Section 10608.12 (b) (3) is greater than 100 gpcd. 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 reduction requirement per Section 10608.22. The calculation entails three steps:

1. Calculate Base Daily Per Capita Water Use using a continuous five-year period ending no earlier than December 31, 2007, and no later than December 31, 2010.¹⁷
2. Multiply the result from Step 1 by 0.95. The 2020 per capita water use target cannot exceed this value (unless the water supplier's five year baseline per capita water use is 100 gpcd or less). If the 2020 target is greater than this value, reduce the target to this value.
3. Set the 2015 target to the mid-point between the 10- or 15-year baseline per capita water use and the 2020 target determined in Step 2.

As an example, suppose a water supplier has a 10-year baseline per capita water use (per Section 10608.20) of 170 GPCD, and a 5-year baseline per capita water use (per Section 10608.22) of 168 GPCD.

- The maximum allowable GPCD target in 2020 (per Section 10608.22) is $0.95 \times 168 \text{ GPCD} = 160 \text{ GPCD}$.
- The 2020 target under Method 1 is $0.8 \times 170 \text{ GPCD} = 136 \text{ GPCD}$.

¹⁶Annexation here refers to already developed and inhabited areas that may have relied upon groundwater until this point in time, or on other sources of water for which data are not available, and that were not previously connected to a municipal source. This is not to be confused with annexation of previously undeveloped land. No adjustment is required for the latter type of annexation, whose impact on GPCD is naturally accounted for by the estimation of base period Gross Water Use and Service Area Population.

¹⁷If 5 years of continuous data are not available, use the maximum number of years for which data are available.

Because the Method 1 target is less than 160 GPCD, no further adjustment to the 2020 target is required if Method 1 is used.

Suppose the water supplier’s 2020 target under Method 3 is 167 GPCD. Because this is greater than 160 GPCD, the target would need to be reduced to 160 GPCD if Method 3 is used.

Similarly, if a target calculated using Method 2 or 4 exceeded 160 GPCD, it would need to be reduced to 160 GPCD in order to satisfy the legislation’s minimum water use reduction requirement. Figure 5 shows how the two baseline per capita water use amounts are used to determine whether the 2020 target meets the legislation’s minimum water use reduction requirement.

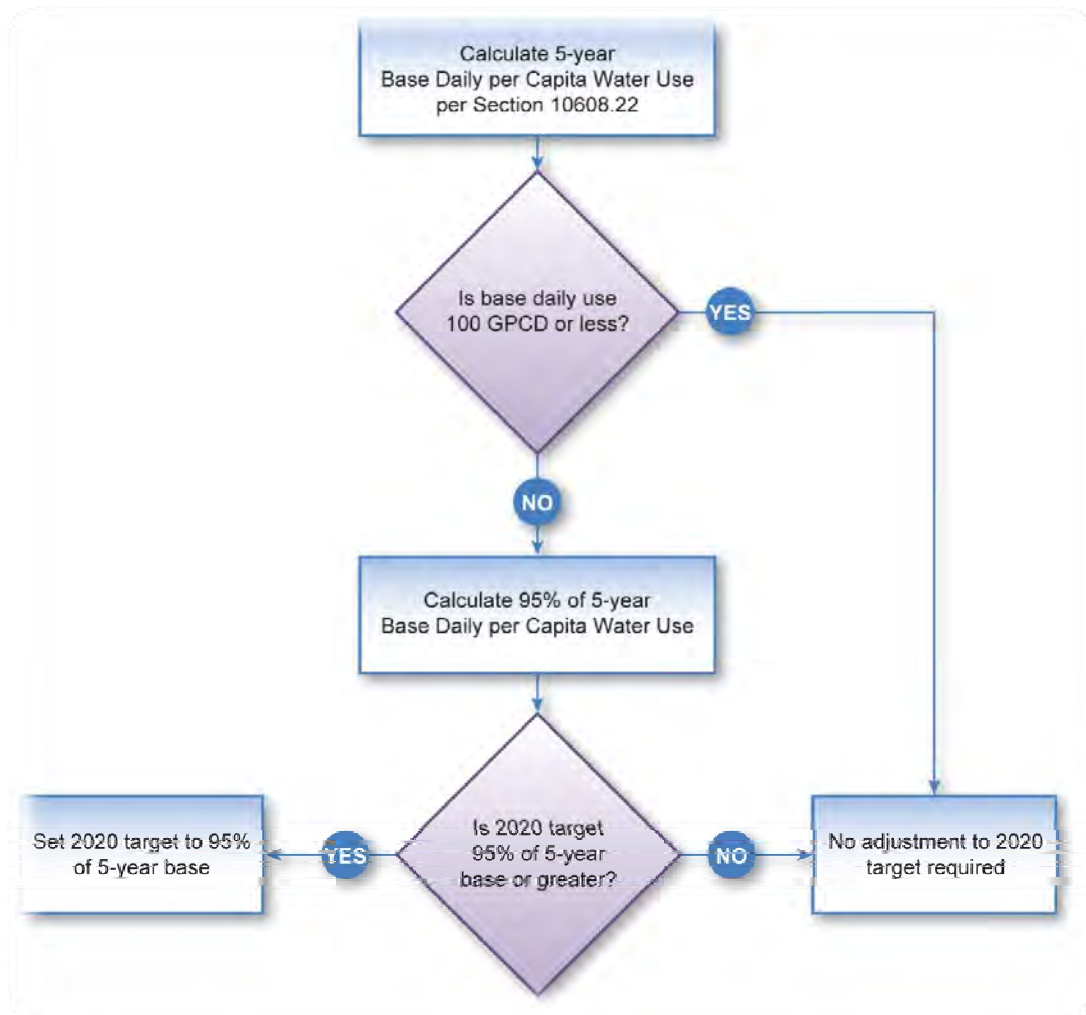


FIGURE 5
DETERMINATION OF MAXIMUM ALLOWABLE 2020 GPCD TARGET

Tables 3 and 4 may be used to organize the information needed to calculate Base Daily Per Capita Water Use under Sections 10608.20 and 10608.22.

TABLE 3

BASE DAILY PER CAPITA WATER USE CALCULATION FOR SECTION 10608.22

Utility Name: _____

12-month Period: _____ to _____

(1)	(2)	(3)	(4)
Base Years*	Service Area Population	Gross Water Use (gal. per day)	Daily Per Capita Water Use (3) ÷ (2)
Year 1			
Year 2			
Year 3			
Year 4			
Year 5			
Total of Column (4):			
Divide Total by 5:			

*Most recent year in base period must end no earlier than December 31, 2007, and no later than December 31, 2010.

TABLE 4

BASE DAILY PER CAPITA WATER USE CALCULATION FOR SECTION 10608.20

Utility Name: _____

12-month Period: _____ to _____

(1)	(2)	(3)	(4)
Base Years*	Service Area Population	Gross Water Use (gal. per day)	Daily Per Capita Water Use (3) ÷ (2)
Year 1			
Year 2			
Year 3			
Year 4			
Year 5			
Year 6			
Year 7			
Year 8			
Year 9			
Year 10			
Year 11			
Year 12			
Year 13			
Year 14			
Year 15			
Total of Column (4):			
Divide Total by Number of Base Years:			

* Enter the actual year of the data in this column. The most recent year in base period must end no earlier than December 31, 2004, and no later than December 31, 2010. *The base period cannot exceed 10 years unless at least 10 percent of 2008 retail deliveries were met with recycled water.*

Revisions to Base Daily Per Capita Water Use or Targets

A water supplier may revise its calculated Base Daily Per Capita Water Use after submitting its 2010 urban water management plan if better information becomes available. The revisions may be included in the water supplier's 2015 and subsequent plans or may be submitted as an amended plan, provided it follows the process required for amendments to such plans. If the revisions to the Base Daily Per Capita Water Use changes the water use target, the water use target must be revised as well.

In addition, a water supplier may change the method it uses to set its water use target, and report the method change and target revision in a 2010 amended plan or in its 2015 urban water management plan. Target method changes are not permitted in the 2020 plan or amended 2015 plans.

Methodology 4: Compliance Daily Per Capita Water Use

The following methodology addresses estimation of compliance daily per capita water use (in GPCD) in the years 2015 and 2020.

Definition of Compliance Daily Per Capita Use

Section 10608.12(e) states:

“Compliance daily per-capita use” means the gross water use during the final year of the reporting period, reported in gallons per capita per day.

Estimation of Compliance-Year GPCD

Methodology 1: Gross Water Use and Methodology 2: Service Area Population shall be used to develop the two basic components for estimating compliance-year GPCD. This section discusses adjustments to compliance-year GPCD because of changes in distribution area caused by mergers, annexation, and other scenarios that occur between the baseline and compliance years.

Adjustments are allowed in calculating compliance-year GPCD for factors described in Section 10608.24. These adjustments are discussed in Methodology 8: Criteria for Compliance-Year Adjustment.

Distribution Area Expansion Caused by Mergers

If water suppliers merge, or one water supplier acquires a portion of another’s service area, between the baseline period and the compliance year, they have two choices:

- Test compliance separately for each service area.
- Calculate a (compliance year) population weighted average of each system’s target and determine compliance as a single entity using this weighted average.

Distribution Area Contraction

If a previously supplied portion included in the baseline is removed from the distribution area before the compliance years, water suppliers shall re-compute their baseline GPCD after eliminating the removed portion for all baseline years.

Distribution Area Expansion by Annexation of Already Developed Areas¹⁸

For areas annexed between the baseline and compliance years, a water supplier must determine Base Daily Per Capita Water Use, target water use, and compliance water use.

- Base Daily Per Capita Water Use for the annexed area shall be determined using the same baseline period as the water supplier's original service area (before the annexation). If such data are not available, the water supplier shall use a baseline period starting with the earliest year available for the annexed area and including ten years, if available. If no data exist for years before annexation, the water supplier shall use data from the year of annexation.
- Annexed areas shall be assigned a prorated target based upon the number of years between annexation and the end of 2020. For example, if a water supplier's target is based on a 20 percent reduction by 2020, and it annexes an area in 2017, this annexed area should show a 6 percent reduction in GPCD by 2020 relative to its 2017 GPCD.
- Compliance may be determined for the separate service areas (annexed and original), or for the combined service area using a (compliance year) population weighted average.

If compliance is determined separately for separate service areas, both areas must be in compliance for supplier to be in compliance.

Distribution Area Expansion by Annexation of Undeveloped Areas

No special adjustment calculation is needed for areas that were undeveloped during the baseline period but which were annexed and developed between the baseline period and compliance year. The impact on GPCD is accounted for by the estimation of compliance year Gross Water Use and compliance-year population.

Existing Large Partial Customers Become Whole Customers

Large customers that pump groundwater or take surface water for landscape irrigation or other uses (depending on their municipal source solely for indoor use) may switch and use only the municipal source. This change will disrupt the baseline and compliance year comparison. Two adjustments are provided below:

- If the switch occurs during the baseline years, the landscape irrigation or other use should be included in the compliance-year gross water calculation.
- If the switch occurs between the baseline and compliance years, the water associated with irrigation use switches, properly documented and subjected to the requirements of the Model Water Efficient Landscape Ordinance adopted by DWR in 2009, may be excluded from the calculation of compliance-year Gross Water Use. Otherwise, the irrigation or other use must be included in both the baseline and compliance year gross water use calculations.

¹⁸Annexation here refers to already developed and inhabited areas that may have relied upon groundwater until this point in time and were not previously connected to a municipal source.

Water Supplier Subject to Urban Water Management Plan Reporting Requirements between 2010 and 2020

Water suppliers that become subject to urban water management plan reporting requirements after 2010 also become subject to the new requirements of Section 10608 of the Water Code from the same year onward. These water suppliers are required to estimate their baseline GPCD and establish their 2020 GPCD targets using the same methodological guidelines that apply to other water suppliers. However, for testing compliance, such water suppliers may prorate these targets depending on the year the water supplier became subject to the new requirements.

For example, if a water supplier chooses a 2020 target that is 20 percent below its baseline GPCD, but it became subject to the new requirements only in 2017, it shall test compliance against a target that is 6 percent below its baseline GPCD.

Methodology 5: Indoor Residential Use

Definition of Indoor Residential Use

Section 10608.20(b)(2)(A) states:

For indoor residential water use, 55 gallons per capita daily water use as a provisional standard. Upon completion of the department's 2016 report to the Legislature pursuant to Section 10608.42, this standard may be adjusted by the Legislature by statute.

Section 10608.42 states:

The department shall review the 2015 urban water management plans and report to the Legislature by December 31, 2016, on progress towards achieving a 20-percent reduction in urban water use by December 31, 2020. The report shall include recommendations on changes to water efficiency standards or urban water use targets in order to achieve the 20-percent reduction and to reflect updated efficiency information and technology changes.

Section 10608.20(b)(2)(A) sets a provisional standard for efficient indoor use (55 GPCD) that urban retail water suppliers using target Method 2 must use to set their 2020 target.

However, they are not required to demonstrate that this indoor residential target has actually been met – only that the overall target, which includes additional components for landscaped area water use and CII water use, has been met.

Section 10608.42 requires DWR to submit a report to the Legislature in 2016 that will include recommendations on changes to water use efficiency standards to reflect updated efficiency information and technological changes. DWR will conduct a study to assess whether the provisional indoor residential standard of 55 GPCD should be adjusted.

Based on the report DWR submits in 2016, the Legislature may change the indoor residential standard. The indoor residential standard is used only to set the target under Method 2; calculation of indoor usage by water supplier is not required for determining compliance with Method 2.

Methodology 6: Landscaped Area Water Use

The calculation of Landscaped Area Water Use requires a measurement (or estimate) of landscaped area and of the landscape water use per unit area (based on reference evapotranspiration [ET]). As with other urban water use measures under Section 10608, Landscaped Area Water Use is defined as a daily per capita rate of water use; consequently, Methodology 2: Service Area Population is used in calculating Landscaped Area Water Use.

Definition of Landscaped Area Water Use

For the Landscaped Area Water Use component of target Method 2, Section 10608.20 (b) (2) (B) states:

For landscape irrigated through dedicated or residential meters or connections, water efficiency equivalent to the standards of the Model Water Efficient Landscape Ordinance set forth in Chapter 2.7 (commencing with Section 490) of Division 2 of Title 23 of the California Code of Regulations, as in effect the later of the year of the landscape's installation or 1992. An urban retail water supplier using the approach specified in this subparagraph shall use satellite imagery, site visits, or other best available technology to develop an accurate estimate of landscaped areas.

All landscape irrigated by dedicated or residential meters must be included, including multifamily residential parcels. Definitions and calculations contained in the Model Water Efficient Landscape Ordinance (MWELo) are provided in Appendix B. These calculations give the Landscaped Area Water Use as a function of landscaped area and reference ET. The MWELo defines landscaped area as planting areas, turf areas, and water features. Landscaped area excludes footprints of buildings or structures, sidewalks, driveways, parking lots, decks, patios, gravel or stone walks, other pervious or non-pervious hardscapes, and other non-irrigated areas designated for non-development (such as open spaces and existing native vegetation). Section 10608.20 (b)(2)(B) restricts the landscaped area to include only landscape irrigated through dedicated or residential meters or connections.

Landscaped area for the purposes of calculating the Method 2 target shall mean the water supplier's estimate or measurement of 2020 landscaped areas. Water suppliers shall develop a preliminary estimate (forecast) of 2020 landscaped areas for purposes of setting urban water use targets and interim urban water use targets under Subdivision 10608.20 (a) (1).

For final compliance-year calculations, water suppliers shall update the estimate of 2020 landscaped areas using one of the techniques described in the following sections.

Approach to Calculating Landscaped Area Water Use

Water suppliers shall follow five steps to calculate Landscaped Area Water Use:

1. Identify applicable MWELo (1992 or 2010) for each parcel.
2. Estimate irrigated landscaped area for each parcel.

3. Determine reference evapotranspiration for each parcel.
4. Use the Maximum Applied Water Allowance (MAWA) equation from the applicable MWELo to calculate annual volume of landscaped area water use.
5. Convert annual volume to GPCD.

Identify Applicable MWELo for Each Parcel

Before computing landscaped area, water suppliers must determine how MWELo ordinances apply to specific parcels in their service areas. Two versions of MWELo apply according to the date when landscaping was installed in a given parcel:

- For landscaped areas installed on or after January 1, 2010, the MAWA equation and all applicable criteria from the 2009 version of the ordinance or its equivalent shall be used.
- For landscaped areas installed before January 1, 2010, the MAWA equation and all applicable criteria from the 1992 version of the ordinance or its equivalent shall be used.

For the purposes of this methodology, two important differences between the two ordinances are the ET adjustment factor and the inclusion of a special landscaped area for calculating a water allowance in the 2010 ordinance. The applicable definitions and calculations in these ordinances are provided in Appendix B.

Landscaped Area Water Use shall be calculated for each parcel (or groups of parcels with the same reference ET and applicable MWELo) using Maximum Applied Water Allowance (MAWA) computations from the applicable MWELo.

Water suppliers should use the best available information to determine which MWELo applies to each parcel. This may include date of submittal for MWELo design review, date of service establishment, and remote sensing information.

The calculations provided in Appendix B will yield water use estimates in gallons per year.

The total Landscaped Area Water Use for the water supplier will equal the total Landscaped Area Water Use of all parcels in the water supplier's service area. Because Landscaped Area Water Use is defined in units of GPCD, the result of the calculation above must be divided by Service Area Population and then converted from annual to daily use.

Measure Landscaped Area

The water supplier shall select a technique for measuring landscaped area that satisfies the following criteria:

- The landscaped area must be measured or estimated for all parcels served by a residential or dedicated landscape water meter or connection in the water supplier's service area.
- Only irrigated landscaped area served by residential or dedicated landscape water meter or connection shall be included in the calculation of Landscaped Area Water Use. Landscape served by CII connections and non-irrigated landscape shall be excluded. (All references to landscaped area below shall mean irrigated landscaped area served by a residential or dedicated landscape meter or connection.)

Measurement Techniques

The following sections describe techniques that may be used to measure landscaped area. Water suppliers may use one or a combination of these techniques.

Field-Based Measurement. Field-based measurement of parcels' landscaped area may be accomplished by physical measurement using devices such as a total station, measuring wheel and compass, global positioning system (GPS), or other measuring devices having accuracy similar to these devices. Field-based measurement also may be obtained from landscape designs submitted to the water supplier for compliance with the MWEL0 or for other planning and billing purposes.

Measuring with Remote Sensing. The landscaped area may be measured by using remote sensing (aerial or satellite imaging) to identify the landscaped areas in conjunction with a GIS representation of the parcels in the water supplier's service area. A variety of remote sensing techniques are available, and additional techniques may become available between now and 2020. DWR will allow the water supplier to select the remote-sensing technique that it prefers. However, the following conditions shall be met:

- The remote-sensing information must be overlaid onto a GIS representation of each parcel boundaries to estimate the irrigated landscaped area in each parcel.
- The remote-sensing imagery must have a resolution of 1 meter or less per pixel.
- The remote-sensing technique must be verified for accuracy by comparing its results to the results of field-based measurement for a subset of parcels selected using random sampling. The water supplier shall report the resulting percent error between the estimates of landscaped area produced by the remote-sensing technique and those produced by field-based measurements for the sampled parcels.
- DWR has not set its own standards for remote-sensing verification and sampling design. The water supplier shall provide a description of its remote-sensing technique (including imagery, data processing, and verification) when it reports its landscaped area for purposes of complying with provisions of the Water Code. Congalton and Green (1999)¹⁹ and Stein et al. (2002)²⁰ are two references that describe professional standards for remote sensing.

Using Sampling to Estimate Landscaped Area on Small Parcels. The landscaped area for smaller-sized parcels may be calculated by measuring the percentage of total parcel area that is landscaped in a sample of similar parcels and applying that percentage to the remaining parcels. This technique may be used only for parcels with a total land area of 24,000 square feet or less. The parcels for which this technique is used shall be divided into groups, or strata, based on parcel size increments of 4,000 square feet or less. (For example, parcels up to 4,000 square feet would form one group, parcels between 4,001 and 8,000 square feet would form another group, and so forth.) Field-based measurement or remote sensing must be used to calculate the landscaped area for a subset of parcels sampled at random in each parcel size group. The percentage of landscaped area to total

¹⁹Congalton, R. G., and K. Green, 1999. *Assessing the Accuracy of Remotely Sensed Data: Principles and Practices*. CRC Press, Boca Raton, FL.

²⁰Stein, A., F. van der Meer, and B. Gorte, eds. 2002. *Spatial Statistics for Remote Sensing*. Kluwer Academic Publishers, Netherlands.

land area for the sampled parcels in each group can then be used to calculate the landscaped area for all other parcels in the group. Parcels greater than 24,000 square feet shall be measured directly.

Statistical sampling is a means to provide adequate information at reasonable cost. If implemented carefully, sampling allows the water supplier to develop accurate estimates of landscaped area for all relevant parcels from a subset of parcels. However, sampling shall not be used to estimate landscaped area for parcels larger than 24,000 square feet. Stratified sampling (random sampling in identified subgroups of parcels) should be used to estimate the landscaped area in different parcel size groups, as described earlier. Other characteristics of parcels may be used as a basis for selecting the strata in addition to parcel size.

DWR has not developed specific standards for sampling design. Urban water suppliers should follow standards of professional practice sufficient to demonstrate unbiased estimates of landscaped area. For example, Cochrane (1977)²¹ and Lohr (2010)²² provide guidance for sound sampling design.

Other Measurement Techniques. The water supplier may use another technique to measure landscaped area for each parcel other than the ones described previously if one becomes available in the future. However, the technique must meet similar conditions to those described above for remote sensing:

- The landscaped area information must be gathered or reported on a parcel basis, or it must be overlaid onto a GIS representation of each parcel's boundaries to calculate the landscaped area in each parcel.
- The technique must be tested for accuracy by comparing its results to the results of field-based measurement for a subset of parcels. Field-based measurement should be performed for a subset of parcels selected at random from those for which the technique has been used. The water supplier should report the percent error between the calculations of landscaped area produced by the selected technique and those produced by field-based measurements for the sampled parcels.

Estimate Reference Evapotranspiration

Calculations under the MWELo require determination of reference ET. Each parcels served by a residential or dedicated landscape water meter or connection in the water supplier's service area shall be assigned a reference ET based on one of the following methods:

- Appendix A of the 2009 ordinance contains tables of reference ET. In some cases, the water supplier may choose a single reference ET value most appropriate for all parcels in its service area. For parcels in geographic areas not covered in the Appendix A table, the ordinance provides the following direction for selecting the appropriate reference value: "For geographic areas not covered in Appendix A, use data from other cities located nearby in the same reference evapotranspiration zone, as found in the CIMIS Reference Evapotranspiration Zones Map, Department of Water Resources, 1999."

²¹Cochrane, William G. 1977. *Sampling Techniques*. 3rd edition. Wiley; NY, NY.

²²Lohr, Sharon. 2010. *Sampling: Design and Analysis*. Brooks/Cole Cengage, Boston, MA. 2nd edition.

- DWR has developed a spatial program (Spatial CIMIS) that provides interpolated ET data between weather stations.²³ The program can provide estimates of reference ET for any part of California with a resolution of 2 kilometer (km) by 2 km. Water suppliers may use this tool to assign reference ET to parcels. Any other CIMIS enhancements or additional stations formally adopted by DWR between 2010 and 2020 also may be used.
- Water suppliers may use local reference ET estimates that are not formally part of CIMIS or that make adjustments to CIMIS station estimates, provided that such estimates or adjustments are scientifically derived and of comparable reliability to CIMIS estimates.

The water supplier shall explain why neither the CIMIS nor other approved DWR reference ET information is adequate, and shall provide the data and calculations used to develop the local reference ET estimate.

Apply MAWA Equation to Calculate Annual Volume

Appendix B provides the MAWA equations that apply to parcels. These equations, or their equivalents, will yield water use estimates in gallons per year. The total Landscaped Area Water Use for the water supplier will equal the total Landscaped Area Water Use of all parcels in the supplier's service area.

Convert Annual Volume to GPCD

After the MAWA for all parcels has been summed to determine the total Landscaped Area Water Use portion of the Method 2 target, the total must be divided by Service Area Population and then by 365 to calculate the Landscaped Area Water Use in GPCD. Refer to Methodology 2: Service Area Population to complete this step. Because Landscaped Area Water Use is defined in units of GPCD, the result must be converted from annual to daily use.

Summary of Steps to Calculate Landscaped Area Water Use

Calculating Landscaped Area Water Use requires the following process:

1. Assign applicable MWELO (1992 or 2009) to each parcel.
2. Estimate landscaped area for each parcel.
 - a. Select measurement technique(s) for landscaped area (for example, field based, remote sensing, or sampling).
 - b. Apply technique(s) to calculate total landscaped area for each parcel. (This applies only to parcels for which landscaped area has not yet been measured.)
 - c. Measure special landscape area (SLA) where applicable.
3. Determine the reference ET for each parcel.
4. Use the MAWA from the applicable MWELO to calculate Landscaped Area Water Use for all parcels.

²³California Irrigation Management Information System. The spatial model is available at <http://www.cimis.water.ca.gov/cimis/cimiSatSpatialCimis.jsp>.

- a. Use the equations, or their equivalents, to calculate the MAWA for each parcel or group of parcels (grouped according to applicable MWELo, reference ET, and presence of SLA).
 - b. Sum the MAWA over all parcels to calculate the total annual Landscaped Area Water Use portion of the Method 2 target.
5. Divide the total from Step 4 by Service Area Population and then by 365 to calculate the Landscaped Area Water Use in GPCD.

Methodology 7: Baseline Commercial, Industrial, and Institutional Water Use

Baseline Commercial Industrial and Institutional (CII) Water Use is needed for urban water use target Method 2 (along with the indoor residential and landscape uses). It also affects the adjustment factors that agencies may consider at the time of testing compliance in 2015 and 2020 by allowing them to make adjustments based on “substantial changes” in CII relative to Baseline CII Water Use per Section 10608.24 (d)(1)(B). The definition of “substantial change” and adjustments are discussed in Methodology 8: Criteria for Adjustments to Compliance Daily Per Capita Water Use.

Definition of Baseline CII Water Use

Section 10608.12 defines Baseline CII Water Use and related concepts as follows:

- (c) *“Baseline commercial, industrial, and institutional water use” means an urban retail water supplier’s base daily per capita water use for commercial, industrial, and institutional users.*
- (d) *“Commercial water user” means a water user that provides or distributes a product or service.*
- (h) *“Industrial water user” means a water user that is primarily a manufacturer or processor of materials as defined by the North American Industry Classification System code sectors 31 to 33, inclusive, or an entity that is a water user primarily engaged in research and development.*
- (i) *“Institutional water user” means a water user dedicated to public service. This type of user includes, among other users, higher education institutions, schools, courts, churches, hospitals, government facilities, and nonprofit research institutions.*

Use of Baseline CII Water Use

Urban retail water suppliers are given several methods for calculating water use targets. Method 2 allows them to calculate a target by using three components: Indoor Residential Use, Landscaped Area Water Use, and Baseline CII Water Use. Section 10608.20 (b)(2)(C) specifies that the CII portion of the target is to be calculated as follows:

For CII uses, a 10 percent reduction in water use from the baseline CII water use by 2020.

Calculation of Baseline CII Water Use

Baseline periods that a retail water supplier may use to determine Baseline CII Water Use shall follow the same direction required for Base Daily Per Capita Water Use under Section 10608.12.(b):

“Base daily per capita water use” means any of the following:

- (1) *The urban retail water supplier's estimate of its average gross water use, reported in gallons per capita per day and calculated over a continuous 10-year period ending no earlier than December 31, 2004, and no later than December 31, 2010.*
- (2) *For an urban retail water supplier that meets at least 10 percent of its 2008 measured retail water demand through recycled water that is delivered within the service area of an urban retail water supplier or its urban wholesale water supplier, the urban retail water supplier may extend the calculation described in paragraph (1) up to an additional five years to a maximum of a continuous 15-year period ending no earlier than December 31, 2004, and no later than December 31, 2010.*

A retail water supplier must have CII data for the entire baseline period used in the water supplier's calculation of Base Daily Per Capita Water Use. If the CII data do not exist, the retail water supplier should use another water use target method.

For each year in the baseline period, the volume of Baseline CII Water Use shall be divided by the Service Area Population (see Methodology 2), and the average of those calculations, converted to a daily rate, is the Baseline CII Water Use for the purpose of calculating the Method 2 target as defined in Section 10608.20(b)(2). The procedure for averaging the annual per capita CII use is the same as for calculating Base Daily Per Capita Water Use (refer to Methodology 3: Base Daily Per Capita Water Use).

The CII component of the 2020 target for Method 2 shall be the Baseline CII Water Use (in GPCD) multiplied by 0.9.

Process Water Exclusion

A retail water supplier may elect to exclude process water from its calculation, consistent with Section 10608.24(e):

When developing the urban water use target pursuant to Section 10608.20, an urban retail water supplier that has a substantial percentage of industrial water use in its service area, may exclude process water from the calculation of gross water use to avoid a disproportionate burden on another customer sector.

If a water supplier elects to exclude process water, it must do so for baseline and compliance year per capita water use and for baseline CII water use. DWR regulations that define when and how process water can be excluded from Gross Water Use and Baseline CII Water Use calculations are provided in Appendix D.

Adjustments for Multifamily Residential Connections

A retail water supplier whose baseline CII data includes some multifamily residential uses must demonstrate that it can accurately adjust the data to remove those uses.

In cases where the retail water supplier can estimate the population in multifamily residences included in the CII data, the supplier must do both of the following:

1. Use the adjustment procedure described below in Adjustments for Residential Uses in CII Connections to remove indoor residential uses from the CII data.
2. Assure that landscaped area in the CII data is excluded from the calculations of Landscaped Area Water Use.

In situations where the supplier cannot estimate the population in multifamily residences included in the CII data, Method 2 cannot be used to set the water supplier's water use target.

Adjustments for Residential Uses in CII Connections

Some CII connections also may serve group quarters or other residential uses. Examples could include campus dormitories, military base housing, and apartments that are served by a CII connection. Water use target Method 2 already provides an indoor use allowance of 55 GPCD for such residents. To ensure that this indoor use is not double-counted, the following steps must be used to adjust the CII component of the target water use under Method 2:

1. Estimate the average population served by CII connections during the baseline period and whose residents use is included in the water supplier's unadjusted Baseline CII Water Use.
2. Calculate the average daily volume of target Indoor Residential Use associated with this population by multiplying the result of Step 1 by the 55-GPCD target indoor use specified for Method 2.
3. Convert the unadjusted CII GPCD target (the Baseline CII Water Use times 0.9) to an average daily volume by multiplying by Service Area Population.
4. Subtract the average daily volume calculated in Step 2 from the unadjusted CII daily volume calculated in Step 3.
5. Divide the result from Step 4 by Service Area Population to give the adjusted Baseline CII Water Use in GPCD for use in calculating the water use target for Method 2.

Methodology 8: Criteria for Adjustments to Compliance Daily Per Capita Water Use

Definition of Adjustments to Compliance Daily Per Capita Water Use

Section 10608.24(d) states:

- (1) *When determining compliance daily per capita water use, an urban retail water supplier may consider the following factors:*
 - (a) *Differences in evapotranspiration and rainfall in the baseline period compared to the compliance reporting period.*
 - (b) *Substantial changes to commercial or industrial water use resulting from increased business output and economic development that have occurred during the reporting period.*
 - (c) *Substantial changes to institutional water use resulting from fire suppression services or other extraordinary events, or from new or expanded operations, that have occurred during the reporting period.*
- (2) *If the urban retail water supplier elects to adjust its estimate of compliance daily per capita water use due to one or more of the factors described in paragraph (1), it shall provide the basis for, and data supporting, the adjustment in the report required by Section 10608.40.*

Calculation of Adjustments to Compliance GPCD

To be developed.

[Application of these adjustments will not occur until a compliance year. This methodology requires further development including completion of weather normalization modeling. Expected completion date is early 2011.]

Methodology 9: Regional Compliance

According to Sections 10608.20(a)(1) and 10608.28, urban retail water suppliers may plan, comply, and report on a regional basis, an individual basis or both. Each group of water suppliers agreeing among themselves to plan, comply, and report as a region is referred to in this methodology as a “regional alliance.”

Legislative Guidance for Regional Compliance

Section 10608.20(a)(1) states:

Each urban retail water supplier shall develop urban water use targets and an interim urban water use target by July 1, 2011. Urban retail water suppliers may elect to determine and report progress toward achieving these targets on an individual or regional basis, as provided in subdivision (a) of Section 10608.28, and may determine the targets on a fiscal year or calendar year basis.

Section 10608.28 states:

- (a) *An urban retail water supplier may meet its urban water use target within its retail service area, or through mutual agreement, by any of the following:*
- (1) *Through an urban wholesale water supplier.*
 - (2) *Through a regional agency authorized to plan and implement water conservation, including, but not limited to, an agency established under the Bay Area Water Supply and Conservation Agency Act (Division 31 commencing with Section 81300)).*
 - (3) *Through a regional water management group as defined in Section 10537.*
 - (4) *By an integrated regional water management funding area.*
 - (5) *By hydrologic region.*
 - (6) *Through other appropriate geographic scales for which computation methods have been developed by the department.*
- (b) *A regional water management group, with the written consent of its member agencies, may undertake any or all planning, reporting, and implementation functions under this chapter for the member agencies that consent to those activities. Any data or reports shall provide information both for the regional water management group and separately for each consenting urban retail water supplier and urban wholesale water supplier.*

Criteria for Water Suppliers that May Report and Comply as a Region

To form a regional alliance, water suppliers must meet at least one of the following criteria:

- Water suppliers are recipients of water from a common wholesale water supplier. For this purpose, the State Water Project and the Central Valley Project are not considered wholesale water suppliers. Wholesale water suppliers are not required to establish and meet targets for daily per capita water use. Wholesale water suppliers serving in the role of a regional alliance are representing the urban retail water suppliers that are members of the alliance and compliance with a regional target is on behalf of the member suppliers and not the wholesaler supplier itself.
- Water suppliers are partners with a common regional agency authorized to plan and implement water conservation.
- Water suppliers are part of a regional water management group as defined in Water Code section 10537.
- Water suppliers are part of an integrated regional water management funding area, which for this purpose is interpreted to mean an Integrated Regional Water Management (IRWM) planning area.
- Water suppliers are located in the same hydrologic region, which for this purpose refers to the 10 hydrologic regions as shown in the California Water Plan. For situations where water suppliers may serve areas in more than one hydrologic region, the majority of each water supplier's Service Area Population must be in the hydrologic region being identified as a regional alliance.
- Water suppliers join through appropriate geographic scales for which these methodologies can be applied. For this provision, water suppliers' service area boundaries must be contiguous.

Tiered Regional Alliances

In general, urban retail water suppliers can belong to only one regional alliance for the purpose of establishing and complying with urban water use targets. An exception is when regional alliances are tiered so that the members of the smallest alliance are all members of the larger alliance or alliances.

Tiered Regional Alliances

Regional Alliances **1**, **2**, **3**, ...

Urban Retail Water Suppliers **A, B, C, ...**

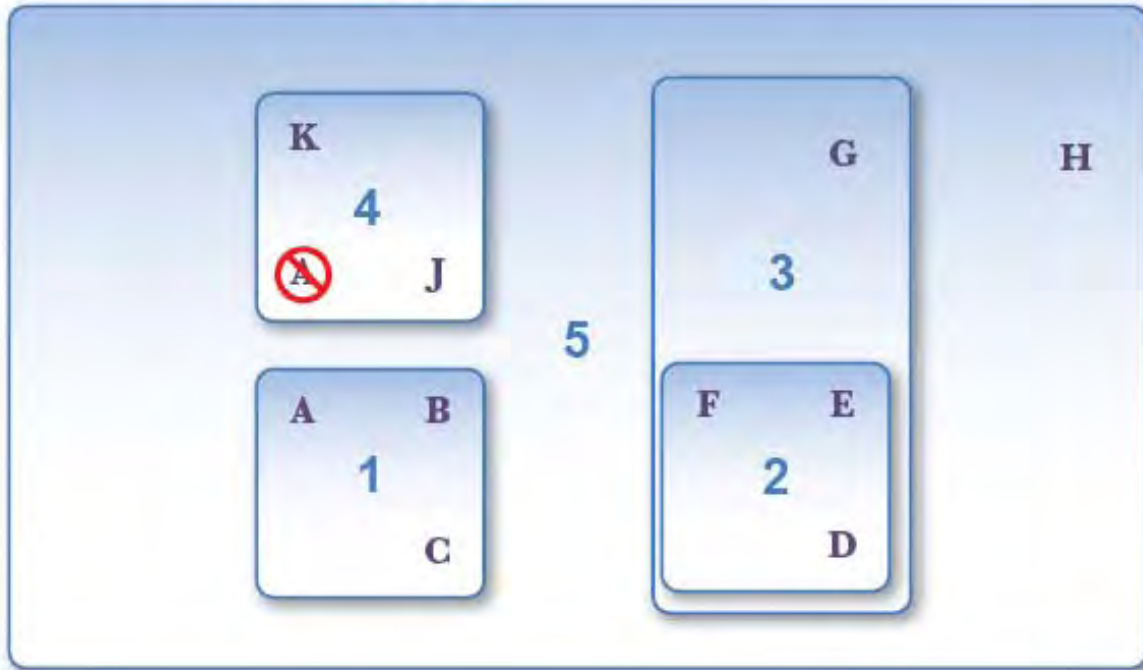


FIGURE 6:
EXAMPLE OF TIERED ALLIANCES

Figure 6 illustrates tiered alliances. For example, supplier A forms an alliance with suppliers B and C (Alliance 1). Supplier A cannot also form an alliance with suppliers J and K unless the A,J,K alliance were to include B and C as well. Water suppliers D, E, and F could comply as regional Alliance 2, or include supplier G and comply as regional Alliance 3. Alternatively, all suppliers in Figure 6 could comply as Alliance 5. The tiered alliance requirements are only for compliance with urban water use targets and do not apply to other regional water management activities or partnerships.

Calculation of Targets and Compliance GPCD

Calculation of Regional Targets

Water suppliers wishing to test compliance regionally are permitted to do so. Water suppliers in a regional alliance have three options for calculating their regional targets.

Under the first option, which preserves maximum flexibility at the supplier level, each supplier in a regional alliance would first calculate its individual target as if it were complying individually. These individual targets should then be weighted by each supplier's population and averaged over all members in the alliance to obtain the regional target.²⁴ For the 2011 urban water management plans, suppliers may use their current population data for generating the regional targets. However, for testing compliance in 2015 and 2020, the population weighting of the individual targets must be based upon the compliance-year population data. A retail water supplier may update its target in 2015 (see Water Code section 10608.20(g) and any such modifications made to individual targets after 2011 must be incorporated into updated regional targets and reported in the compliance year 2015. For those urban retailers or alliances that choose method 2 for developing a target (see Water Code section 10608.20(b)(2)), the target must be revised and reported in 2020. A modification in any individual target or a change in membership in a regional alliance will require a recalculation of the regional target.

A second approach for an alliance to calculate a regional target is to sum up the individual supplier's gross water use and service area populations to develop regional gross water use and population. The alliance would then calculate regional base daily per capita use and choose one target method to calculate a regional target. Alliances must have all their members use the same baseline period.

A third approach is to calculate regional gross water use or population directly for the entire regional alliance area. Regional base daily per capita use and a regional water use target would then be derived. Like the second approach, members of alliances using this approach must use the same baseline period and the same target method. A regional alliance must meet the requirements of Section 10608.22. The regional target may not exceed 95 percent of the region's 5-year Base Daily Per Capita Water Use. Methodology 3: Base Daily Per Capita Water Use describes in detail the interpretation and calculations required under Section 10608.22.

Calculation of Regional Compliance Daily Per Capita Water Use

Gross Water Use and Service Area Population must be reported for each supplier during the compliance year. If applicable, adjustments for evapotranspiration and rainfall, fire suppression, and changes in distribution area should be made for each individual water supplier. Adjustments to Gross Water Use for extraordinary economic growth can be

²⁴ Assume there are (N) suppliers in an alliance, with individual targets (T_1, T_2, \dots, T_N) and population (P_1, P_2, \dots, P_N), where the subscript on the individual targets and population denote the identity of each supplier. Then, total population in a regional alliance (RP) becomes:

$$RP = P_1 + P_2 + \dots + P_N$$

The regional target (RT) can be derived as a weighted average of the individual supplier targets as follows:

$$RT = (P_1 * T_1 + P_2 * T_2 + \dots + P_N * T_N) / RP$$

applied either to the individual supplier's data or to the aggregate regional alliance data (but not both), depending upon availability of suitable data and methods. Regional compliance daily per capita water use shall be calculated as the aggregate regional Gross Water Use divided by the aggregate Service Area Population.

Data Reporting for a Regional Alliance

A regional alliance must send DWR a letter stating that an alliance has been formed and provide a list of the water supplier members. This letter should be sent by July 1, 2011, for alliances formed before submitting 2010 urban water management plans, or in ninety days after an alliance has been formed after July 1, 2011. In the case of tiered alliances, a retail water supplier cannot be cited as a member of a regional alliance unless it acknowledges its membership in that alliance in its urban water management plan.

DWR will collect data pertaining to regional alliances through three documents: (1) through the individual supplier urban water management plans; (2) through the regional urban water management plans; and (3) through the regional alliance reports.

Individual Supplier Urban Water Management Plans

All members of a regional alliance must include the following data in their individual urban water management plans unless they are participating in a regional urban water management plan (applicable urban water management plan dates are shown in parentheses):

- A list of all of its regional alliances. If a supplier is a member of tiered alliances, it must name all the alliances it is a member of
- Baseline Gross Water Use and Service Area Population (2010, 2015, 2020)
- Individual 2020 Urban Water Use Target (2010, 2015, 2020) and Interim 2015 Urban Water Use Target (2010)
- Compliance Year Gross Water Use (2015 and 2020) and Service Area Population (2010, 2015, 2020)
- Adjustments to Gross Water Use in the compliance year (2015, 2020)
- Water suppliers who choose Target Method 2 also must provide Landscaped Area Water Use and Baseline CII Water Use data (2010, 2015, 2020)
- Water Suppliers who choose Target Method 4 must provide the components of calculation as required by Target Method 4. Appendix C describes Target Method 4 and the regional compliance reporting that applies to that method (2010, 2015, 2020)

Regional Urban Water Management Plans

Members of regional alliance can forgo submitting individual urban water management plans and instead submit a regional urban water management plan. These regional urban water management plans are different from the regional alliance reports in that they must meet all the urban water management plan reporting requirements. The water use target data can be reported in the regional plan in either of two ways:

- The regional plan can report all the data elements that are now required to be included in the individual urban water management plans pertaining to this program (see section above titled Individual Supplier Urban Water Management Plans), for each supplier in the alliance. It would also report the same data elements aggregated over all members in the alliance.
- The regional plan may report some data elements only in aggregate for the alliance as a whole (not for each individual member). For example, the plan may report Service Area Population only for the regional alliance if the regional population data are more accurate or available. If the Service Area Population is only reported on a regional basis, then Base Daily per Capita Use, Compliance Daily per Capita Use, and Urban Water Use Targets would be calculated and reported only on a regional basis. Water suppliers that are part of a regional alliance that only reports a regional population can only develop a regional Urban Water Use Target and comply with this target regionally. Developing individual targets and testing compliance at the individual level is not possible unless an individual Service Area Population is calculated.

Regional Alliance Report

For regional alliances that do not submit a regional urban water management plan, DWR will require a regional alliance report. This report shall include all the water use target data elements that are now required to be included in the individual urban water management plans (see section above titled Individual Supplier Urban Water Management Plans) for each supplier in the alliance, and also shall include the alliance-level aggregates.

Memoranda of Understanding or Agreements for Regional Alliances

DWR will not review or approve the terms of memoranda of understanding (MOUs) or legal agreements that water suppliers use to create and manage regional alliances. However, terms of the agreements shall be consistent with all applicable sections of the Water Code. DWR will presume that water suppliers understand the consequences if partner suppliers withdraw from a regional alliance.

Compliance Assessment for Water Suppliers Belonging to a Regional Alliance

Compliance will be assessed based upon how an individual retail water supplier performs relative to its individual target or how the retail water supplier's regional alliance performs as a whole relative to its regional target. Wholesale suppliers are not themselves subject to compliance assessment. The following guidelines will be used to assess compliance:

- If a regional alliance meets its regional target, all suppliers in the alliance will be deemed compliant. For tiered alliances, if a smaller alliance does not meet its water use target, the member agencies can still be in compliance if a larger alliance is in compliance. Conversely, members of a smaller alliance can be in compliance if the smaller alliance complies while the larger alliance fails. If a regional alliance fails to meet its regional

target, water suppliers in the alliance that meet their individual targets will be deemed compliant.

- Water suppliers in alliances that meet neither their individual targets nor their regional targets will be deemed noncompliant. These suppliers can still apply for grant funds if their application is accompanied by a plan that demonstrates how the funds being sought will bring them into compliance with their targets (Section 10608.56).

Withdrawal from a Regional Alliance before 2020

If a water supplier withdraws from a regional alliance, the withdrawing water supplier must then comply individually. The water suppliers remaining in the regional alliance must revise regional baseline and target data and alliance membership in the subsequent UWMP plan. The memorandum of understanding or other legal agreements governing the alliance may define additional consequences or remedies.

Dissolution of a Regional Alliance before 2020

If a regional alliance dissolves before 2020, each affected water supplier must then comply individually or form or join another alliance. An affected water supplier that had not previously submitted an individual urban water management plan (for example, if it had participated in a regional urban water management plan for a regional alliance that has dissolved) has to submit an urban water management plan or a regional water management plan. The memorandum of understanding or other legal agreements governing the alliance may define additional consequences or remedies.

APPENDIX A

Alternative Methodology for Service Area Population

Water suppliers without access to detailed population data should develop population estimates by anchoring their year 2000 residential connections to the year 2000 census population estimate, and then scaling this estimate backward and forward using data for active residential connections. The procedure for calculating population from connections first requires a water supplier to identify the census blocks that lie in its (year 2000) distribution area. The availability of a GIS distribution area map for the year 2000 makes this first step relatively easy.

If no GIS boundary map of the distribution area is available, a water supplier will have to perform this exercise manually. The U. S. Census Bureau's county/tract/block maps should serve as the primary tool for this matching exercise.¹ First select the appropriate county. Next, the first file labeled "CBC06xxx_000.pdf" provides the detailed map numbering scheme for the entire county. The relevant maps from this list can then be used online or printed to locate the appropriate census blocks.

It is also relatively easy to scan a paper map of the distribution area (in 2000), digitize and geo-reference the boundary (and internal areas that need to be excluded), and overlay it electronically on a census map to identify which census blocks lie in the 2000 distribution area. Category 3 water suppliers may be able to access these capabilities through their local association of governments.

Step 1: Finalize Census Blocks in the 2000 Distribution Area

Some census blocks may straddle the water supplier's year 2000 distribution area boundary line. In such cases, if half or more of the block's area appears to lie within the boundary, the water supplier should include it; otherwise, it should exclude the block.

Census blocks are grouped into block groups. Blocks that identify places such as college campuses, military installations, or correctional institutions are organized into a

What Is a Census Block?

A census block is the smallest geographical unit used by the Census Bureau. Census blocks are areas bounded on all sides by visible features, such as streets, roads, streams, and railroad tracks, and by invisible boundaries, such as city, town, township, and county limits, property lines, and short, imaginary extensions of streets and roads. Generally, census blocks are small in area; for example, a block may be bounded by city streets. However, census blocks in sparsely settled areas may contain many square miles of territory.

¹ These maps can be accessed at http://www2.census.gov/geo/maps/blk2000/st06_California/County/.

single block group that, taken together, corresponds exactly with the boundary of such a place. Census blocks associated with such institutions in the distribution area, but with wholly private sources of supply, can thus be cleanly removed from the population estimate.

Census block groups aggregate up to the next level of geography that is called a census tract. Blocks have a unique identification number only in a tract, not across tracts. When identifying blocks that lie in the distribution area, both block and tract identification numbers are needed to correctly link the selected blocks with their corresponding population data.

Step 2: Scale Population Information from Census Blocks to Distribution Area

Once the census blocks lying in the year 2000 distribution area are identified, each block's total and group-quarter population in 2000 can be obtained from the Census Bureau's website. This requires the following steps:²

1. Go to www.census.gov
2. Click on "American FactFinder" tab in left navigation column.
3. Select the legacy American FactFinder link (factfinder.census.gov). If and when this legacy website is terminated, the following download instructions may require modification.
4. Click on "Download Center" in the left navigation column.
5. In the table that appears, click on the "Census 2000 Summary File 1 (SF-1) 100-Percent Data" link.
6. Under geographic summary level, select "All Blocks in a County (101)."
7. Follow the prompts to select state and county.
8. Under Select a Download Method, choose "Selected Detailed Tables."
9. Click on "Go."

What Is a Census Block Group?

A block group (BG) is a cluster of census blocks having the same first digit of their four-digit identifying numbers in a census tract. For example, block group 3 (BG 3) in a census tract includes all blocks numbered from 3000 to 3999. BGs generally contain between 600 and 3,000 people, with an average size of 1,500 people. BGs on American Indian reservations, off reservation trust lands, and special places must contain a minimum of 300 people. (Special places include correctional institutions, military installations, college campuses, worker's dormitories, hospitals, nursing homes, and group homes.)

Place of Residence

Each person included in the census is counted at his or her usual place of residence, which is the place where he or she lives and sleeps most of the time. If a person has no usual residence, the person is counted where he or she was staying on Census Day (April 1). People temporarily away from their usual residence, such as on a vacation or business trip, are counted at their usual place of residence. People who moved around Census Day are counted at the place they consider to be their usual residence. A person's usual place of residence is not necessarily the same as legal residence or voting residence. A detailed set of enumeration rules guides how the Census Bureau counts individuals. An attempt is made to count all individuals, whether they reside in housing units or in group quarters.

² Note that these steps apply as of February 2011. Link names and other elements of the Census Bureau's website may change in future. The same caution applies to other website directions in this appendix.

10. When prompted with table choices, select at a minimum “P1. Total Population” and P37. Group Quarters Population by Group Quarter Type.” You can select multiple tables at once by holding down the Ctrl key as you select them.
11. Click “Add” to add them to the Current Table Selections box.
12. Select “Next”
13. Select “Start Download”

A zipped file containing three files will be created for the user. One of these will include the data in a delimited text format (the character “|” will be the delimiter which the user will need to specify while importing the text file into Excel for further manipulation) containing total population and any

additional information the user selects by block. From this list, select the blocks identified as falling in the water supplier’s year 2000 actual distribution area in Step 1 and obtain the aggregate population for the water supplier’s service area.

In most cases, additional editing or manipulation of total year 2000 population should not be required. Census blocks associated with privately supplied customers would already have been removed from the distribution area definition. However, if some census blocks include both utility supplied residents and privately supplied group-quarter residents, the latter may be removed by subtracting the group-quarter population from the total population, wherever applicable, before aggregating population up to the distribution area level.

Step 3: Obtain Population by Structure Type

To estimate population per connection, agencies are advised to develop at least two separate ratios: one for population per single-family connection, and one for population per multifamily connection, which includes apartment complexes and other types of group quarters. This information can also be obtained from the Census Bureau website. For this purpose, the Census 2000 Summary File 3 (SF-3) should be used as the source since these data are not available from Summary File 1. Data in Summary File 3, however, are presented at the block group level. The first letter in a block’s identifier indicates the block group it belongs to.

P1. Total Population

The “Total Population” selection includes population residing in housing units as well as in group quarters. Housing units include structures such as single-family homes, multifamily homes, mobile homes, boats, RVs, and vans. Group quarters include institutions such as correctional facilities, nursing homes, hospital wards and hospices, psychiatric hospitals, juvenile institutions, college dormitories, military quarters, agriculture worker’s dormitories, logging camps, and other institutions. The full list of what is included in group quarters is long and is intended to capture a variety of residency scenarios to make the population count as complete as possible. This list can be obtained from the Census Bureau’s website.

P37. Group Quarters Population by Group Quarter Type

This selection provides a breakdown of the group quarter population into the following categories: correctional institutions; nursing homes; other institutionalized populations; college dormitories including college quarters off campus; military quarters; other non-institutional group quarters.

H33. Total Population in Occupied Housing Units by Tenure by Units in Structure

This selection provides a breakdown of population by the following types of structures:

- Owner occupied, 1 detached unit in structure
- Owner occupied, 1 attached unit in structure
- Owner occupied, 2 units in structure
- Owner occupied, 3-4 units in structure
- Owner occupied, 5-9 units in structure
- Owner occupied, 10-19 units in structure
- Owner occupied, 20-49 units in structure
- Owner occupied, 50 or more units in structure
- Owner occupied, mobile home
- Owner occupied, boat, RV, van, etc.
- (Repeated for renters)

1. Go to www.census.gov
2. Click on “American FactFinder” tab in left navigation column.
3. Select the legacy American FactFinder link (factfinder.census.gov). If and when this legacy website is terminated, the following download instructions may require modification.
4. Click on “Download Center” in the left navigation column.
5. Select the “Census 2000 Summary File 3 (SF-3) Sample Data” link.
6. Under geographic summary level, select “All Block Groups in a County (150).”
7. Follow the prompts to select state and county
8. Under Select Download Method, select “Select Detailed Tables.”
9. Click on “Go.”
10. When prompted with table choices, select at a minimum “P1. Total Population” and “H33. Total Population in Occupied Housing Units by Tenure by Units in Structure.”
11. Click on “Next.”
12. Click on “Start Download.”

A zipped file containing three files will be created for the user. One of these will include the data in a delimited text format (the character “|” will be the delimiter which the user will need to specify while importing the text file into Excel for further manipulation) containing total population split across many categories.

It is necessary to download both total population and population in occupied housing units by tenure and units in structure.

Why is it necessary to download total population at the block group level? First, total population in a block group obtained from Summary File 3 may not exactly match block group population were it to be estimated from Summary File 1 for the purpose of comparison. This is because the former is created from a sample, the latter from the full data. Sample weights ensure that the two estimates of total population converge for higher levels of aggregation, such as a county, but they may not exactly match at the block-group level.

Second, the definition of housing units excludes group quarters. Therefore, if total population were estimated by aggregating population residing in the various categories of data series H33, group-quarter population would not be captured.

Step 4: Obtain Active Connections Data

Water suppliers differ in their metering of certain structure types. For example, some water suppliers may typically use individual metering of single-family attached structures, while other water suppliers may use master-metering. Water suppliers must first decide, based

upon local knowledge and level of detail available in the billing system, how different structure types will be allocated to either the single-family or multifamily category.

For each baseline year (and the census year 2000 if it is not included in the baseline period), tabulate total single-family and total multifamily connections. Remove from the tabulation any connections that were inactive during the entire year.

For each block group, aggregate population for the single-family structure category, including both renters and owners. Subtract this estimate from total block group population obtained from Summary File 3. The difference is an estimate of population residing in multifamily structures, including group quarters.

Develop a ratio for each block group indicating how its total population is split between the single-family and multifamily structures. Then, for each block in the distribution area, apply its corresponding block-group ratio to split the block-level total population (from Summary File 1) into the single-family and multifamily categories. Aggregate these block-specific splits to obtain total population residing in single-family and multifamily structures in the entire distribution area.

Step 5: Develop Population Estimates for Non-Census Years

For the census year 2000, obtain persons per single-family connection and per multifamily connection. Apply these ratios to active connections data for the non-census years to estimate non-census-year population. Figure A-1 provides a pictorial description of the approach outlined above.

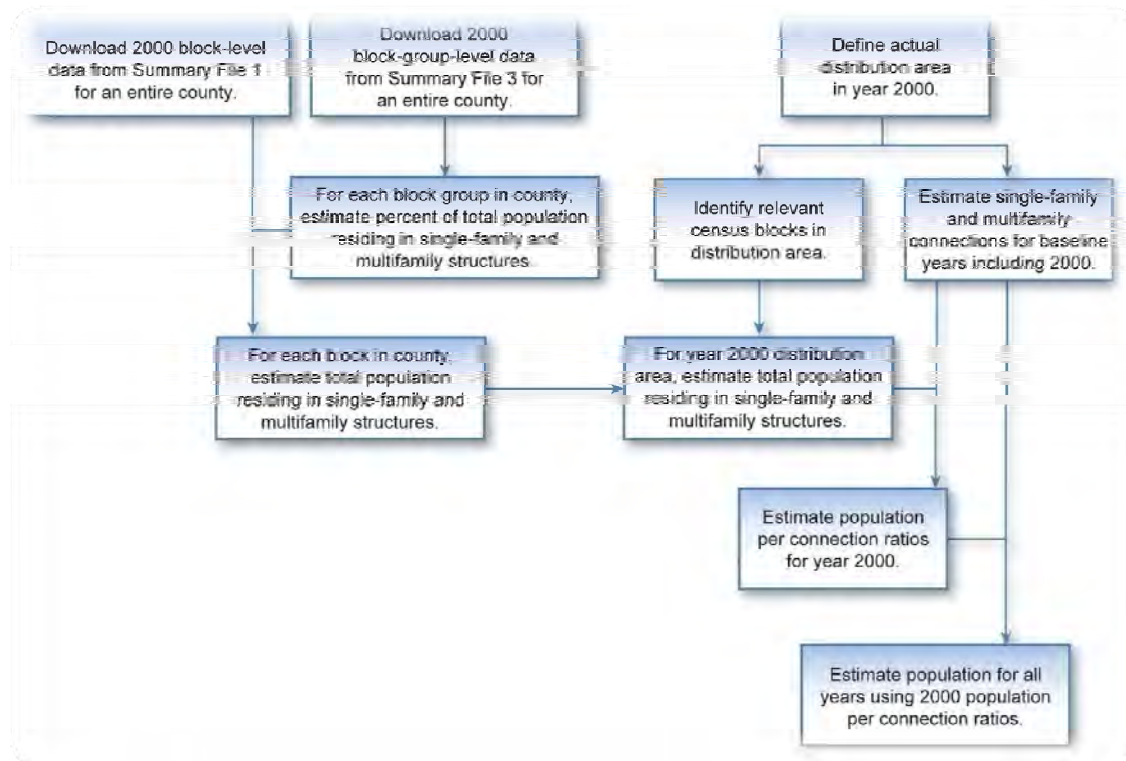


FIGURE A-1
POPULATION PER RESIDENTIAL CONNECTION METHOD

Two exceptions to this procedure are possible:

- Water suppliers are permitted to split their multifamily accounts into additional categories. For example, water suppliers may divide the multifamily sector into categories based upon units in the structure, assuming such information is reliably recorded in their billing system. The water supplier can calculate persons-per-connection for each of these categories, as long as they use the same methodology for all base period and compliance years. Water suppliers may substitute a person-per-unit ratio in place of a person-per-connection ratio to scale multifamily population if their billing systems include reliable data about total units in each multifamily structure. In such a case, population in group quarters would need to be scaled separately using a persons-per-connection ratio specific to group quarters.
- Water suppliers that cannot identify multifamily connections at present should use a single ratio (total population per single-family connection) to obtain population for the non-census years. DWR recommends that these water suppliers begin improving their data systems so that population estimates for the 2015 and 2020 compliance years are more accurate. DWR also encourages water suppliers to identify multifamily accounts separately from CII accounts.

Step 6: Further Improvements to Estimates

Water suppliers that calculate population using the per-connection method described here are encouraged to improve these estimates by including auxiliary information from other sources such as the California Department of Finance, Current Population Survey, the American Housing Survey, building permits data, and similar sources. If they use such information they should maintain consistency between the baseline and compliance years, document the methodology, and provide details about the magnitude of the adjustments made to the population estimated using Steps 1 through 5.

APPENDIX B

Model Water Efficient Landscape Ordinance Definitions and Calculations

The Model Water Efficient Landscape Ordinance (MWELo) was originally added to the California Code of Regulations (Title 23, Division 2, Chapter 2.7) in 1992 and was revised in 2009. Paragraph 492.4 defines the calculation of Maximum Applied Water Allowance (MAWA).

For landscaped areas that are installed on or after January 1, 2010, the MAWA equation and all applicable definitions of terms from the revised ordinance are as follows:

$$\text{Maximum Applied Water Allowance (MAWA)} = (ET_o) (0.62) [(0.7 \times LA) + (0.3 \times SLA)]$$

Maximum Applied Water Allowance (MAWA) is in gallons per year

ET_o = Reference Evapotranspiration (inches per year). Reference evapotranspiration is used as the basis of determining the Maximum Applied Water Allowance so that regional differences in climate can be accommodated." Reference Evapotranspiration values for each location can be found in Appendix A of the 2010 Model Water Efficient Landscape Ordinance.

0.62 = Conversion Factor (from inches/year to gallons/sq ft/year)

0.7 = ET Adjustment Factor (ETAF). When applied to reference evapotranspiration, the ETAF "adjusts for plant factors and irrigation efficiency, two major influences upon the amount of water that needs to be applied to the landscape."

LA = Landscaped Area including SLA (square feet), which includes "all the planting areas, turf areas, and water features in a landscape design plan subject to the Maximum Applied Water Allowance calculation. The landscape area does not include footprints of buildings or structures, sidewalks, driveways, parking lots, decks, patios, gravel or stone walks, other pervious or non-pervious hardscapes, and other non-irrigated areas designated for non-development (e.g., open spaces and existing native vegetation)."

0.3 = Additional Water Allowance for Special Landscape Area (SLA), resulting in an effective ETAF for SLA of 1.0.

SLA = Special Landscaped Area (square feet), which is defined as "an area of the landscape dedicated solely to edible plants, areas irrigated with recycled water, water features using recycled water and areas dedicated to active play such as parks, sports fields, golf courses, and where turf provides a playing surface."

For landscaped areas that are installed before January 1, 2010, the MAWA equation and all applicable definition of terms from the original 1992 version of the ordinance are as follows:

$$\text{Maximum Applied Water Allowance (MAWA)} = (\text{ETo}) (0.62) (0.8 \times \text{LA})$$

Maximum Applied Water Allowance (MAWA) is in gallons per year

ETo = Reference Evapotranspiration (inches per year). Reference Evapotranspiration values for each location can be found on page 38.10 of the Model Water Efficient Landscape Ordinance.

0.62 = Conversion Factor (from inches/year to gallons/sq ft/year)

0.8 = ET Adjustment Factor (ETAF). When applied to reference evapotranspiration, the ETAF “adjusts for plant factors and irrigation efficiency, two major influences upon the amount of water that needs to be applied to the landscape.”

LA = Landscaped area includes the entire parcel less the building footprint, driveways, non-irrigated portions of parking lots, landscapes such as decks and patio, and other non-porous areas. Water features are included in the calculation of the landscaped area. Areas dedicated to edible plants, such as orchards or vegetable gardens are not included.

APPENDIX C

PROVISIONAL METHOD 4 FOR DETERMINING WATER USE TARGETS

DWR developed Provisional Target Method 4 in accordance with Water Code Section 10608.20(b)(4). Urban retail water suppliers that adopt Target Method 4 to determine their 2020 urban water use target must use the provisional procedures described in this document. This target method has been developed with the assistance of the California Urban Water Conservation Council, the California State Water Resources Control Board, and the Urban Stakeholder Committee, composed of technical experts and representatives of water suppliers and environmental and other organizations.

Water Code Section 10608.20(d) provides that DWR will update Target Method 4 by December 31, 2014. It is anticipated that improvements will be made to the target method based on new data and analytical techniques in the update. Provisional Target Method 4 described here will be in effect until the update by 2014.

A Target Method 4 Calculator (Calculator) using an Excel spreadsheet has been developed for use with Provisional Target Method 4. The Calculator will be required to accomplish some of the procedures for this method. Other procedures may be accomplished without use of the Calculator but have been incorporated into the Calculator to automate the calculation of the 2020 target.

Overview

The overall framework for Provisional Target Method 4 is described in this section. Details are presented in the Detailed Procedures section. For this target method, savings are assumed between the baseline period and 2020 due to metering of unmetered water connections and achieving water conservation measures in three water use sectors.

The 2020 water use target for individual urban water suppliers is determined by Equation 1 in units of gallons per capita per day (GPCD).

Equation 1

$$\boxed{\text{Urban Water Use Target}} = \boxed{\text{Base Daily per Capita Water Use}} - \boxed{\text{Total Savings}}$$

The base daily per capita water use is separated into three sectors for the purpose of Target Method 4:

1. Residential indoor
2. Commercial, Industrial, and Institutional (CII)
3. Landscape water use, water loss, and other unaccounted-for water

Because accurate methods are not generally available to estimate the water use in these three sectors, a standard of 70 GPCD is assumed for residential indoor water use. For the purpose of Target Method 4, CII water use does not include landscape irrigation use served by dedicated landscape irrigation meters. Dedicated landscape meters often serve large commercial or institutional irrigation sites such as golf courses, parks, or school grounds. CII water use includes irrigation water use served by mixed use water meters. Landscape irrigation water use in item 3 above is composed of residential irrigation and irrigation served by dedicated landscape irrigation meters or connections. Unaccounted for water is water that is lost in water distribution systems. Other unaccounted for water may include unmetered uses such as construction water or discrepancies in water meter accuracy. For simplification, water loss and other unaccounted for water are referred to as “water loss” in this document.

For the purpose of Target Method 4 it is necessary to calculate landscape water use and loss using Equation 2. The units for Equation 2 are GPCD.

Equation 2

$$\boxed{\begin{array}{l} \text{Landscape and} \\ \text{Water Loss per} \\ \text{Capita Use} \end{array}} = \boxed{\begin{array}{l} \text{Base Daily per} \\ \text{Capita Water} \\ \text{Use} \end{array}} - \boxed{\begin{array}{l} \text{Standard Indoor} \\ \text{Residential} \\ \text{70 gpcd} \end{array}} - \boxed{\begin{array}{l} \text{CII Water} \\ \text{Use} \end{array}}$$

Potential water savings are estimated for each of these water use sectors and for reduced water use due to installation of meters on unmetered connections, as shown in Equation 3. The units for Equation 3 are GPCD.

Equation 3

$$\boxed{\begin{array}{l} \text{Total} \\ \text{Savings} \end{array}} = \boxed{\begin{array}{l} \text{Metering} \\ \text{Savings} \end{array}} + \boxed{\begin{array}{l} \text{Indoor} \\ \text{Residential} \\ \text{Savings} \end{array}} + \boxed{\begin{array}{l} \text{CII} \\ \text{Savings} \end{array}} + \boxed{\begin{array}{l} \text{Landscape and} \\ \text{Water Loss} \\ \text{Savings} \end{array}}$$

Detailed Procedures

Step 1: Baseline Water Use and Midpoint Year

The Base Daily Per Capita Water Use is an average calculated for the base period selected by the urban retail water supplier, as described in Methodology 3 in *Methodologies for Calculating Baseline and Compliance Urban Per Capita Water Use* (Methodologies Report).

The data required for some of the following steps of Target Method 4 must be provided for the midpoint year for the base period. For a base period with an even number of years, the midpoint year will be the 12 months preceding the midpoint date.

The Calculator has been designed for calendar years. For water suppliers that choose to use a fiscal year reporting basis, the Calculator can be adapted by entering the fiscal year period representing the year designated in the Calculator.

Step 2: Metering Savings

For service areas with water service connections without water meters, a water supplier must estimate the total amount of water delivered to unmetered connections during the midpoint year of the baseline period. The metering savings is calculated using Equation 4.

Equation 4

$$\begin{array}{c}
 \boxed{\text{Metering Savings, GPCD}} \\
 = \\
 \frac{\boxed{\text{Water Deliveries to Unmetered Connections in Midpoint Baseline Year, gallons}} \times \boxed{0.20}}{\boxed{\text{Service Area Population in Midpoint Baseline Year}} \times \boxed{365 \text{ days}}}
 \end{array}$$

Step 3: Indoor Residential Savings

Indoor residential water savings are estimated based upon anticipated increases in the installation of more efficient toilets, residential clothes washers, and showerheads. The savings estimates are based on a comparison of saturation levels of fixtures, at certain water use efficiencies, during the midpoint year of the baseline period and with saturation goals in 2020. Separating toilets in single-family and multi-family dwellings, the 2020 saturation goals for the four plumbing fixtures categories are listed in Table 1.

Table 1. Saturation Goals for Indoor Residential Fixtures

Fixture Type	2020 Saturation Goals
Single-family Toilets	85% 1.28 gal/flush toilets 15% average flush volume at midpoint baseline year
Multi-family Toilets	85% 1.28 gal toilets 15% average flush volume at midpoint baseline year
Residential Washers	85% Water Factor (WF) of 6 15% average WF at midpoint baseline year
Residential Showerheads	95% low flow showerheads 5% non-low flow showerheads

There are two alternatives for calculating indoor residential water savings, one using the Target Method 4 Calculator based on historic data for a water supplier and the other using a default savings of 15 GPCD.

Alternative 1:

To calculate indoor residential savings using the historic data of an individual water supplier the following types of data may be required to enter into the Calculator:

- Persons per household
- Toilets per household
- Showers per household
- Numbers of single- and multi-family dwelling units for years 1991 through the midpoint of baseline period
- Population residing in group quarters in the midpoint year of baseline period
- Either (1) numbers of efficient toilets, showerheads, and clothes washers either distributed, installed, or credited through incentives, such as rebates for years 1991 through the midpoint of baseline period or (2) saturation levels of fixtures at various efficiencies at the midpoint year of the baseline period

After entry of the required data, the Calculator will determine the indoor residential savings in terms of GPCD.

Alternative 2:

If a water supplier does not have historic data for the midpoint baseline and prior years, the supplier can use a default indoor residential water savings of 15 GPCD. While the Calculator allows Alternative 2 for the convenience of calculating the target, if this alternative is chosen, the Calculator is unnecessary.

Determining whether to use the default value, the following information may be helpful. In developing the Provisional Target Method 4, a random sample of 52 water suppliers were selected to test the Calculator. The sample represented a variety of climatic and demographic characteristics. An analysis of this random sample developed a statewide average savings from the four indoor residential elements was 14.1 GPCD, with a range of

7.9 to 16.8 GPCD. Sixty percent of the suppliers fell within the range of 13.1 to 15.1 GPCD and 15 percent exceeded 15.1 GPCD.

Step 4: CII Savings

CII water savings is assumed to be 10 percent of baseline CII water use, which is an average for the baseline period calculated following procedures in Methodology 7 in the Methodologies Report. For the purpose of Target Method 4, CII water use does not include landscape irrigation served by dedicated landscape irrigation meters. CII savings is calculated using Equation 5.

Equation 5

$$\boxed{\text{CII Savings, GPCD}} = \boxed{\text{Average baseline CII Water Use, GPCD}} \times \boxed{0.10}$$

Step 5: Landscape Irrigation and Water Loss Savings

Landscape water use and water loss savings are based on a 21.6 percent reduction in that sector for all suppliers. The 21.6 percent reduction was derived from an analysis of 52 sample water suppliers and was calculated so that the average water use target for the 52 sample suppliers would meet the overall goal of a cumulative 20% percent savings. Landscape water use and water loss use is calculated using Equation 2 and represents irrigation water use, water loss and other unaccounted-for water uses. The savings is calculated using Equation 6.

Equation 6

$$\boxed{\text{Landscape water use and Water Loss Savings, GPCD}} = \boxed{\text{Landscape Irrigation and Water Loss Sector Use per Eq. 2, GPCD}} \times \boxed{0.216}$$

Step 6: Total Savings

The total savings required using Target Method 4 is calculated using Equation 3, entering results from Steps 2 through 5.

Step 7: 2020 Urban Water Use Target

The 2020 urban water use target in GPCD is calculated using Equation 1.

Example

To illustrate the procedures for the Provisional Target Method 4, calculations for the fictional Whispering Glen Water District are shown below.

Step 1. Baseline Water Use and Midpoint Year

Whispering Glen Water District selected a 10-year baseline period of 1996-2005. The average base daily per capita water use for this period was calculated to be 228 GPCD. The savings are calculated based on water deliveries in the midpoint year of the baseline period, which is 2000.

Step 2. Metering Savings (Equation 4)

Metering Savings, GPCD	=	Water Deliveries to Unmetered Connections in Midpoint Baseline Year, gallons 2,541,637,800	X	0.20	=	8.3 GPCD
	Service Area Population in Midpoint Baseline Year 168,118	X	365 days			

Step 3. Indoor Residential Savings

Alternative 1, Target Method 4 Calculator:

Total Indoor Residential Savings, GPCD	=	Single-family Toilets Savings, GPCD 7.6	+	Multi-family Toilets Savings, GPCD 1.6	+	Residential Washers Savings, GPCD 6.0	+	Residential Showers Savings, GPCD 1.3	=	16.5 GPCD
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Alternative 2, Default:

Total Indoor Residential Savings, GPCD	=	15.0 GPCD
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Step 4. CII Savings (Equation 5)

CII Savings, GPCD	=	Average baseline CII Water Use, GPCD <hr/> 69.0	X	0.10	=	6.9 GPCD
----------------------	---	---	---	------	---	----------

Step 5. Landscape Irrigation and Water Loss Savings (Equations 2 and 6)

Landscape Irrigation and Water Loss Sector Use, GPCD	=	2000 Base Daily per Capita Water Use <hr/> 227.7	-	Standard Indoor Residential Use, GPCD <hr/> 70.0	-	CII Water Deliveries in Midpoint Baseline Year, GPCD <hr/> 68.7	=	89.0 GPCD
--	---	--	---	--	---	--	---	--------------

Landscape Irrigation and Water Loss Savings, GPCD	=	Landscape Irrigation and Water Loss Sector Use, GPCD <hr/> 89.0	X	0.216	=	19.2 GPCD
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Step 6. Total Savings

Because there are two alternative methods to calculate indoor residential savings, there are two alternatives for total savings, calculated using Equation 3.

Alternative 1 (based on Target Method 4 Calculator for Indoor Residential Savings):

Total Savings, GPCD	=	Metering Savings, GPCD <hr/> 8.3	+	Indoor Residential Savings, GPCD <hr/> 16.5	+	CII Savings, GPCD <hr/> 6.9	+	Landscape Irrigation and Water Loss Savings, GPCD <hr/> 19.2	=	50.9 GPCD
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Alternative 2 (based on default for Indoor Residential Savings):

Total Savings, GPCD	=	Metering Savings, GPCD	+	Indoor Residential Savings, GPCD	+	CII Savings, GPCD	+	Landscape Irrigation and Water Loss Savings, GPCD	=	49.4 GPCD
		8.3		15.0		6.9		19.2		

Step 7. 2020 Urban Water Use Target (Equation 1)

Alternative 1 (based on Target Method 4 Calculator for Indoor Residential Savings):

Urban Water Use Target, GPCD	=	Base Daily per Capita Water Use, GPCD	-	Total Savings, GPCD	=	176.8 GPCD
		227.7		50.9		

Alternative 2 (based on default for Indoor Residential Savings):

Urban Water Use Target, GPCD	=	Base Daily per Capita Water Use, GPCD	-	Total Savings, GPCD	=	178.3 GPCD
		227.7		49.4		

APPENDIX D

Regulations for Implementing Process Water Provision

California Code of Regulations
Title 23. Waters
Division 2. Department of Water Resources
Chapter 5.1. Water Conservation Act of 2009
Article 1. Industrial Process Water Exclusion in the Calculation of Gross Water Use

§596. Process Water

(a) An urban retail water supplier that has a substantial percentage of industrial water use in its service area is eligible to exclude the process water use of existing industrial water customers from the calculation of its gross water use to avoid a disproportionate burden on another customer sector.

(b) The Department of Water Resources will review and assess the implementation of this article and may amend its provisions upon considering the recommendations of the Commercial, Industrial and Institutional task force convened pursuant to section 10608.43 of the Water Code.

Note: Authority cited: Section 10608.20, Water Code. Reference: Sections 10608.20(e), 10608.24(e), and 10608.43 Water Code.

§596.1. Applicability and Definitions

(a) Sections 596.2 through 596.5 describe criteria and methods whereby an urban retail water supplier may deduct process water use when calculating their gross water use in developing their urban water use targets.

(b) The terms used in this article are defined in this subdivision.

(1) “commercial water user” means a water user that provides or distributes a product or service. Examples include commercial businesses and retail stores, office buildings, restaurants, hotels and motels, laundries, food stores, and car washes.

(2) “disadvantaged community” means a community with an annual median household income that is less than 80 percent of the statewide annual median household income.

(3) “distribution system” means a water conveyance system that delivers water to a residential, commercial, or industrial customer and for public uses such as fire safety where the source of water is either raw or potable water.

(4) “drought emergency” means a water shortage emergency condition that exists when there would be insufficient water for human consumption, sanitation and fire protection, as set forth in California Water Code Section 350-359 and Government Code Section 8550-8551.

(5) “gross water use” means the total volume of water, whether treated or untreated, entering the distribution system of an urban retail water supplier, excluding all of the following:

(A) Recycled water that is delivered within the service area of an urban retail water supplier or its urban wholesale water supplier

(B) The net volume of water that the urban retail water supplier places into long-term storage

(C) The volume of water the urban retail water supplier conveys for use by another urban water supplier

(D) The volume of water delivered for agricultural use, except as otherwise provided in subdivision (f) of Section 10608.24 of the Water Code.

(6) “incidental water use” means water that is used by industry for purposes not related to producing a product or product content or research and development. This includes incidental cooling, air conditioning, heating, landscape irrigation, sanitation, bathrooms, cleaning, food preparation, kitchens, or other water uses not related to the manufacturing of a product or research and development.

(7) “industrial water user” means a manufacturer or processor of materials as defined by the North American Industry Classification System (NAICS) code sectors 31 to 33, inclusive, or an entity that is a water user primarily engaged in research and development. An industrial water user is primarily involved in product manufacturing and processing activities and research and development of products, such as those related to chemicals, food, beverage bottling, paper and allied products, steel, electronics and computers, metal finishing, petroleum refining, and transportation equipment. Data centers dedicated to research and development are considered an industrial water user.

(8) “institutional water user” means a water user dedicated to public service. This type of user includes, among other users, higher education institutions, schools, courts, churches, hospitals, government facilities, and nonprofit research institutions.

(9) “local agency” means any municipality, such as a city or county government or public water agency.

(10) “non-industrial water use” means gross water use minus industrial water use.

(11) “process water” means water used by industrial water users for producing a product or product content, or water used for research and development. Process water includes, but is not limited to; the continuous manufacturing processes, water used for testing, cleaning and maintaining equipment. Water used to cool machinery or buildings used in the manufacturing process **or necessary to maintain product quality or chemical characteristics for product manufacturing or control rooms, data centers, laboratories, clean rooms and other industrial facility units that are integral to the manufacturing** or research and development process shall be considered process water. Water used in the manufacturing process that is necessary for complying with local, State and federal health and safety laws, and is not incidental water, shall be considered process water. Process water does not include incidental, commercial or institutional water uses.

(12) “recycled water” means water that is used to offset potable demand, including recycled water supplied for direct use and indirect potable reuse that meets the following requirements, where applicable:

(A) For groundwater recharge, including recharge through spreading basins, water supplies that are all of the following:

(i) Metered.

(ii) Developed through planned investment by the urban water supplier or a wastewater treatment agency.

(iii) Treated to a minimum tertiary level.

(iv) Delivered within the service area of an urban retail water supplier or its urban wholesale water supplier that helps an urban retail water supplier meet its urban water use target.

(B) For reservoir augmentation, water supplies that meet the criteria of subdivision (A) and are conveyed through a distribution system constructed specifically for recycled water.

(13) “urban retail water supplier” means a water supplier, either publicly or privately owned, that directly provides potable municipal water to more than 3,000 end users or that supplies more than 3,000 acre-feet of potable water annually at retail for municipal purposes.

(14) “Urban Water Management Plan” means a plan prepared pursuant to California Water Code Division 6 Part 2.6. 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.

Note: Authority cited: Section 10608.20, Water Code. Reference: Sections 10608.12, 10608.20, and 10631 Water Code.

§596.2 Criteria for Excluding Industrial Process Water Use from Gross Water Use Calculation

When calculating its gross water use, an urban retail water supplier may elect to exclude up to 100 percent of process water use from its gross water use if any one of the following criteria is met in its service area:

- (a) Total industrial water use is equal to or greater than 12 percent of gross water use, or
- (b) Total industrial water use is equal to or greater than 15 gallons per capita per day, or
- (c) Non-industrial water use is equal to or less than 120 gallons per capita per day if the water supplier has self-certified the sufficiency of its water conservation program with the Department of Water Resources under the provisions of section 10631.5 of the Water Code, or
- (d) The population within the supplier's service area meets the criteria for a disadvantaged community.

Note: Authority cited: Section 10608.20, Water Code. Reference: Sections 10608.20 and 10608.24 Water Code.

§596.3. Quantification and Verification of Total Industrial Process and Industrial Incidental Water.

The volumes of water uses in Section 596.3 shall be for the same period as urban water suppliers calculate their baseline daily per capita water use and reported in their Urban Water Management Plans.

- (a) The volume of process water use shall be verified and separated from incidental water use.
 - (1) To establish a baseline for determining process water use, urban retail water suppliers shall calculate the process water use over a continuous ten year period ending no earlier than December 31, 2004, and no later than December 31, 2010.

(2) Verification of process water can be accomplished by metering, sub-metering or other means determined suitable and verifiable by the urban retail water supplier and reported in their Urban Water Management Plans and reviewed by the Department of Water Resources.

(b) In cases where the urban retail water supplier provides only a portion of an industrial water user's water supply, the urban retail water supplier shall prorate the volume of process water use excluded from gross water use by considering the average share of the industrial water use that it supplied over a continuous ten year period ending no earlier than December 31, 2004, and no later than December 31, 2010.

The verification of the proportion of industrial water use supplied shall be accomplished through metering, sub-metering, or other means determined suitable and verifiable by the urban water supplier such as audits, historic manufacturing output or suppliers' billing records and as reported in their Urban Water Management Plans.

Example. If an urban water supplier delivered only 60 percent of the average annual water used by an industrial water user, the urban supplier can only use that 60 percent of industrial water in determining if it is eligible to exclude process water from its gross water use; and if it is eligible, it can exclude only 60 percent of the volume of process water used by such industrial water user.

Note: Authority cited: Section 10608.20, Water Code. Reference: Sections 10608.20 and 10608.24 Water Code.

§596.4. Existing Industrial Customers

When implementing this article, urban retail water suppliers shall meet the following provisions:

(a) Any ordinance or resolution adopted by an urban retail water supplier after November 10, 2009 shall not require industrial water customers existing as of November 10, 2009 to undertake changes in product formulation, operations, or equipment that would reduce process water use.

(b) An urban retail water supplier may encourage existing industrial customers to utilize water efficiency technologies, methodologies, or practices through the use of financial and technical assistance.

(c) This section shall not limit an ordinance or resolution adopted pursuant to a declaration of drought emergency by an urban retail water supplier.

Note: Authority cited: Section 10608.20, Water Code. Reference: Section 10608.26 Water Code.

§596.5 New and Retrofitted Industries

Local agencies and water suppliers shall encourage newly-established and retrofitted industries to adopt industry-specific water conservation practices and technologies where such technologies exist.

Note: Authority cited: Section 10608.20, Water Code. Reference: Section 10608.20 Water Code.

APPENDIX B

Public Agency Notification

Public Hearing Notice

Resolution Adopting 2010 Urban Water Management Plan and
Methodology for Determining Water Use Targets under SBX 7-7

Minutes of June 28, 2011 Board Meeting

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Assistant General Manager / Treasurer
Lisa R. Soto
Board Secretary
Joel D. Kuperberg
General Counsel

March 17, 2011

Clay Phillips
City Manager
City of Escondido
201 North Broadway
Escondido, CA 92025

Re: 2010 Urban Water Management Plan Preparation

Dear Mr. Phillips:

This letter is to inform you that the Vista Irrigation District is updating its Urban Water Management Plan (UWMP). California State law requires urban water suppliers to update their UWMPs every five years and notify the cities and counties within their service area that a plan is being prepared. The District must adopt an updated UWMP by July 1, 2011 and submit the adopted plan to the California Department of Water Resources by August 1, 2011.

The UWMP is required to contain a detailed evaluation of the supplies necessary to reliably meet demands over at least a 20-year period in both normal and dry years. In accordance with State law, the District will distribute a copy of its draft 2010 UWMP to the cities and county within its service area for public review prior to holding a tentatively scheduled public hearing in June 2011.

Please feel free to contact Brett Hodgkiss, Administrative Services Manager, at (760) 597-3162 or bhodgkiss@vid-h2o.org, if you have any questions or would like additional information.

Sincerely,

A handwritten signature in black ink, appearing to read 'Roy A. Coox', written over a light blue horizontal line.

Roy A. Coox
General Manager

cc: Barbara Redlitz, Director of Community Development



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Board Secretary
Joel D. Kuperberg
General Counsel

March 17, 2011

Rita Geldert
City Manager
City of Vista
200 Civic Center Drive
Vista, CA 92084

Re: 2010 Urban Water Management Plan Preparation

Dear Ms. Geldert:

This letter is to inform you that the Vista Irrigation District is updating its Urban Water Management Plan (UWMP). California State law requires urban water suppliers to update their UWMPs every five years and notify the cities and counties within their service area that a plan is being prepared. The District must adopt an updated UWMP by July 1, 2011 and submit the adopted plan to the California Department of Water Resources by August 1, 2011.

The UWMP is required to contain a detailed evaluation of the supplies necessary to reliably meet demands over at least a 20-year period in both normal and dry years. In accordance with State law, the District will distribute a copy of its draft 2010 UWMP to the cities and county within its service area for public review prior to holding a tentatively scheduled public hearing in June 2011.

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Roy A. Coox
General Manager

cc: John Conley, Director of Community Development



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Lisa R. Soto
Board Secretary
Joel D. Kuperberg
General Counsel

March 17, 2011

Peter Weiss
City Manager
City of Oceanside
300 North Coast Highway
Oceanside, CA 92054

Re: 2010 Urban Water Management Plan Preparation

Dear Mr. Weiss:

This letter is to inform you that the Vista Irrigation District is updating its Urban Water Management Plan (UWMP). California State law requires urban water suppliers to update their UWMPs every five years and notify the cities and counties within their service area that a plan is being prepared. The District must adopt an updated UWMP by July 1, 2011 and submit the adopted plan to the California Department of Water Resources by August 1, 2011.

The UWMP is required to contain a detailed evaluation of the supplies necessary to reliably meet demands over at least a 20-year period in both normal and dry years. In accordance with State law, the District will distribute a copy of its draft 2010 UWMP to the cities and county within its service area for public review prior to holding a tentatively scheduled public hearing in June 2011.

Please feel free to contact Brett Hodgkiss, Administrative Services Manager, at (760) 597-3162 or bhodgkiss@vid-h2o.org, if you have any questions or would like additional information.

Sincerely,

A handwritten signature in black ink, appearing to read 'Roy A. Coox', written over a horizontal line.

Roy A. Coox
General Manager

cc: George Buell, Development Services Director



1391 Engineer Street • Vista, California 92081-8840
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Board Secretary
Joel D. Kuperberg
General Counsel

March 17, 2011

Paul Malone
City Manager
City of San Marcos
1 Civic Center Drive
San Marcos, CA 92069

Re: 2010 Urban Water Management Plan Preparation

Dear Mr. Malone:

This letter is to inform you that the Vista Irrigation District is updating its Urban Water Management Plan (UWMP). California State law requires urban water suppliers to update their UWMPs every five years and notify the cities and counties within their service area that a plan is being prepared. The District must adopt an updated UWMP by July 1, 2011 and submit the adopted plan to the California Department of Water Resources by August 1, 2011.

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Sincerely,

A handwritten signature in black ink, appearing to read 'Roy A. Coox', is written over a light blue horizontal line.

Roy A. Coox
General Manager

cc: Jerry Backoff, Planning Director



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Assistant General Manager / Treasurer
Lisa R. Soto
Board Secretary
Joel D. Kuperberg
General Counsel

March 17, 2011

Walter Ekard
Chief Administrative Officer
County of San Diego
1600 Pacific Coast Highway, Room 209
San Diego, CA 92101

Re: 2010 Urban Water Management Plan Preparation

Dear Mr. Ekard:

This letter is to inform you that the Vista Irrigation District is updating its Urban Water Management Plan (UWMP). California State law requires urban water suppliers to update their UWMPs every five years and notify the cities and counties within their service area that a plan is being prepared. The District must adopt an updated UWMP by July 1, 2011 and submit the adopted plan to the California Department of Water Resources by August 1, 2011.

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Please feel free to contact Brett Hodgkiss, Administrative Services Manager, at (760) 597-3162 or bhodgkiss@vid-h2o.org, if you have any questions or would like additional information.

Sincerely,

Roy A. Coox
General Manager

cc: Eric Gibson, Director of Planning and Land Use

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Board Secretary

Joel D. Kuperberg

General Counsel

June 6, 2011

Clay Phillips
City Manager
City of Escondido
201 North Broadway
Escondido, CA 92025

Re: 2010 Urban Water Management Plan

Dear Mr. Phillips:

Enclosed for your review and comment is a CD containing a draft of the Vista Irrigation District's 2010 Urban Water Management Plan (2010 Plan). The California Urban Water Management Planning Act (Act), included in the California Water Code requires urban water suppliers to prepare an urban water management plan and update them every five years. The Vista Irrigation District is required to prepare and adopt the 2010 Plan by July 1, 2011 and submit it to the California Department of Water Resources by August 1, 2011.

The enclosed 2010 Plan provides an evaluation of the existing and planned sources of water necessary to reliably meet demands under normal, single-dry year and multiple-dry year conditions in five-year increments for the 20-year term required by the Act. The 2010 Plan also contains documentation related to the implementation of SBX 7-7 ("20 X 2020" water conservation requirements).

A public hearing on the 2010 Plan and the implementation of SBX 7-7 is scheduled to be held at the District office located at 1391 Engineer Street in Vista on June 28, 2011 at 8:30 AM. Written comments will be received until 8:30 AM on June 28, 2011. Comments on the 2010 Plan can be e-mailed to Administrative Services Manager Brett Hodgkiss at bhodgkiss@vid-h2o.org or by writing to: Vista Irrigation District, ATTN: Urban Water Management Plan, 1391 Engineer Street, Vista, CA 92081-8840.

If you have any questions regarding the 2010 Plan, please contact Mr. Hodgkiss at (760) 597-3162.

Sincerely,

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Roy A. Coox
General Manager

Enclosure



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Joel D. Kuperberg

General Counsel

June 6, 2011

Barbara Redlitz
Director of Community Development
City of Escondido
201 North Broadway
Escondido, CA 92025

Re: 2010 Urban Water Management Plan

Dear Ms. Redlitz:

Enclosed for your review and comment is a CD containing a draft of the Vista Irrigation District's 2010 Urban Water Management Plan (2010 Plan). The California Urban Water Management Planning Act (Act), included in the California Water Code requires urban water suppliers to prepare an urban water management plan and update them every five years. The Vista Irrigation District is required to prepare and adopt the 2010 Plan by July 1, 2011 and submit it to the California Department of Water Resources by August 1, 2011.

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Sincerely,

Roy A. Coox
General Manager

Enclosure



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Board Secretary

Joel D. Kuperberg

General Counsel

June 6, 2011

Lori Vereker
Director of Water Utilities
City of Escondido
201 North Broadway
Escondido, CA 92025

Re: 2010 Urban Water Management Plan

Dear Ms. Vereker:

Enclosed for your review and comment is a CD containing a draft of the Vista Irrigation District's 2010 Urban Water Management Plan (2010 Plan). The California Urban Water Management Planning Act (Act), included in the California Water Code requires urban water suppliers to prepare an urban water management plan and update them every five years. The Vista Irrigation District is required to prepare and adopt the 2010 Plan by July 1, 2011 and submit it to the California Department of Water Resources by August 1, 2011.

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Sincerely,

Roy A. Coox
General Manager

Enclosure



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General Counsel

June 6, 2011

Rita Geldert
City Manager
City of Vista
200 Civic Center Drive
Vista, CA 92084

Re: 2010 Urban Water Management Plan

Dear Ms. Geldert:

Enclosed for your review and comment is a CD containing a draft of the Vista Irrigation District's 2010 Urban Water Management Plan (2010 Plan). The California Urban Water Management Planning Act (Act), included in the California Water Code requires urban water suppliers to prepare an urban water management plan and update them every five years. The Vista Irrigation District is required to prepare and adopt the 2010 Plan by July 1, 2011 and submit it to the California Department of Water Resources by August 1, 2011.

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If you have any questions regarding the 2010 Plan, please contact Mr. Hodgkiss at (760) 597-3162.

Sincerely,

A handwritten signature in dark ink, appearing to read 'Roy A. Coox'.

Roy A. Coox
General Manager

Enclosure



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General Counsel

June 6, 2011

John Conley
Director of Community Development
City of Vista
200 Civic Center Drive
Vista, CA 92084

Re: 2010 Urban Water Management Plan

Dear Mr. Conley:

Enclosed for your review and comment is a CD containing a draft of the Vista Irrigation District's 2010 Urban Water Management Plan (2010 Plan). The California Urban Water Management Planning Act (Act), included in the California Water Code requires urban water suppliers to prepare an urban water management plan and update them every five years. The Vista Irrigation District is required to prepare and adopt the 2010 Plan by July 1, 2011 and submit it to the California Department of Water Resources by August 1, 2011.

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If you have any questions regarding the 2010 Plan, please contact Mr. Hodgkiss at (760) 597-3162.

Sincerely,

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Roy A. Coox
General Manager

Enclosure



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June 6, 2011

Peter Weiss
City Manager
City of Oceanside
300 North Coast Highway
Oceanside, CA 92054

Re: 2010 Urban Water Management Plan

Dear Mr. Weiss:

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Sincerely,

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Roy A. Coox
General Manager

Enclosure



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Joel D. Kuperberg

General Counsel

June 6, 2011

George Buell
Development Services Director
City of Oceanside
300 North Coast Highway
Oceanside, CA 92054

Re: 2010 Urban Water Management Plan

Dear Mr. Buell:

Enclosed for your review and comment is a CD containing a draft of the Vista Irrigation District's 2010 Urban Water Management Plan (2010 Plan). The California Urban Water Management Planning Act (Act), included in the California Water Code requires urban water suppliers to prepare an urban water management plan and update them every five years. The Vista Irrigation District is required to prepare and adopt the 2010 Plan by July 1, 2011 and submit it to the California Department of Water Resources by August 1, 2011.

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Sincerely,

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Roy A. Coox
General Manager

Enclosure



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June 6, 2011

Paul Malone
City Manager
City of San Marcos
1 Civic Center Drive
San Marcos, CA 92069

Re: 2010 Urban Water Management Plan

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Roy A. Coox
General Manager

Enclosure



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Assistant General Manager / Treasurer

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Joel D. Kuperberg

General Counsel

June 6, 2011

Jerry Backoff
Planning Director
City of San Marcos
1 Civic Center Drive
San Marcos, CA 92069

Re: 2010 Urban Water Management Plan

Dear Mr. Backoff:

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Sincerely,

Roy A. Coox
General Manager

Enclosure



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Joel D. Kuperberg

General Counsel

June 6, 2011

Walter Ekard
Chief Administrative Officer
County of San Diego
1600 Pacific Coast Highway
Room 209
San Diego, CA 92101

Re: 2010 Urban Water Management Plan

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Roy A. Coox
General Manager

Enclosure



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Lisa R. Soto
Board Secretary
Joel D. Kuperberg
General Counsel

June 6, 2011

Eric Gibson
Director of Planning and Land Use
County of San Diego
5201-B Ruffin Road
MS 0650
San Diego, CA 92123

Re: 2010 Urban Water Management Plan

Dear Mr. Gibson:

Enclosed for your review and comment is a CD containing a draft of the Vista Irrigation District's 2010 Urban Water Management Plan (2010 Plan). The California Urban Water Management Planning Act (Act), included in the California Water Code requires urban water suppliers to prepare an urban water management plan and update them every five years. The Vista Irrigation District is required to prepare and adopt the 2010 Plan by July 1, 2011 and submit it to the California Department of Water Resources by August 1, 2011.

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Roy A. Coox
General Manager

Enclosure



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Assistant General Manager / Treasurer

Lisa R. Soto

Board Secretary

Joel D. Kuperberg

General Counsel

June 6, 2011

Joyce Bales
Superintendent
Vista Unified School District
1234 Arcadia Avenue
Vista, CA 92084

Re: 2010 Urban Water Management Plan

Dear Dr. Bales:

Enclosed for your review and comment is a CD containing a draft of the Vista Irrigation District's 2010 Urban Water Management Plan (2010 Plan). The California Urban Water Management Planning Act (Act), included in the California Water Code requires urban water suppliers to prepare an urban water management plan and update them every five years. The Vista Irrigation District is required to prepare and adopt the 2010 Plan by July 1, 2011 and submit it to the California Department of Water Resources by August 1, 2011.

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A public hearing on the 2010 Plan and the implementation of SBX 7-7 is scheduled to be held at the District office located at 1391 Engineer Street in Vista on June 28, 2011 at 8:30 AM. Written comments will be received until 8:30 AM on June 28, 2011. Comments on the 2010 Plan can be e-mailed to Administrative Services Manager Brett Hodgkiss at bhodgkiss@vid-h2o.org or by writing to: Vista Irrigation District, ATTN: Urban Water Management Plan, 1391 Engineer Street, Vista, CA 92081-8840.

If you have any questions regarding the 2010 Plan, please contact Mr. Hodgkiss at (760) 597-3162.

Sincerely,

A handwritten signature in black ink, appearing to read 'Roy A. Coox'.

Roy A. Coox
General Manager

Enclosure



1391 Engineer Street • Vista, California 92081-8840

Phone: (760) 597-3100 • Fax: (760) 598-8757

www.vid-h2o.org

Board of Directors

Jo MacKenzie, *President*

Paul E. Dorey

Marty Miller

Richard L. Vásquez

Howard S. Williams

Administrative Staff

Roy A. Coox

General Manager

Eldon L. Boone

Assistant General Manager / Treasurer

Lisa R. Soto

Board Secretary

Joel D. Kuperberg

General Counsel

June 6, 2011

Sean Sterchi
District Engineer
Dept. of Health, Drinking Water Branch
1350 Front Street
Room 2050
San Diego, CA 92101

Re: 2010 Urban Water Management Plan

Dear Mr. Sterchi:

Enclosed for your review and comment is a CD containing a draft of the Vista Irrigation District's 2010 Urban Water Management Plan (2010 Plan). The California Urban Water Management Planning Act (Act), included in the California Water Code requires urban water suppliers to prepare an urban water management plan and update them every five years. The Vista Irrigation District is required to prepare and adopt the 2010 Plan by July 1, 2011 and submit it to the California Department of Water Resources by August 1, 2011.

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If you have any questions regarding the 2010 Plan, please contact Mr. Hodgkiss at (760) 597-3162.

Sincerely,

A handwritten signature in black ink, appearing to read 'Roy A. Coox', written over a white background.

Roy A. Coox
General Manager

Enclosure



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Lisa R. Soto

Board Secretary

Joel D. Kuperberg

General Counsel

June 6, 2011

Kevin Hardy
General Manager
Encina Wastewater Authority
6200 Avenida Encinas
Carlsbad, CA 92011

Re: 2010 Urban Water Management Plan

Dear Mr. Hardy:

Enclosed for your review and comment is a CD containing a draft of the Vista Irrigation District's 2010 Urban Water Management Plan (2010 Plan). The California Urban Water Management Planning Act (Act), included in the California Water Code requires urban water suppliers to prepare an urban water management plan and update them every five years. The Vista Irrigation District is required to prepare and adopt the 2010 Plan by July 1, 2011 and submit it to the California Department of Water Resources by August 1, 2011.

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If you have any questions regarding the 2010 Plan, please contact Mr. Hodgkiss at (760) 597-3162.

Sincerely,

A handwritten signature in black ink, appearing to read 'Roy A. Coox', written in a cursive style.

Roy A. Coox
General Manager

Enclosure



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Assistant General Manager / Treasurer

Lisa R. Soto

Board Secretary

Joel D. Kuperberg

General Counsel

June 6, 2011

Maureen Stapleton
General Manager
San Diego County Water Authority
4677 Overland Avenue
San Diego, CA 92123

Re: 2010 Urban Water Management Plan

Dear Ms. Stapleton:

Enclosed for your review and comment is a CD containing a draft of the Vista Irrigation District's 2010 Urban Water Management Plan (2010 Plan). The California Urban Water Management Planning Act (Act), included in the California Water Code requires urban water suppliers to prepare an urban water management plan and update them every five years. The Vista Irrigation District is required to prepare and adopt the 2010 Plan by July 1, 2011 and submit it to the California Department of Water Resources by August 1, 2011.

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If you have any questions regarding the 2010 Plan, please contact Mr. Hodgkiss at (760) 597-3162.

Sincerely,

Roy A. Coox
General Manager

Enclosure



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General Manager

Eldon L. Boone

Assistant General Manager / Treasurer

Lisa R. Soto

Board Secretary

Joel D. Kuperberg

General Counsel

June 6, 2011

Re: 2010 Urban Water Management Plan

Dear Interested Party:

Enclosed for your review and comment is a CD containing a draft of the Vista Irrigation District's 2010 Urban Water Management Plan (2010 Plan). The California Urban Water Management Planning Act (Act), included in the California Water Code requires urban water suppliers to prepare an urban water management plan and update them every five years. The Vista Irrigation District is required to prepare and adopt the 2010 Plan by July 1, 2011 and submit it to the California Department of Water Resources by August 1, 2011.

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If you have any questions regarding the 2010 Plan, please contact Mr. Hodgkiss at (760) 597-3162.

Sincerely,

Roy A. Coox
General Manager

Enclosure

PROOF OF PUBLICATION (2010 & 2011 C.C.P.)

STATE OF CALIFORNIA
County of San Diego

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

Proof of Publication of

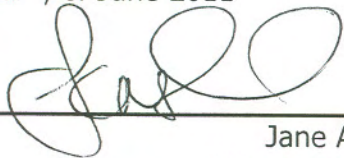
North County Times

Formerly known as the Blade-Citizen and The Times-Advocate and which newspapers have been adjudicated newspapers of general circulation by the Superior Court of the County of San Diego, State of California, for the City of Oceanside and the City of Escondido, Court Decree number 171349, for the County of San Diego, that the notice of which the annexed is a printed copy (set in type not smaller than nonpariel), has been published in each regular and entire issue of said newspaper and not in any supplement thereof on the following dates, to-wit:

June 21st & 26th, 2011

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

Dated at **Escondido**, California
27th, of June 2011



Jane Allshouse
NORTH COUNTY TIMES
Legal Advertising

NOTICE OF PUBLIC HEARING

In accordance with Sections 10642 and 10608.26 of the California Water Code, notice is hereby given that the Vista Irrigation District (VID) will hold a public hearing for the following purposes: (1) to consider and adopt proposed revisions and updates to the draft 2010 Urban Water Management Plan (Plan) and (2) to consider and adopt the method for determining the VID's water use targets under SBX 7-7, including obtaining public comment regarding VID's implementation plan and considering the economic impacts, if any, for implementing the plan. Copies of the Plan, which includes SBX 7-7 compliance documentation, are available for public review at the following location:

VISTA IRRIGATION DISTRICT
1391 Engineer Street
Vista, California 92081-8840

The public hearing will be held at 8:30 AM on Tuesday, June 28, 2011 at the above noted location.

VID encourages the active involvement of the diverse social, cultural, and economic elements of the population within its service area. For further information concerning the Plan or SBX 7-7 compliance, contact Brett Hodgkiss at the Vista Irrigation District or telephone, 760-597-3162. Written comments will be received at the above address until 8:30 AM on June 28, 2011.

/s/ Lisa R. Soto, Secretary
Board of Directors
VISTA IRRIGATION DISTRICT
nct 2292845 • 06/21, 06/26/2011

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RESOLUTION NO. 11-24

RESOLUTION OF THE BOARD OF DIRECTORS
OF THE VISTA IRRIGATION DISTRICT
ADOPTING THE 2010 URBAN WATER MANAGEMENT PLAN

WHEREAS, the California Urban Water Management Planning Act (Act), Water Code section 10610 et seq., mandates that every urban water supplier providing water for municipal purposes to more than 3,000 customers or supplying more than 3,000 acre-feet of water annually, prepare and update an Urban Water Management Plan (UWMP) at least once every five years on or before December 31, in years ending in five and zero; and

WHEREAS, the Vista Irrigation District (District) is an urban water supplier for the purposes of the Act, and approved and adopted its most recent UWMP on December 7, 2005, and submitted its 2005 UWMP to the California Department of Water Resources (DWR); and

WHEREAS, Senate Bill 7 of the Seventh Extraordinary Session (SBX 7-7), Water Code section 10608 et seq., extended the time by which urban retail suppliers must adopt their 2010 UWMPs to July 1, 2011 and, among other things, established requirements for urban retail water suppliers to prepare urban water use targets in accordance with the goals of SBX 7-7 to reduce statewide per capita water use by ten (10) percent by 2015 and twenty (20) percent by 2020; and

WHEREAS, the District is an "urban retail water supplier" for the purposes of SBX 7-7 because it directly provides potable municipal water to more than 3,000 end users; and

WHEREAS, in accordance with the requirements of the Act and SBX 7-7, the District has prepared its 2010 UWMP and has undertaken certain coordination, notice, public involvement, public comment, and other procedures in relation to its 2010 UWMP; and

WHEREAS, as authorized by Water Code section 10620(e) of the Act, the District has prepared its 2010 UWMP with its own staff, and in consultation with other governmental agencies, and has utilized and relied upon the DWR Guidebook to Assist Urban Water Suppliers to Prepare a 2010 UWMP (March 2011) and the DWR Methodologies for Calculating Baseline and Compliance Urban Per Capita Water Use (February 2011) in preparing its 2010 UWMP; and

WHEREAS, in accordance with Water Code section 10621, the District notified cities and the county within which the District provides water supplies that it was reviewing and considering amendments to its UWMP on March 17, 2011; and

WHEREAS, the draft 2010 UWMP was made available for public review on the District's web site and at its office located at 1391 Engineer Street in Vista during normal business hours and was distributed to cities and the county within which the District provides water supplies on June 6, 2011; and

WHEREAS, in accordance with applicable law, including Water Code sections 10608.26 and 10642 and Government Code section 6066, a notice of public hearing regarding the District's 2010 UWMP and compliance with SBX 7-7 was published in a newspaper of general circulation within its service area on June 21, 2011 and June 26, 2011; and

WHEREAS, in accordance with applicable law, a public hearing was held on June 28, 2011 at 8:30 AM, or soon thereafter, in the District's Board Room at 1391 Engineer Street, Vista, CA 92081, in order to receive public comment relative to the 2010 UWMP and compliance with SBX 7-7; and

WHEREAS, pursuant to said public hearing on the 2010 UWMP, the District encouraged the active involvement of diverse social, cultural and economic elements of the population within its service area with regard to the preparation of the UWMP, allowed public input regarding the method for determining per capita water use targets and the implementation plan for complying with SBX 7-7, and considered the economic impacts of the District's implementation plan for complying with SBX 7-7.

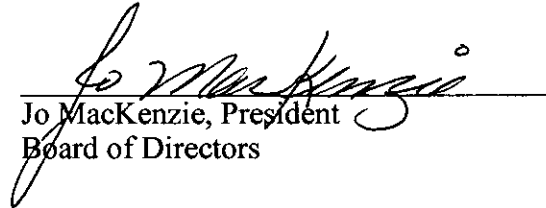
NOW, THEREFORE, the Board of Directors of the Vista Irrigation District does resolve as follows:

1. The District hereby adopts Method 3 for the purposes of Water Code section 10608.20(b) and approves the implementation plan for complying with SBX 7-7.
2. The District hereby approves and adopts the 2010 Urban Water Management Plan, which incorporates 2015 and 2020 water use targets as well as a discussion regarding the implementation of policies and programs to assist the District in meeting the water use targets and the potential economic impacts of implementing said policies and programs.
3. The General Manager is hereby authorized and directed to include a copy of this Resolution in the District's 2010 Urban Water Management Plan and, in accordance with Water Code section 10644(a), to file the 2010 Urban Water Management Plan with the California Department of Water Resources, the California State Library, and any city or county within which the District provides water supplies within thirty (30) days of the adoption of this Resolution.
4. The General Manager is hereby authorized and directed, in accordance with Water Code section 10645, to make the 2010 Urban Water Management Plan available for public review during normal business hours not later than thirty (30) days after filing a copy of the plan with the California Department of Water Resources.
5. The General Manager is hereby authorized and directed, in accordance with Water Code section 10635(b), to provide that portion of the 2010 Urban Water Management Plan prepared pursuant to Water Code section 10635(a) to any city or county within which the District provides water supplies not later than sixty (60) days after filing a copy with the California Department of Water Resources.

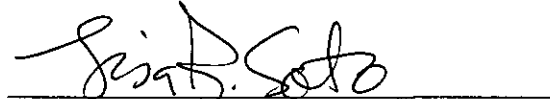
6. The General Manager is hereby authorized and directed to implement the components of the 2010 Urban Water Management Plan in accordance with the Urban Water Management Planning Act and SBX 7-7, including, but not limited to, the District's water conservation programs and its water shortage contingency plan.

PASSED AND ADOPTED, by the Board of Directors of the Vista Irrigation District on this 28th day of June, 2011, by the following roll call vote:

AYES: Directors Miller, Vásquez, Dorey, Williams, and MacKenzie
NOES: None
ABSTAIN: None
ABSENT: None


Jo MacKenzie, President
Board of Directors

ATTEST:


Lisa R. Soto, Secretary
Board of Directors
VISTA IRRIGATION DISTRICT

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MINUTES OF THE ADJOURNED MEETING OF THE
BOARD OF DIRECTORS OF THE
VISTA IRRIGATION DISTRICT

June 28, 2011

An Adjourned Meeting of the Board of Directors of Vista Irrigation District was held on Tuesday, June 28, 2011, at the offices of the District, 1391 Engineer Street, Vista, California.

1. CALL TO ORDER

President MacKenzie called the meeting to order at 8:31 a.m.

2. ROLL CALL

Directors present: Miller, Vásquez, Dorey, Williams, and MacKenzie.

Directors absent: None.

Staff present: Roy Coox, General Manager; Lisa Soto, Secretary of the Board; Eldon Boone, Assistant General Manager; Don Smith, Director of Water Resources; Brian Smith, Director of Engineering; Al Ducusin, Engineering Manager; Brett Hodgkiss, Administrative Services Manager; and Marian Schmidt, Administrative Assistant. General Counsel Joel Kuperberg was also present.

Other attendees: Special Counsel John Carter by teleconference from 10:14 a.m. to 10:57 a.m.

3. PLEDGE OF ALLEGIANCE

Director Miller led the pledge of allegiance.

4. APPROVAL OF AGENDA

11-06-66	<i>Upon motion by Director Williams, seconded by Director Miller and unanimously carried, the Board of Directors approved the agenda as presented.</i>
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5. PUBLIC COMMENT TIME

No public comments were presented on items not appearing on the agenda.

6. CONSENT CALENDAR

11-06-67	<i>Upon motion by Director Williams, seconded by Director Vásquez and unanimously carried, the Board of Directors approved the Consent Calendar, including Resolution No. 11-23 approving disbursements.</i>
----------	--

A. Annual material transport service contract

See staff report attached hereto. Staff recommended and the Board approved the second and final extension to the existing contract with Leon Perrault Trucking to transport materials (decomposed granite, temporary asphalt, gravel and spoil materials) to and from District jobsites and the District yard for the upcoming fiscal year 2012.

B. Annual patch paving contract

See staff report attached hereto. Staff recommended and the Board approved the bid for asphalt repair from Medina Construction to perform the District's patch paving of small excavations under 350 square feet for fiscal year 2012.

C. Acceptance of water system

See staff report attached hereto. Staff recommended and the Board accepted the water system for the Vista Sports Park consisting of approximately 31.90 gross acres owned by the City of Vista located at 1600 Sports Park Way, Vista (WOI-3045 & WOI-3048; LN 2007-042 & -042A; APN's 159-090-44, -45, -51 & 161-030-19; DIV NO. 1).

D. Grant of Right of Way

See staff report attached hereto. Staff recommended and the Board accepted Grant of Right of Way No. A50 for a 15-foot wide specific easement over property owned by David Ahumada and Lise Thomsen located at 2903 Harris Drive, Vista (APN 170-080-25; DIV NO 1).

E. Parcel map and Grant of Right of Way

See staff report attached hereto. Staff recommended and the Board accepted the parcel map and Grant of Right of Way No. R46 (via parcel map) for an existing church development known as St. Francis of Assisi consisting of approximately 4.27 gross acres owned by Roman Catholic Bishop of San Diego, located at 525 West Vista Way, Vista (LN 2007-065; APN's 164-122-04, -10, -11, & -19; DIV NO 2).

F. Minutes of Board of Directors meeting on June 1, 2011

The minutes of June 1, 2011 were approved as presented.

G. Resolution ratifying check disbursements

RESOLUTION NO. 11-23

BE IT RESOLVED, that the Board of Directors of Vista Irrigation District does hereby approve checks numbered 40505 through 40706 drawn on Union Bank totaling \$797,736.90.

FURTHER RESOLVED that the Board of Directors does hereby authorize the execution of the checks by the appropriate officers of the District.

PASSED AND ADOPTED by the following roll call vote of the Board of Directors of Vista Irrigation District this 28th day of June 2011.

AYES: Directors Miller, Vásquez, Dorey, Williams, and MacKenzie
NOES: None
ABSTAIN: None
ABSENT: None

7. 2010 URBAN WATER MANAGEMENT PLAN AND COMPLIANCE WITH SBX 7-7

See staff report attached hereto.

President MacKenzie opened the public hearing at 8:35 a.m. General Manager Roy Coox stated that no comments were received in writing or verbally from the public regarding the draft Urban Water Management Plan (Plan). Mr. Coox reviewed the various methods of public outreach staff did concerning the Plan, including providing copies of the draft Plan to all the public agencies in the VID service area. Staff directly consulted with the City of Vista on major sections of the plan before finalizing the draft. The only change to the Plan being proposed by staff was to the section which addresses resources and funding the District is committing to SBX 7-7 compliance. Mr. Coox thanked and acknowledged the work of Administrative Services Manager Brett Hodgkiss, who developed and completed the Plan in-house rather than through the use of a consultant which is the common practice among other agencies.

Mr. Hodgkiss provided a brief overview of the Plan. He explained how Method 3 was selected as the method for deriving the District's water use target for SBX 7-7, stating that the District does not have all the data needed to use Method 2 or Method 4. Method 3 was selected since the District's per capital usage is already under the State's initial calculation for 2020.

President MacKenzie closed the public hearing to receive public comment relative to the VID 2010 Urban Water Management Plan and compliance with SVX 7-7 at 8:41 a.m.

11-06-68 *Upon motion by Director Vásquez, seconded by Director Miller, the Board of Directors adopted Resolution 11-24 which adopts Method 3 for the purposes of Water Code section 10608.20(b), it approves the implementation plan for complying with SBX 7-7, and it adopts the 2010 Urban Water Management Plan, by the following roll call vote:*

AYES: Directors Miller, Williams, Dorey, Vasquez, and MacKenzie

NOES: None

ABSTAIN: None

ABSENT: None

A copy of Resolution 11-24 is on file in the official Resolution Book of the District.

The following item was taken out of order.

9. ACWA HEALTH BENEFITS AUTHORITY BOARD OF DIRECTORS ELECTION

See staff report attached hereto.

The Board discussed the candidates briefly.

11-06-69 *Upon motion by Director Dorey, seconded by Director Williams and unanimously carried, the Board of Directors cast the District's vote in the ACWA Health Benefits Authority Board of Directors election for Tamara Wickland of East Bay Municipal Utility District for Position 1, and for Dennis Michum of Glenn-Colusa Irrigation District for Position 2.*

During the above discussion, retiring VID employee Mark Lee joined the Board meeting along with many VID employees who also joined the meeting to wish Mr. Lee well in his retirement.

8. RESOLUTION COMMENDING RETIRING VID EMPLOYEE MARK J. LEE

See staff report attached hereto.

11-06-70 *Upon motion by Director Vásquez, seconded by Director Williams, the Board of Directors adopted Resolution 11-25 honoring Mark J. Lee, Construction Supervisor, for 19 years of service to the District and its customers, by the following roll call vote:*

AYES: Directors Miller, Williams, Dorey, Vasquez, and MacKenzie
NOES: None
ABSTAIN: None
ABSENT: None

A copy of Resolution 11-25 is on file in the official Resolution Book of the District.

Mr. Coox said that he was pleased to honor Construction Supervisor Mark Lee on his retirement, adding that Mr. Lee will be sorely missed. Mr. Coox said that Mr. Lee has been the epitome of a working supervisor, one who leads by example, performing hands-on work as well as the duties of a good supervisor. President MacKenzie commented that it is sad to see Mr. Lee go, and that he will be leaving behind some big shoes to fill. Field Services Manager Dan Dambach spoke briefly commending and thanking Mr. Lee for his nearly 20 years of service.

A brief break was taken for refreshments from 8:53 a.m. to 9:07 a.m. Upon return from break only Messrs. Don Smith and Brett Hodgkiss were present in the audience.

10. CSDA BOARD OF DIRECTORS ELECTION

See staff report attached hereto.

President MacKenzie recommended that the Board cast the District's vote for Dewey Ausmus of the North County Cemetery District for the CSDA Board of Directors for Region 6, Seat C.

11-06-71 *Upon motion by Director Miller, seconded by Director Dorey and unanimously carried, the Board of Directors cast the District's vote in the CSDA Board of Directors election for Region 6, Seat C for Dewey Ausmus of the North County Cemetery District.*

11. CSDA BYLAWS AMENDMENTS

See staff report attached hereto.

President MacKenzie said that as stated in the staff report, CSDA is proposing a change to its bylaws to require that all members of newly formed chapters also be members of CSDA on the statewide level. She said this change will only affect newly formed chapters.

11-06-72 *Upon motion by Director Dorey, seconded by Director Miller and unanimously carried, the Board of Directors cast the District's vote to approve the CSDA bylaws amendments.*

12. MATTERS PERTAINING TO THE ACTIVITIES OF THE SAN DIEGO COUNTY WATER AUTHORITY

See staff report attached hereto.

Director Williams reported that the Water Authority board approved the budget for fiscal years 2012 and 2013. He commented briefly on the seawater desalination project in Carlsbad which continues to encounter delays. Director Williams reported on the Pipelines 3 and 4 relining project from Miramar Hill to Scripps Ranch, stating that the CWA board denied the bid protest on the Project, and authorized award of the contract to J. Fletcher Creamer & Son and Spiniello Companies as a joint venture.

13. REPORTS ON MEETINGS AND EVENTS ATTENDED BY DIRECTORS, AND AUTHORIZATION FOR DIRECTOR ATTENDANCE AT UPCOMING MEETINGS AND EVENTS

See staff report attached hereto.

Directors Dorey and Vásquez reported on their attendance at the Council of Water Utilities (COWU) meeting on Tuesday, June 21 where a presentation was made by Ron Davis, Executive Director of CalDesal. CalDesal is a newly formed organization that is interested in defending, promoting, and lobbying for seawater desalination projects in California. Directors Vásquez and Dorey requested authorization after the fact for their attendance at the June 21 COWU meeting because the flyer for the meeting was published after the last VID Board meeting.

President MacKenzie reported on her attendance at the Florida Association of Special Districts' (FASD) Annual Conference. President MacKenzie stated that the California Special District's Association (CSDA) and the FASD have a cooperative relationship in which the two organizations share information. As President of CSDA, President MacKenzie's registration was paid by the FASD. She shared some of the highlights including an interesting presentation about public agencies' use of social media websites.

President MacKenzie reminded the Board and staff about the upcoming CSDA Quarterly dinner meeting where Gordon Graham will be the guest speaker. She pointed out that the CSDA Annual Conference was coming up in October in Monterey. She requested to know in advance who from VID will be attending so invitations can be sent out for the President's Reception.

Director Dorey advised that he would not be in attendance for the July 20, 2011 Board meeting.

11-06-73 *Upon motion by Director Dorey, seconded by Director Miller and unanimously carried, the Board of Directors authorized the following Director attendances: Vásquez and Dorey authorization after the fact for COWU meeting which took place on June 21, 2011 in Poway; Vásquez to attend COWU meeting on July 19, 2011.*

14. ITEMS FOR FUTURE AGENDAS AND/OR PRESS RELEASES

See staff report attached hereto.

President MacKenzie suggested that Board policies be added to the list of future agenda items. Director Dorey, chair of the Board Policies ad hoc committee, suggested that he and Director Vásquez meet to review this item sometime in August.

Mr. Coox stated that staff was in the process of preparing an upcoming agenda item to discuss calendaring workshops for the Board to discuss water supply master planning.

15. DIRECTOR COMMENTS

Director Williams reported on a 3½ hour closed session of the ACWA Health Benefits Association (HBA) Board, which he attended the previous day by teleconference. He reported that he also attended an HBA board meeting by teleconference the previous week. Director Williams said that the HBA continues to seek a new headquarters location, and that a tentative decision has been made on a site in North Sacramento near the airport. Staffing for the HBA has also been a topic of discussion, including hiring a new Executive Director. Barbara Duggen, who is an employee of ACWA and currently serves as the HBA Executive Director will be retiring on July 31.

16. COMMENTS BY GENERAL COUNSEL

Mr. Kuperberg informed the Board about AB 195 concerning labor negotiations. This bill would specify that if a public agency knowingly provides a recognized employee organization with inaccurate information this would constitute a refusal or failure to meet and negotiate in good faith. The bill would declare that these provisions are intended to be a clarification of existing law.

Mr. Kuperberg informed the Board about AB 527 which was intended to address some of the conflict issues that arose out of the City of Bell scandals. This legislation would amend a provision of Government Code Section 1090 and provide a member of the governing body shall be deemed to be financially interested in a contract if the member has an independent contracting relationship with an individual or nongovernmental entity that enters, or seeks to enter into a contract with that agency.

17. COMMENTS BY GENERAL MANAGER

Mr. Coox informed the Board that the current water level at Lake Henshaw was at 17,620 acre feet.

18. CLOSED SESSION FOR CONFERENCE WITH LEGAL COUNSEL

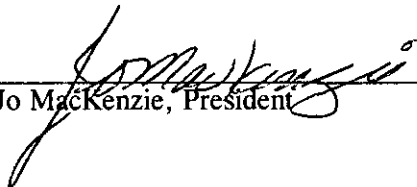
President MacKenzie adjourned the meeting to closed session at 10:14 a.m. for a conference with legal counsel to discuss the following pending litigation:

- A. San Luis Rey Indian Water Rights Settlement per Govt. Code section 54956.9(a).
- B. Quantification Settlement Agreement (QSA) per Govt. Code section 54956.9(a)


The meeting reconvened in open session at 10:57 a.m. President MacKenzie declared that no reportable action had been taken.

19. ADJOURNMENT

There being no further business to come before the Board, at 10:57 a.m., President MacKenzie adjourned the meeting.


Jo MacKenzie, President

ATTEST:


Lisa R. Soto, Secretary
Board of Directors
VISTA IRRIGATION DISTRICT

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APPENDIX C

Department of Water Resources
2010 Urban Water Management Plan Checklist

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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		Subsection 3.6 (pgs. 31-35); Tables 3-5 to 3-9 (pgs. 32-35)
2	<i>Wholesalers:</i> Include an assessment of present and proposed future measures, programs, and policies to help achieve the water use reductions. <i>Retailers:</i> Conduct at least one public hearing that includes general discussion of the urban retail water supplier's implementation plan for complying with the Water Conservation Bill of 2009.	10608.36 10608.26(a)	System Demands	Retailer and wholesalers have slightly different requirements	Subsection 1.4.2 (pg. 4) Appendix B
3	Report progress in meeting urban water use targets using the standardized form.	10608.40	Not applicable	Standardized form not yet available	NA
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		Subsection 1.4.1 (pg. 3) Table 1-1 (pg. 4)
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 . . .		Subsection 1.4.4 (pgs. 4-6)
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		Subsection 1.4.1 (pg. 3) Appendix B
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		Subsection 1.4.2 (pg. 4) Appendix B

No.	UWMP requirement ^a	Calif. Water Code reference	Subject ^b	Additional clarification	UWMP location
8	Describe the service area of the supplier	10631(a)	System Description		Subsection 1.5 (pgs. 7-13) Tables 1-2 to 1-4 (pgs. 12-13) Figures 1-1 to 1-3 (pgs. 9-11)
9	(Describe the service area) climate	10631(a)	System Description		Subsection 1.5.5 (pg. 12) Table 1-3 (pg. 12)
10	(Describe the service 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.	Subsection 1.5.4 (pg. 12) Table 1-2 (pg. 12)
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.	Subsection 1.5.4 (pg. 12) Table 1-2 (pg. 12)
12	Describe . . . other demographic factors affecting the supplier's water management planning	10631(a)	System Description		Subsection 1.5.6 (pg. 13) Table 1-4 (pg. 13)
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.	Subsections 2.1 – 2.3 (pgs. (15-25) Tables 2-1 to 2-11 (pgs. 15-25)

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.	Subsection 2.3.2 (pg. 23)
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		Subsection 2.3.2 (pg. 23)
16	(Provide a) description of any groundwater basin or basins from which the urban water supplier pumps groundwater.	10631(b)(2)	System Supplies		Subsection 2.3.2 (pg. 23)
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		NA
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		NA
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		Subsection 2.3.2 (pg. 23)

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		Subsection 2.3.2 (pgs. 23-24) Table 2-8 (pg. 24)
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.	Subsection 2.3.2 (pgs. 23-24) Table 2-9 (pg. 24)
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 . . .		Subsections 2.2 to 2.4 (pgs. 15-26) Tables 2-12 to 2-13 (pg. 26) Section 7 (pgs. 61-64) Tables 7-1 to 7-7 (pgs. 61-63)
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 . . .		Subsections 2.2 to 2.4 (pgs. 15-26) Section 7 (pgs. 61-64)
24	Describe the opportunities for exchanges or transfers of water on a short-term or long-term basis.	10631(d)	System Supplies		Subsection 2.5 (pg. 26)
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.	Subsection 3.2 (pgs. 29-31) Table 3-2 (pgs. 29-30)

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.	Subsection 3.7 (pgs. 36-39) Tables 3-11 and 3-12 (pgs. 36-38) 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		Subsection 3.6 (Water Use Reduction Plan - pg. 34)
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		Subsection 3.7.2 (pg. 38) Table 3-9 (pg. 35)

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.	Subsection 3.7.3 (pg. 39) 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		Subsection 2.7 (pg. 27) Table 2-14 (pg. 27)
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		Subsection 2.6 (pg. 27)

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.	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.	Subsection 3.6 (pg. 35) Table 3-10 (pg. 35) Section 7 (pgs. 61-64) Tables 7-1 to 7-7 (pgs. 61-63)
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		Subsection 3.2.2 (pg. 30)
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 . . .		Subsection 4.1 (pgs. 41-43) Table 4-1 (pg. 41) Table 4-2 (pg. 43)
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 . . .		Subsection 7.2 (pgs. 61-62) Table 7-3 (pg. 62)
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 . . .		Subsection 4.3 (pgs. 44-45) Table 4-3 (pg. 45) Appendix E

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 . . .		Subsection 4.4.1 (pgs 45-46) Table 4-4 (pg. 46)
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 . . .		Subsection 4.4.2 (pg. 46) Table 4-5 (pg. 46)
40	(Indicated) penalties or charges for excessive use, where applicable.	10632(f)	Water Supply Reliability . . .		Subsection 4.4.3 (pg. 47) Table 4-6 (pg. 47)
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 . . .		Subsection 4.5 (pg. 47)
42	(Provide) a draft water shortage contingency resolution or ordinance.	10632(h)	Water Supply Reliability . . .		Subsection 4.6 (pg.48) Appendix E
43	(Indicate) a mechanism for determining actual reductions in water use pursuant to the urban water shortage contingency analysis.	10632(i)	Water Supply Reliability . . .		Subsection 4.7 (pg. 48) Table 4-7 (pg. 48)
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		Subsection 5.1 (pg. 49) Table 5-1 (pg. 49)
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		Subsection 5.2 (pgs. 50-51) Tables 5-2 and 5-3 (pg. 51)

No.	UWMP requirement ^a	Calif. Water Code reference	Subject ^b	Additional clarification	UWMP location
46	(Describe) the quantity of treated wastewater that meets recycled water standards, is being discharged, and is otherwise available for use in a recycled water project.	10633(b)	System Supplies		Subsection 5.2 (pg. 51) Table 5-2 (pg. 51)
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		Subsection 5.3 (pg. 52) Table 5-5 (pg. 52)
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		Subsection 5.3 (pg. 52) Table 5-5 (pg. 52)
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		Subsection 2.3.3 (pg. 24) Table 2-10 (pg. 24) Subsection 5.3 (pg. 52)
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		Subsection 5.4 (pgs. 52-53) Table 5-6 (pg. 53)
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		Subsection 5.5 (pg. 53)
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 6 (pgs. 55-60)

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 . . .		Subsections 2-2 to 2-4 (pgs. 15-26) Table 2-13 (pg. 26) Section 7 (pgs. 61-64) Tables 7-1 to 7-7 (pgs. 61-63)
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		Subsection 1.4.3 (pg. 4)
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		Subsection 1.4.1 (pg. 3)
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		Subsections 1.4.1 and 1.4.2 (pgs. 3-4) Appendix B
57	After the hearing, the plan shall be adopted as prepared or as modified after the hearing.	10642	Plan Preparation		Subsection 1.4.2 (pg. 4) Appendix B

No.	UWMP requirement ^a	Calif. Water Code reference	Subject ^b	Additional clarification	UWMP location
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		Subsection 1.4.5 (pg. 6)
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		Subsection 1.4.3 (pg. 4)
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		Subsection 1.4.3 (pg. 4)

a The UWMP Requirement descriptions are general summaries of what is provided in the legislation. Urban water suppliers should review the exact legislative wording prior to submitting its UWMP.

b The Subject classification is provided for clarification only. It is aligned with the organization presented in Part I of this guidebook. A water supplier is free to address the UWMP Requirement anywhere with its UWMP, but is urged to provide clarification to DWR to facilitate review.

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APPENDIX D

California Urban Water Conservation Council
Best Management Practice (BMP) Activity Reports
2007 through 2010

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BMP 01: Water Survey Programs for Single-Family and Multi-Family Residential Customers




Reporting Unit:

Vista Irrigation District




BMP Form Status:
100% Complete











Year:
2007

A. Implementation

	1. Based on your signed MOU date, 05/05/1991, your Agency STRATEGY DUE DATE is no later than:	6/3/1994
	2. Has your agency developed and implemented a targeting/marketing strategy for SINGLE-FAMILY residential water use surveys?	<input checked="" type="radio"/> Yes <input type="radio"/> No
	a. If YES, when was it implemented? (Enter 4-digit year mm/dd/yyyy)	<input type="text" value="7/1/1995"/>
	3. Has your agency developed and implemented a targeting/marketing strategy for MULTI-FAMILY residential water use surveys?	<input checked="" type="radio"/> Yes <input type="radio"/> No
	a. If YES, when was it implemented? (Enter 4-digit year mm/dd/yyyy)	<input type="text" value="7/1/1995"/>

B. Water Survey Data

Survey Counts		Single Family Accounts	Multi-Family Units
	1. Number of surveys offered:	<input type="text" value="4385"/>	<input type="text" value="0"/>
	2. Number of surveys completed:	<input type="text" value="2"/>	<input type="text" value="0"/>
Indoor Survey:		SF Accounts	MF Units
	3. Check for leaks, including toilets, faucets and meter checks	<input checked="" type="radio"/> Yes <input type="radio"/> No	<input checked="" type="radio"/> Yes <input type="radio"/> No
	4. Check showerhead flow rates, aerator flow rates, and offer to replace or recommend replacement, if necessary	<input checked="" type="radio"/> Yes <input type="radio"/> No	<input checked="" type="radio"/> Yes <input type="radio"/> No
	5. Check toilet flow rates and offer to install or recommend installation of displacement device or direct customer to ULFT replacement program, as necessary; replace leaking toilet flapper, as necessary	<input checked="" type="radio"/> Yes <input type="radio"/> No	<input checked="" type="radio"/> Yes <input type="radio"/> No

Outdoor Survey:		SF Accounts	MF Units
	6. Check irrigation system and timers	<input type="radio"/> Yes <input type="radio"/> No	<input type="radio"/> Yes <input type="radio"/> No
	7. Review or develop customer irrigation schedule	<input type="radio"/> Yes <input type="radio"/> No	<input type="radio"/> Yes <input type="radio"/> No
	8. Measure landscaped area (Recommended but not required for surveys)	<input type="radio"/> Yes <input checked="" type="radio"/> No	<input type="radio"/> Yes <input checked="" type="radio"/> No
	9. Measure total irrigable area (Recommended but not required for surveys)	<input type="radio"/> Yes <input checked="" type="radio"/> No	<input type="radio"/> Yes <input checked="" type="radio"/> No
	10. Which measurement method is typically used (Recommended but not required for surveys)	<input type="radio"/> Image-Based <input type="radio"/> Measuring Tape <input type="radio"/> Odometer Wheel <input type="radio"/> Pacing <input checked="" type="radio"/> Other <input type="radio"/> None	
	11. Were customers provided with information packets that included evaluation results and water savings recommendations?	<input checked="" type="radio"/> Yes <input type="radio"/> No	<input checked="" type="radio"/> Yes <input type="radio"/> No
	12. Have the number of surveys offered and completed, survey results, and survey costs been tracked?	<input checked="" type="radio"/> Yes <input type="radio"/> No	<input checked="" type="radio"/> Yes <input type="radio"/> No
	a. If yes, in what form are surveys tracked?	<input checked="" type="radio"/> Database <input type="radio"/> Spreadsheet <input type="radio"/> Manual Activity <input type="radio"/> None	
	b. Describe how your agency tracks this information. <div style="border: 1px solid black; padding: 5px; min-height: 50px;"> Contractor tracks survey data, including number of surveys, in a database </div>		
C. Water Survey Program Expenditures			
		This Year	Next Year
	1. Budgeted Expenditures	<input type="text"/>	<input type="text"/>
	2. Actual Expenditures	<input type="text"/>	<input type="text"/>

D. "At Least As Effective As"



1. Is your AGENCY implementing an "at least as effective as" variant of this BMP?

- Yes
 No

a. If YES, please explain in detail how your implementation of this BMP differs from Exhibit 1 and why you consider it to be "at least as effective as."

	▲ ▼
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E. Comments

	▲ ▼
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BMP 02: Residential Plumbing Retrofit

Reporting Unit:

Vista Irrigation District

BMP Form Status:

100% Complete

Year:

2007

A. Implementation

?	1. Is there an enforceable ordinance in effect in your service area requiring replacement of high-flow showerheads and other water use fixtures with their low-flow counterparts?	<input type="radio"/> Yes <input checked="" type="radio"/> No
?	a. If YES, list local jurisdictions in your service area and code or ordinance in each: <div style="border: 1px solid black; height: 80px; width: 100%;"></div>	
?	2. Has your agency satisfied the 75% saturation requirement for single-family housing units?	<input checked="" type="radio"/> Yes <input type="radio"/> No
?	3. Estimated percent of single-family households with low-flow showerheads:	<input type="text" value="75%"/>
?	4. Has your agency satisfied the 75% saturation requirement for multi-family housing units?	<input checked="" type="radio"/> Yes <input type="radio"/> No
?	5. Estimated percent of multi-family households with low-flow showerheads:	<input type="text" value="75%"/>
	6.a. If YES to 2 OR 4 above, did your survey methodology fully comply with the requirements of BMP 2?	<input checked="" type="radio"/> Yes <input type="radio"/> No
	b. If YES to 2 OR 4 above, please describe how saturation was determined, including the dates and results of any survey research. <div style="border: 1px solid black; padding: 5px; min-height: 200px;">The San Diego County Water Authority and its member agencies, of which Vista Irrigation District is a member, distributed over 550,000 showerheads between 1991 and 2002. The average rate of natural replacement is 4.0%, while housing demolition is 0.5%. And, effective January 1, 1994 showerheads manufactured in the US must be 2.5 gpm maximum. Data gathered from the Residential Survey Program (2001 and 2002) showed an 80-95% saturation of showerheads in homes surveyed.</div>	

B. Low-Flow Device Distribution Information

?	1. Has your agency developed a targeting/ marketing strategy for distributing low-flow devices?	<input checked="" type="radio"/> Yes <input type="radio"/> No	
	a. If YES, when did your agency begin implementing this strategy? (Use four-digit year, mm/dd/yyyy)	07/01/1995	
	b. Common targeting/ marketing methods. <input checked="" type="checkbox"/> Bill Messages <input type="checkbox"/> Direct Mail to Residents <input type="checkbox"/> PSAs <input type="checkbox"/> Bill Stuffer <input type="checkbox"/> Door-to-Door <input type="checkbox"/> Telemarketing <input type="checkbox"/> Direct Mail to Owners <input checked="" type="checkbox"/> Other		
	c. Describe your targeting/ marketing strategy. Residential Survey distribution.		
?	Low-Flow Devices Distributed/ Installed	SF Account	MF Units
	2. Number of low-flow showerheads distributed:	0	0
	3. Number of toilet-displacement devices distributed:	0	0
	4. Number of toilet flappers distributed:	0	0
	5. Number of faucet aerators distributed:	0	0
?	6. Does your agency track the distribution and cost of low-flow devices?	<input checked="" type="radio"/> Yes <input type="radio"/> No	
	a. If YES, in what format are low-flow devices tracked?	<input type="radio"/> Database <input checked="" type="radio"/> Spreadsheet <input type="radio"/> Manual Activity <input type="radio"/> None	
	b. If yes, describe your tracking and distribution system : Over 550,000 showerheads have been distributed in the San Diego region to date. The marketing that has been done in the region includes the following: 1. Residential Survey distribution 2. Direct distribution to customers (lobby counter) 3. Distribution at community events 4. By customer request.		

C. Low-Flow Device Program Expenditures

	This Year	Next Year
--	-----------	-----------

?	1. Budgeted Expenditures		
?	2. Actual Expenditures		

D. "At Least As Effective As"

?	1. Is your AGENCY implementing an "at least as effective as" variant of this BMP?	<input type="radio"/> Yes <input checked="" type="radio"/> No
---	---	--

a. If YES, please explain in detail how your implementation of this BMP differs from Exhibit 1 and why you consider it to be "at least as effective as."

E. Comments

The San Diego County Water Authority and its member agencies distributed over 550,000 showerheads between 1991 and 2002. Distribution included (1) neighborhood canvassing by field representatives, (2) homes through the Residential Survey Program, (3) school systems and students, (4) Community Based Organizations events and by customer request. The average rate of natural

BMP 03: System Water Audits, Leak Detection and Repair

Reporting Unit:

Vista Irrigation District








BMP Form Status:

100% Complete

Year:

2007



A. Implementation

	1. Does your agency own or operate a water distribution system?	<input checked="" type="radio"/> Yes <input type="radio"/> No
- IF YOU ANSWERED NO TO #1, YOU ARE DONE WITH THE FORM. - IF YOU ANSWERED YES TO #1, PLEASE ANSWER THE FOLLOWING QUESTIONS.		
	2. Has your agency completed a pre-screening system audit for this reporting year?	<input checked="" type="radio"/> Yes <input type="radio"/> No
	3. If YES, enter the values (AF/Year) used to calculate verifiable use as a percent of total production:	
	a. Determine metered sales (AF)	22828
	b. Determine other system verifiable uses (AF)	4
	c. Determine total supply into the system (AF)	24029
	d. Using the numbers above, if (Metered Sales + Other Verifiable Uses) / Total Supply is < 0.9 then a full-scale system audit is required. <i>(This number will automatically calculate when you Save the Session)</i>	0.950
	4. Does your agency keep necessary data on file to verify the values entered in question 3?	<input checked="" type="radio"/> Yes <input type="radio"/> No
	5. Did your agency complete a full-scale system water audit during this report year?	<input type="radio"/> Yes <input checked="" type="radio"/> No
	6. Does your agency maintain in-house records of audit results or completed AWWA audit worksheets for the completed audit which could be forwarded to CUWCC?	<input type="radio"/> Yes <input checked="" type="radio"/> No
	7. Does your agency operate a system leak detection program?	<input checked="" type="radio"/> Yes <input type="radio"/> No


a. If yes, describe the leak detection program:

Vista Irrigation District performs leak detection as needed, usually for field investigation crews when leak must be pinpointed

B. Survey Data

 1. Total number of miles of distribution system line:	465
 2. Number of miles of distribution system line surveyed:	6

C. "At Least As Effective As"

 1. Is your agency implementing an "at least as effective as" variant of this BMP?	<input type="radio"/> Yes <input checked="" type="radio"/> No
---	--

a. If YES, please explain in detail how your implementation of this BMP differs from Exhibit 1 and why you consider it to be "at least as effective as."

D. Comments

Leak detection is performed without hesitation upon request at district facilities/piplines. Leak detection is also performed through-out the system as time permits.

BMP 04: Metering with Commodity Rates for all New Connections and Retrofit of Existing Connections

Reporting Unit:

Vista Irrigation District

BMP Form Status:
100% Complete

Year:
2007

A. Implementation



1. Does your agency have any unmetered service connections?	<input type="radio"/> Yes <input checked="" type="radio"/> No
a. If YES, has your agency completed a meter retrofit plan?	<input type="radio"/> Yes <input checked="" type="radio"/> No
b. If YES, number of previously unmetered accounts fitted with meters during report year:	<input style="width: 100px; height: 20px;" type="text"/>
2. Are all new service connections being metered?	<input checked="" type="radio"/> Yes <input type="radio"/> No
3. Are all new service connections being billed volumetrically with meters?	<input checked="" type="radio"/> Yes <input type="radio"/> No
4. Has your agency completed and submitted electronically to the Council a written plan, policy or program to test, repair & replace meters?	<input type="radio"/> Yes <input checked="" type="radio"/> No

5. Please fill out the following matrix:

Account Type	# Metered Accounts	# Accounts Read	# Accounts Vol Billing	Billing Frequency	# Vol Estimates
a. Single Family	<input style="width: 50px;" type="text" value="22142"/>	<input style="width: 50px;" type="text" value="22142"/>	<input style="width: 50px;" type="text" value="22142"/>	<input style="width: 50px;" type="text" value="6"/>	<input style="width: 50px;" type="text" value="12196"/>
b. Multi-Family	<input style="width: 50px;" type="text" value="1450"/>	<input style="width: 50px;" type="text" value="1450"/>	<input style="width: 50px;" type="text" value="1450"/>	<input style="width: 50px;" type="text" value="6"/>	<input style="width: 50px;" type="text" value="3080"/>
c. Commercial	<input style="width: 50px;" type="text" value="1154"/>	<input style="width: 50px;" type="text" value="1154"/>	<input style="width: 50px;" type="text" value="1154"/>	<input style="width: 50px;" type="text" value="6"/>	<input style="width: 50px;" type="text" value="1558"/>
d. Industrial	<input style="width: 50px;" type="text" value="466"/>	<input style="width: 50px;" type="text" value="466"/>	<input style="width: 50px;" type="text" value="466"/>	<input style="width: 50px;" type="text" value="6"/>	<input style="width: 50px;" type="text" value="723"/>
e. Institutional	<input style="width: 50px;" type="text" value="80"/>	<input style="width: 50px;" type="text" value="80"/>	<input style="width: 50px;" type="text" value="80"/>	<input style="width: 50px;" type="text" value="6"/>	<input style="width: 50px;" type="text" value="750"/>
f. Landscape Irrigation	<input style="width: 50px;" type="text" value="816"/>	<input style="width: 50px;" type="text" value="816"/>	<input style="width: 50px;" type="text" value="816"/>	<input style="width: 50px;" type="text" value="6"/>	<input style="width: 50px;" type="text" value="2387"/>

B. Feasibility Study

1. Has your agency conducted a feasibility study to assess the merits of a program to provide incentives to switch mixed-use accounts to dedicated landscape meters?	<input type="radio"/> Yes <input checked="" type="radio"/> No
--	--

	a. If YES, when was the feasibility study conducted? (mm/dd/yy)	<input type="text"/>
	b. Describe the feasibility study: <input type="text"/>	
	2. Number of CII accounts with mixed-use meters:	<input type="text" value="1189"/>
	3. Number of CII accounts with mixed-use meters retrofitted with dedicated irrigation meters during reporting year	<input type="text" value="0"/>
C. "At Least As Effective As"		
	1. Is your agency implementing an "at least as effective as" variant of this BMP?	<input type="radio"/> Yes <input checked="" type="radio"/> No
	a. If YES, please explain in detail how your implementation of this BMP differs from Exhibit 1 and why you consider it to be "at least as effective as." <input type="text"/>	
D. Comments		
	A.4 VID is in the process of producing a electronic version of its meter replacement policy to submit to the CUWCC. VID has nine billing cycles eight of which are billed bi-monthly and one that is billed monthly. Because the CUWCC's database cannot accept a range in values for billing frequency, in questions A.5 a-f, we entered 6, which is representative of the billing frequency of a majority of our accounts.	

BMP 05: Large Landscape Conservation Programs and Incentives

Reporting Unit:

Vista Irrigation District

BMP Form Status:
100% Complete



Year:
2007

A. Water Use Budgets



	1. Number of Dedicated Irrigation Meter Accounts:	816
	2. Number of Dedicated Irrigation Meter Accounts with Water Budgets:	0
	3. Budgeted Use for Irrigation Meter Accounts with Water Budgets (AF):	0
	4. Actual Use for Irrigation Meter Accounts with Water Budgets (AF):	0
	5. Does your agency provide water use notices to accounts with budgets each billing cycle?	<input checked="" type="radio"/> Yes <input type="radio"/> No






B. Landscape Surveys

	1. Has your agency developed a marketing / targeting strategy for landscape surveys?	<input checked="" type="radio"/> Yes <input type="radio"/> No
	a. If YES, when did your agency begin implementing this strategy? (Year must be four digit mm/dd/yyyy)	12/01/2006
	b. Description of marketing / targeting strategy:	<div style="border: 1px solid black; padding: 5px;"> VID direct mails information advertising free landscape water surveys to HOA's, business park associations, and apartment managers. Additionally, VID meets in person with these groups to discuss water surveys and conservation programs. </div>
	2. Number of Surveys Offered:	39
	3. Number of Surveys Completed:	0
	4. Indicate which of the following Landscape Elements are part of your survey:	
	a. Irrigation System Check	<input checked="" type="radio"/> Yes <input type="radio"/> No
	b. Distribution Uniformity Analysis	<input checked="" type="radio"/> Yes <input type="radio"/> No
	c. Review / Develop Irrigation Schedules	<input checked="" type="radio"/> Yes <input type="radio"/> No

	d. Measure Landscape Area	<input checked="" type="radio"/> Yes <input type="radio"/> No
	e. Measure Total Irrigable Area	<input checked="" type="radio"/> Yes <input type="radio"/> No
	f. Provide Customer Report / Information	<input checked="" type="radio"/> Yes <input type="radio"/> No
	5. Do you track survey offers and results?	<input checked="" type="radio"/> Yes <input type="radio"/> No
	6. Does your agency provide follow-up surveys for previously completed surveys?	<input checked="" type="radio"/> Yes <input type="radio"/> No
	a. If YES, describe below:	
	<p>The consultant contacts the customer approximately three to six months after a full audit was completed, to discuss implementation of the recommendations. The consultant records changes and improvement in the site's condition. Photos may be taken documenting improvements. If significant changes have been made at the site, the consultant performs a distribution uniformity check to verify changes and assist the</p>	

C. Other BMP 5 Actions

	1. An agency can provide mixed-use accounts with ETo-based landscape budgets in lieu of a large landscape survey program. Does your agency provide mixed-use accounts with landscape budgets?	<input type="radio"/> Yes <input checked="" type="radio"/> No		
	2. Number of CII mixed-use accounts with landscape budgets.	0		
	From BMP 4 report: Number of CII accounts with mixed-use meters retrofitted with dedicated irrigation meters during reporting period.	0		
	Total number of change-outs from mixed-use to dedicated irrigation meters since Base Year.	137		
	3. Do you offer landscape irrigation training?	<input checked="" type="radio"/> Yes <input type="radio"/> No		
	4. Does your agency offer financial incentives to improve landscape water use efficiency? If YES, describe below:	<input checked="" type="radio"/> Yes <input type="radio"/> No		
	Type of Financial Incentive	Budget (Dollars/ Years)	Number Awarded to Customers	Total Amount Award

	a. Rebates	<input type="text" value="3000"/>	<input type="text" value="3"/>	<input type="text" value="8763"/>
	b. Loans	<input type="text" value="0"/>	<input type="text" value="0"/>	<input type="text" value="0"/>
	c. Grants	<input type="text" value="3000"/>	<input type="text" value="3"/>	<input type="text" value="900"/>
	5. Do you provide landscape water use efficiency information to new customers and customers changing services?			<input checked="" type="radio"/> Yes <input type="radio"/> No
	a. If YES, describe below:			
	<input type="text" value="VID provides conservation information to new customers and customers changing service through on hold conservation messaging, in lobby conservation materials, and on VID's website."/>			
	6. Do you have irrigated landscaping at your facilities?			<input checked="" type="radio"/> Yes <input type="radio"/> No
	a. If yes, is it water-efficient?			<input checked="" type="radio"/> Yes <input type="radio"/> No
	b. If yes, does it have dedicated irrigation metering?			<input checked="" type="radio"/> Yes <input type="radio"/> No
	7. Do you provide customer notices at the start of the irrigation season?			<input checked="" type="radio"/> Yes <input type="radio"/> No
	8. Do you provide customer notices at the end of the irrigation season?			<input checked="" type="radio"/> Yes <input type="radio"/> No
D. Landscape Conservation Program Expenditures				
		This Year	Next Year	
	1. Budgeted Expenditures	<input type="text"/>	<input type="text"/>	
	2. Actual Expenditures	<input type="text"/>		
E. "At Least As Effective As"				
	1. Is your AGENCY implementing an "at least as effective as" variant of this BMP?			<input type="radio"/> Yes <input checked="" type="radio"/> No
	a. If YES, please explain in detail how your implementation of this BMP differs from Exhibit 1 and why you consider it to be "at least as effective as."			
	<input type="text"/>			

F. Comments

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BMP 06: High-Efficiency Washing Machine Rebate Programs


Reporting Unit:

Vista Irrigation District

BMP Form Status:
100% Complete

Year:
2007

A. Coverage Goal


		Single Family	Multi Family
	1. Number of residential dwelling units in the agency service area.	<input type="text"/>	<input type="text"/>
	2. Coverage Goal = Total Dwelling Units x 0.0768	1,810 Pts	

B. Implementation

1. Does your agency offer rebates for **residential** high-efficiency washers with water factors of 9.5 or less?

Yes
 No

Total Value of Financial Incentives


	HEW Water Factor	No. of Financial Incentives Issued	Retail Water Agency	Wholesaler/ Grants	Energy Utilities	TOTAL	Points Awarded
	2. Greater than 8.5 but not exceeding 9.5	<input type="text" value="0"/>	<input type="text" value="0"/>	<input type="text" value="0"/>	<input type="text" value="0"/>	<input type="text" value="0"/>	0
	3. Greater than 6.0 but not exceeding 8.5	<input type="text" value="0"/>	<input type="text" value="0"/>	<input type="text" value="0"/>	<input type="text" value="0"/>	<input type="text" value="0"/>	0
	4. Less than or equal to 6.0	<input type="text" value="383"/>	<input type="text" value="9,192"/>	<input type="text" value="54,386"/>	<input type="text" value="19,150"/>	<input type="text" value="82,728"/>	1,149
	TOTALS:	383	9,192	54,386	19,150	82,728	1,149

C. Past Credit Points

For incentives issued before July 1, 2004, select ONE of the following options:

NOTE: Agency shall not receive credit for any HEW incentives where the agency did not provide a financial incentive of \$25 or more.

Method One: Points based on HEW Water Factor

	HEW Water Factor	No. of Financial Incentives Issued	Total Value of Financial Incentives				Points Awarded
			Retail Water Agency	Wholesaler/ Grants	Energy Utilities	TOTAL	
							
	2. Greater than 8.5 but not exceeding 9.5	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	
	3. Greater than 6.0 but not exceeding 8.5	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	
	4. Less than or equal to 6.0	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	

Method Two: Agency earns 1 point for each HEW

4. Total HEWs installed	<input type="text" value="813"/>	<input type="text" value="100,750"/>				813
Past Cr TOTALS:						813

D. Rebate Program Expenditures

1. Average or Estimated Administration and Overhead	<input type="text" value="24"/>
2. Is the financial incentive offered per HEW at least equal to the marginal benefits of the water savings per HEW?	<input checked="" type="radio"/> Yes <input type="radio"/> No

E. "At Least As Effective As"



1. Is your AGENCY implementing an "at least as effective as" variant of this BMP?

Yes

No

a. If YES, please explain in detail how your implementation of this BMP differs from Exhibit 1 and why you consider it to be "at least as effective as."

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F. Comments

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BMP 07: Public Information Programs

Reporting Unit:
Vista Irrigation District

BMP Form Status:
100% Complete

Year:
2007

A. Implementation



1. How is your public information program implemented?

- Wholesaler
- Mixed
- Retailer
- None

Wholesaler sponsors:

San Diego County Water Authority

2. Describe the program and how it's organized.

Vista Irrigation District has been educating our customers and promoting water conservation since 1991 through various means which include: 1. On-hold telephone messages 2. Website 3. Giveaways 4. Video 5. Classes held at VID 6. Demonstration Garden 7. Water IQ Game Kiosk 8. Water Awareness Month 9. Public service announcements at local movie theater 10. Participation in Joint Public Information Council with the San Diego County Water Authority 11. Participation in the San Diego County California Friendly Landscape Contest



3. Indicate which and how many of the following activities are included in your public information program:

Survey Counts	Yes/No	Number of Events
a. Paid Advertising	<input type="radio"/> Yes <input checked="" type="radio"/> No	<input type="text" value="0"/>
b. Public Service Announcement	<input checked="" type="radio"/> Yes <input type="radio"/> No	<input type="text" value="4"/>
c. Bill Inserts / Newsletters / Brochures	<input checked="" type="radio"/> Yes <input type="radio"/> No	<input type="text" value="3"/>
d. Bill showing water usage in comparison to previous year's usage	<input checked="" type="radio"/> Yes <input type="radio"/> No	<input type="text"/>
e. Demonstration Gardens	<input checked="" type="radio"/> Yes <input type="radio"/> No	<input type="text" value="2"/>
f. Special Events, Media Events	<input checked="" type="radio"/> Yes <input type="radio"/> No	<input type="text" value="3"/>
g. Speaker's Bureau	<input checked="" type="radio"/> Yes <input type="radio"/> No	<input type="text" value="4"/>
h. Program to coordinate with other government agencies, industry and public interest groups and media	<input checked="" type="radio"/> Yes <input type="radio"/> No	<input type="text"/>

B. Conservation Information Program Expenditures

	This Year	Next Year
1. Budgeted Expenditures	<input type="text"/>	<input type="text"/>
2. Actual Expenditures	<input type="text" value="9391"/>	<input type="text"/>

C. "At Least As Effective As"

1. Is your AGENCY implementing an "at least as effective as" variant of this BMP?	<input type="radio"/> Yes <input checked="" type="radio"/> No
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a. If YES, please explain in detail how your implementation of this BMP differs from Exhibit 1 and why you consider it to be "at least as effective as."

D. Comments

BMP 08: School Education Programs

Reporting Unit:

Vista Irrigation District

BMP Form Status:
100% Complete

Year:
2007

A. Implementation



1. How is your school education program implemented?

Wholesaler Retailer
 Mixed None

Wholesaler sponsors:

San Diego County Water Authority

2. Please provide information on your school programs (by grade level):

Grade	Are grade-appropriate materials distributed?	No. of class presentations	No. of students reached	No. of teachers' workshops
Grades K-3rd	<input type="radio"/> Yes <input checked="" type="radio"/> No	0	0	0
Grades 4th-6th	<input checked="" type="radio"/> Yes <input type="radio"/> No	34	1020	0
Grades 7th-8th	<input type="radio"/> Yes <input checked="" type="radio"/> No	0	0	0
High School	<input type="radio"/> Yes <input checked="" type="radio"/> No	0	0	0

3. Did your Agency's materials meet state education framework requirements?

Yes
 No

4. When did your Agency begin implementing this program? (Year must be four digit mm/dd/yyyy)

01/01/199

B. School Education Program Expenditures

	This Year	Next Year
1. Budgeted Expenditures	0	0
2. Actual Expenditures	6260	0

C. "At Least As Effective As"



1. Is your AGENCY implementing an "at least as effective as" variant of this BMP?

Yes
 No

a. If YES, please explain in detail how your implementation of this BMP differs from Exhibit 1 and why you consider it to be "at least as effective as."

D. Comments

VID sponsors a district wide water conservation presentation and poster contest for 4th graders in conjunction with the North County Water Agencies, a group of local water districts. The posters are judged and the winning students are awarded prizes. The best posters from the NCWA member agencies are made into calendars which are distributed at area schools and local agencies for free. VID also facilitates tours of our water filtration plant by area school children as well as sponsoring splash labs on request.

BMP 09: Conservation Programs for CII Accounts

Reporting Unit:

Vista Irrigation District

BMP Form Status:

100% Complete

Year:

2007

A. Implementation

	1. Has your agency identified and ranked COMMERCIAL customers according to use?	<input checked="" type="radio"/> Yes <input type="radio"/> No
	2. Has your agency identified and ranked INDUSTRIAL customers according to use?	<input checked="" type="radio"/> Yes <input type="radio"/> No
	3. Has your agency identified and ranked INSTITUTIONAL customers according to use?	<input checked="" type="radio"/> Yes <input type="radio"/> No

Implement ONE or BOTH of the following TWO options:





- Option A: CII Water Use Survey and Customer Incentives Program
- Option B: CII Conservation Program Targets

NOTE: An agency MUST indicate implementation of at least one option to achieve 100% completion and to submit this form. An agency MUST fill out both sections if it wants to preserve the ability of complying with either option.


Option A: CII Water Use Survey and Customer Incentives Program

	4. Is your agency operating a CII water use survey and customer incentives program for the purpose of complying with BMP 9 under this option?	<input type="radio"/> Yes <input checked="" type="radio"/> No
--	---	--

	CII Surveys	Commercial Accounts	Industrial Accounts	Institutional Accounts
a. Number of New Surveys Offered	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>
b. Number of New Surveys Completed	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>
c. Number of Site Follow-ups of Previous Surveys (within 1 yr)	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>
d. Number of Phone Follow-ups of Previous Surveys (within 1 yr)	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>
	CII Survey Components	Commercial Accounts	Industrial Accounts	Institutional Accounts

	e. Site Visit	<input type="radio"/> Yes <input type="radio"/> No	<input type="radio"/> Yes <input type="radio"/> No	<input type="radio"/> Yes <input type="radio"/> No
	f. Evaluation of all water-using apparatus and processes	<input type="radio"/> Yes <input type="radio"/> No	<input type="radio"/> Yes <input type="radio"/> No	<input type="radio"/> Yes <input type="radio"/> No
	g. Customer report identifying recommended efficiency measures, paybacks and agency incentives	<input type="radio"/> Yes <input type="radio"/> No	<input type="radio"/> Yes <input type="radio"/> No	<input type="radio"/> Yes <input type="radio"/> No
	Agency CII Customer Incentives	Budget (\$/Year)	No. Awarded to Customers	Total \$ Amount Awarded
	h. Rebates	<input type="text"/>	<input type="text"/>	<input type="text"/>
	i. Loans	<input type="text"/>	<input type="text"/>	<input type="text"/>
	j. Grants	<input type="text"/>	<input type="text"/>	<input type="text"/>
	k. Others	<input type="text"/>	<input type="text"/>	<input type="text"/>
	Option B: CII Conservation Program Targets			
	5. Does your agency track CII program interventions and water savings for the purpose of complying with BMP 9 under this option?			<input checked="" type="radio"/> Yes <input type="radio"/> No
	6. Does your agency document and maintain records on how savings were realized and the method of calculation for estimated savings?			<input checked="" type="radio"/> Yes <input type="radio"/> No
	7. System Calculated annual savings (AF/year):			
	CII Programs	Avg Savings (AF/yr)	# Devices	Savings/Device
	a. Ultra Low Flush Toilets	.035004	<input type="text" value="67"/>	<input type="text" value="2.35"/>
	b. Dual Flush Toilets	.041748	<input type="text" value="0"/>	<input type="text" value="0.00"/>
	c. High Efficiency Toilets	.041748	<input type="text" value="0"/>	<input type="text" value="0.00"/>
	d. High Efficiency Urinals	.069086	<input type="text" value="0"/>	<input type="text" value="0.00"/>
	e. Non-Water Urinals	.0921146	<input type="text" value="0"/>	<input type="text" value="0.00"/>
	f. Commercial Clothes Washers (only coin-op; not industrial)	.116618	<input type="text" value="53"/>	<input type="text" value="6.18"/>
	g. Cooling Tower Controllers	1.03225	<input type="text" value="1"/>	<input type="text" value="1.03"/>

g. Cooling Tower Controllers	1.03223	<input type="text" value="1"/>	<input type="text" value="1.03"/>
h. Food Steamers	.25	<input type="text" value="0"/>	<input type="text" value="0.00"/>
i. Ice Machines	.834507	<input type="text" value="0"/>	<input type="text" value="0.00"/>
j. Pre-Rinse Spray Valves	.084701	<input type="text" value="0"/>	<input type="text" value="0.00"/>
k. Steam Sterilizer Retrofits	1.538	<input type="text" value="0"/>	<input type="text" value="0.00"/>
l. X-ray Film Processors	2.57	<input type="text" value="0"/>	<input type="text" value="0.00"/>
TOTAL System Calculated Savings:			9.56



 8. Estimated annual savings (AF/yr) from agency programs not including the devices listed in Option B. 7., above:

CII Programs	Annual Savings (AF/yr)
a. Site-verified actions taken by agency. <div style="border: 1px solid black; height: 60px; width: 100%;"></div>	<input type="text" value="0"/>
b Non-site-verified actions taken by agency. <div style="border: 1px solid black; height: 60px; width: 100%;"></div>	<input type="text" value="0"/> x 25%


Note: agencies may credit 100% of estimated annual savings of interventions that have been site verified and 25% of estimated annual savings of interventions that have not been site verified. (BMP 9 E.4.c.)

TOTAL CII Program Performance Target Savings:	9.56 AF/Yr
--	-------------------

B. Conservation Program Expenditures for CII Accounts

	This Year	Next Year
 1. Budgeted Expenditures	<input type="text" value="6000"/>	<input type="text" value="9100"/>
 2. Actual Expenditures	<input type="text" value="2409"/>	

C. "At Least As Effective As"

 1. Is your AGENCY implementing an "at least as effective as" variant of this BMP?	<input type="radio"/> Yes <input checked="" type="radio"/> No
---	--

a. If YES, please explain in detail how your implementation of this BMP differs from Exhibit 1 and why you consider it to be "at least as effective as."

D. Comments

BMP 11: Conservation Pricing

Reporting Unit:

Vista Irrigation District

BMP Form Status:

100% Complete

Year:

2007

A. Implementation



Water Service Rate Structure Data by Customer Class

Select the **Rate Structure** assigned to the majority of your customers within a specific customer class.

Volumetric Revenue is defined as the revenue derived from the charges based on amount of water use. Water agencies typically refer to these as "commodity charges." Do NOT include: flat fees, monthly service charges, meter charges, minimum usage charges, and other revenue that is not dependant on the amount of water the customer consumes. An example of a "minimum usage" charge might be: customers are charged at least 6 units per month even if they use only 2 units.

1. Single Family Residential

a. Rate Structure

Uniform

b. Total Revenue from Volumetric Rates

10,274,105

c. Total Revenue from Customer Meter/Service (fixed) charges

5,998,281

2. Multi-Family Residential

a. Rate Structure

Uniform

b. Total Revenue from Volumetric Rates

2,610,245

c. Total Revenue from Customer Meter/Service (fixed) charges

924,893

3. Commercial

a. Rate Structure

Uniform

b. Total Revenue from Volumetric Rates

1,320,144

c. Total Revenue from Customer Meter/Service (fixed) charges

525,674

4. Industrial

a. Rate Structure

Uniform

	b. Total Revenue from Volumetric Rates	612,171
	c. Total Revenue from Customer Meter/Service (fixed) charges	296,034
	5. Institutional / Government	
	a. Rate Structure	Uniform
	b. Total Revenue from Volumetric Rates	634,036
	c. Total Revenue from Customer Meter/Service (fixed) charges	144,681
	6. Dedicated Irrigation (potable)	
	a. Rate Structure	Uniform
	b. Total Revenue from Volumetric Rates	2,006,707
	c. Total Revenue from Customer Meter/Service (fixed) charges	530,333
	7. Recycled-Reclaimed	
	a. Rate Structure	Service Not
	b. Total Revenue from Volumetric Rates	0
	c. Total Revenue from Customer Meter/Service (fixed) charges	0
	8. Raw	
	a. Rate Structure	Service Not
	b. Total Revenue from Volumetric Rates	0
	c. Total Revenue from Customer Meter/Service (fixed) charges	0
	9. Other	
	a. Rate Structure	Uniform
	b. Total Revenue from Volumetric Rates	145,366
	c. Total Revenue from Customer Meter/Service (fixed) charges	244,170

B. Implementation Options

Select Either Option 1 or Option 2:

1. Option 1: Use Annual Revenue As Reported

$$V/(V+M) \geq 70\%$$

V = Total annual revenue from volumetric rates

M = Total annual revenue from customer meter/service (fixed) charges

- Option 1
 Option 2

2. Option 2: Use Canadian Water & Wastewater Association Rate Design Model

$$V/(V+M) \geq V'/(V'+M')$$

V = Total annual revenue from volumetric rates

M = Total annual revenue from customer meter/service (fixed) charges

V' = The uniform volume rate based on the signatory's long-run incremental cost of service

M' = The associated meter charge

a. If you selected Option 2, has your agency submitted to the Council a completed Canadian Water & Wastewater Association rate design model?

- Yes
 No

b. Value for V' (uniform volume rate based on agency's long-run incremental cost of service) as determined by the Canadian Water & Wastewater Association rate design model:

c. Value for M' (meter charge associated with V' uniform volume rate) as determined by the Canadian Water & Wastewater Association rate design model:

C. Retail Wastewater (Sewer) Rate Structure Data by Customer Class

1. Does your agency provide sewer service? (If YES, answer questions 2 - 7 below, else continue to section D.)

- Yes
 No

2. Single Family Residential

a. Sewer Rate Structure

b. Annual Revenue Requirement

c. Total Revenue from Customer Commodity Charges

3. Multi-Family Residential

a. Sewer Rate Structure

	b. Annual Revenue Requirement	<input type="text"/>
	c. Total Revenue from Customer Commodity Charges	<input type="text"/>
4. Commercial		
	a. Sewer Rate Structure	<input type="text"/>
	b. Annual Revenue Requirement	<input type="text"/>
	c. Total Revenue from Customer Commodity Charges	<input type="text"/>
5. Industrial		
	a. Sewer Rate Structure	<input type="text"/>
	b. Annual Revenue Requirement	<input type="text"/>
	c. Total Revenue from Customer Commodity Charges	<input type="text"/>
6. Institutional / Government		
	a. Sewer Rate Structure	<input type="text"/>
	b. Annual Revenue Requirement	<input type="text"/>
	c. Total Revenue from Customer Commodity Charges	<input type="text"/>
7. Recycled-reclaimed water		
	a. Sewer Rate Structure	<input type="text"/>
	b. Annual Revenue Requirement	<input type="text"/>
	c. Total Revenue from Customer Commodity Charges	<input type="text"/>
D. At Least As Effective As		
	1. Is your agency implementing an "at least as effective as" variant of this BMP?	<input type="radio"/> Yes <input checked="" type="radio"/> No
	a. If YES, please explain in detail how your implementation of this BMP differs from Exhibit 1 and why you consider it to be "at least as effective as."	
	<input type="text"/>	

E. Comments

The amount of acre feet used by AD accounts only considers the first 26 units per month. This usage is considered domestic under the Interim Agricultural Water Plan. It is assumed that all 189 accounts used at least 26 units every month. This figure is multiplied by 1.92 a ccf to calculate the total revenue for this category. The rate of 1.92 per ccf was used for the majority of FY 07.

BMP 12: Conservation Coordinator

Reporting Unit:

Vista Irrigation DistrictBMP Form Status:
100% CompleteYear:
2007**A. Implementation**

1. Does your Agency have a conservation coordinator?

 Yes
 No

2. Is a coordinator position supplied by another agency with which you cooperate in a regional conservation program ?

 Yes
 No

a. Partner agency's name:

3. If your agency supplies the conservation coordinator:

a. What percent is this conservation coordinator's position?

90%

b. Coordinator's Name

Brent Reyes

c. Coordinator's Title

Public Education Assistant

d. Coordinator's Experience and Number of Years

2 years

e. Date Coordinator's position was created (mm/dd/yyyy)

06/30/1991

4. Number of conservation staff (FTEs), including Conservation Coordinator.

2

B. Conservation Staff Program Expenditures

1. Staffing Expenditures (In-house Only)

48164



2. BMP Program Implementation Expenditures

47306

C. "At Least As Effective As"

1. Is your AGENCY implementing an "at least as effective as" variant of this BMP?

 Yes
 No

a. If YES, please explain in detail how your implementation of this BMP differs from Exhibit 1 and why you consider it to be "at least as effective as."

D. Comments

The answer of 2 FTE's for question A4 is because the BMP reporting form only accepts whole numbers. The actual figure for Full Time Equivalents is 1.2.

BMP 13: Water Waste Prohibition

Reporting Unit:

Vista Irrigation District

BMP Form Status:

100% Complete

Year:

2007



A. Requirements for Documenting BMP Implementation

1. Is a water waste prohibition ordinance in effect in your service area?

- Yes
 No

a. If YES, describe the ordinance:

Ordinance 01-01 adopted February 7, 2001 declaring the continued existence of a water shortage emergency presently Stage 1, normal condition

2. Is a copy of the most current ordinance(s) on file with CUWCC?

- Yes
- No

a. List local jurisdictions in your service area in the first text box and water waste ordinance citations in each jurisdiction in the second text box:

Vista Irrigation District

1,106 citations issued since 1991

B. Implementation



1. Indicate which of the water uses listed below are prohibited by your agency or service area.

	a. Gutter flooding	<input checked="" type="radio"/> Yes <input type="radio"/> No
	b. Single-pass cooling systems for new connections	<input type="radio"/> Yes <input checked="" type="radio"/> No
	c. Non-recirculating systems in all new conveyor or car wash systems	<input type="radio"/> Yes <input checked="" type="radio"/> No
	d. Non-recirculating systems in all new commercial laundry systems	<input type="radio"/> Yes <input checked="" type="radio"/> No
	e. Non-recirculating systems in all new decorative fountains	<input checked="" type="radio"/> Yes <input type="radio"/> No
	f. Other, please name <input type="text" value="Water shall not be used to wash down sidewalks, street,"/>	<input checked="" type="radio"/> Yes <input type="radio"/> No

2. Describe measures that prohibit water uses listed above:




Vista Irrigation District's Water Conservation Ordinance No. 01-01. A copy of the ordinance is on file with CUWCC from previous BMP reports. Water uses b, c and d are not addressed in the ordinance. We have contacted the City of Vista to ask if their planning department requires these measures. At present they do not. They also noted that they have not had any new laundromats, car washes or businesses with cooling towers come into the city in some time. Vista Irrigation District intends to look into the feasibility of including these measures into its water conservation ordinance.



Water Softeners:

3. Indicate which of the following measures your agency has supported in developing state law:

a. Allow the sale of more efficient, demand-initiated regenerating DIR models.	<input type="radio"/> Yes <input checked="" type="radio"/> No
b. Develop minimum appliance efficiency standards that:	
i.) Increase the regeneration efficiency standard to at least 3,350 grains of hardness removed per pound of common salt used.	<input type="radio"/> Yes <input checked="" type="radio"/> No
ii.) Implement an identified maximum number of gallons discharged per gallon of soft water produced.	<input type="radio"/> Yes <input checked="" type="radio"/> No
c. Allow local agencies, including municipalities and special	<input type="radio"/> Yes <input checked="" type="radio"/> No

<p>districts, to set more stringent standards and/or to ban on-site regeneration of water softeners if it is demonstrated and found by the agency governing board that there is an adverse effect on the reclaimed water or groundwater supply.</p>	<input checked="" type="radio"/> No	
<p>4. Does your agency include water softener checks in home water audit programs?</p>	<input type="radio"/> Yes <input checked="" type="radio"/> No	
<p>5. Does your agency include information about DIR and exchange-type water softeners in educational efforts to encourage replacement of less efficient timer models?</p>	<input type="radio"/> Yes <input checked="" type="radio"/> No	
<p>C. Water Waste Prohibition Program Expenditures</p>		
	<p>This Year</p>	<p>Next Year</p>
<p> 1. Budgeted Expenditures</p>	<input type="text"/>	<input type="text"/>
<p> 2. Actual Expenditures</p>	<input type="text"/>	<input type="text"/>
<p>D. "At Least As Effective As"</p>		
<p> 1. Is your AGENCY implementing an "at least as effective as" variant of this BMP?</p>	<input type="radio"/> Yes <input checked="" type="radio"/> No	
	<p>a. If YES, please explain in detail how your implementation of this BMP differs from Exhibit 1 and why you consider it to be "at least as effective as."</p> <div style="border: 1px solid black; height: 100px; width: 100%;"></div>	
<p>E. Comments</p>		
<p>2.a -The correct number of citations this year was 1106. VID noticed the BMP database carrying forward old data from 2006. This number represents only the customers that received a surcharge on their bill after two written warnings.</p>		

BMP 14: Residential ULFT Replacement Programs


Reporting Unit:
Vista Irrigation District

BMP Form Status:
100% Complete

Year:
2007

A. Implementation

Number of Non-Efficient Toilets Replaced With 1.6 gpf Toilets

		Single-Family Accounts	Multi-Family Units
	1. Does your Agency have program(s) for replacing high-water-using toilets with ultra-low flush toilets (1.6 gpf)?	<input checked="" type="radio"/> Yes <input type="radio"/> No	<input type="radio"/> Yes <input checked="" type="radio"/> No
	Replacement Method	SF Accounts	MF Units
	2. Rebate	<input type="text" value="0"/>	<input type="text"/>
	3. Direct Install	<input type="text" value="0"/>	<input type="text"/>
	4. CBO Distribution	<input type="text" value="0"/>	<input type="text"/>
	5. Other	<input type="text" value="645"/>	<input type="text"/>
	Total	645	

Number of Non-Efficient Toilets Replaced With 1.28 gpf HETs



		Single-Family Accounts	Multi-Family Units
	6. Does your Agency have program(s) for replacing high-water-using toilets with high-efficiency toilets (1.2 gpf)?	<input checked="" type="radio"/> Yes <input type="radio"/> No	<input type="radio"/> Yes <input checked="" type="radio"/> No
	Replacement Method	SF Accounts	MF Units
	7. Rebate	<input type="text" value="0"/>	<input type="text"/>
	8. Direct Install	<input type="text" value="0"/>	<input type="text"/>
	9. CBO Distribution	<input type="text" value="0"/>	<input type="text"/>
	10. Other	<input type="text" value="164"/>	<input type="text"/>
	Total	164	

Number of Non-Efficient Toilets Replaced w/ 1.2 gpf HETs (dual-flush)

	Single-Family Accounts	Multi-Family Units
11. Does your Agency have program(s) for replacing high-water-using toilets with dual flush toilets?	<input checked="" type="radio"/> Yes <input type="radio"/> No	<input type="radio"/> Yes <input checked="" type="radio"/> No
Replacement Method	SF Accounts	MF Units
12. Rebate	<input type="text" value="0"/>	<input type="text"/>
13. Direct Install	<input type="text" value="0"/>	<input type="text"/>
14. CBO Distribution	<input type="text" value="0"/>	<input type="text"/>
15. Other	<input type="text" value="58"/>	<input type="text"/>
Total	58	

Through this program, residential customers of participating water agencies are offered a voucher redeemable for up to \$75 off the purchase price of an approved ultra-low-flush toilet (ULFT) and \$165 for an approved HET and dual-flush toilets. The voucher is a point-of-purchase discount only. No after-purchase rebates are available. The Voucher Incentive Program has extensive marketing outreach through home improvements stores and plumbing supply stores.

Same as above Though this program, residential customers of participating water agencies are offered a voucher redeemable for up to \$75 off the purchase price of an approved ultra-low-flush toilet (ULFT) and \$165 for an approved HET and dual-flush toilets. The voucher is a point-of-purchase discount only. No after-purchase rebates are available. The Voucher Incentive Program has extensive marketing outreach through home improvements stores and plumbing supply stores.

18. Is a toilet retrofit on resale ordinance in effect for your service area?	<input type="radio"/> Yes <input checked="" type="radio"/> No
19. List local jurisdictions in your service area in the left box and ordinance citations in each jurisdiction in the right box:	
B. Residential ULFT Program Expenditures	
 1. Estimated cost per ULFT/HET replacement:	24
C. "At Least As Effective As"	
 1. Is your AGENCY implementing an "at least as effective as" variant of this BMP?	<input type="radio"/> Yes <input checked="" type="radio"/> No
a. If YES, please explain in detail how your implementation of this BMP differs from Exhibit 1 and why you consider it to be "at least as effective as."	
D. Comments	
Multi-family UFLT's were offered in FY 07 but tracked as SF in the Water Authority's database.	

BMP 01: Water Survey Programs for Single-Family and Multi-Family Residential Customers




Reporting Unit:

Vista Irrigation District




BMP Form Status:
100% Complete









Year:
2008

A. Implementation

	1. Based on your signed MOU date, 05/05/1991, your Agency STRATEGY DUE DATE is no later than:	6/3/1994
	2. Has your agency developed and implemented a targeting/marketing strategy for SINGLE-FAMILY residential water use surveys?	<input checked="" type="radio"/> Yes <input type="radio"/> No
	a. If YES, when was it implemented? (Enter 4-digit year mm/dd/yyyy)	<input type="text" value="7/1/1995"/>
	3. Has your agency developed and implemented a targeting/marketing strategy for MULTI-FAMILY residential water use surveys?	<input checked="" type="radio"/> Yes <input type="radio"/> No
	a. If YES, when was it implemented? (Enter 4-digit year mm/dd/yyyy)	<input type="text" value="7/1/1995"/>

B. Water Survey Data

Survey Counts		Single Family Accounts	Multi-Family Units
	1. Number of surveys offered:	<input type="text" value="4385"/>	<input type="text" value="0"/>
	2. Number of surveys completed:	<input type="text" value="6"/>	<input type="text" value="0"/>
Indoor Survey:		SF Accounts	MF Units
	3. Check for leaks, including toilets, faucets and meter checks	<input checked="" type="radio"/> Yes <input type="radio"/> No	<input checked="" type="radio"/> Yes <input type="radio"/> No
	4. Check showerhead flow rates, aerator flow rates, and offer to replace or recommend replacement, if necessary	<input checked="" type="radio"/> Yes <input type="radio"/> No	<input checked="" type="radio"/> Yes <input type="radio"/> No
	5. Check toilet flow rates and offer to install or recommend installation of displacement device or direct customer to ULFT replacement program, as necessary; replace leaking toilet flapper, as necessary	<input checked="" type="radio"/> Yes <input type="radio"/> No	<input checked="" type="radio"/> Yes <input type="radio"/> No

Outdoor Survey:		SF Accounts	MF Units
	6. Check irrigation system and timers	<input type="radio"/> Yes <input type="radio"/> No	<input type="radio"/> Yes <input type="radio"/> No
	7. Review or develop customer irrigation schedule	<input type="radio"/> Yes <input type="radio"/> No	<input type="radio"/> Yes <input type="radio"/> No
	8. Measure landscaped area (Recommended but not required for surveys)	<input type="radio"/> Yes <input checked="" type="radio"/> No	<input type="radio"/> Yes <input checked="" type="radio"/> No
	9. Measure total irrigable area (Recommended but not required for surveys)	<input type="radio"/> Yes <input checked="" type="radio"/> No	<input type="radio"/> Yes <input checked="" type="radio"/> No
	10. Which measurement method is typically used (Recommended but not required for surveys)	<input type="radio"/> Image-Based <input type="radio"/> Measuring Tape <input type="radio"/> Odometer Wheel <input type="radio"/> Pacing <input checked="" type="radio"/> Other <input type="radio"/> None	
	11. Were customers provided with information packets that included evaluation results and water savings recommendations?	<input checked="" type="radio"/> Yes <input type="radio"/> No	<input checked="" type="radio"/> Yes <input type="radio"/> No
	12. Have the number of surveys offered and completed, survey results, and survey costs been tracked?	<input checked="" type="radio"/> Yes <input type="radio"/> No	<input checked="" type="radio"/> Yes <input type="radio"/> No
	a. If yes, in what form are surveys tracked?	<input checked="" type="radio"/> Database <input type="radio"/> Spreadsheet <input type="radio"/> Manual Activity <input type="radio"/> None	
	b. Describe how your agency tracks this information.	<div style="border: 1px solid black; padding: 5px; min-height: 50px;"> Contractor tracks survey data, including number of surveys, in a database </div>	

C. Water Survey Program Expenditures

		This Year	Next Year
	1. Budgeted Expenditures	<input type="text"/>	<input type="text"/>
	2. Actual Expenditures	<input type="text"/>	<input type="text"/>

D. "At Least As Effective As"



1. Is your AGENCY implementing an "at least as effective as" variant of this BMP?

- Yes
 No

a. If YES, please explain in detail how your implementation of this BMP differs from Exhibit 1 and why you consider it to be "at least as effective as."

	▲ ▼
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E. Comments

	▲ ▼
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BMP 02: Residential Plumbing Retrofit

Reporting Unit:

Vista Irrigation District

BMP Form Status:

100% Complete

Year:

2008

A. Implementation



1. Is there an enforceable ordinance in effect in your service area requiring replacement of high-flow showerheads and other water use fixtures with their low-flow counterparts?

Yes
 No



a. If YES, list local jurisdictions in your service area and code or ordinance in each:

	▲ ▼
--	--------



2. Has your agency satisfied the 75% saturation requirement for single-family housing units?

Yes
 No



3. Estimated percent of single-family households with low-flow showerheads:

75%



4. Has your agency satisfied the 75% saturation requirement for multi-family housing units?

Yes
 No



5. Estimated percent of multi-family households with low-flow showerheads:

75%

6.a. If YES to 2 OR 4 above, did your survey methodology fully comply with the requirements of BMP 2?

Yes
 No

b. If YES to 2 OR 4 above, please describe how saturation was determined, including the dates and results of any survey research.

The San Diego County Water Authority and its member agencies, of which Vista Irrigation District is a member, distributed over 550,000 showerheads between 1991 and 2002. The average rate of natural replacement is 4.0%, while housing demolition is 0.5%. And, effective January 1, 1994 showerheads manufactured in the US must be 2.5 gpm maximum. Data gathered from the Residential Survey Program (2001 and 2002) showed an 80-95% saturation of showerheads in homes surveyed. Five agencies within the San Diego County Water Authority's service area will be participating in the upcoming California Single-Family Residential Water Efficiency Study. This study will collect indoor conservation data including residential showerheads.

B. Low-Flow Device Distribution Information

?	1. Has your agency developed a targeting/ marketing strategy for distributing low-flow devices?	<input checked="" type="radio"/> Yes <input type="radio"/> No	
	a. If YES, when did your agency begin implementing this strategy? (Use four-digit year, mm/dd/yyyy)	07/01/1995	
	b. Common targeting/ marketing methods. <input checked="" type="checkbox"/> Bill Messages <input type="checkbox"/> Direct Mail to Residents <input type="checkbox"/> PSAs <input type="checkbox"/> Bill Stuffer <input type="checkbox"/> Door-to-Door <input type="checkbox"/> Telemarketing <input type="checkbox"/> Direct Mail to Owners <input checked="" type="checkbox"/> Other		
	c. Describe your targeting/ marketing strategy. Residential Survey distribution, distribution at community events, by customer request and distribution at CBO events		
?	Low-Flow Devices Distributed/ Installed	SF Account	MF Units
	2. Number of low-flow showerheads distributed:	0	0
	3. Number of toilet-displacement devices distributed:	0	0
	4. Number of toilet flappers distributed:	0	0
	5. Number of faucet aerators distributed:	0	0
?	6. Does your agency track the distribution and cost of low-flow devices?		<input checked="" type="radio"/> Yes <input type="radio"/> No
	a. If YES, in what format are low-flow devices tracked?	<input type="radio"/> Database <input checked="" type="radio"/> Spreadsheet <input type="radio"/> Manual Activity <input type="radio"/> None	
	b. If yes, describe your tracking and distribution system : Over 550,000 showerheads have been distributed in the San Diego region to date. The marketing that has been done in the region includes the following: 1. Residential Survey distribution 2. Direct distribution to customers (lobby counter) 3. Distribution at community events 4. By customer request.		

C. Low-Flow Device Program Expenditures

	This Year	Next Year
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?	1. Budgeted Expenditures		
?	2. Actual Expenditures		

D. "At Least As Effective As"

?	1. Is your AGENCY implementing an "at least as effective as" variant of this BMP?	<input checked="" type="radio"/> Yes <input type="radio"/> No
---	---	--

a. If YES, please explain in detail how your implementation of this BMP differs from Exhibit 1 and why you consider it to be "at least as effective as."

Vista Irrigation District has not allocated monies for the distribution of showerheads during this reporting period. See comments section below

E. Comments

The San Diego County Water Authority and its member agencies distributed over 550,000 showerheads between 1991 and 2002. Distribution included (1) neighborhood canvassing by field representatives, (2) homes through the Residential Survey Program, (3) school systems and students, (4) Community Based Organizations events and by customer request. The average rate of natural

BMP 03: System Water Audits, Leak Detection and Repair

Reporting Unit:

Vista Irrigation District








BMP Form Status:

100% Complete

Year:

2008

A. Implementation

	1. Does your agency own or operate a water distribution system?	<input checked="" type="radio"/> Yes <input type="radio"/> No
- IF YOU ANSWERED NO TO #1, YOU ARE DONE WITH THE FORM. - IF YOU ANSWERED YES TO #1, PLEASE ANSWER THE FOLLOWING QUESTIONS.		
	2. Has your agency completed a pre-screening system audit for this reporting year?	<input checked="" type="radio"/> Yes <input type="radio"/> No
	3. If YES, enter the values (AF/Year) used to calculate verifiable use as a percent of total production:	
	a. Determine metered sales (AF)	22362
	b. Determine other system verifiable uses (AF)	2
	c. Determine total supply into the system (AF)	23525
	d. Using the numbers above, if (Metered Sales + Other Verifiable Uses) / Total Supply is < 0.9 then a full-scale system audit is required. <i>(This number will automatically calculate when you Save the Session)</i>	0.951
	4. Does your agency keep necessary data on file to verify the values entered in question 3?	<input checked="" type="radio"/> Yes <input type="radio"/> No
	5. Did your agency complete a full-scale system water audit during this report year?	<input type="radio"/> Yes <input checked="" type="radio"/> No
	6. Does your agency maintain in-house records of audit results or completed AWWA audit worksheets for the completed audit which could be forwarded to CUWCC?	<input type="radio"/> Yes <input checked="" type="radio"/> No
	7. Does your agency operate a system leak detection program?	<input checked="" type="radio"/> Yes <input type="radio"/> No

a. If yes, describe the leak detection program:

Vista Irrigation District performs leak detection as needed, usually for field investigation crews when leak must be pinpointed

B. Survey Data



1. Total number of miles of distribution system line:

466



2. Number of miles of distribution system line surveyed:

6

C. "At Least As Effective As"



1. Is your agency implementing an "at least as effective as" variant of this BMP?

Yes

No

a. If YES, please explain in detail how your implementation of this BMP differs from Exhibit 1 and why you consider it to be "at least as effective as."

D. Comments

Leak detection is performed without hesitation upon request at district facilities/piplines. Leak detection is also performed through-out the system as time permits.

BMP 04: Metering with Commodity Rates for all New Connections and Retrofit of Existing Connections

Reporting Unit:

Vista Irrigation District

BMP Form Status:
100% Complete

Year:
2008

A. Implementation



1. Does your agency have any unmetered service connections?	<input type="radio"/> Yes <input checked="" type="radio"/> No
a. If YES, has your agency completed a meter retrofit plan?	<input type="radio"/> Yes <input type="radio"/> No
b. If YES, number of previously unmetered accounts fitted with meters during report year:	<input style="width: 100px; height: 20px;" type="text"/>
2. Are all new service connections being metered?	<input checked="" type="radio"/> Yes <input type="radio"/> No
3. Are all new service connections being billed volumetrically with meters?	<input checked="" type="radio"/> Yes <input type="radio"/> No
4. Has your agency completed and submitted electronically to the Council a written plan, policy or program to test, repair & replace meters?	<input checked="" type="radio"/> Yes <input type="radio"/> No

5. Please fill out the following matrix:

Account Type	# Metered Accounts	# Accounts Read	# Accounts Vol Billing	Billing Frequency	# Vol Estimates
a. Single Family	<input style="width: 50px;" type="text" value="22328"/>	<input style="width: 50px;" type="text" value="22328"/>	<input style="width: 50px;" type="text" value="22328"/>	<input style="width: 50px;" type="text" value="6"/>	<input style="width: 50px;" type="text" value="11915"/>
b. Multi-Family	<input style="width: 50px;" type="text" value="1450"/>	<input style="width: 50px;" type="text" value="1450"/>	<input style="width: 50px;" type="text" value="1450"/>	<input style="width: 50px;" type="text" value="6"/>	<input style="width: 50px;" type="text" value="3123"/>
c. Commercial	<input style="width: 50px;" type="text" value="1153"/>	<input style="width: 50px;" type="text" value="1153"/>	<input style="width: 50px;" type="text" value="1153"/>	<input style="width: 50px;" type="text" value="6"/>	<input style="width: 50px;" type="text" value="1550"/>
d. Industrial	<input style="width: 50px;" type="text" value="461"/>	<input style="width: 50px;" type="text" value="461"/>	<input style="width: 50px;" type="text" value="461"/>	<input style="width: 50px;" type="text" value="6"/>	<input style="width: 50px;" type="text" value="722"/>
e. Institutional	<input style="width: 50px;" type="text" value="84"/>	<input style="width: 50px;" type="text" value="84"/>	<input style="width: 50px;" type="text" value="84"/>	<input style="width: 50px;" type="text" value="6"/>	<input style="width: 50px;" type="text" value="767"/>
f. Landscape Irrigation	<input style="width: 50px;" type="text" value="825"/>	<input style="width: 50px;" type="text" value="825"/>	<input style="width: 50px;" type="text" value="825"/>	<input style="width: 50px;" type="text" value="6"/>	<input style="width: 50px;" type="text" value="2346"/>

B. Feasibility Study

1. Has your agency conducted a feasibility study to assess the merits of a program to provide incentives to switch mixed-use accounts to dedicated landscape meters?	<input type="radio"/> Yes <input checked="" type="radio"/> No
--	--

	a. If YES, when was the feasibility study conducted? (mm/dd/yy)	<input type="text"/>
	b. Describe the feasibility study: <input type="text"/>	
	2. Number of CII accounts with mixed-use meters:	<input type="text" value="1194"/>
	3. Number of CII accounts with mixed-use meters retrofitted with dedicated irrigation meters during reporting year	<input type="text" value="0"/>
C. "At Least As Effective As"		
	1. Is your agency implementing an "at least as effective as" variant of this BMP?	<input type="radio"/> Yes <input checked="" type="radio"/> No
	a. If YES, please explain in detail how your implementation of this BMP differs from Exhibit 1 and why you consider it to be "at least as effective as." <input type="text"/>	
D. Comments		
	A.4 VID is in the process of producing a electronic version of its meter replacement policy to submit to the CUWCC. VID has nine billing cycles eight of which are billed bi-monthly and one that is billed monthly. Because the CUWCC's database cannot accept a range in values for billing frequency, in questions A.5 a-f, we entered 6, which is representative of the billing frequency of a majority of our accounts.	

BMP 05: Large Landscape Conservation Programs and Incentives

Reporting Unit:

Vista Irrigation District

BMP Form Status:
100% Complete



Year:
2008

A. Water Use Budgets



	1. Number of Dedicated Irrigation Meter Accounts:	<input type="text" value="825"/>
	2. Number of Dedicated Irrigation Meter Accounts with Water Budgets:	<input type="text" value="0"/>
	3. Budgeted Use for Irrigation Meter Accounts with Water Budgets (AF):	<input type="text" value="0"/>
	4. Actual Use for Irrigation Meter Accounts with Water Budgets (AF):	<input type="text" value="0"/>
	5. Does your agency provide water use notices to accounts with budgets each billing cycle?	<input checked="" type="radio"/> Yes <input type="radio"/> No






B. Landscape Surveys

	1. Has your agency developed a marketing / targeting strategy for landscape surveys?	<input checked="" type="radio"/> Yes <input type="radio"/> No
	a. If YES, when did your agency begin implementing this strategy? (Year must be four digit mm/dd/yyyy)	<input type="text" value="12/01/2006"/>
	b. Description of marketing / targeting strategy:	<div style="border: 1px solid black; padding: 5px;"> VID direct mails information advertising free landscape water surveys to HOA's, business park associations, and apartment managers. Additionally, VID meets in person with these groups to discuss water surveys and conservation programs. </div>
	2. Number of Surveys Offered:	<input type="text" value="90"/>
	3. Number of Surveys Completed:	<input type="text" value="0"/>
	4. Indicate which of the following Landscape Elements are part of your survey:	
	a. Irrigation System Check	<input checked="" type="radio"/> Yes <input type="radio"/> No
	b. Distribution Uniformity Analysis	<input checked="" type="radio"/> Yes <input type="radio"/> No
	c. Review / Develop Irrigation Schedules	<input checked="" type="radio"/> Yes <input type="radio"/> No

	d. Measure Landscape Area	<input checked="" type="radio"/> Yes <input type="radio"/> No
	e. Measure Total Irrigable Area	<input checked="" type="radio"/> Yes <input type="radio"/> No
	f. Provide Customer Report / Information	<input checked="" type="radio"/> Yes <input type="radio"/> No
	5. Do you track survey offers and results?	<input checked="" type="radio"/> Yes <input type="radio"/> No
	6. Does your agency provide follow-up surveys for previously completed surveys?	<input checked="" type="radio"/> Yes <input type="radio"/> No
	a. If YES, describe below:	
	<p>The consultant contacts the customer approximately three to six months after a full audit was completed, to discuss implementation of the recommendations. The consultant records changes and improvement in the site's condition. Photos may be taken documenting improvements. If significant changes have been made at the site, the consultant performs a distribution uniformity check to verify changes and assist the</p>	

C. Other BMP 5 Actions

	1. An agency can provide mixed-use accounts with ETo-based landscape budgets in lieu of a large landscape survey program. Does your agency provide mixed-use accounts with landscape budgets?	<input type="radio"/> Yes <input checked="" type="radio"/> No		
	2. Number of CII mixed-use accounts with landscape budgets.	<input type="text" value="0"/>		
	From BMP 4 report: Number of CII accounts with mixed-use meters retrofitted with dedicated irrigation meters during reporting period.	<input type="text" value="0"/>		
	Total number of change-outs from mixed-use to dedicated irrigation meters since Base Year.	<input type="text" value="137"/>		
	3. Do you offer landscape irrigation training?	<input checked="" type="radio"/> Yes <input type="radio"/> No		
	4. Does your agency offer financial incentives to improve landscape water use efficiency? If YES, describe below:	<input checked="" type="radio"/> Yes <input type="radio"/> No		
	Type of Financial Incentive	Budget (Dollars/ Years)	Number Awarded to Customers	Total Amount Award

	a. Rebates	3000	17	9674
	b. Loans	0	0	0
	c. Grants	3000	2	8390
	5. Do you provide landscape water use efficiency information to new customers and customers changing services?			<input checked="" type="radio"/> Yes <input type="radio"/> No
	a. If YES, describe below:			
	<div style="border: 1px solid black; padding: 5px;"> VID provides conservation information to new customers and customers changing service through on hold conservation messaging, in lobby conservation materials, and on VID's website. </div>			
	6. Do you have irrigated landscaping at your facilities?			<input checked="" type="radio"/> Yes <input type="radio"/> No
	a. If yes, is it water-efficient?			<input checked="" type="radio"/> Yes <input type="radio"/> No
	b. If yes, does it have dedicated irrigation metering?			<input checked="" type="radio"/> Yes <input type="radio"/> No
	7. Do you provide customer notices at the start of the irrigation season?			<input checked="" type="radio"/> Yes <input type="radio"/> No
	8. Do you provide customer notices at the end of the irrigation season?			<input checked="" type="radio"/> Yes <input type="radio"/> No
D. Landscape Conservation Program Expenditures				
		This Year	Next Year	
	1. Budgeted Expenditures	<input type="text"/>	<input type="text"/>	
	2. Actual Expenditures	<input type="text"/>		
E. "At Least As Effective As"				
	1. Is your AGENCY implementing an "at least as effective as" variant of this BMP?			<input type="radio"/> Yes <input checked="" type="radio"/> No
	a. If YES, please explain in detail how your implementation of this BMP differs from Exhibit 1 and why you consider it to be "at least as effective as."			
	<div style="border: 1px solid black; height: 100px; width: 100%;"></div>			

F. Comments

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BMP 06: High-Efficiency Washing Machine Rebate Programs


Reporting Unit:

Vista Irrigation District

BMP Form Status:
100% Complete

Year:
2008

A. Coverage Goal


		Single Family	Multi Family
	1. Number of residential dwelling units in the agency service area.	<input type="text"/>	<input type="text"/>
	2. Coverage Goal = Total Dwelling Units x 0.0768	1,810 Pts	

B. Implementation

1. Does your agency offer rebates for **residential** high-efficiency washers with water factors of 9.5 or less?

Yes
 No

Total Value of Financial Incentives


	HEW Water Factor	No. of Financial Incentives Issued	Retail Water Agency	Wholesaler/ Grants	Energy Utilities	TOTAL	Points Awarded
	2. Greater than 8.5 but not exceeding 9.5	<input type="text" value="0"/>	<input type="text" value="0"/>	<input type="text" value="0"/>	<input type="text" value="0"/>	<input type="text" value="0"/>	0
	3. Greater than 6.0 but not exceeding 8.5	<input type="text" value="0"/>	<input type="text" value="0"/>	<input type="text" value="0"/>	<input type="text" value="0"/>	<input type="text" value="0"/>	0
	4. Less than or equal to 6.0	<input type="text" value="547"/>	<input type="text" value="13,128"/>	<input type="text" value="77,674"/>	<input type="text" value="27,350"/>	<input type="text" value="118,152"/>	1,641
	TOTALS:	547	13,128	77,674	27,350	118,152	1,641

C. Past Credit Points

For incentives issued before July 1, 2004, select ONE of the following options:

NOTE: Agency shall not receive credit for any HEW incentives where the agency did not provide a financial incentive of \$25 or more.

Method One: Points based on HEW Water Factor

	HEW Water Factor	No. of Financial Incentives Issued	Total Value of Financial Incentives				Points Awarded
			Retail Water Agency	Wholesaler/ Grants	Energy Utilities	TOTAL	
							
	2. Greater than 8.5 but not exceeding 9.5	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	
	3. Greater than 6.0 but not exceeding 8.5	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	
	4. Less than or equal to 6.0	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	

Method Two: Agency earns 1 point for each HEW

4. Total HEWs installed	<input type="text" value="813"/>	<input type="text" value="100,750"/>					813
Past Cr TOTALS:							813

D. Rebate Program Expenditures

1. Average or Estimated Administration and Overhead	<input type="text" value="24"/>
2. Is the financial incentive offered per HEW at least equal to the marginal benefits of the water savings per HEW?	<input checked="" type="radio"/> Yes <input type="radio"/> No

E. "At Least As Effective As"



1. Is your AGENCY implementing an "at least as effective as" variant of this BMP?

Yes

No

a. If YES, please explain in detail how your implementation of this BMP differs from Exhibit 1 and why you consider it to be "at least as effective as."

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F. Comments

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BMP 07: Public Information Programs

Reporting Unit:
Vista Irrigation District

BMP Form Status:
100% Complete

Year:
2008

A. Implementation



1. How is your public information program implemented?

- Wholesaler
- Mixed
- Retailer
- None

Wholesaler sponsors:

San Diego County Water Authority

2. Describe the program and how it's organized.

Vista Irrigation District has been educating our customers and promoting water conservation since 1991 through various means which include: 1. On-hold telephone messages 2. Website 3. Giveaways 4. Video 5. Classes held at VID 6. Demonstration Garden 7. Water IQ Game Kiosk 8. Water Awareness Month 9. Public service announcements at local movie theater 10. Participation in Joint Public Information Council with the San Diego County Water Authority 11. Participation in the San Diego County California Friendly Landscape Contest



3. Indicate which and how many of the following activities are included in your public information program:

Survey Counts	Yes/No	Number of Events
a. Paid Advertising	<input type="radio"/> Yes <input checked="" type="radio"/> No	<input type="text" value="0"/>
b. Public Service Announcement	<input checked="" type="radio"/> Yes <input type="radio"/> No	<input type="text" value="2"/>
c. Bill Inserts / Newsletters / Brochures	<input checked="" type="radio"/> Yes <input type="radio"/> No	<input type="text" value="5"/>
d. Bill showing water usage in comparison to previous year's usage	<input checked="" type="radio"/> Yes <input type="radio"/> No	<input type="text"/>
e. Demonstration Gardens	<input checked="" type="radio"/> Yes <input type="radio"/> No	<input type="text" value="2"/>
f. Special Events, Media Events	<input checked="" type="radio"/> Yes <input type="radio"/> No	<input type="text" value="3"/>
g. Speaker's Bureau	<input checked="" type="radio"/> Yes <input type="radio"/> No	<input type="text" value="6"/>
h. Program to coordinate with other government agencies, industry and public interest groups and media	<input checked="" type="radio"/> Yes <input type="radio"/> No	<input type="text"/>

B. Conservation Information Program Expenditures

	This Year	Next Year
1. Budgeted Expenditures	<input type="text"/>	<input type="text"/>
2. Actual Expenditures	<input type="text" value="50877"/>	<input type="text"/>

C. "At Least As Effective As"

1. Is your AGENCY implementing an "at least as effective as" variant of this BMP?	<input type="radio"/> Yes <input checked="" type="radio"/> No
---	--

a. If YES, please explain in detail how your implementation of this BMP differs from Exhibit 1 and why you consider it to be "at least as effective as."

D. Comments

This year's expenditures include the installation of a new demonstration garden in the front of the building

BMP 08: School Education Programs

Reporting Unit:

Vista Irrigation District

BMP Form Status:
100% Complete

Year:
2008

A. Implementation



1. How is your school education program implemented?

Wholesaler Retailer
 Mixed None

Wholesaler sponsors:

San Diego County Water Authority

2. Please provide information on your school programs (by grade level):

Grade	Are grade-appropriate materials distributed?	No. of class presentations	No. of students reached	No. of teachers' workshops
Grades K-3rd	<input type="radio"/> Yes <input checked="" type="radio"/> No	0	0	0
Grades 4th-6th	<input checked="" type="radio"/> Yes <input type="radio"/> No	25	750	0
Grades 7th-8th	<input type="radio"/> Yes <input checked="" type="radio"/> No	0	0	0
High School	<input type="radio"/> Yes <input checked="" type="radio"/> No	0	0	0

3. Did your Agency's materials meet state education framework requirements?

Yes
 No

4. When did your Agency begin implementing this program? (Year must be four digit mm/dd/yyyy)

01/01/199

B. School Education Program Expenditures

	This Year	Next Year
1. Budgeted Expenditures	[]	[]
2. Actual Expenditures	6841	

C. "At Least As Effective As"



1. Is your AGENCY implementing an "at least as effective as" variant of this BMP?

Yes
 No

a. If YES, please explain in detail how your implementation of this BMP differs from Exhibit 1 and why you consider it to be "at least as effective as."

D. Comments

VID sponsors a district wide water conservation presentation and poster contest for 4th graders in conjunction with the North County Water Agencies, a group of local water districts. The posters are judged and the winning students are awarded prizes. The best posters from the NCWA member agencies are made into calendars which are distributed at area schools and local agencies for free. VID also facilitates tours of our water filtration plant by area school children as well as sponsoring splash labs on request.

BMP 09: Conservation Programs for CII Accounts

Reporting Unit:

Vista Irrigation District

BMP Form Status:
100% Complete

Year:
2008

A. Implementation


	1. Has your agency identified and ranked COMMERCIAL customers according to use?	<input type="radio"/> Yes <input type="radio"/> No
	2. Has your agency identified and ranked INDUSTRIAL customers according to use?	<input type="radio"/> Yes <input type="radio"/> No
	3. Has your agency identified and ranked INSTITUTIONAL customers according to use?	<input type="radio"/> Yes <input type="radio"/> No


Implement ONE or BOTH of the following TWO options:





- Option A: CII Water Use Survey and Customer Incentives Program
- Option B: CII Conservation Program Targets

NOTE: An agency MUST indicate implementation of at least one option to achieve 100% completion and to submit this form. An agency MUST fill out both sections if it wants to preserve the ability of complying with either option.


 **Option A: CII Water Use Survey and Customer Incentives Program**

	4. Is your agency operating a CII water use survey and customer incentives program for the purpose of complying with BMP 9 under this option?	<input type="radio"/> Yes <input checked="" type="radio"/> No
---	---	--

	CII Surveys	Commercial Accounts	Industrial Accounts	Institutional Accounts
a. Number of New Surveys Offered	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>
b. Number of New Surveys Completed	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>
c. Number of Site Follow-ups of Previous Surveys (within 1 yr)	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>
d. Number of Phone Follow-ups of Previous Surveys (within 1 yr)	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>
	CII Survey Components	Commercial Accounts	Industrial Accounts	Institutional Accounts

	e. Site Visit	<input type="radio"/> Yes <input type="radio"/> No	<input type="radio"/> Yes <input type="radio"/> No	<input type="radio"/> Yes <input type="radio"/> No
	f. Evaluation of all water-using apparatus and processes	<input type="radio"/> Yes <input type="radio"/> No	<input type="radio"/> Yes <input type="radio"/> No	<input type="radio"/> Yes <input type="radio"/> No
	g. Customer report identifying recommended efficiency measures, paybacks and agency incentives	<input type="radio"/> Yes <input type="radio"/> No	<input type="radio"/> Yes <input type="radio"/> No	<input type="radio"/> Yes <input type="radio"/> No
	Agency CII Customer Incentives	Budget (\$/Year)	No. Awarded to Customers	Total \$ Amount Awarded
	h. Rebates	<input type="text"/>	<input type="text"/>	<input type="text"/>
	i. Loans	<input type="text"/>	<input type="text"/>	<input type="text"/>
	j. Grants	<input type="text"/>	<input type="text"/>	<input type="text"/>
	k. Others	<input type="text"/>	<input type="text"/>	<input type="text"/>
	Option B: CII Conservation Program Targets			
	5. Does your agency track CII program interventions and water savings for the purpose of complying with BMP 9 under this option?			<input checked="" type="radio"/> Yes <input type="radio"/> No
	6. Does your agency document and maintain records on how savings were realized and the method of calculation for estimated savings?			<input checked="" type="radio"/> Yes <input type="radio"/> No
	7. System Calculated annual savings (AF/year):			
	CII Programs	Avg Savings (AF/yr)	# Devices	Savings/Device
	a. Ultra Low Flush Toilets	.035004	<input type="text" value="8"/>	<input type="text" value="0.28"/>
	b. Dual Flush Toilets	.041748	<input type="text" value="0"/>	<input type="text" value="0.00"/>
	c. High Efficiency Toilets	.041748	<input type="text" value="0"/>	<input type="text" value="0.00"/>
	d. High Efficiency Urinals	.069086	<input type="text" value="0"/>	<input type="text" value="0.00"/>
	e. Non-Water Urinals	.0921146	<input type="text" value="15"/>	<input type="text" value="1.38"/>
	f. Commercial Clothes Washers (only coin-op; not industrial)	.116618	<input type="text" value="26"/>	<input type="text" value="3.03"/>
	g. Cooling Tower Controllers	1.03225	<input type="text" value="1"/>	<input type="text" value="1.03"/>

g. Cooling Tower Controllers	1.03223	<input type="text" value="1"/>	<input type="text" value="1.03"/>
h. Food Steamers	.25	<input type="text" value="0"/>	<input type="text" value="0.00"/>
i. Ice Machines	.834507	<input type="text" value="0"/>	<input type="text" value="0.00"/>
j. Pre-Rinse Spray Valves	.084701	<input type="text" value="0"/>	<input type="text" value="0.00"/>
k. Steam Sterilizer Retrofits	1.538	<input type="text" value="0"/>	<input type="text" value="0.00"/>
l. X-ray Film Processors	2.57	<input type="text" value="0"/>	<input type="text" value="0.00"/>
TOTAL System Calculated Savings:			5.73



 8. Estimated annual savings (AF/yr) from agency programs not including the devices listed in Option B. 7., above:

CII Programs	Annual Savings (AF/yr)
a. Site-verified actions taken by agency. <div style="border: 1px solid black; height: 60px; width: 100%;"></div>	<input type="text" value="0"/>
b Non-site-verified actions taken by agency. <div style="border: 1px solid black; height: 60px; width: 100%;"></div>	<input type="text" value="0"/> x 25%


Note: agencies may credit 100% of estimated annual savings of interventions that have been site verified and 25% of estimated annual savings of interventions that have not been site verified. (BMP 9 E.4.c.)

TOTAL CII Program Performance Target Savings:	5.73 AF/Yr
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B. Conservation Program Expenditures for CII Accounts

	This Year	Next Year
 1. Budgeted Expenditures	<input type="text" value="9100"/>	<input type="text" value="9000"/>
 2. Actual Expenditures	<input type="text" value="998"/>	

C. "At Least As Effective As"

 1. Is your AGENCY implementing an "at least as effective as" variant of this BMP?	<input type="radio"/> Yes <input checked="" type="radio"/> No
---	--

a. If YES, please explain in detail how your implementation of this BMP differs from Exhibit 1 and why you consider it to be "at least as effective as."

D. Comments

BMP 11: Conservation Pricing

Reporting Unit:

Vista Irrigation District

BMP Form Status:

100% Complete

Year:

2008

A. Implementation



Water Service Rate Structure Data by Customer Class

Select the **Rate Structure** assigned to the majority of your customers within a specific customer class.

Volumetric Revenue is defined as the revenue derived from the charges based on amount of water use. Water agencies typically refer to these as "commodity charges." Do NOT include: flat fees, monthly service charges, meter charges, minimum usage charges, and other revenue that is not dependant on the amount of water the customer consumes. An example of a "minimum usage" charge might be: customers are charged at least 6 units per month even if they use only 2 units.

1. Single Family Residential

a. Rate Structure

Uniform

b. Total Revenue from Volumetric Rates

10,612,862

c. Total Revenue from Customer Meter/Service (fixed) charges

6,303,475

2. Multi-Family Residential

a. Rate Structure

Uniform

b. Total Revenue from Volumetric Rates

2,808,481

c. Total Revenue from Customer Meter/Service (fixed) charges

970,206

3. Commercial

a. Rate Structure

Uniform

b. Total Revenue from Volumetric Rates

1,393,068

c. Total Revenue from Customer Meter/Service (fixed) charges

559,605

4. Industrial

a. Rate Structure

Uniform

	b. Total Revenue from Volumetric Rates	649,250
	c. Total Revenue from Customer Meter/Service (fixed) charges	313,787
	5. Institutional / Government	
	a. Rate Structure	Uniform
	b. Total Revenue from Volumetric Rates	684,716
	c. Total Revenue from Customer Meter/Service (fixed) charges	154,552
	6. Dedicated Irrigation (potable)	
	a. Rate Structure	Uniform
	b. Total Revenue from Volumetric Rates	2,081,908
	c. Total Revenue from Customer Meter/Service (fixed) charges	560,773
	7. Recycled-Reclaimed	
	a. Rate Structure	Service Not
	b. Total Revenue from Volumetric Rates	0
	c. Total Revenue from Customer Meter/Service (fixed) charges	0
	8. Raw	
	a. Rate Structure	Service Not
	b. Total Revenue from Volumetric Rates	0
	c. Total Revenue from Customer Meter/Service (fixed) charges	0
	9. Other	
	a. Rate Structure	Uniform
	b. Total Revenue from Volumetric Rates	178,908
	c. Total Revenue from Customer Meter/Service (fixed) charges	259,285

B. Implementation Options

Select Either Option 1 or Option 2:

1. Option 1: Use Annual Revenue As Reported

$$V/(V+M) \geq 70\%$$

V = Total annual revenue from volumetric rates

M = Total annual revenue from customer meter/service (fixed) charges

- Option 1
 Option 2

2. Option 2: Use Canadian Water & Wastewater Association Rate Design Model

$$V/(V+M) \geq V'/(V'+M')$$

V = Total annual revenue from volumetric rates

M = Total annual revenue from customer meter/service (fixed) charges

V' = The uniform volume rate based on the signatory's long-run incremental cost of service

M' = The associated meter charge

a. If you selected Option 2, has your agency submitted to the Council a completed Canadian Water & Wastewater Association rate design model?

- Yes
 No

b. Value for V' (uniform volume rate based on agency's long-run incremental cost of service) as determined by the Canadian Water & Wastewater Association rate design model:

c. Value for M' (meter charge associated with V' uniform volume rate) as determined by the Canadian Water & Wastewater Association rate design model:

C. Retail Wastewater (Sewer) Rate Structure Data by Customer Class

1. Does your agency provide sewer service? (If YES, answer questions 2 - 7 below, else continue to section D.)

- Yes
 No

2. Single Family Residential

a. Sewer Rate Structure

b. Annual Revenue Requirement

c. Total Revenue from Customer Commodity Charges

3. Multi-Family Residential

a. Sewer Rate Structure

	b. Annual Revenue Requirement	<input type="text"/>
	c. Total Revenue from Customer Commodity Charges	<input type="text"/>
4. Commercial		
	a. Sewer Rate Structure	<input type="text"/>
	b. Annual Revenue Requirement	<input type="text"/>
	c. Total Revenue from Customer Commodity Charges	<input type="text"/>
5. Industrial		
	a. Sewer Rate Structure	<input type="text"/>
	b. Annual Revenue Requirement	<input type="text"/>
	c. Total Revenue from Customer Commodity Charges	<input type="text"/>
6. Institutional / Government		
	a. Sewer Rate Structure	<input type="text"/>
	b. Annual Revenue Requirement	<input type="text"/>
	c. Total Revenue from Customer Commodity Charges	<input type="text"/>
7. Recycled-reclaimed water		
	a. Sewer Rate Structure	<input type="text"/>
	b. Annual Revenue Requirement	<input type="text"/>
	c. Total Revenue from Customer Commodity Charges	<input type="text"/>
D. At Least As Effective As		
	1. Is your agency implementing an "at least as effective as" variant of this BMP?	<input type="radio"/> Yes <input checked="" type="radio"/> No
	a. If YES, please explain in detail how your implementation of this BMP differs from Exhibit 1 and why you consider it to be "at least as effective as."	
	<input type="text"/>	

E. Comments

The amount of acre feet used by AD accounts only considers the first 26 units per month. This usage is considered domestic under the Interim Agricultural Water Plan. It is assumed that all 178 accounts used at least 26 units every month. This figure is multiplied by 1.98 a ccf to calculate the total revenue for this category. The rate of 1.98 per ccf was used for the majority of FY 08.

BMP 12: Conservation Coordinator

Reporting Unit:

Vista Irrigation District

BMP Form Status:

100% Complete

Year:

2008**A. Implementation**

1. Does your Agency have a conservation coordinator?

- Yes
 No

2. Is a coordinator position supplied by another agency with which you cooperate in a regional conservation program ?

- Yes
 No

a. Partner agency's name:

3. If your agency supplies the conservation coordinator:

a. What percent is this conservation coordinator's position?

90%

b. Coordinator's Name

Brent Reyes

c. Coordinator's Title

Public Education Assistant

d. Coordinator's Experience and Number of Years

3 years

e. Date Coordinator's position was created (mm/dd/yyyy)

06/30/1991

4. Number of conservation staff (FTEs), including Conservation Coordinator.

2

B. Conservation Staff Program Expenditures

1. Staffing Expenditures (In-house Only)

65175



2. BMP Program Implementation Expenditures

82288

C. "At Least As Effective As"

1. Is your AGENCY implementing an "at least as effective as" variant of this BMP?

- Yes
 No

a. If YES, please explain in detail how your implementation of this BMP differs from Exhibit 1 and why you consider it to be "at least as effective as."

D. Comments

The answer of 2 FTE's for question A4 is because the BMP reporting form only accepts whole numbers. The actual figure for Full Time Equivalents is 1.2.

BMP 13: Water Waste Prohibition

Reporting Unit:

Vista Irrigation District

BMP Form Status:

100% Complete

Year:

2008



A. Requirements for Documenting BMP Implementation

1. Is a water waste prohibition ordinance in effect in your service area?

- Yes
- No

a. If YES, describe the ordinance:

Ordinance 01-01 adopted February 7, 2001 declaring the continued existence of a water shortage emergency presently Stage 1, normal condition

2. Is a copy of the most current ordinance(s) on file with CUWCC?

- Yes
- No

a. List local jurisdictions in your service area in the first text box and water waste ordinance citations in each jurisdiction in the second text box:

Vista Irrigation District

1,109 citations issued since 1991

B. Implementation



1. Indicate which of the water uses listed below are prohibited by your agency or service area.

	a. Gutter flooding	<input checked="" type="radio"/> Yes <input type="radio"/> No
	b. Single-pass cooling systems for new connections	<input type="radio"/> Yes <input checked="" type="radio"/> No
	c. Non-recirculating systems in all new conveyor or car wash systems	<input type="radio"/> Yes <input checked="" type="radio"/> No
	d. Non-recirculating systems in all new commercial laundry systems	<input type="radio"/> Yes <input checked="" type="radio"/> No
	e. Non-recirculating systems in all new decorative fountains	<input checked="" type="radio"/> Yes <input type="radio"/> No
	f. Other, please name <input type="text" value="Water shall not be used to wash down sidewalks, street,"/>	<input checked="" type="radio"/> Yes <input type="radio"/> No

2. Describe measures that prohibit water uses listed above:

Vista Irrigation District's Water Conservation Ordinance No. 01-01. A copy of the ordinance is on file with CUWCC from previous BMP reports. Water uses b, c and d are not addressed in the ordinance. Currently, VID is awaiting the State Dept. of Water Resources to release the new model landscape ordinance. When that occurs VID will work with the City to update its landscape ordinance and possibly address the water uses b, c, d in Implementation.



Water Softeners:

3. Indicate which of the following measures your agency has supported in developing state law:

a. Allow the sale of more efficient, demand-initiated regenerating DIR models.	<input type="radio"/> Yes <input checked="" type="radio"/> No
b. Develop minimum appliance efficiency standards that:	
i.) Increase the regeneration efficiency standard to at least 3,350 grains of hardness removed per pound of common salt used.	<input type="radio"/> Yes <input checked="" type="radio"/> No
ii.) Implement an identified maximum number of gallons discharged per gallon of soft water produced.	<input type="radio"/> Yes <input checked="" type="radio"/> No
c. Allow local agencies, including municipalities and special	<input type="radio"/> Yes <input checked="" type="radio"/> No

districts, to set more stringent standards and/or to ban on-site regeneration of water softeners if it is demonstrated and found by the agency governing board that there is an adverse effect on the reclaimed water or groundwater supply.	<input checked="" type="radio"/> No
--	-------------------------------------


4. Does your agency include water softener checks in home water audit programs?	<input type="radio"/> Yes <input checked="" type="radio"/> No
---	--

5. Does your agency include information about DIR and exchange-type water softeners in educational efforts to encourage replacement of less efficient timer models?	<input type="radio"/> Yes <input checked="" type="radio"/> No
---	--

C. Water Waste Prohibition Program Expenditures

		This Year	Next Year
	1. Budgeted Expenditures	<input type="text"/>	<input type="text"/>
	2. Actual Expenditures	<input type="text"/>	<input type="text"/>

D. "At Least As Effective As"

	1. Is your AGENCY implementing an "at least as effective as" variant of this BMP?	<input type="radio"/> Yes <input checked="" type="radio"/> No
---	---	--

	<p>a. If YES, please explain in detail how your implementation of this BMP differs from Exhibit 1 and why you consider it to be "at least as effective as."</p> <div style="border: 1px solid black; height: 100px; width: 100%;"></div>
--	--

E. Comments

	<p>This number represents only the customers that received a surcharge on their bill after two written warnings.</p> <div style="border: 1px solid black; height: 50px; width: 100%;"></div>
--	--

BMP 14: Residential ULFT Replacement Programs

Reporting Unit:


Vista Irrigation District

BMP Form Status:

100% Complete

Year:

2008**A. Implementation****Number of Non-Efficient Toilets Replaced With 1.6 gpf Toilets**

		Single-Family Accounts	Multi-Family Units
	1. Does your Agency have program(s) for replacing high-water-using toilets with ultra-low flush toilets (1.6 gpf)?	<input type="radio"/> Yes <input checked="" type="radio"/> No	<input checked="" type="radio"/> Yes <input type="radio"/> No
	Replacement Method	SF Accounts	MF Units
	2. Rebate	<input type="text"/>	<input type="text" value="0"/>
	3. Direct Install	<input type="text"/>	<input type="text" value="0"/>
	4. CBO Distribution	<input type="text"/>	<input type="text" value="0"/>
	5. Other	<input type="text"/>	<input type="text" value="3"/>
	Total		3

Number of Non-Efficient Toilets Replaced With 1.28 gpf HETs



		Single-Family Accounts	Multi-Family Units
	6. Does your Agency have program(s) for replacing high-water-using toilets with high-efficiency toilets (1.2 gpf)?	<input type="radio"/> Yes <input checked="" type="radio"/> No	<input checked="" type="radio"/> Yes <input type="radio"/> No
	Replacement Method	SF Accounts	MF Units
	7. Rebate	<input type="text"/>	<input type="text" value="0"/>
	8. Direct Install	<input type="text"/>	<input type="text" value="0"/>
	9. CBO Distribution	<input type="text"/>	<input type="text" value="0"/>
	10. Other	<input type="text"/>	<input type="text" value="8"/>
	Total		8

Number of Non-Efficient Toilets Replaced w/ 1.2 gpf HETs (dual-flush)

	Single-Family Accounts	Multi-Family Units
11. Does your Agency have program(s) for replacing high-water-using toilets with dual flush toilets?	<input type="radio"/> Yes <input checked="" type="radio"/> No	<input checked="" type="radio"/> Yes <input type="radio"/> No
Replacement Method	SF Accounts	MF Units
12. Rebate	<input type="text"/>	<input type="text" value="0"/>
13. Direct Install	<input type="text"/>	<input type="text" value="0"/>
14. CBO Distribution	<input type="text"/>	<input type="text" value="0"/>
15. Other	<input type="text"/>	<input type="text" value="245"/>
Total		245

The Residential ULFT program was discontinued on June 30, 2007. No Residential toilet programs were available in FY 08. Multi-Family ULFTs were offered from July 1, 2008 until December 31, 2007 with a voucher redeemable for up to \$75 off the purchase price. Multi-Family HET and dual-flush toilets were available all of FY 08 with a voucher of up to \$200. The Voucher Incentive program has extensive marketing outreach through home improvements stores and plumbing supply stores.

Same as above The Residential ULFT program was discontinued on June 30, 2007. No Residential toilet programs were available in FY 08. Multi-Family ULFTs were offered from July 1, 2008 until December 31, 2007 with a voucher redeemable for up to \$75 off the purchase price. Multi-Family HET and dual-flush toilets were available all of FY 08 with a voucher of up to \$200. The Voucher Incentive program has extensive marketing outreach through home improvements stores and plumbing supply stores.

18. Is a toilet retrofit on resale ordinance in effect for your service area?	<input type="radio"/> Yes <input checked="" type="radio"/> No
19. List local jurisdictions in your service area in the left box and ordinance citations in each jurisdiction in the right box:	
B. Residential ULFT Program Expenditures	
 1. Estimated cost per ULFT/HET replacement:	24
C. "At Least As Effective As"	
 1. Is your AGENCY implementing an "at least as effective as" variant of this BMP?	<input type="radio"/> Yes <input checked="" type="radio"/> No
a. If YES, please explain in detail how your implementation of this BMP differs from Exhibit 1 and why you consider it to be "at least as effective as."	
D. Comments	

The fields in red are required.

Agency name:

Primary contact:

First name:

You must enter the reporting unit number that we have on record for your agency. Click here to open a table to obtain this number.

Reporting unit name
(District name)

Last name:

Reporting unit number:

Email:



Base Year Data

[Link to FAQs](#)

Reporting Unit **Base Year**

What is your reporting period?

Base Year

BMP 1.3 Metering

Number of unmetered accounts in Base Year

BMP 3.1 & BMP 3.2 & BMP 3.3 Residential Programs

Number of Single Family Customers in Base Year

Number of Multi Family Units in Base Year

BMP 3.4 WaterSense Specification (WSS) Toilets

Number of Single Family Housing Units constructed prior to 1992

Number of Multi Family Units prior to 1992

Average number of toilets per single family household

Average number of toilets per multi family household

Five year average resale rate of single family households

Five-year average resale rate of multi family households

Average number of persons per single family household

Average number of persons per multi family household

BMP 4.0 & BMP 5.0 CII & Landscape

Total water use (in Acre Feet) by CII accounts

Number of accounts with dedicated irrigation meters

Number of CII accounts without meters or with Mixed Use Meters

Number of CII accounts

Comments:

The fields in red are required.

Agency name:

Primary contact:

First name:

Division name
(Reporting unit)

Last name:

Reporting unit number:

Email:



WATER SOURCES

2009

Service Area Population:

Potable Water

Own Supply Source Name	AF/YEAR	Water Supply Type	Water Supply Description
------------------------	---------	-------------------	--------------------------

Imported Supply Source Name	AF/YEAR	Water Supply Type	Water Supply Description
-----------------------------	---------	-------------------	--------------------------

AF/YEAR

Exported Water Name	AF/YEAR	Where Exported?
---------------------	---------	-----------------

The fields in red are required.

Agency name:

Primary contact:

First name:



Division name
(Reporting unit)

Last name:

Reporting unit number:

Email:

Water Uses 2009

Potable Water Billed

Make sure to enter numbers in AF/Year.



Customer Type	Meter Accounts	Metered Water Delivered	Un-metered Accounts	Un-metered Water Delivered	Description

Potable Water Un-Billed

Customer Type	Meter Accounts	Metered Water Delivered	Un-metered Accounts	Un-metered Water Delivered	Description

The fields in red are required.



Agency name:

Reporting unit name
(District name)

Reporting unit number:

Primary contact:

First name:

Last name:

Email:

You must enter the reporting unit number that we have on record for your agency. Click here to open a table to obtain this number.

[Link to FAQs](#)

[See the complete MOU:](#) [View MOU](#)

[See the coverage requirements for this BMP:](#)

2009

BMP 1.1 Operations Practices

Comments:

Conservation Coordinator

Conservation Coordinator Yes No

Contact Information

First Name

Last Name

Title

Phone

Email

Note that the contact information may be the same as the primary contact information at the top of the page. If this is your case, excuse the inconvenience but please enter the information again.

Water Waste Prevention

Water Agency shall do one or more of the following:

- a. Enact and enforce an ordinance or establish terms of service that prohibit water waste
- b. Enact and enforce an ordinance or establish terms of service for water efficient design in new development
- c. Support legislation or regulations that prohibit water waste
- d. Enact an ordinance or establish terms of service to facilitate implementation of water shortage response measures
- e. Support local ordinances that prohibit water waste
- f. Support local ordinances that establish permits requirements for water efficient design in new

To document this BMP, provide the following:

- a. A description of, or electronic link to, any ordinances or terms of service
- b. A description of, or electronic link to, any ordinances or requirements adopted by local jurisdictions or regulatory agencies with the water agency's service area.
- c. A description of any water agency efforts to cooperate with other entities in the adoption or enforcement of local requirement
- d. description of agency support positions with respect to adoption of legislation or regulations

You can show your documentation by providing files, links (web addresses), and/or entering a description.

File name(s): Email files to natalie@cuwcc.org

Web address(s) URL: comma-separated list

Enter a description:

RESOLUTION NO. 09-11

RESOLUTION OF THE BOARD OF DIRECTORS
OF THE VISTA IRRIGATION DISTRICT ADOPTING A DROUGHT
RESPONSE CONSERVATION PROGRAM

WHEREAS, article 10, section 2 of the California Constitution declares that waters of the State are to be put to beneficial use, that waste, unreasonable use, or unreasonable method of use of water be prevented, and that water be conserved for the public welfare; and

WHEREAS, conservation of current water supplies and minimization of the effects of water supply shortages that are the result of drought are essential to the public health, safety and welfare; and

WHEREAS, regulation of the time of certain water use, manner of certain water use, design of rates, method of application of water for certain uses, installation and use of water-saving devices, provide an effective and immediately available means of conserving water; and

WHEREAS, California Water Code sections 375 et seq. authorize water suppliers to adopt and enforce a comprehensive water conservation program; and

WHEREAS, adoption and enforcement of a comprehensive water conservation program will allow the Vista Irrigation District (District) to delay or avoid implementing measures such as water rationing or more restrictive water use regulations pursuant to a declared water shortage emergency as authorized by California Water Code sections 350 et seq.; and

WHEREAS, San Diego County is a semi-arid region and local water resources are scarce. The region is dependent upon imported water supplies provided by the San Diego County Water Authority, which obtains a substantial portion of its supplies from the Metropolitan Water District of Southern California. Because the region is dependent upon imported water supplies, weather and other conditions in other portions of this State and of the Southwestern United States affect the availability of water for use in San Diego County; and

WHEREAS, the San Diego County Water Authority has adopted an Urban Water Management Plan that includes water conservation as a necessary and effective component of the Water Authority's programs to provide a reliable supply of water to meet the needs of the Water Authority's 24 member public agencies, including the Vista Irrigation District. The Water Authority's Urban Water Management Plan also includes a contingency analysis of actions to be taken in response to water supply shortages. This resolution is consistent with the Water Authority's Urban Water Management Plan; and

WHEREAS, as anticipated by its Urban Water Management Plan, the San Diego County Water Authority, in cooperation and consultation with its member public agencies, has adopted a Drought Management Plan, which establishes a progressive program for responding to water supply limitations resulting from drought conditions. This resolution is intended to be consistent with and to implement the Water Authority's Drought Management Plan; and

WHEREAS, the Water Authority's Drought Management Plan contains three stages containing regional actions to be taken to lessen or avoid supply shortages. This resolution contains drought response levels that correspond with the Drought Management Plan stages; and

WHEREAS, the Vista Irrigation District, due to the geographic and climatic conditions within its territory and its dependence upon water imported and provided by the San Diego County Water Authority, may experience shortages due to drought conditions, regulatory restrictions enacted upon imported supplies and other factors. The Vista Irrigation District has adopted an Urban Water Management Plan that includes water conservation as a necessary and effective component of its programs to provide a reliable supply of water to meet the needs of the public within its service territory. The Vista Irrigation District's Urban Water Management Plan also includes a contingency analysis of actions to be taken in response to water supply shortages. This resolution is consistent with the Urban Water Management Plan adopted by the Vista Irrigation District; and

WHEREAS the water conservation measures and progressive restrictions on water use and method of use identified by this resolution provide certainty to water users and enable Vista Irrigation District to control water use, provide water supplies, and plan and implement water management measures in a fair and orderly manner for the benefit of the public; and

WHEREAS, upon the effective date of this resolution, the provisions of this resolution shall replace sections 1, 3, 4 and 6 (collectively "2001 Ordinance Sections") of Ordinance No. 01-01, adopted February 7, 2001, and Resolution No. 08-36 and the 2001 Ordinance Sections and Resolution No. 08-36 shall be rescinded and repealed.

NOW, THEREFORE, the Board of Directors of the Vista Irrigation District does resolve to amend and restate the Drought Response Conservation Program in its entirety, as follows:

SECTION 1.0 DECLARATION OF NECESSITY AND INTENT

(a) This resolution establishes water management requirements necessary to conserve water, enable effective water supply planning, assure reasonable and beneficial use of water, prevent waste of water, prevent unreasonable use of water, prevent unreasonable method of use of water within the Vista Irrigation District in order to assure adequate supplies of water to meet the needs of the public, and further the public health, safety, and welfare, recognizing that water is a scarce natural resource that requires careful management not only in times of drought, but at all times.

(b) This resolution establishes regulations to be implemented during times of declared water shortages, or declared water shortage emergencies. It establishes four levels of drought response actions to be implemented in times of shortage, with increasing restrictions on water use in response to worsening drought conditions and decreasing available supplies.

(c) Level 1 condition drought response measures are voluntary and will be reinforced through local and regional public education and awareness measures that may be funded in part by Vista Irrigation District. During drought response condition Levels 2 through 4, all

conservation measures and water-use restrictions are mandatory and become increasingly restrictive in order to attain escalating conservation goals.

(d) During a Drought Response Level 2 condition or higher, the water conservation measures and water use restrictions established by this resolution are mandatory and violations are subject to criminal, civil, and fees and remedies specified in this resolution.

SECTION 2.0 DEFINITIONS

(a) The following words and phrases whenever used in this chapter shall have the meaning defined in this section:

1. "Grower" refers to those engaged in the growing or raising, in conformity with recognized practices of husbandry, for the purpose of commerce, trade, or industry, or for use by public educational or correctional institutions, of agricultural, horticultural or floricultural products, and produced: (1) for human consumption or for the market, or (2) for the feeding of fowl or livestock produced for human consumption or for the market, or (3) for the feeding of fowl or livestock for the purpose of obtaining their products for human consumption or for the market. "Grower" does not refer to customers who purchase water subject to the Metropolitan Interim Agricultural Water Program or the Water Authority Special Agricultural Rate programs.

2. "District" means the Vista Irrigation District

3. "Water Authority" means the San Diego County Water Authority.

4. "DMP" means the Water Authority's Drought Management Plan in existence on the effective date of this resolution and as readopted or amended from time to time, or an equivalent plan of the Water Authority to manage or allocate supplies during shortages.

5. "Metropolitan" means the Metropolitan Water District of Southern California.

6. "Person" means any natural person, corporation, public or private entity, public or private association, public or private agency, government agency or institution, school district, college, university, or any other user of water provided by the District.

SECTION 3.0 APPLICATION

(a) The provisions of this resolution apply to any person in the use of any water provided by the District.

(b) This resolution is intended solely to further the conservation of water. It is not intended to implement any provision of federal, State, or local statutes, resolutions, or regulations relating to protection of water quality or control of drainage or runoff. Refer to the

local jurisdiction or Regional Water Quality Control Board for information on any stormwater resolutions and stormwater management plans.

(c) Nothing in this resolution is intended to affect or limit the ability of the District to declare and respond to an emergency, including an emergency that affects the ability of the District to supply water.

(d) The provisions of this resolution do not apply to use of water from private wells or to recycled water.

(e) Nothing in this resolution shall apply to use of water that is subject to a special supply program, such as the Metropolitan Interim Agricultural Water Program or the Water Authority Special Agricultural Rate programs. Violations of the conditions of special supply programs are subject to the penalties established under the applicable program. A person using water subject to a special supply program and other water provided by the District is subject to this resolution in the use of the other water.

(f) When the General Manager has determined that the District's water supply is in a water emergency condition, everyone shall be required to reduce their water consumption as prescribed by the General Manager.

SECTION 4.0 DROUGHT RESPONSE LEVEL 1 – DROUGHT WATCH CONDITION

(a) A Drought Response Level 1 condition is also referred to as a "Drought Watch" condition. A Level 1 condition applies when the Water Authority notifies its member agencies that due to drought or other supply reductions, there is a reasonable probability there will be supply shortages and that a consumer demand reduction of up to 10 percent is required in order to ensure that sufficient supplies will be available to meet anticipated demands. The General Manager shall declare the existence of a Drought Response Level 1 and take action to implement the Level 1 conservation practices identified in this resolution.

(b) During a Level 1 Drought Watch condition, District will increase its public education and outreach efforts to emphasize increased public awareness of the need to implement the following water conservation practices. The same water conservation practices become mandatory if District declares a Level 2 Drought Alert condition:

1. Stop washing down paved surfaces, including but not limited to sidewalks, driveways, parking lots, tennis courts, or patios, except when it is necessary to alleviate safety or sanitation hazards or to maintain, repair, construct/reconstruct streets.

2. Stop water waste resulting from inefficient landscape irrigation, such as runoff, low head drainage, or overspray, etc. Similarly, stop water flows onto non-targeted areas, such as adjacent property, non-irrigated areas, hardscapes, roadways, or structures.

3. Irrigate residential and commercial landscape before 10 a.m. and after 6 p.m. only. Watering is permitted at any time with a hand-held hose equipped with a positive shut-off nozzle, a bucket, or when a drip/micro-irrigation system/equipment is used.

4. Irrigate nursery and commercial grower's products before 10 a.m. and after 6 p.m. only. Watering is permitted at any time with a hand-held hose equipped with a positive shut-off nozzle, a bucket, or when a drip/micro-irrigation system/equipment is used. Irrigation of nursery propagation beds is permitted at any time. Watering of livestock is permitted at any time.

5. Use construction meters to irrigate landscape before 10 a.m. and after 6 p.m. Watering is permitted at any time with a hand-held hose equipped with a positive shut-off nozzle, a bucket, or when a drip/micro-irrigation system/equipment is used.

6. Use re-circulated water to operate ornamental fountains.

7. Wash vehicles using a bucket and a hand-held hose with positive shut-off nozzle, mobile high pressure/low volume wash system, or at a commercial site that re-circulates (reclaims) water on-site. Avoid washing during hot conditions when additional water is required due to evaporation.

8. Serve and refill water in restaurants and other food service establishments only upon request.

9. Offer guests in hotels, motels, and other commercial lodging establishments the option of not laundering towels and linens daily.

10. Repair all water leaks within five (5) days of notification by the District unless other arrangements are made with the General Manager.

11. Use recycled or non-potable water for construction purposes when available.

(c) During a Drought Response Level 2 condition or higher, all persons shall be required to implement the conservation practices established in a Drought Response Level 1 condition.

SECTION 5.0 DROUGHT RESPONSE LEVEL 2 - DROUGHT ALERT CONDITION

(a) A Drought Response Level 2 condition is also referred to as a "Drought Alert" condition. A Level 2 condition applies when the Water Authority notifies its member agencies that due to cutbacks caused by drought or other reduction in supplies, a consumer demand reduction of up to 20 percent is required in order to have sufficient supplies available to meet anticipated demands. The District Board of Directors shall declare the existence of a Drought Response Level 2 condition and implement the mandatory Level 2 conservation measures identified in this resolution.

(b) All persons using District water shall comply with Level 1 Drought Watch water conservation practices during a Level 2 Drought Alert, and shall also comply with the following additional conservation measures:

1. Limit residential and commercial landscape irrigation to no more than three (3) assigned days per week on a schedule established by the General Manager and posted by the District. During the months of November through May, landscape irrigation is limited to no more than once per week on a schedule established by the General Manager and posted by the District. This section shall not apply to commercial growers or nurseries.

2. Limit lawn watering and landscape irrigation using sprinklers to no more than ten (10) minutes per watering station per assigned day. This provision does not apply to landscape irrigation systems using water efficient devices, including but not limited to: weather based controllers, drip/micro-irrigation systems and stream rotor sprinklers.

3. Water landscaped areas, including trees and shrubs located on residential and commercial properties, and not irrigated by a landscape irrigation system governed by section 5 (b) (1), on the same schedule set forth in section 5 (b) (1) by using a bucket, hand-held hose with positive shut-off nozzle, or low-volume non-spray irrigation.

4. Repair all leaks within seventy-two (72) hours of notification by the District unless other arrangements are made with the General Manager.

5. Stop operating ornamental fountains or similar decorative water features unless recycled water is used.

SECTION 6.0 DROUGHT RESPONSE LEVEL 3 – DROUGHT CRITICAL CONDITION

(a) A Drought Response Level 3 condition is also referred to as a “Drought Critical” condition. A Level 3 condition applies when the Water Authority notifies its member agencies that due to increasing cutbacks caused by drought or other reduction of supplies, a consumer demand reduction of up to 40 percent is required in order to have sufficient supplies available to meet anticipated demands. The District Board of Directors shall declare the existence of a Drought Response Level 3 condition and implement the Level 3 conservation measures identified in this resolution.

(b) All persons using District water shall comply with Level 1 Drought Watch and Level 2 Drought Alert water conservation practices during a Level 3 Drought Critical condition and shall also comply with the following additional mandatory conservation measures:

1. Limit residential and commercial landscape irrigation to no more than two (2) assigned days per week on a schedule established by the General Manager and posted by the District. During the months of November through May, landscape irrigation is limited to no

more than once per week on a schedule established by the General Manager and posted by the District. This section shall not apply to commercial growers or nurseries.

2. Water landscaped areas, including trees and shrubs located on residential and commercial properties, and not irrigated by a landscape irrigation system governed by section 6 (b) (1), on the same schedule set forth in section 6 (b) (1) by using a bucket, hand-held hose with a positive shut-off nozzle, or low-volume non-spray irrigation.

3. Stop filling or re-filling ornamental lakes or ponds, except to the extent needed to sustain aquatic life, provided that such animals are of significant value and have been actively managed within the water feature prior to declaration of a drought response level under this resolution.

4. Stop washing vehicles except at commercial carwashes that re-circulate water, or by high pressure/low volume wash systems.

5. Repair all leaks within forty-eight (48) hours of notification by the District unless other arrangements are made with the General Manager.

(c) Upon the declaration of a Drought Response Level 3 condition, no new potable water service shall be provided, no new temporary meters or permanent meters shall be provided, and no statements of immediate ability to serve or provide potable water service (such as, will serve letters, certificates, or letters of availability) shall be issued, except under the following circumstances:

1. A valid, unexpired building permit has been issued for the project; or

2. The project is necessary to protect the public's health, safety, and welfare;

or

3. The applicant provides substantial evidence of an enforceable commitment that water demands for the project will be offset prior to the provision of a new water meter(s) to the satisfaction of District.

This provision shall not be construed to preclude the resetting or turn-on of meters to provide continuation of water service or to restore service that has been interrupted for a period of one year or less.

(d) Upon the declaration of a Drought Response Level 3 condition, District will suspend consideration of annexations to its service area.

(e) The District may establish a water allocation for property served by the District using a method that does not penalize persons for the implementation of conservation methods or the installation of water saving devices. If the District establishes a water allocation it shall provide notice of the allocation by including it in the regular billing statement for the fee or charge or by any other mailing to the address to which the District customarily mails the billing

statement for fees or charges for on-going water service. Following the effective date of the water allocation as established by the District, any person that uses water in excess of the allocation shall be subject to a penalty for each billing unit of water in excess of the allocation. The penalty for excess water usage shall be cumulative to any other remedy or fee that may be imposed for violation of this resolution.

SECTION 7.0 DROUGHT RESPONSE LEVEL 4 – DROUGHT EMERGENCY CONDITION

(a) A Drought Response Level 4 condition is also referred to as a “Drought Emergency” condition. A Level 4 condition applies when the Water Authority Board of Directors declares a water shortage emergency pursuant to California Water Code section 350 and notifies its member agencies that Level 4 requires a demand reduction of more than 40 percent in order for the District to have maximum supplies available to meet anticipated demands. The District Board of Directors shall declare a Drought Emergency in the manner and on the grounds provided in California Water Code section 350.

(b) All persons using District water shall comply with conservation measures required during Level 1 Drought Watch, Level 2 Drought Alert, and Level 3 Drought Critical conditions and shall also comply with the following additional mandatory conservation measures:

1. Stop all residential and commercial landscape irrigation, unless the District has determined that recycled water is available and may be lawfully applied to the use. This restriction shall not apply to the following categories of use.

A. Maintenance of trees and shrubs that are watered on the same schedule set forth in section 6 (b) (1) by using a bucket, hand-held hose with a positive shut-off nozzle, or low-volume non-spray irrigation;

B. Maintenance of existing landscaping necessary for fire protection as specified by the Fire Marshal of the local fire protection agency having jurisdiction over the property to be irrigated;

C. Maintenance of existing landscaping for erosion control;

D. Maintenance of plant materials identified to be rare or essential to the well being of rare animals;

E. Maintenance of landscaping within active public parks and playing fields, day care centers, school grounds, cemeteries, and golf course greens, provided that such irrigation does not exceed two (2) days per week according to the schedule established under section 6 (b) (1);

F. Watering of livestock; and

G. Public works projects and actively irrigated environmental mitigation projects.

H. Irrigation of crops and landscape products of commercial growers and nurseries.

2. Repair all water leaks within twenty-four (24) hours of notification by the District unless other arrangements are made with the General Manager.

(c) The District may establish a water allocation for property served by the District. If the District establishes a water allocation it shall provide notice of the allocation by including it in the regular billing statement for the fee or charge or by any other mailing to the address to which the District customarily mails the billing statement for fees or charges for on-going water service. Following the effective date of the water allocation as established by the District, any person that uses water in excess of the allocation shall be subject to a penalty for each billing unit of water in excess of the allocation. The penalty for excess water usage shall be cumulative to any other remedy or fee that may be imposed for violation of this resolution.

SECTION 8.0 CORRELATION BETWEEN DROUGHT MANAGEMENT PLAN AND DROUGHT RESPONSE LEVELS

(a) The correlation between the Water Authority's DMP stages and the District's drought response levels identified in this resolution is described herein. Under DMP Stage 1, the District would implement Drought Response Level 1 actions. Under DMP Stage 2, the District would implement Drought Response Level 1 or Level 2 actions. Under DMP Stage 3, the District would implement Drought Response Level 2, Level 3, or Level 4 actions.

(b) The drought response levels identified in this resolution correspond with the Water Authority DMP as identified in the following table:

Drought Response Levels	Use Restrictions	Conservation Target	DMP Stage
1 – Drought Watch	Voluntary	Up to 10%	Stage 1 or 2
2 – Drought Alert	Mandatory	Up to 20%	Stage 2 or 3
3 – Drought Critical	Mandatory	Up to 40%	Stage 3
4 – Drought Emergency	Mandatory	Above 40%	Stage 3

SECTION 9.0 PROCEDURES FOR DETERMINATION AND NOTIFICATION OF DROUGHT RESPONSE LEVEL

(a) The existence of a Drought Response Level 1 condition may be declared by the General Manager upon a written determination of the existence of the facts and circumstances supporting the determination. A copy of the written determination shall be filed with the Clerk or Secretary of the District and provided to the District Board of Directors. The General Manager may publish a notice of the determination of existence of Drought Response Level 1

condition in one or more newspapers, including a newspaper of general circulation within the District. The District may also post notice of the condition on their website.

(b) The existence of Drought Response Level 2 or Level 3 conditions may be declared by resolution of the District Board of Directors adopted at a regular or special public meeting held in accordance with State law. The mandatory conservation measures applicable to Drought Response Level 2 or Level 3 conditions shall take effect on the tenth (10) day after the date the response level is declared. Within five (5) days following the declaration of the response level, the District shall publish a copy of the resolution in a newspaper used for publication of official notices.

(c) The existence of a Drought Response Level 4 condition may be declared in accordance with the procedures specified in California Water Code sections 351 and 352. The mandatory conservation measures applicable to Drought Response Level 4 conditions shall take effect on the tenth (10) day after the date the response level is declared. Within five (5) days following the declaration of the response level, the District shall publish a copy of the resolution in a newspaper used for publication of official notices. If the District establishes a water allocation, it shall provide notice of the allocation by including it in the regular billing statement for the fee or charge or by any other mailing to the address to which the District customarily mails the billing statement for fees or charges for on-going water service. Water allocation shall be effective on the fifth (5) day following the date of mailing or at such later date as specified in the notice.

(d) The District Board of Directors may declare an end to a Drought Response Level by the adoption of a resolution at any regular or special meeting held in accordance with State law.

SECTION 10.0 NON-COMPLIANCE AND FEES

(a) Any person, who uses, causes to be used, or permits the use of water in violation of this resolution is guilty of an offense punishable as provided herein.

(b) Each day that a violation of this resolution occurs is a separate offense.

(c) *Water Conservation Fees*, as set forth in Section 4.4.17 of the District's Rules and Regulations, may be levied for each violation of a provision of this resolution as follows:

1. A first violation of any provision of this resolution shall result in a letter of warning.

2. A second violation of any provision of this resolution within one year shall result in the assessment of a Water Conservation Fee.

3. A third violation of this resolution within one year shall result in the assessment of an additional Water Conservation Fee.

4. Four or more violations of any provision of this resolution shall result in the assessment of additional Water Conservation Fees.

(d) Violation of a provision of this resolution is subject to enforcement through installation of a flow-restricting device in the meter. The cost of installing and removing a flow-restricting device will be paid for by the person, who uses, causes to be used, or permits the use of water in violation of this resolution.

(e) Each violation of this resolution may be prosecuted as a misdemeanor punishable by imprisonment in the county jail for not more than thirty (30) days or by a fine not exceeding \$1,000, or by both as provided in Water Code section 377.

(f) Willful violations of the mandatory conservation measures and water use restrictions as set forth in Section 7.0 and applicable during a Level 4 Drought Emergency condition may be enforced by discontinuing service to the property at which the violation occurs as provided by Water Code section 356. The cost of disconnecting and re-connecting water service be paid for by the person, who uses, causes to be used, or permits the use of water in violation of this resolution.

(g) All fees and costs associated with installing and removing a flow-restricting device and disconnecting and re-connecting water service will be added to the account of the person, who uses, causes to be used, or permits the use of water in violation of this resolution. Fees and costs will appear on and be payable with the first billing statement for the period the violation occurred and be subject to the same remedies that are imposed by the District for failure to pay other charges.

(h) All remedies provided for herein shall be cumulative and not exclusive.

SECTION 11.0 APPEALS

(a) Any person complaining about fees and/or other remedies applied in accordance with Section 10 of this resolution shall have that complaint be first taken up with the General Manager before any action will be taken by the District's Board of Directors.

(b) The General Manager's determination may be appealed in writing within ten days of the mailing of a notice of determination. Any determination not timely appealed shall be final.

(c) The person appealing the General Manager's determination shall submit a written request to the Board Secretary to have his or her appeal considered as an item for discussion and action at an upcoming Board meeting. The written request shall include: 1) a description of the issues, 2) evidence supporting the claim, and 3) a request for resolution of the dispute.

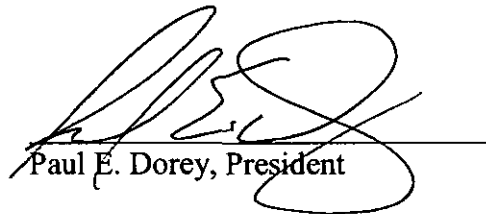
(d) The District shall at least ten days before the date of the hearing mail an appropriate notice of the regular or special meeting at which the appeal will be heard. The Board may, in its discretion, affirm, reverse or modify the determination.

**SECTION 12.0 EFFECTIVE DATE, REPEAL OF 2001 ORDINANCE SECTIONS
AND RESOLUTION NO. 08-36, AND CONFLICT**

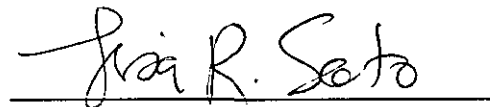
This resolution is effective immediately upon adoption or as otherwise established by State law for Vista Irrigation District. Upon the effective date of this resolution, the 2001 Ordinance Sections and Resolution No. 08-36 are rescinded and repealed. Where any of the 2001 Ordinance Sections and/or provisions of Resolution No. 08-36 are referenced and/or incorporated in or as part of any ordinance, other resolutions, or documents, the provisions of this resolution shall apply in place and instead of 2001 Ordinance Sections and/or Resolution No. 08-36. If a conflict exists or arises between any provisions set forth in this resolution and any set forth in any ordinances or other resolutions, the provisions in this resolution shall take precedence.

PASSED AND ADOPTED by the following roll call vote of the Board of Directors of the Vista Irrigation District this 18th of February, 2009:

AYES: Directors MacKenzie, Miller, Williams, Vásquez, and Dorey
NOES: None
ABSTAIN: None
ABSENT: None


Paul E. Dorey, President

ATTEST:



Lisa R. Soto, Secretary
Board of Directors
Vista Irrigation District

The fields in red are required.



Agency name:
Reporting unit name
(District name)
Reporting unit number:

Primary contact:
First name:
Last name:
Email:

You must enter the reporting unit number that we have on record for your agency. Click here to open a table to obtain this number.

[Link to FAQs](#)

[View MOU](#)



2009 BMP 1.2 Water Loss Control

Did your agency complete a pre-screening system audit in 2009? **Yes** **No**

If yes, answer the following:

Determine metered sales in AF:

Definition: other accountable uses not included in metered sales, such as unbilled water use, fire suppression, etc.



Determine system verifiable uses AF:

Determine total supply into the system in AF:

Does your agency keep necessary data on file to verify the answers above? **Yes** **No**

Did your agency complete a full-scale system water audit during 2009? **Yes** **No**

Does your agency maintain in-house records of audit results or the completed AWWA worksheet for the completed audit which could be forwarded to CUWCC? **Yes** **No**

Did your agency operate a system leak detection program? **Yes** **No**

Comments:

The fields in red are required.

Agency name:
Reporting unit name
(District name)
Reporting unit number:

Primary contact:
First name:
Last name:
Email:

You must enter the reporting unit number that we have on record for your agency. Click here to open a table to obtain this number.



BMP 1.3 Metering with Commodity

[Link to FAQs](#)

See the complete MOU: [View MOU](#)

See the coverage requirements for this BMP:

Implementation

Does your agency have any unmetered service connections? Yes No

If YES, has your agency completed a meter retrofit plan? Yes No

Enter the number of previously unmetered accounts fitted with meters during reporting year:

Are all new service connections being metered? Yes No

Are all new service connections being billed volumetrically? Yes No

Has your agency completed and submitted electronically to the Council a written plan, policy or program to test, repair and replace meters? Yes No

Please Fill Out The Following Matrix

Account Type	# Metered Accounts	# Metered Accounts Read	# Metered Accounts Billed by Volume	Billed by	Billing Frequency Per Year	# of estimated bills/yr
--------------	--------------------	-------------------------	-------------------------------------	-----------	----------------------------	-------------------------

Number of CII Accounts with Mixed-use Meters

Number of CII Accounts with Mixed-use Meters Retrofitted with Dedicated Irrigation Meters during Reporting Period

Feasibility Study

Has your agency conducted a feasibility study to assess the merits of a program to provide incentives to switch mixed-use accounts to dedicated landscape meters? Yes No

If YES, please fill in the following information:

- A. When was the Feasibility Study conducted
- B. Email or provide a link to the feasibility study (or description of):

File name(s): Email files to natalie@cuwcc.org

Web address(s) URL: comma-separated list

General Comments about BMP 1.3:

The fields in red are required.

Agency name:

Reporting unit name
(District name)

Reporting unit number:

Primary contact:

First name:

Last name:

Email:

You must enter the reporting unit number that we have on record for your agency. Click here to open a table to obtain this number.



2009

BMP 1.4 Retail Conservation Pricing

[Link to FAQs](#)

[View MOU](#)

If you are reporting more rate structures than this form allows, add the structures to a spreadsheet and send the file to natalie@cuwcc.org.

Implementation (Water Rate Structure)

Enter the Water Rate Structures that are assigned to the majority of your customers, by customer class

Rate Structure	Customer Class	Total Revenue Commodity Charges	Total Revenue Customer Meter/Service (Fixed Charges)

Implementation Option (Conservation Pricing Option)

Use Annual Revenue As Reported
Use Canadian Water & Wastewater Association Rate Design Model

If CWWA is select, enter the file name and email the spreadsheet to natalie@cuwcc.org

Retail Waste Water (Sewer) Rate Structure by Customer Class

Agency Provide Sewer Service Yes No

Select the Retail Waste Water(Sewer) Rate Structure assigned to the majority of your customers within a specific customer class.

Rate Structure	Customer Class	Total Revenue Commodity Charges	Total Revenue Customer Meter/Service (Fixed Charges)

Comments:

The fields in red are required.



Agency name:

Reporting unit name
(District name)

Reporting unit number:

Primary contact:

First name:

Last name:

Email:

Click here to open a table that displays your agency name reporting unit name and reporting unit number. Please ensure that you enter the correct information.

[Link to FAQs](#)

[View MOU](#)

2009

BMP 2.1 Public Outreach - Retail Reporting

Is a Wholesale Agency Performing Public Outreach?

Are there one or more wholesale agencies performing public outreach which can be counted to help your agency comply with the BMP?

Yes No

Enter the name(s) of the wholesale agency (comma delimited)

Is your agency performing public outreach?

Report a minimum of 4 water conservation related contacts your agency had with the public during the year.

Public Information Programs List

Did at least one contact take place during each quarter of the reporting year?

Number of Public Contacts	Public Information Programs

Contact with the Media

Are there one or more wholesale agencies performing media outreach which can be counted to help your agency comply with the BMP?

Yes No

Enter the name(s) of the wholesale agency (comma delimited)

OR Retail Agency (Contacts with the Media)

Did at least one contact take place during each quarter of the reporting year?

Media Contacts List

Number of Media Contacts	Did at least one contact take place during each quarter of the reporting year?	Media Contact Types

Is a Wholesale Agency Performing Website Updates?

Did one or more CUWCC wholesale agencies agree to assume your agency's responsibility for meeting the requirements of and for CUWCC reporting of this BMP?

Yes No

Enter the name(s) of the wholesale agency (comma delimited)

Is Your Agency Performing Website Updates?

Enter your agency's URL (website address):

Describe a minimum of four water conservation related updates to your agency's website that took place during the year:

Did at least one Website Update take place during each quarter of the reporting year?

Yes No

Public Outreach Annual Budget

Enter budget for public outreach programs. You may enter total budget in a single line or break the budget into discrete categories by entering many rows. Please indicate if personnel costs are included in the entry.

Category	Amount		Personnel Costs Included? <i>If yes, check the box.</i>	Comments	

Comments:

The fields in red are required.



Agency name:

Reporting unit name
(District name)

Reporting unit number:

Primary contact:

First name:

Last name:

Email:

Click here to open a table that displays your agency name reporting unit name and reporting unit number. Please ensure that you enter the correct information.

[Link to FAQs](#)

2009

BMP 2.1 Public Outreach Cont'd

[View MOU](#)

Public Outreach Expenses

Enter expenses for public outreach programs. Please include the same kind of expenses you included in the question related to your budget (Section 2.1.7, above). For example, if you included personnel costs in the budget entered above, be sure to include them here as well.

Expense Category	Expense Amount	Personnel Costs Included?	
If yes, check the check box.			

Additional Public Information Program

Please report additional public information contacts. List these additional contacts in order of how your agency views their importance / effectiveness with respect to conserving water, with the most important/ effective listed first (where 1 = most important).

Were there additional Public Outreach efforts?

Yes No

Public Outreach Additional Information

Public Information Programs	Importance	

Social Marketing Programs

Branding

Does your agency have a water conservation "brand," "theme" or mascot? Yes No

Describe the brand, theme or mascot.

Market Research

Have you sponsored or participated in market research to refine your message? Yes No

Market Research Topic

Brand Message

Brand Mission Statement

Community Committees

Do you have a community conservation committee? Yes No

Enter the names of the community committees:

Training

Training Type	# of Trainings	# of Attendees	Description of Other	

Social Marketing Expenditures

Public Outreach Social Marketing Expenses

Expense Category	Expense Amount	Description	

Partnering Programs - Partners

Name Type of Program

CLCA?

Green Building Programs?

Master Gardeners?

Cooperative Extension?

Local Colleges?

Other

Retail and wholesale outlet; name(s) and type(s) of programs:

Partnering Programs - Newsletters

Number of newsletters per year

Number of customers per year

Partnering with Other Utilities

Describe other utilities your agency partners with, including electrical utilities

Conservation Gardens

Describe water conservation gardens at your agency or other high traffic areas or new

Landscape contests or awards

Describe water wise landscape contest or awards program conducted by your agency

Comments:

The fields in red are required.



Agency name:

Reporting unit name
(District name)

Reporting unit number:

Primary contact:

First name:

Last name:

Email:

Click here to open a table that displays your agency name reporting unit name and reporting unit number. Please ensure that you enter the correct information.

[Link to FAQs](#)

JJK 'ACI

6A'D '&' GWcc` 9Xi W]h]cb` Dfc[fUa gž F YhU]` 5[YbV]Yg

School Programs

=g'nci f'U[YbV]h]a d'Ya Ybh]b['gWcc`dfc[fUa g:k \]W' W]b' VY
V]i bhYX' rc` \Y'd' Ubch.Yf' U[YbV]h]V]ta d'mk]h' h.]g' 6A D3

Mg Bc

9bhYf' K \c'YgU'Yf' BUa Ygž'gYdUfUHYX' Vm]V]ta a Ug

A UHYf]Ug'a YH]g'UH' YXi W]h]cb' Z]Ua Yk cf_ 'fYei]fYa Ybh]g3

8YgW]d]h]cb' cZ' A UHYf]Ug

A UHYf]Ug' X]g]f]Vi hYX' rc'?!* 'Gh XYbh]g3

8YgW]d]h]cb' cZ'a UHYf]Ug' X]g]f]Vi hYX' rc'?!*
Gh XYbh]g

Bi a VYf' cZ' gh XYbh]g' fYUW]YX

A UHYf]Ug' X]g]f]Vi hYX' rc' +!%&' Gh XYbh]g3

8YgW]d]h]cb' cZ'a UHYf]Ug' X]g]f]Vi hYX' rc' +!%&
Gh XYbh]g

Bi a VYf' cZ' 8]g]f]Vi h]cb

5bbi U' Vi X[YhZcf' gWcc` YXi W]h]cb' dfc[fUa

8YgW]d]h]cb' cZ' U' ch.Yf' k UHYf' g' dd']Yf' YXi W]h]cb
dfc[fUa g

School Program Activities

Classroom presentations:

Bi a VYf' cZ'
dfYgYbh]h]cbg

Bi a VYf' cZ'
UHYbXYg'''

Large group assemblies:

Bi a VYf' cZ' dfYgYbh]h]cbg

Bi a VYf' cZ' UHYbXYg'''

Children's water festivals or other events:

Bi a VYf' cZ' dfYgYbh]h]cbg

Bi a VYf' cZ' UHYbXYg'''

Cooperative efforts with existing science/water education programs (various workshops, science fair awards or judging) and follow-up:

Bi a VYf' cZ' dfYgYbh]h]cbg

Bi a VYf' cZ' UHYbXYg'''

Other methods of disseminating information (i.e. themed age-appropriate classroom loaner kits):

8YgWjd]cb

Bi a VYf`X]g]f]Vi hYX

Staffing children's booths at events & festivals:

Bi a VYf`cZVcch]g

Bi a VYf`cZ UH]bXYYg`''

Water conservation contests such as poster and photo:

8YgWjd]cb

Bi a VYf`X]g]f]Vi hYX

Offer monetary awards/funding or scholarships to students:

Bi a VYf`CZYfYX

HcHJ` : i bX]b[`''

Teacher training workshops:

Bi a VYf`cZdfYgYbH]cbg

Bi a VYf`cZ UH]bXYYg`''

Fund and/or staff student field trips to treatment facilities, recycling facilities, water conservation gardens, etc.:

Bi a VYf`cZ hci fg`cf`Z]YX
f]jdg

Bi a VYf`cZ dUf]V]dU]b]g`''

College internships in water conservation offered:

Bi a VYf`cZ]bH]fbg\]dg

HcHJ` Z bX]b[`''

Career fairs/workshops:

Bi a VYf`cZdfYgYbH]cbg

Bi a VYf`cZ UH]bXYYg`''

Additional program(s) supported by agency but not mentioned above:

8YgWjd]cb

Bi a VYf`cZYj Yb]g`f]Z
Udd`]WV`Yk

Bi a VYf`cZ dUf]V]dU]b]g`''

Total reporting period budget expenditures for school education programs (include all agency costs):

Comments



California Urban Water
Conservation Council

2020 GPCD Target Calculator v1.5

This spreadsheet-based calculator is designed to help urban retail water suppliers establish a 2020 water use target

The methodologies contained herein are consistent with the publication *Methodologies for Calculating Baseline and Compliance Urban Per Capita Water Use*, the purpose of which is to ensure the consistent implementation of the Water Conservation Act of 2009.

Name of City or Utility:

Name of Contact: Telephone:

Email: Ext:

Reporting Period:

Beginning Month:

Guidance & Instructions

This GPCD target calculator is designed to enable the user to generate and select a 2020 water use target. Only systems serving more than 3,000 end users, or that supply more than 3,000 acre-feet of potable water annually at retail rates for municipal purposes need to develop a target. Please note the following items:

All data entry is required to be in units of **Acre-feet**, unless indicated otherwise.

Cells shown in this color are for data entry.

Cells shown in this color are calculated fields and cannot be changed or overwritten.

Option buttons for user selection.

Data can be input monthly, or annually; the monthly totals will override the annual totals. However, when entering monthly data, ensure all month fields are completed. Do NOT leave blanks. For zero enter "0".

If any month is left blank, all other monthly data for that year will be ignored and the annual total will be used.

Cells shown in this color warn the user that monthly data has been left blank and therefore other monthly data entered for the year will be ignored.

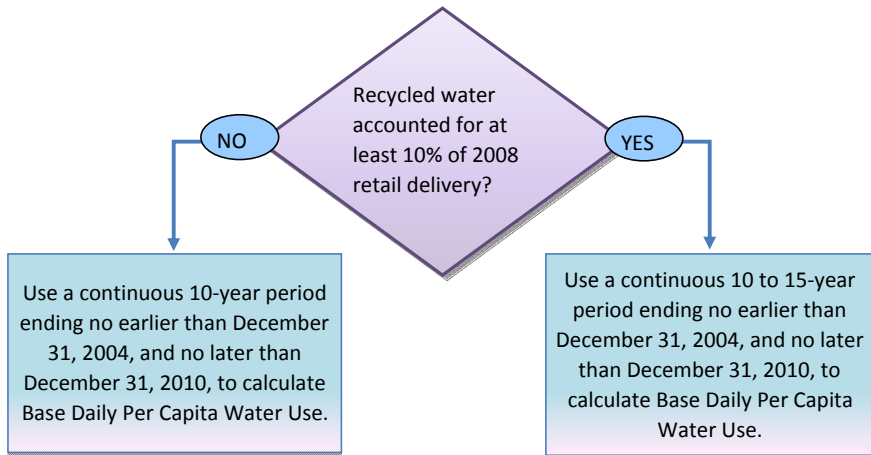
User tips... User tips are shown in these boxes.

Please read before data entry begins...

Establishing a baseline period is a key step in developing a 2020 water use target. The choice of baseline period is dependent on the result of evaluating 2008 recycled water use against water delivered and the result of this test will determine, to some extent, the timeframe for required data input. Please see below for more details...

The flow chart below shows how the result of evaluating 2008 recycled water against water delivered impacts the choice of baseline periods and required data input.





Select a Baseline period and ending year and the intersection of the highlighted row and column indicates the earliest year required for data entry.

Ending ...		Baseline 10-years	Baseline 11-years	Baseline 12-years	Baseline 13-years	Baseline 14-years	Baseline 15-years
		<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
2010	<input type="radio"/>	2001	2000	1999	1998	1997	1996
2009	<input type="radio"/>	2000	1999	1998	1997	1996	1995
2008	<input type="radio"/>	1999	1998	1997	1996	1995	1994
2007	<input type="radio"/>	1998	1997	1996	1995	1994	1993
2006	<input type="radio"/>	1997	1996	1995	1994	1993	1992
2005	<input checked="" type="radio"/>	1996	1995	1994	1993	1992	1991
2004	<input type="radio"/>	1995	1994	1993	1992	1991	1990



Hints and Tips for Using the GPCD Calculator

Hints and Tips Common to all worksheets:

2010	494,709	
2009	490,882	
2008	489,864	
2007	490,193	
2006	490,798	
2005	488,688	
2004	487,100	
2003	480,400	
2002	472,700	
2001	467,062	
2000	461,522	
1999	465,666	
1998	461,493	
1997	457,359	
1996	453,261	
1995	449,199	
1994		
1993		
1992		
1991		
1990		

Pasting data to the calculator
If you wish to paste data into the calculator please use Excel's "Paste Values" command from the "Paste Special" menu (right click). This will help ensure that formatting in the calculator's input cells is not affected.

Screen Size
Depending on your screen size, you may need to scroll vertically or horizontally to see the full calculator screens. Look for the grey edges of the calculator (shown here) to ensure you have viewed all available information and inputs.

475,056 Average population, for the baseline period selected, in the GPCD Matrix worksheet

Hints and Tips for the Main Data worksheet:

CUWCC **Main Data**

Input cells: Data Entry in acre-feet unless otherwise noted
 Calculated cells:

Fiscal Year Ending	JUL	AUG	SEP	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	ANNUAL TOTAL (INPUT)	METER ADJUSTMENT (%)	CALCULATED TOTAL
2010	2,000,000	2,000,000	2,000,000	2,000,000	2,000,000	2,000,000	2,000,000	2,000,000	2,000,000	2,000,000	2,000,000	2,000,000		10%	26,400,000



Main Data

Input cells: *Data Entry in acre-feet unless otherwise noted*
 Calculated cells:

Volume from Own Sources

Fiscal Year Ending	JUL	AUG	SEP	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN
2010												
2009												
2008												
2007												
2006												
2005												
2004												
2003												
2002												
2001												
2000												
1999												
1998												
1997												
1996												
1995												
1994												
1993												
1992												
1991												
1990												

ANNUAL TOTAL (INPUT)	METER ADJUSTMENT (%)	CALCULATED TOTAL
3,899.000		3,899.000
		0.000
		0.000
		0.000
		0.000
1,170.000	0%	1,170.000
1,003.000	0%	1,003.000
1,578.000	0%	1,578.000
4,026.000	0%	4,026.000
4,664.000	0%	4,664.000
6,804.000	0%	6,804.000
14,001.000	0%	14,001.000
7,649.000	0%	7,649.000
9,569.000	0%	9,569.000
13,378	0%	13,378.000
		0.000
		0.000
		0.000
		0.000
		0.000
		0.000
		0.000

Volume from Imported Sources

Fiscal Year Ending	JUL	AUG	SEP	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN
2010												
2009												
2008												
2007												
2006												
2005												
2004												
2003												
2002												
2001												
2000												
1999												
1998												

ANNUAL TOTAL (INPUT)	METER ADJUSTMENT (%)	CALCULATED TOTAL
15,336.000		15,336.000
		0.000
		0.000
		0.000
		0.000
21,229.000	0%	21,229.000
23,776.000	0%	23,776.000
21,192.000	0%	21,192.000
19,756.000	0%	19,756.000
17,556.000	0%	17,556.000
17,123.000	0%	17,123.000
7,476.000	0%	7,476.000
11,708.000	0%	11,708.000

1999												
1998												
1997												
1996												
1995												
1994												
1993												
1992												
1991												
1990												

		0.000
		0.000
		0.000
		0.000
		0.000
		0.000
		0.000
		0.000
		0.000
		0.000

Change in Distribution System Storage

Fiscal Year Ending	JUL	AUG	SEP	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN
2010												
2009												
2008												
2007												
2006												
2005												
2004												
2003												
2002												
2001												
2000												
1999												
1998												
1997												
1996												
1995												
1994												
1993												
1992												
1991												
1990												

Fiscal Year Ending	ANNUAL CHANGE IN STORAGE	CALCULATED Net Change in Storage
2010		0.000
2009		0.000
2008		0.000
2007		0.000
2006		0.000
2005		0.000
2004		0.000
2003		0.000
2002		0.000
2001		0.000
2000		0.000
1999		0.000
1998		0.000
1997		0.000
1996		0.000
1995		0.000
1994		0.000
1993		0.000
1992		0.000
1991		0.000
1990		0.000

Indirect Recycled Water Use

[\(use this calculator to help generate values\)](#)

Fiscal Year Ending	JUL	AUG	SEP	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN
2010	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
2009	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
2008	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
2007	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
2006	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
2005	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
2004	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
2003	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000

Fiscal Year Ending	ANNUAL TOTAL (INPUT)	CALCULATED TOTAL
2010		0.000
2009		0.000
2008		0.000
2007		0.000
2006		0.000
2005		0.000
2004		0.000
2003		0.000



Population

Input cells:
Calculated cells:

Enter population data for the service area.

YEAR	POPULATION
2010	125,962
2009	
2008	
2007	
2006	
2005	120,962
2004	120,415
2003	119,750
2002	118,568
2001	117,535
2000	113,704
1999	111,564
1998	109,470
1997	107,415
1996	105,399
1995	
1994	
1993	
1992	
1991	
1990	

Please note:

The GPCD calculation is very sensitive to errors in population. Please review the guidance document ***Methodologies for Calculating Baseline and Compliance Urban Per Capita Water Use*** for additional information and direction in order to acquire the most accurate population estimates.

Population data are only required for years that contain water use data.

If you see "<--Enter Population" this indicates you have entered water use data for this timeframe but not population. Please add population data to enable a calculation of GPCD and associated targets.

114,478 Average population, for the baseline period selected, in the GPCD Matrix worksheet



Annual Deductible Volume of Indirect Recycled Water Entering Distribution System

Data Entry in acre-feet unless otherwise noted

Input cells:
 Calculated cells:

Surface Reservoir Augmentation	N/A	N/A	Volume Discharged from Reservoir for Distribution System Delivery	Recycled Water Blend %	Recycled Water Delivered to Treatment Plant	Use Default <input type="checkbox"/> 3% Transmission / Treatment Loss %	Transmission / Treatment Losses	Volume entering Distribution System
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
Source 1								
Source 2								
Source 3								
Source 4								
Source 5								

Subtotal Reservoir Augmentation (A): 0.000

Groundwater Recharge	5-Year Annual Average Recharge	Use Default <input type="checkbox"/> 90% Recharge Recovery Factor	Recycled Water Pumped from Basin	Utility Pumping as % of Basin Total	Recycled Water Pumped by Utility	Use Default <input type="checkbox"/> 3% Transmission / Treatment Loss %	Transmission / Treatment Losses	Volume entering Distribution System
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
Basin 1								
Basin 2								
Basin 3								
Basin 4								
Basin 5								

Subtotal Groundwater Recharge (B): 0.000

Deductible Volume of Indirect Recycled Water Entering Distribution System (A+B): 0.000

Transfer this value back to the Main Data worksheet



GPCD Matrix

Fiscal Year Ending	JUL	AUG	SEP	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	ANNUAL GPCD
2010	136.3	136.3	136.3	136.3	136.3	136.3	136.3	136.3	136.3	136.3	136.3	136.3	136.3
2009													
2008													
2007													
2006													
2005	165.3	165.3	165.3	165.3	165.3	165.3	165.3	165.3	165.3	165.3	165.3	165.3	165.3
2004	183.7	183.7	183.7	183.7	183.7	183.7	183.7	183.7	183.7	183.7	183.7	183.7	183.7
2003	169.8	169.8	169.8	169.8	169.8	169.8	169.8	169.8	169.8	169.8	169.8	169.8	169.8
2002	179.1	179.1	179.1	179.1	179.1	179.1	179.1	179.1	179.1	179.1	179.1	179.1	179.1
2001	168.8	168.8	168.8	168.8	168.8	168.8	168.8	168.8	168.8	168.8	168.8	168.8	168.8
2000	187.9	187.9	187.9	187.9	187.9	187.9	187.9	187.9	187.9	187.9	187.9	187.9	187.9
1999	171.9	171.9	171.9	171.9	171.9	171.9	171.9	171.9	171.9	171.9	171.9	171.9	171.9
1998	157.9	157.9	157.9	157.9	157.9	157.9	157.9	157.9	157.9	157.9	157.9	157.9	157.9
1997	180.2	180.2	180.2	180.2	180.2	180.2	180.2	180.2	180.2	180.2	180.2	180.2	180.2
1996	183.2	183.2	183.2	183.2	183.2	183.2	183.2	183.2	183.2	183.2	183.2	183.2	183.2
1995													
1994													
1993													
1992													
1991													
1990													

Recycled water accounts for 0 % of 2008 deliveries, therefore select a 10 year baseline period using the selection buttons below

Baseline Ending In...	Baseline 10- years	N/A	N/A	N/A	N/A	N/A
	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
2010	<input type="radio"/>	167.2				
2009	<input type="radio"/>	175.7				
2008	<input type="radio"/>	175.2				
2007	<input type="radio"/>	173.0				
2006	<input type="radio"/>	173.8				
2005	<input checked="" type="radio"/>	174.8				

Ending in...	Baseline 5- years
<input type="radio"/>	2010 136.3
<input type="radio"/>	2009 165.3
<input checked="" type="radio"/>	2008 174.5
<input type="radio"/>	2007 172.9

Base daily per capita water use (10-15yr baseline) **174.8**
 Base daily per capita water use (5yr baseline) **174.5**

User selection buttons:



Min Value Max Value

User selection buttons:
Use the buttons to indicate the
chosen baseline period



Landscaped Area Water Use (method 2 only)

Input cells:
 Calculated cells:

Please note:

Water suppliers shall develop an estimate (forecast) of 2020 landscaped areas for purposes; do not enter existing landscaped area data

	Reference Evapotranspiration (Inches per year)	Landscaped Area (1992 MWEL0) (Square feet)	Landscaped Area (2009 MWEL0) (Square feet)	Special Landscaped Area (Non-residential, non-commercial) (Square feet)	Maximum Applied Water Allowance (1992) (Gallons per year)	Maximum Applied Water Allowance (2009) (Gallons per year)	GPCD
ET zone 1							
ET zone 2							
ET zone 4							
ET zone 4							
ET zone 5							
ET zone 6							
ET zone 7							
ET zone 8							
ET zone 9							
ET zone 10							

2020 Target:

ET Zones:

Enter landscaped area data for each ET zone in the service area



California Urban Water Conservation Council

Commercial, Industrial & Institutional (CII) Water Use (Method 2 only)

If you wish to exclude process water from the calculation of the baseline CII GPCD, enter process water volumes in the [Main Data](#) sheet

Input cells: *Data Entry in Acre-feet unless otherwise noted*
 Calculated cells:

Fiscal Year Ending	JUL	AUG	SEP	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	ANNUAL TOTAL (INPUT)	METER ADJUSTMENT (%)	CALCULATED TOTAL	POPULATION SERVED BY CII	ANNUAL CII GPCD
2010																	
2009																	
2008																	
2007																	
2006																	
2005																	
2004																	
2003																	
2002																	
2001																	
2000																	
1999																	
1998																	
1997																	
1996																	
1995																	
1994																	
1993																	
1992																	
1991																	
1990																	

Recycled water accounts for 0 % of 2008 deliveries, therefore select a a 10 year baseline period using the selection buttons below

WARNING: Insufficient data for the selected baseline period; please add data or choose a different baseline period (in the GPCD worksheet)

Ending in...	Baseline 10-years	N/A	N/A	N/A	N/A	N/A
2010	0.0					
2009	0.0					
2008	0.0					
2007	0.0					
2006	0.0					
2005	0.0					
2004	0.0					

Min Value Max Value

CII Baseline start and end date is determined by the selection made in the GPCD Matrix worksheet. The red outlined cell in the table to the left indicates the choice of baseline and the corresponding CII GPCD value.

Please add data or use a different baseline period N/A

Adjustments for Residential Uses in CII Connections

Some CII connections also may serve group quarters or other residential uses. Examples could include campus dormitories, military base housing, and apartments that are served by a CII connection. Water use target Method 2 already provides an indoor use allowance of 55 GPCD for such residents. To ensure that this indoor use is not double-counted, enter the population served by CII connections during the baseline period and whose residents use is included in the water supplier's unadjusted Baseline CII Water Use.

NOTE: This value is a subset of the Population value entered on the Population worksheet



TARGETS / COMPLIANCE (CUWCC MOU)

Baseline / Initial GPCD (Use option buttons to select)

GPCD in 2006 0.0
 Baseline GPCD (1997 to 2006) 173.8

GPCD in 2010 136.3
 GPCD Target for 2018 142.5

Potable Water GPCD for each Year in the Baseline Period

Year	GPCD
2006	173.8
2005	165.3
2004	183.7
2003	169.8
2002	179.1
2001	168.8
2000	187.9
1999	171.9
1998	157.9
1997	180.2

Biennial GPCD Compliance Table

Year	Report	Target		Highest Acceptable Bound	
		% Base	GPCD	% Base	GPCD
2010	1	96.4%	167.6	100%	173.8
2012	2	92.8%	161.3	96.4%	167.6
2014	3	89.2%	155.0	92.8%	161.3
2016	4	85.6%	148.8	89.2%	155.0
2018	5	82.0%	142.5	82.0%	142.5

Monthly GPCD Data for Weather Normalization

Fiscal Year Ending	JUL	AUG	SEP	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN
2010	136.3	136.3	136.3	136.3	136.3	136.3	136.3	136.3	136.3	136.3	136.3	136.3
Baseline avg*	173.8	173.8	173.8	173.8	173.8	173.8	173.8	173.8	173.8	173.8	173.8	173.8

* The average for each month is based on the baseline period 1997 to 2006



TARGETS / COMPLIANCE (SBx7-7)

Input cells:
 Calculated cells:

Target Summary	2020	2015
Method 1	139.8	157.3
Method 2	N/A	N/A
Method 3	141.6	158.2
Method 4	0.0	0.0
	Min Value	Max Value

GPCD in 2010	136.3
Base daily per capita water use (10-15yr baseline)	174.8
Base daily per capita water use (5yr baseline)	174.5
Max. allowable GPCD target in 2020 (95% x 5yr baseline)	165.8

Method 1: Baseline per Capita Water Use

80% x Base daily per capita water use (10-15yr baseline):

2015 Target:
 2020 Target:

Method 2: Performance Standards

TM 2 Indoor Water Use allowance:
 TM 6 Landscaped Area Water Use:
 TM 7 Baseline CII Water Use:

2015 Target:
 2020 Target:

Method 3: Hydrologic Region Targets

Enter the percentage of your service area population in each hydrologic region

Region	Region Name	% Population	GPCD Target
1	North Coast		137
2	San Francisco Bay		131
3	Central Coast		123
4	South Coast	100.0%	149
5	Sacramento River		176
6	San Jacinto		174
7	Tulare lake		188
8	North Lahontan		173
9	South Lahontan		170
10	Colorado River		211

2015 Target:
 2020 Target:

Method 4:

To be Developed

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The fields in red are required.

Agency name:

Primary contact:

First name:

Division name
(Reporting unit)

Last name:

Reporting unit number:

Email:



WATER SOURCES

2010

Service Area Population:

Potable Water

Own Supply Source Name	AF/YEAR	Water Supply Type	Water Supply Description
------------------------	---------	-------------------	--------------------------

Imported Supply Source Name	AF/YEAR	Water Supply Type	Water Supply Description
-----------------------------	---------	-------------------	--------------------------

AF/YEAR

Exported Water Name	AF/YEAR	Where Exported?
---------------------	---------	-----------------

The fields in red are required.

Agency name:

Primary contact:

First name:

Division name
(Reporting unit)

Last name:

Reporting unit number:

Email:



Make sure to enter numbers in AF/Year.



Water Uses

2010

Potable Water Billed

Customer Type	Meter Accounts	Metered Water Delivered	Un-metered Accounts	Un-metered Water Delivered	Description

Potable Water Un-Billed

Customer Type	Meter Accounts	Metered Water Delivered	Un-metered Accounts	Un-metered Water Delivered	Description

The fields in red are required.



Agency name:

Reporting unit name
(District name)

Reporting unit number:

Primary contact:

First name:

Last name:

Email:

You must enter the reporting unit number that we have on record for your agency. Click here to open a table to obtain this number.

[Link to FAQs](#)

[See the complete MOU:](#) [View MOU](#)

[See the coverage requirements for this BMP:](#)

2010

BMP 1.1 Operations Practices

Comments:

Conservation Coordinator

Conservation Coordinator Yes No

Contact Information

First Name

Last Name

Title

Phone

Email

Note that the contact information may be the same as the primary contact information at the top of the page. If this is your case, excuse the inconvenience but please enter the information again.

Water Waste Prevention

Water Agency shall do one or more of the following:

- a. Enact and enforce an ordinance or establish terms of service that prohibit water waste
- b. Enact and enforce an ordinance or establish terms of service for water efficient design in new development
- c. Support legislation or regulations that prohibit water waste
- d. Enact an ordinance or establish terms of service to facilitate implementation of water shortage response measures
- e. Support local ordinances that prohibit water waste
- f. Support local ordinances that establish permits requirements for water efficient design in new

To document this BMP, provide the following:

- a. A description of, or electronic link to, any ordinances or terms of service
- b. A description of, or electronic link to, any ordinances or requirements adopted by local jurisdictions or regulatory agencies with the water agency's service area.
- c. A description of any water agency efforts to cooperate with other entities in the adoption or enforcement of local requirement
- d. description of agency support positions with respect to adoption of legislation or regulations

You can show your documentation by providing files, links (web addresses), and/or entering a description.

File name(s): Email files to natalie@cuwcc.org

Web address(s) URL: comma-separated list

Enter a description:

RESOLUTION NO. 09-50

RESOLUTION OF THE BOARD OF DIRECTORS
OF THE VISTA IRRIGATION DISTRICT AMENDING THE DISTRICT'S
DROUGHT RESPONSE CONSERVATION PROGRAM

WHEREAS, article 10, section 2 of the California Constitution declares that waters of the State are to be put to beneficial use, that waste, unreasonable use, or unreasonable method of use of water be prevented, and that water be conserved for the public welfare; and

WHEREAS, conservation of current water supplies and minimization of the effects of water supply shortages that are the result of drought are essential to the public health, safety and welfare; and

WHEREAS, regulation of the time of certain water use, manner of certain water use, design of rates, method of application of water for certain uses, installation and use of water-saving devices, provide an effective and immediately available means of conserving water; and

WHEREAS, California Water Code sections 375 et seq. authorize water suppliers to adopt and enforce a comprehensive water conservation program; and

WHEREAS, the Board of Directors of the Vista Irrigation District adopted a Drought Response Conservation Program on February 18, 2009; and

WHEREAS, amendment and enforcement of a comprehensive water conservation program will allow the Vista Irrigation District (District) to delay or avoid implementing measures such as water rationing or more restrictive water use regulations pursuant to a declared water shortage emergency as authorized by California Water Code sections 350 et seq.; and

WHEREAS, San Diego County is a semi-arid region and local water resources are scarce. The region is dependent upon imported water supplies provided by the San Diego County Water Authority, which obtains a substantial portion of its supplies from the Metropolitan Water District of Southern California. Because the region is dependent upon imported water supplies, weather and other conditions in other portions of this State and of the Southwestern United States affect the availability of water for use in San Diego County; and

WHEREAS, the San Diego County Water Authority has adopted an Urban Water Management Plan that includes water conservation as a necessary and effective component of the Water Authority's programs to provide a reliable supply of water to meet the needs of the Water Authority's 24 member public agencies, including the Vista Irrigation District. The Water Authority's Urban Water Management Plan also includes a contingency analysis of actions to be taken in response to water supply shortages. This resolution is consistent with the Water Authority's Urban Water Management Plan; and

WHEREAS, as anticipated by its Urban Water Management Plan, the San Diego County Water Authority, in cooperation and consultation with its member public agencies, has adopted a

Drought Management Plan, which establishes a progressive program for responding to water supply limitations resulting from drought conditions. This resolution is intended to be consistent with the Water Authority's Drought Management Plan; and

WHEREAS, the Water Authority's Drought Management Plan contains three stages containing regional actions to be taken to lessen or avoid supply shortages. This resolution contains drought response levels that correspond with the Drought Management Plan stages; and

WHEREAS, the Vista Irrigation District, due to the geographic and climatic conditions within its territory and its dependence upon water imported and provided by the San Diego County Water Authority, may experience shortages due to drought conditions, regulatory restrictions enacted upon imported supplies and other factors. The Vista Irrigation District has adopted an Urban Water Management Plan that includes water conservation as a necessary and effective component of its programs to provide a reliable supply of water to meet the needs of the public within its service territory. The Vista Irrigation District's Urban Water Management Plan also includes a contingency analysis of actions to be taken in response to water supply shortages. This resolution is consistent with the Urban Water Management Plan adopted by the Vista Irrigation District; and

WHEREAS the water conservation measures and progressive restrictions on water use *and method of use identified by this resolution provide certainty to water users and enable Vista Irrigation District to control water use, provide water supplies, and plan and implement water management measures in a fair and orderly manner for the benefit of the public; and*

WHEREAS, a public hearing was held upon the proposed amended Drought Response Conservation Program at the regular meeting on October 7, 2009, at which all present were given an opportunity to be heard on the proposed amended Program; and

WHEREAS, the Board of Directors has considered the proposed amended Drought Response Conservation Program and the evidence and testimony presented at the October 7, 2009 public hearing.

NOW, THEREFORE, the Board of Directors of the Vista Irrigation District does resolve as follows:

ARTICLE ONE: The Drought Response Conservation Program is hereby amended and restated, in its entirety as follows:

SECTION 1.0 DECLARATION OF NECESSITY AND INTENT

(a) This resolution establishes water management requirements necessary to conserve water, enable effective water supply planning, assure reasonable and beneficial use of water, prevent waste of water, prevent unreasonable use of water, prevent unreasonable method of use of water within the Vista Irrigation District in order to assure adequate supplies of water to meet the needs of the public, and further the public health, safety, and welfare, recognizing that water

is a scarce natural resource that requires careful management not only in times of drought, but at all times.

(b) This resolution establishes regulations to be implemented during times of declared water shortages, or declared water shortage emergencies. It establishes four levels of drought response actions to be implemented in times of shortage, with increasing restrictions on water use in response to worsening drought conditions and decreasing available supplies.

(c) During drought response condition Levels 1 through 4, all conservation measures and water-use restrictions are mandatory and become increasingly restrictive in order to attain escalating conservation goals.

(d) During all Drought Response Level conditions, violations of water conservation measures and water use restrictions established by this resolution are subject to criminal, civil, and fees and remedies specified in this resolution.

SECTION 2.0 DEFINITIONS

(a) The following words and phrases whenever used in this chapter shall have the meaning defined in this section:

1. "Grower" refers to those engaged in the growing or raising, in conformity with recognized practices of husbandry, for the purpose of commerce, trade, or industry, or for use by public educational or correctional institutions, of agricultural, horticultural or floricultural products, and produced: (1) for human consumption or for the market, or (2) for the feeding of fowl or livestock produced for human consumption or for the market, or (3) for the feeding of fowl or livestock for the purpose of obtaining their products for human consumption or for the market. "Grower" does not refer to customers who purchase water subject to the Metropolitan Interim Agricultural Water Program or the Water Authority Special Agricultural Rate programs.

2. "District" means the Vista Irrigation District

3. "Water Authority" means the San Diego County Water Authority.

4. "DMP" means the Water Authority's Drought Management Plan in existence on the effective date of this resolution and as readopted or amended from time to time, or an equivalent plan of the Water Authority to manage or allocate supplies during shortages.

5. "Metropolitan" means the Metropolitan Water District of Southern California.

6. "Person" means any natural person, corporation, public or private entity, public or private association, public or private agency, government agency or institution, school district, college, university, or any other user of water provided by the District.

SECTION 3.0 APPLICATION

(a) The provisions of this resolution apply to any person in the use of any water provided by the District.

(b) This resolution is intended solely to further the conservation of water. It is not intended to implement any provision of federal, State, or local statutes, resolutions, or regulations relating to protection of water quality or control of drainage or runoff. Refer to the local jurisdiction or Regional Water Quality Control Board for information on any stormwater resolutions and stormwater management plans.

(c) Nothing in this resolution is intended to affect or limit the ability of the District to declare and respond to an emergency, including an emergency that affects the ability of the District to supply water.

(d) The provisions of this resolution do not apply to use of water from private wells or to recycled water.

(e) Nothing in this resolution shall apply to use of water that is subject to a special supply program, such as the Metropolitan Interim Agricultural Water Program or the Water Authority Special Agricultural Rate programs. Violations of the conditions of special supply programs are subject to the penalties established under the applicable program. A person using water subject to a special supply program and other water provided by the District is subject to this resolution in the use of the other water.

(f) When the General Manager has determined that the District's water supply is in a water emergency condition, everyone shall be required to reduce their water consumption as prescribed by the General Manager.

(g) The General Manager shall have the authority and discretion to interpret and apply the provisions set forth in the Drought Response Conservation Program as long as the interpretations and applications of the measures meet the intent and goals of the Program.

SECTION 4.0 DROUGHT RESPONSE LEVEL 1 – DROUGHT WATCH CONDITION

(a) A Drought Response Level 1 condition is also referred to as a "Drought Watch" condition. A Level 1 condition applies when the Water Authority notifies its member agencies that due to drought or other supply reductions, there is a reasonable probability there will be supply shortages and that a consumer demand reduction of up to 10 percent is required in order to ensure that sufficient supplies will be available to meet anticipated demands. The General Manager shall declare the existence of a Drought Response Level 1 and take action to implement the Level 1 conservation practices identified in this resolution.

(b) During a Level 1 Drought Watch condition, District will increase its public education and outreach efforts to emphasize increased public awareness of the requirement to implement the following mandatory water conservation practices:

1. Stop washing down paved surfaces, including but not limited to sidewalks, driveways, parking lots, tennis courts, or patios, except when it is necessary to alleviate safety or sanitation hazards or to maintain, repair, construct/reconstruct streets.
2. Stop water waste resulting from inefficient landscape irrigation, such as runoff, low head drainage, or overspray, etc. Similarly, stop water flows onto non-targeted areas, such as adjacent property, non-irrigated areas, hardscapes, roadways, or structures.
3. Irrigate residential and commercial landscape before 10 a.m. and after 6 p.m. only. Irrigation of new turf and/or plantings is exempt from these watering hour restrictions for a period of thirty (30) days following the date of planting. Watering is permitted at any time with a hand-held hose equipped with a positive shut-off nozzle, a bucket, or when a drip/micro-irrigation system/equipment is used.
4. Irrigate nursery and commercial grower's products before 10 a.m. and after 6 p.m. only. Watering is permitted at any time with a hand-held hose equipped with a positive shut-off nozzle, a bucket, or when a drip/micro-irrigation system/equipment is used. Irrigation of nursery propagation beds is permitted at any time. Watering of livestock is permitted at any time.
5. Use construction meters to irrigate landscape before 10 a.m. and after 6 p.m. Watering is permitted at any time with a hand-held hose equipped with a positive shut-off nozzle, a bucket, or when a drip/micro-irrigation system/equipment is used.
6. Use re-circulated water to operate ornamental fountains.
7. Wash vehicles using a bucket and a hand-held hose with positive shut-off nozzle, mobile high pressure/low volume wash system, or at a commercial site that re-circulates (reclaims) water on-site. Avoid washing during hot conditions when additional water is required due to evaporation.
8. Serve and refill water in restaurants and other food service establishments only upon request.
9. Offer guests in hotels, motels, and other commercial lodging establishments the option of not laundering towels and linens daily.
10. Repair all water leaks within five (5) days of notification by the District unless other arrangements are made with the General Manager.

11. Use recycled or non-potable water for construction purposes when available.

SECTION 5.0 DROUGHT RESPONSE LEVEL 2 – DROUGHT ALERT CONDITION

(a) A Drought Response Level 2 condition is also referred to as a “Drought Alert” condition. A Level 2 condition applies when the Water Authority notifies its member agencies that due to cutbacks caused by drought or other reduction in supplies, a consumer demand reduction of up to 20 percent is required in order to have sufficient supplies available to meet anticipated demands. The District Board of Directors shall declare the existence of a Drought Response Level 2 condition and implement the mandatory Level 2 conservation measures identified in this resolution. The General Manager shall have the authority and discretion to implement water conservation measures commensurate with the level of demand reduction required and/or the reduction targets achieved, as described in Section 5 (b) below. The General Manager shall inform the Board of Directors of the status of the implementation of the measures set forth in this section and the resulting water conservation in a timely manner.

(b) All persons using District water shall comply with Level 1 Drought Watch water conservation practices during a Level 2 Drought Alert, and shall also comply with the following additional conservation measures:

1. Limit residential and commercial landscape irrigation to assigned days per week on a schedule established by the General Manager and posted by the District. This section shall not apply to landscape irrigation systems using weather based controllers, or commercial growers or nurseries.

2. Limit lawn watering and landscape irrigation using sprinklers to time limits per watering station per assigned day as established by the General Manager and posted by the District. This provision does not apply to landscape irrigation systems using water efficient devices, including but not limited to: weather based controllers, drip/micro-irrigation systems and stream rotor sprinklers.

3. Turf and/or plant establishment is allowed if required by a landscape permit or necessary for erosion control, landscape renovation after a natural disaster, or establishment, repair or renovation of public use fields for schools or parks. New turf and/or plantings are exempt from irrigation limitations set forth in sections 4 (b) (3), 5 (b) (1) and 5 (b) (2) for a period of thirty (30) days following the date of planting.

4. Water landscaped areas, including trees and shrubs located on residential and commercial properties, and not irrigated by a landscape irrigation system governed by section 5 (b) (1), on the same schedule set forth in section 5 (b) (1) by using a bucket, hand-held hose with positive shut-off nozzle, or low-volume non-spray irrigation.

5. Repair all leaks within seventy-two (72) hours of notification by the District unless other arrangements are made with the General Manager.

**SECTION 6.0 DROUGHT RESPONSE LEVEL 3 – DROUGHT CRITICAL
CONDITION**

(a) A Drought Response Level 3 condition is also referred to as a “Drought Critical” condition. A Level 3 condition applies when the Water Authority notifies its member agencies that due to increasing cutbacks caused by drought or other reduction of supplies, a consumer demand reduction of up to 40 percent is required in order to have sufficient supplies available to meet anticipated demands. The District Board of Directors shall declare the existence of a Drought Response Level 3 condition and implement the Level 3 conservation measures identified in this resolution. The General Manager shall have the authority and discretion to implement water conservation measures commensurate with the level of demand reduction required and/or the reduction targets achieved, as described in Section 6 (b) below. The General Manager shall inform the Board of Directors of the status of the implementation of the measures set forth in this section and the resulting water conservation in a timely manner.

(b) All persons using District water shall comply with Level 1 Drought Watch and Level 2 Drought Alert water conservation practices during a Level 3 Drought Critical condition and shall also comply with the following additional mandatory conservation measures:

1. Stop filling or re-filling ornamental lakes or ponds, except to the extent needed to sustain aquatic life, provided that such animals are of significant value and have been actively managed within the water feature prior to declaration of a drought response level under this resolution.

2. Stop operating ornamental fountains or decorative water features which discharge into the air a spray, mist, jet or stream of water. These types of fountains and water features may be operated on a limited basis for maintenance purposes only. All water features that have flowing or cascading water, whether decorative or otherwise, shall be maintained so as to prevent leaking and may only be refilled to replace normal evaporation. The operation of fountains and water features that do not use re-circulated water is prohibited.

3. Stop washing vehicles except at commercial carwashes that re-circulate water, or by high pressure/low volume wash systems.

4. Repair all leaks within forty-eight (48) hours of notification by the District unless other arrangements are made with the General Manager.

(c) Upon the declaration of a Drought Response Level 3 condition, no new potable water service shall be provided, no new temporary meters or permanent meters shall be provided, and no statements of immediate ability to serve or provide potable water service (such as, will serve letters, certificates, or letters of availability) shall be issued, except under the following circumstances:

1. A valid, unexpired building permit has been issued for the project; or

2. The project is necessary to protect the public's health, safety, and welfare;
or

3. The applicant provides substantial evidence of an enforceable commitment that water demands for the project will be offset prior to the provision of a new water meter(s) to the satisfaction of District.

This provision shall not be construed to preclude the resetting or turn-on of meters to provide continuation of water service or to restore service that has been interrupted for a period of one year or less.

(d) Upon the declaration of a Drought Response Level 3 condition, District will suspend consideration of annexations to its service area.

(e) The District may establish a water allocation for property served by the District using a method that does not penalize persons for the implementation of conservation methods or the installation of water saving devices. If the District establishes a water allocation it shall provide notice of the allocation by including it in the regular billing statement for the fee or charge or by any other mailing to the address to which the District customarily mails the billing statement for fees or charges for on-going water service. Following the effective date of the water allocation as established by the District, any person that uses water in excess of the allocation shall be subject to a penalty for each billing unit of water in excess of the allocation. The penalty for excess water usage shall be cumulative to any other remedy or fee that may be imposed for violation of this resolution.

SECTION 7.0 DROUGHT RESPONSE LEVEL 4 – DROUGHT EMERGENCY CONDITION

(a) A Drought Response Level 4 condition is also referred to as a "Drought Emergency" condition. A Level 4 condition applies when the Water Authority Board of Directors declares a water shortage emergency pursuant to California Water Code section 350 and notifies its member agencies that Level 4 requires a demand reduction of more than 40 percent in order for the District to have maximum supplies available to meet anticipated demands. The District Board of Directors shall declare a Drought Emergency in the manner and on the grounds provided in California Water Code section 350.

(b) All persons using District water shall comply with conservation measures required during Level 1 Drought Watch, Level 2 Drought Alert, and Level 3 Drought Critical conditions and shall also comply with the following additional mandatory conservation measures:

1. Stop all residential and commercial landscape irrigation, unless the District has determined that recycled water is available and may be lawfully applied to the use. This restriction shall not apply to the following categories of use.

A. Maintenance of trees and shrubs that are watered on the same schedule set forth in section 6 (b) (1) by using a bucket, hand-held hose with a positive shut-off nozzle, or low-volume non-spray irrigation;

B. Maintenance of existing landscaping necessary for fire protection as specified by the Fire Marshal of the local fire protection agency having jurisdiction over the property to be irrigated;

C. Maintenance of existing landscaping for erosion control;

D. Maintenance of plant materials identified to be rare or essential to the well being of rare animals;

E. Maintenance of landscaping within active public parks and playing fields, day care centers, school grounds, cemeteries, and golf course greens, provided that such irrigation does not exceed two (2) days per week according to the schedule established under section 6 (b) (1);

F. Watering of livestock; and

G. Public works projects and actively irrigated environmental mitigation projects.

H. Irrigation of crops and landscape products of commercial growers and nurseries.

2. Repair all water leaks within twenty-four (24) hours of notification by the District unless other arrangements are made with the General Manager.

(c) The District may establish a water allocation for property served by the District. If the District establishes a water allocation it shall provide notice of the allocation by including it in the regular billing statement for the fee or charge or by any other mailing to the address to which the District customarily mails the billing statement for fees or charges for on-going water service. Following the effective date of the water allocation as established by the District, any person that uses water in excess of the allocation shall be subject to a penalty for each billing unit of water in excess of the allocation. The penalty for excess water usage shall be cumulative to any other remedy or fee that may be imposed for violation of this resolution.

SECTION 8.0 CORRELATION BETWEEN DROUGHT MANAGEMENT PLAN AND DROUGHT RESPONSE LEVELS

(a) The correlation between the Water Authority's DMP stages and the District's drought response levels identified in this resolution is described herein. Under DMP Stage 1, the District would implement Drought Response Level 1 actions. Under DMP Stage 2, the District would implement Drought Response Level 1 or Level 2 actions. Under DMP Stage 3, the District would implement Drought Response Level 2, Level 3, or Level 4 actions.

(b) The drought response levels identified in this resolution correspond with the Water Authority DMP as identified in the following table:

Drought Response Levels	Use Restrictions	Conservation Target	DMP Stage
1 – Drought Watch	Mandatory	Up to 10%	Stage 1 or 2
2 – Drought Alert	Mandatory	Up to 20%	Stage 2 or 3
3 – Drought Critical	Mandatory	Up to 40%	Stage 3
4 – Drought Emergency	Mandatory	Above 40%	Stage 3

SECTION 9.0 PROCEDURES FOR DETERMINATION AND NOTIFICATION OF DROUGHT RESPONSE LEVEL

(a) The existence of a Drought Response Level 1 condition may be declared by the General Manager upon a written determination of the existence of the facts and circumstances supporting the determination. A copy of the written determination shall be filed with the Clerk or Secretary of the District and provided to the District Board of Directors. The General Manager may publish a notice of the determination of existence of Drought Response Level 1 condition in one or more newspapers, including a newspaper of general circulation within the District. The District may also post notice of the condition on their website.

(b) The existence of Drought Response Level 2 or Level 3 conditions may be declared by resolution of the District Board of Directors adopted at a regular or special public meeting held in accordance with State law. The mandatory conservation measures applicable to Drought Response Level 2 or Level 3 conditions shall take effect on the tenth (10) day after the date the response level is declared. Within five (5) days following the declaration of the response level, the District shall publish a copy of the resolution in a newspaper used for publication of official notices.

(c) The existence of a Drought Response Level 4 condition may be declared in accordance with the procedures specified in California Water Code sections 351 and 352. The mandatory conservation measures applicable to Drought Response Level 4 conditions shall take effect on the tenth (10) day after the date the response level is declared. Within five (5) days following the declaration of the response level, the District shall publish a copy of the resolution in a newspaper used for publication of official notices. If the District establishes a water allocation, it shall provide notice of the allocation by including it in the regular billing statement for the fee or charge or by any other mailing to the address to which the District customarily mails the billing statement for fees or charges for on-going water service. Water allocation shall be effective on the fifth (5) day following the date of mailing or at such later date as specified in the notice.

(d) The District Board of Directors may declare an end to a Drought Response Level by the adoption of a resolution at any regular or special meeting held in accordance with State law.

SECTION 10.0 NON-COMPLIANCE AND FEES

(a) Any person, who uses, causes to be used, or permits the use of water in violation of this resolution is guilty of an offense punishable as provided herein.

(b) Each day that a violation of this resolution occurs is a separate offense.

(c) Water Conservation Fees, as set forth in Section 4.4.17 of the District's Rules and Regulations, may be levied for each violation of a provision of this resolution as follows:

1. A first violation of any provision of this resolution shall result in a letter of warning.

2. A second violation of any provision of this resolution within one year shall result in the assessment of a Water Conservation Fee.

3. A third violation of this resolution within one year shall result in the assessment of an additional Water Conservation Fee.

4. Four or more violations of any provision of this resolution shall result in the assessment of additional Water Conservation Fees.

(d) Violation of a provision of this resolution is subject to enforcement through installation of a flow-restricting device in the meter. The cost of installing and removing a flow-restricting device will be paid for by the person, who uses, causes to be used, or permits the use of water in violation of this resolution.

(e) Each violation of this resolution may be prosecuted as a misdemeanor punishable by imprisonment in the county jail for not more than thirty (30) days or by a fine not exceeding \$1,000, or by both as provided in Water Code section 377.

(f) Willful violations of the mandatory conservation measures and water use restrictions as set forth in Section 7.0 and applicable during a Level 4 Drought Emergency condition may be enforced by discontinuing service to the property at which the violation occurs as provided by Water Code section 356. The cost of disconnecting and re-connecting water service be paid for by the person, who uses, causes to be used, or permits the use of water in violation of this resolution.

(g) All fees and costs associated with installing and removing a flow-restricting device and disconnecting and re-connecting water service will be added to the account of the person, who uses, causes to be used, or permits the use of water in violation of this resolution. Fees and costs will appear on and be payable with the first billing statement for the period the violation occurred and be subject to the same remedies that are imposed by the District for failure to pay other charges.

(h) All remedies provided for herein shall be cumulative and not exclusive.

SECTION 11.0 APPEALS

(a) Any person complaining about fees and/or other remedies applied in accordance with Section 10 of this resolution shall have that complaint be first taken up with the General Manager before any action will be taken by the District's Board of Directors.

(b) The General Manager's determination may be appealed in writing within ten days of the mailing of a notice of determination. Any determination not timely appealed shall be final.

(c) The person appealing the General Manager's determination shall submit a written request to the Board Secretary to have his or her appeal considered as an item for discussion and action at an upcoming Board meeting. The written request shall include: 1) a description of the issues, 2) evidence supporting the claim, and 3) a request for resolution of the dispute.


(d) The District shall at least ten days before the date of the hearing mail an appropriate notice of the regular or special meeting at which the appeal will be heard. The Board may, in its discretion, affirm, reverse or modify the determination.

ARTICLE TWO:

This resolution shall take effect immediately upon adoption or as otherwise established by State law for Vista Irrigation District. The 2001 Ordinance Sections were rescinded and repealed effective February 18, 2009. Where any of the 2001 Ordinance Sections are referenced and/or incorporated in or as part of any ordinance, other resolutions, or documents, the provisions of this resolution shall apply in place and instead of 2001 Ordinance Sections. If a conflict exists or arises between any provisions set forth in this resolution and any set forth in any ordinances or other resolutions, the provisions in this resolution shall take precedence.

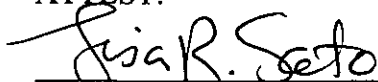
PASSED AND ADOPTED by the following roll call vote of the Board of Directors of the Vista Irrigation District this 7th day of October, 2009:

AYES: Directors MacKenzie, Miller, Vásquez, and Williams
NOES: None
ABSTAIN: None
ABSENT: President Dorey



Howard S. Williams, Vice-President

ATTEST:



Lisa R. Soto, Secretary
Board of Directors
Vista Irrigation District

The fields in red are required.



Agency name:

Reporting unit name
(District name)

Reporting unit number:

Primary contact:

First name:

Last name:

Email:

You must enter the reporting unit number that we have on record for your agency. Click here to open a table to obtain this number.

[Link to FAQs](#)

2010 BMP 1.2 Water Loss Control

[View MOU](#)



AWWA Water Audit

Agency to complete a Water Audit & Balance Using The AWWA Software Yes No
Email to natalie@cuwcc.org - Worksheets (AWWA Water Audit). Enter the name of the file below:

Water Audit Validity Score from AWWA spreadsheet

Agency Completed Training In The AWWA Water Audit Method Yes No
Agency Completed Training In The Component Analysis Process Yes No

Completed/Updated the Component Analysis (at least every 4 years)? Yes No
Component Analysis Completed/Updated Date

Water Loss Performance

Agency Repaired All Reported Leaks & Breaks To The Extent Cost Effective Yes No

Recording Keeping Requirements:

Date/Time Leak Reported	Leak Location
Type of Leaking Pipe Segment or Fitting	Leak Running Time From Report to Repair
Leak Volume Estimate	Cost of Repair

Agency Located and Repaired Unreported Leaks to the Extent Cost Effective Yes No
Type of Program Activities Used to Detect Unreported Leaks

Annual Summary Information

Complete the following table with annual summary information (required for reporting years 2-5 only)

Total Leaks Repaired	Economic Value Of Real Loss	Economic Value Of AppUFYbhLoss	Miles Of System Surveyed For Leaks	Pressure Reduction Undertaken for loss reduction	Cost Of Interventions	Water Saved (AF/Year)

Comments:

AWWA WLCC Free Water Audit Software: **Reporting Worksheet**

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WAS v4.1

[Back to Instructions](#)

[?](#) Click to access definition

Water Audit Report for: **Vista Irrigation District**
 Reporting Year: **2010** 7/2009 - 6/2010

Please enter data in the white cells below. Where available, metered values should be used; if metered values are unavailable please estimate a value. Indicate your confidence in the accuracy of the input data by grading each component (1-10) using the drop-down list to the left of the input cell. Hover the mouse over the cell to obtain a description of the grades

All volumes to be entered as: ACRE-FEET PER YEAR

WATER SUPPLIED

<< Enter grading in column 'E'

Volume from own sources:	?	10	3,899.000	acre-ft/yr
Master meter error adjustment (enter positive value):	?	7	5.000	under-registered acre-ft/yr
Water imported:	?	10	15,336.000	acre-ft/yr
Water exported:	?	n/a	0.000	acre-ft/yr
WATER SUPPLIED:			19,240.000	acre-ft/yr

AUTHORIZED CONSUMPTION

Billed metered:	?	10	18,273.000	acre-ft/yr
Billed unmetered:	?	10	0.038	acre-ft/yr
Unbilled metered:	?	10	3.170	acre-ft/yr
Unbilled unmetered:	?		240.500	acre-ft/yr

Default option selected for Unbilled unmetered - a grading of 5 is applied but not displayed

AUTHORIZED CONSUMPTION: [?](#) 18,516.708 acre-ft/yr

Click here: [?](#) for help using option buttons below

Pcnt: 1.25% Value:

Use buttons to select percentage of water supplied **OR** value

WATER LOSSES (Water Supplied - Authorized Consumption)

723.292 acre-ft/yr

Apparent Losses

Unauthorized consumption:	?		48.100	acre-ft/yr
---------------------------	-------------------	--	--------	------------

Pcnt: 0.25% Value:

Default option selected for unauthorized consumption - a grading of 5 is applied but not displayed

Customer metering inaccuracies:	?	8	0.000	acre-ft/yr
Systematic data handling errors:	?		0.000	acre-ft/yr

Pcnt: 0.00% Value:

Systematic data handling errors are likely, please enter a non-zero value; otherwise grade = 5

Apparent Losses: [?](#) 48.100

Choose this option to enter a percentage of billed metered consumption. This is NOT a default value

Real Losses (Current Annual Real Losses or CARL)

Real Losses = Water Losses - Apparent Losses: [?](#) 675.192 acre-ft/yr

WATER LOSSES: 723.292 acre-ft/yr

NON-REVENUE WATER

NON-REVENUE WATER: [?](#) 966.962 acre-ft/yr

= Total Water Loss + Unbilled Metered + Unbilled Unmetered

SYSTEM DATA

Length of mains:	?	10	470.0	miles
Number of active AND inactive service connections:	?	10	28,305	
Connection density:			60	conn./mile main
Average length of customer service line:	?	10	30.0	ft (pipe length between curbstop and customer meter or property boundary)
Average operating pressure:	?	9	95.0	psi

COST DATA

Total annual cost of operating water system:	?	10	\$20,103,000	\$/Year
Customer retail unit cost (applied to Apparent Losses):	?	10	\$3.01	\$/100 cubic feet (ccf)
Variable production cost (applied to Real Losses):	?	10	\$833.17	\$/acre-ft/yr

PERFORMANCE INDICATORS

Financial Indicators

Non-revenue water as percent by volume of Water Supplied:	5.0%
Non-revenue water as percent by cost of operating system:	4.1%
Annual cost of Apparent Losses:	\$63,067
Annual cost of Real Losses:	\$562,550

Operational Efficiency Indicators

Apparent Losses per service connection per day:	1.52	gallons/connection/day
Real Losses per service connection per day*:	21.30	gallons/connection/day
Real Losses per length of main per day*:	N/A	
Real Losses per service connection per day per psi pressure:	0.22	gallons/connection/day/psi
Unavoidable Annual Real Losses (UARL):	277.21	million gallons/year
From Above, Real Losses = Current Annual Real Losses (CARL):	675.19	million gallons/year
Infrastructure Leakage Index (ILI) [CARL/UARL]:	0.79	

* only the most applicable of these two indicators will be calculated

WATER AUDIT DATA VALIDITY SCORE:

***** YOUR SCORE IS: 91 out of 100 *****

A weighted scale for the components of consumption and water loss is included in the calculation of the Water Audit Data Validity Score

PRIORITY AREAS FOR ATTENTION:

Based on the information provided, audit accuracy can be improved by addressing the following components:

- 1: Master meter error adjustment
- 2: Unauthorized consumption
- 3: Systematic data handling errors

[For more information, click here to see the Grading Matrix worksheet](#)

The fields in red are required.

Agency name:
Reporting unit name
(District name)
Reporting unit number:

Primary contact:
First name:
Last name:
Email:

You must enter the reporting unit number that we have on record for your agency. Click here to open a table to obtain this number.



BMP 1.3 Metering with Commodity 2010

[Link to FAQs](#)

See the complete MOU: [View MOU](#)

See the coverage requirements for this BMP:

Implementation

- Does your agency have any unmetered service connections? Yes No
- If YES, has your agency completed a meter retrofit plan? Yes No
- Enter the number of previously unmetered accounts fitted with meters during reporting year:
- Are all new service connections being metered? Yes No
- Are all new service connections being billed volumetrically? Yes No
- Has your agency completed and submitted electronically to the Council a written plan, policy or program to test, repair and replace meters? Yes No

Please Fill Out The Following Matrix

Account Type	# Metered Accounts	# Metered Accounts Read	# Metered Accounts Billed by Volume	Billed by	Billing Frequency Per Year	# of estimated bills/yr
--------------	--------------------	-------------------------	-------------------------------------	-----------	----------------------------	-------------------------

Number of CII Accounts with Mixed-use Meters

Number of CII Accounts with Mixed-use Meters Retrofitted with Dedicated Irrigation Meters during Reporting Period

Feasibility Study

Has your agency conducted a feasibility study to assess the merits of a program to provide incentives to switch mixed-use accounts to dedicated landscape meters? Yes No

If YES, please fill in the following information:

- A. When was the Feasibility Study conducted
- B. Describe, upload or provide an electronic link to the Feasibility Study Upload File

File name(s): Email files to natalie@cuwcc.org

Web address(s) URL: comma-separated list

Comments:

The fields in red are required.

Agency name:

Reporting unit name
(District name)

Reporting unit number:

Primary contact:

First name:

Last name:

Email:

You must enter the reporting unit number that we have on record for your agency. Click here to open a table to obtain this number.



2010

BMP 1.4 Retail Conservation Pricing

[Link to FAQs](#)

[View MOU](#)

If you are reporting more rate structures than this form allows, add the structures to a spreadsheet and send the file to natalie@cuwcc.org.

Implementation (Water Rate Structure)

Enter the Water Rate Structures that are assigned to the majority of your customers, by customer class

Rate Structure	Customer Class	Total Revenue Commodity Charges	Total Revenue Customer Meter/Service (Fixed Charges)

Implementation Option (Conservation Pricing Option)

- Use Annual Revenue As Reported
- Use Canadian Water & Wastewater Association Rate Design Model

If CWWA is select, enter the file name and email the spreadsheet to natalie@cuwcc.org

Retail Waste Water (Sewer) Rate Structure by Customer Class

Agency Provide Sewer Service Yes No

Select the Retail Waste Water(Sewer) Rate Structure assigned to the majority of your customers within a specific customer class.

Rate Structure	Customer Class	Total Revenue Commodity Charges	Total Revenue Customer Meter/Service (Fixed Charges)

Comments:

The fields in red are required.



Agency name:

Reporting unit name
(District name)

Reporting unit number:

Primary contact:

First name:

Last name:

Email:

Click here to open a table that displays your agency name reporting unit name and reporting unit number. Please ensure that you enter the correct information.

[Link to FAQs](#)

[View MOU](#)

2010

BMP 2.1 Public Outreach - Retail Reporting

Is a Wholesale Agency Performing Public Outreach?

Are there one or more wholesale agencies performing public outreach which can be counted to help your agency comply with the BMP?

Yes No

Enter the name(s) of the wholesale agency (comma delimited)

Is your agency performing public outreach?

Report a minimum of 4 water conservation related contacts your agency had with the public during the year.

Public Information Programs List

Did at least one contact take place during each quarter of the reporting year?

Number of Public Contacts	Public Information Programs

Contact with the Media

Are there one or more wholesale agencies performing media outreach which can be counted to help your agency comply with the BMP?

Yes No

Enter the name(s) of the wholesale agency (comma delimited)

OR Retail Agency (Contacts with the Media)

Did at least one contact take place during each quarter of the reporting year?

Media Contacts List

Number of Media Contacts	Did at least one contact take place during each quarter of the reporting year?	Media Contact Types

Is a Wholesale Agency Performing Website Updates?

Did one or more CUWCC wholesale agencies agree to assume your agency's responsibility for meeting the requirements of and for CUWCC reporting of this BMP?

Yes No

Enter the name(s) of the wholesale agency (comma delimited)

Is Your Agency Performing Website Updates?

Enter your agency's URL (website address):

Describe a minimum of four water conservation related updates to your agency's website that took place during the year:

Did at least one Website Update take place during each quarter of the reporting year?

Yes No

Public Outreach Annual Budget

Enter budget for public outreach programs. You may enter total budget in a single line or break the budget into discrete categories by entering many rows. Please indicate if personnel costs are included in the entry.

Category	Amount		Personnel Costs Included? If yes, check the box.	Comments	

Comments:

The fields in red are required.



Agency name:

Reporting unit name
(District name)

Reporting unit number:

Primary contact:

First name:

Last name:

Email:

Click here to open a table that displays your agency name reporting unit name and reporting unit number. Please ensure that you enter the correct information.

[Link to FAQs](#)

2010

BMP 2.1 Public Outreach Cont'd

[View MOU](#)

Public Outreach Expenses

Enter expenses for public outreach programs. Please include the same kind of expenses you included in the question related to your budget (Section 2.1.7, above). For example, if you included personnel costs in the budget entered above, be sure to include them here as well.

Expense Category	Expense Amount	Personnel Costs Included?	
If yes, check the check box.			

Additional Public Information Program

Please report additional public information contacts. List these additional contacts in order of how your agency views their importance / effectiveness with respect to conserving water, with the most important/ effective listed first (where 1 = most important).

Were there additional Public Outreach efforts? Yes No

Public Outreach Additional Information

Public Information Programs	Importance	

Social Marketing Programs

Branding

Does your agency have a water conservation "brand," "theme" or mascot? Yes No

Describe the brand, theme or mascot.

Market Research

Have you sponsored or participated in market research to refine your message? Yes No

Market Research Topic

Brand Message

Brand Mission Statement

Community Committees

Do you have a community conservation committee? Yes No

Enter the names of the community committees:

Training

Training Type	# of Trainings	# of Attendees	Description of Other	

Social Marketing Expenditures

Public Outreach Social Marketing Expenses

Expense Category	Expense Amount	Description	

Partnering Programs - Partners

Name Type of Program

CLCA?

Green Building Programs?

Master Gardeners?

Cooperative Extension?

Local Colleges?

Other

Retail and wholesale outlet; name(s) and type(s) of programs:

Partnering Programs - Newsletters

Number of newsletters per year

Number of customers per year

Partnering with Other Utilities

Describe other utilities your agency partners with, including electrical utilities

Conservation Gardens

Describe water conservation gardens at your agency or other high traffic areas or new

Landscape contests or awards

Describe water wise landscape contest or awards program conducted by your agency

Comments:

The fields in red are required.



Agency name:

Reporting unit name
(District name)

Reporting unit number:

Primary contact:

First name:

Last name:

Email:

Click here to open a table that displays your agency name reporting unit name and reporting unit number. Please ensure that you enter the correct information.

[Link to FAQs](#)

[JJYK 'ACI](#)

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School Programs

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V]i b]YX`rc` \Y`d` Ubch`Yf`U[YbV]h]V]ta d`mk]h` h`jg` 6A D3

Mg Bc

9b]Yf`K \c`Yg]Yf`BUa Yg`gYdUfU]YX`V]m]V]ta a Ug

A U]Yf]Ug`a Y]h]g]U]Y`YXi W]h]cb`Z]Ua Yk cf`_`fYei]fYa Yb]g3

8Yg]W]d]h]cb`cZ`A U]Yf]Ug

A U]Yf]Ug`X]g]f]Vi h]YX`rc`?!*`G]i XYb]g3

8Yg]W]d]h]cb`cZ`a U]Yf]Ug`X]g]f]Vi h]YX`rc`?!*`G]i XYb]g

Bi a V]f`cZ`g]i XYb]g`fYU]W]YX

A U]Yf]Ug`X]g]f]Vi h]YX`rc`+!%&`G]i XYb]g3

8Yg]W]d]h]cb`cZ`a U]Yf]Ug`X]g]f]Vi h]YX`rc`+!%&`G]i XYb]g

Bi a V]f`cZ`8]g]f]Vi h]cb

5bbi U`Vi X[Yh]Zcf`gWcc`YXi W]h]cb`dfc[fUa

8Yg]W]d]h]cb`cZ`U`ch`Yf`k U]Yf`g`dd`Yf`YXi W]h]cb`dfc[fUa g

School Program Activities

Classroom presentations:

Bi a V]f`cZ`dfYg]Yb]U]h]cbg

Bi a V]f`cZ`U]h]b]X]Y]g`

Large group assemblies:

Bi a V]f`cZ`dfYg]Yb]U]h]cbg

Bi a V]f`cZ`U]h]b]X]Y]g`

Children's water festivals or other events:

Bi a V]f`cZ`dfYg]Yb]U]h]cbg

Bi a V]f`cZ`U]h]b]X]Y]g`

Cooperative efforts with existing science/water education programs (various workshops, science fair awards or judging) and follow-up:

Bi a V]f`cZ`dfYg]Yb]U]h]cbg

Bi a V]f`cZ`U]h]b]X]Y]g`

Other methods of disseminating information (i.e. themed age-appropriate classroom loaner kits):

8YgWjd]cb

Bi a VYf`X]g]f]Vi hYX

Staffing children's booths at events & festivals:

Bi a VYf`cZVcch]g

Bi a VYf`cZ UH]bXYYg`''

Water conservation contests such as poster and photo:

8YgWjd]cb

Bi a VYf`X]g]f]Vi hYX

Offer monetary awards/funding or scholarships to students:

Bi a VYf`CZYfYX

HcHJ` : i bX]b[`''

Teacher training workshops:

Bi a VYf`cZdfYgYbH]cbg

Bi a VYf`cZ UH]bXYYg`''

Fund and/or staff student field trips to treatment facilities, recycling facilities, water conservation gardens, etc.:

Bi a VYf`cZ hci fg`cf`Z]YX
hf]dg

Bi a VYf`cZ dUf]V]dU]b]g`''

College internships in water conservation offered:

Bi a VYf`cZ]bH]fbg\]dg

HcHJ` Z bX]b[`''

Career fairs/workshops:

Bi a VYf`cZdfYgYbH]cbg

Bi a VYf`cZ UH]bXYYg`''

Additional program(s) supported by agency but not mentioned above:

8YgWjd]cb

Bi a VYf`cZYj Yb]g`f]Z
Udd`]WV`Yk

Bi a VYf`cZ dUf]V]dU]b]g`''

Total reporting period budget expenditures for school education programs (include all agency costs):

Comments

APPENDIX E

Resolution No. 11-19
Water Supply Response Program

Resolution No. 10-42
Special Agricultural Water Rate Program

Resolution No. 10-43
Interim Agricultural Water Program

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RESOLUTION NO. 11-19

RESOLUTION OF THE BOARD OF DIRECTORS
OF THE VISTA IRRIGATION DISTRICT AMENDING THE DISTRICT'S
DROUGHT RESPONSE CONSERVATION PROGRAM
AND RENAMING IT THE WATER SUPPLY RESPONSE PROGRAM

WHEREAS, article 10, section 2 of the California Constitution declares that waters of the State are to be put to beneficial use; that waste, unreasonable use, or unreasonable method of use of water be prevented; and that water be conserved for the public welfare; and

WHEREAS, conservation of current water supplies and minimization of the effects of water supply shortages are essential to the public health, safety and welfare; and

WHEREAS, regulation of the time of certain water use, manner of certain water use, design of rates, method of application of water for certain uses, and installation and use of water-saving devices, provide an effective and immediately available means of conserving water; and

WHEREAS, California Water Code sections 375 et seq. authorize water suppliers to adopt and enforce a comprehensive water conservation program; and

WHEREAS, the Board of Directors of the Vista Irrigation District adopted a Drought Response Conservation Program on October 7, 2009; and

WHEREAS, amendment and enforcement of a comprehensive water conservation program will allow the Vista Irrigation District (District) to delay or avoid implementing measures such as water rationing or more restrictive water use regulations pursuant to a declared water shortage emergency as authorized by California Water Code sections 350 et seq.; and

WHEREAS, San Diego County is a semi-arid region and local water resources are scarce. The region is dependent upon imported water supplies provided by the San Diego County Water Authority, which obtains a substantial portion of its supplies from the Metropolitan Water District of Southern California. Because the region is dependent upon imported water supplies, weather and other conditions in other portions of this State and of the Southwestern United States affect the availability of water for use in San Diego County; and

WHEREAS, the San Diego County Water Authority has an Urban Water Management Plan that includes water conservation as a necessary and effective component of the Water Authority's programs to provide a reliable supply of water to meet the needs of the Water Authority's 24 member public agencies, including the Vista Irrigation District. The Water Authority's Urban Water Management Plan also includes a contingency analysis of actions to be taken in response to water supply shortages. This resolution is consistent with the Water Authority's Urban Water Management Plan; and

WHEREAS, as anticipated by its Urban Water Management Plan, the San Diego County Water Authority, in cooperation and consultation with its member public agencies, has established a program for responding to water supply limitations; and

WHEREAS, this resolution contains levels and corresponding actions that will assist the District in meeting conservation targets; and

WHEREAS, the Vista Irrigation District, due to the geographic and climatic conditions within its territory and its dependence upon water imported and provided by the San Diego County Water Authority, may experience shortages due to drought conditions, regulatory restrictions enacted upon imported supplies and other factors. The Vista Irrigation District has adopted an Urban Water Management Plan that includes water conservation as a necessary and effective component of its programs to provide a reliable supply of water to meet the needs of the public within its service territory. The Vista Irrigation District's Urban Water Management Plan also includes a contingency analysis of actions to be taken in response to water supply shortages. This resolution is consistent with the Urban Water Management Plan adopted by the Vista Irrigation District; and

WHEREAS the water-use efficiency practices, water conservation measures and progressive restrictions on water use and method of use identified by this resolution provide certainty to water users and enable Vista Irrigation District to control water use, provide water supplies, and *plan and implement water management measures in a fair and orderly manner for the benefit of the public*; and

WHEREAS, this resolution contains water-use efficiency practices, water conservation measures and water use restrictions that will aid the Vista Irrigation District in complying with Senate Bill 7 of the Seventh Extraordinary Session (SBX 7-7) which requires urban retail water suppliers to reduce urban per capita water use 20 percent by 2020 (20 X 2020); and

WHEREAS, a public hearing was held upon the proposed amended and renamed Drought Response Conservation Program at the regular meeting on June 1, 2011, at which all present were given an opportunity to be heard on the proposed amended and renamed Program; and

WHEREAS, the Board of Directors has considered the proposed amended and renamed Drought Response Conservation Program and the evidence and testimony presented at the June 1, 2011 public hearing.

NOW, THEREFORE, the Board of Directors of the Vista Irrigation District does resolve as follows:

ARTICLE ONE: The Drought Response Conservation Program is hereby renamed the Water Supply Response Program and is amended and restated, in its entirety as follows:

SECTION 1.0 DECLARATION OF NECESSITY AND INTENT

(a) This resolution establishes water management requirements necessary to conserve water, enable effective water supply planning, assure reasonable and beneficial use of water, prevent waste of water, prevent unreasonable use of water, prevent unreasonable method of use of water within the Vista Irrigation District in order to assure adequate supplies of water to meet the needs of the public, and further the public health, safety, and welfare, recognizing that water is a scarce natural resource that requires careful management not only in times of drought, but at all times.

(b) This resolution establishes regulations to be implemented at all times including during times of declared water shortages or declared water shortage emergencies. It establishes four levels of actions, with increasing restrictions on water use in response to worsening water supply conditions and decreasing available supplies.

(c) During Levels 1 through 4, all water-use efficiency practices, water conservation measures and water use restrictions are mandatory and become increasingly restrictive in order to attain escalating conservation goals.

(d) During all Levels, violations of water-use efficiency practices, water conservation measures and water use restrictions established by this resolution are subject to criminal, civil, and fees and remedies specified in this resolution.

SECTION 2.0 DEFINITIONS

(a) The following words and phrases whenever used in this chapter shall have the meaning defined in this section:

1. “Grower” refers to those engaged in the growing or raising, in conformity with recognized practices of husbandry, for the purpose of commerce, trade, or industry, or for use by public educational or correctional institutions, of agricultural, horticultural or floricultural products, and produced: (1) for human consumption or for the market, or (2) for the feeding of fowl or livestock produced for human consumption or for the market, or (3) for the feeding of fowl or livestock for the purpose of obtaining their products for human consumption or for the market. “Grower” does not refer to customers who purchase water subject to the Metropolitan Interim Agricultural Water Program or the Water Authority Special Agricultural Rate programs.

2. “District” means the Vista Irrigation District

3. “Water Authority” means the San Diego County Water Authority.

4. “Metropolitan” means the Metropolitan Water District of Southern California.

5. "Person" means any natural person, corporation, public or private entity, public or private association, public or private agency, government agency or institution, school district, college, university, or any other user of water provided by the District.

SECTION 3.0 APPLICATION

(a) The provisions of this resolution apply to any person in the use of any water provided by the District.

(b) This resolution is intended to maintain efficient water use practices and to further the conservation of water. It is not intended to implement any provision of federal, State, or local statutes, resolutions, or regulations relating to protection of water quality or control of drainage or runoff. Refer to the local jurisdiction or Regional Water Quality Control Board for information on any stormwater resolutions and stormwater management plans.

(c) Nothing in this resolution is intended to affect or limit the ability of the District to declare and respond to an emergency, including an emergency that affects the ability of the District to supply water.

(d) The provisions of this resolution do not apply to use of water from private wells or to recycled water.

(e) Nothing in this resolution shall apply to use of water that is subject to a special supply program, such as the Metropolitan Interim Agricultural Water Program or the Water Authority Special Agricultural Rate programs. Violations of the conditions of special supply programs are subject to the penalties established under the applicable program. A person using water subject to a special supply program and other water provided by the District is subject to this resolution in the use of the other water.

(f) When the General Manager has determined that the District's water supply is in a water emergency condition, everyone shall be required to reduce their water consumption as prescribed by the General Manager.

(g) The General Manager shall have the authority and discretion to interpret and apply the provisions set forth in the Water Supply Response Program as long as the interpretations and applications of the measures meet the intent and goals of the Program.

SECTION 4.0 LEVEL 1 – WATER EFFICIENCY

(a) Level 1 is also referred to as the “Water Efficiency” level. Level 1 applies at all times unless the District Board of Directors has declared another level, per the procedures set forth in this resolution. Level 1 is designed to ensure customers use water efficiently and eliminate water waste at all times.

(b) At Level 1, the District will utilize its public education and outreach efforts to raise public awareness of the following mandatory water-use efficiency practices:

1. No washing down paved surfaces, including but not limited to sidewalks, driveways, parking lots, tennis courts, or patios, except when it is necessary to alleviate safety or sanitation hazards or to maintain, repair, construct/reconstruct streets.
2. No water waste resulting from inefficient landscape irrigation, such as runoff, low head drainage, or overspray, etc. Similarly, water shall not flow onto non-targeted areas, such as adjacent property, non-irrigated areas, hardscapes, roadways, or structures.
3. Irrigate residential and commercial landscape before 10 a.m. and after 6 p.m. only. Irrigation of new turf and/or plantings is exempt from these watering hour restrictions for a period of thirty (30) days following the date of planting. Watering is permitted at any time with a hand-held hose equipped with a positive shut-off nozzle, a bucket, or when a drip/micro-irrigation system/equipment is used.
4. Irrigate nursery and commercial grower’s products before 10 a.m. and after 6 p.m. only. Watering is permitted at any time with a hand-held hose equipped with a positive shut-off nozzle, a bucket, or when a drip/micro-irrigation system/equipment is used. Irrigation of nursery propagation beds is permitted at any time. Watering of livestock is permitted at any time.
5. Use construction meters to irrigate landscape before 10 a.m. and after 6 p.m. Watering is permitted at any time with a hand-held hose equipped with a positive shut-off nozzle, a bucket, or when a drip/micro-irrigation system/equipment is used.
6. Use re-circulated water to operate ornamental fountains.
7. Wash vehicles using a bucket and a hand-held hose with positive shut-off nozzle, mobile high pressure/low volume wash system, or at a commercial site that re-circulates (reclaims) water on-site. Avoid washing during hot conditions when additional water is required due to evaporation.
8. Serve and refill water in restaurants and other food service establishments only upon request.

9. Offer guests in hotels, motels, and other commercial lodging establishments the option of not laundering towels and linens daily.

10. Repair all water leaks within five (5) days of notification by the District unless other arrangements are made with the General Manager.

11. Use recycled or non-potable water for construction purposes when available.

SECTION 5.0 LEVEL 2 – WATER CONSERVATION

(a) A Level 2 may be declared when the Water Authority notifies its member agencies that due to cutbacks caused by drought or other reduction in supplies, a consumer demand reduction of up to 20 percent is required in order to have sufficient supplies available to meet anticipated demands. The District Board of Directors may declare Level 2 and implement the mandatory Level 2 conservation measures identified in this resolution to achieve a consumer demand reduction of up to 20%. The General Manager shall have the authority and discretion to implement water conservation measures commensurate with the level of demand reduction required and/or the reduction targets achieved, as described in Section 5 (b) below. The General Manager shall inform the Board of Directors of the status of the implementation of the measures set forth in this section and the resulting water conservation in a timely manner.

(b) All persons using District water shall comply with Level 1 water-use efficiency practices during Level 2, and shall also comply with the following additional conservation measures:

1. Limit residential and commercial landscape irrigation to assigned days per week on a schedule established by the General Manager and posted by the District. This section shall not apply to landscape irrigation systems using weather based controllers, or commercial growers or nurseries.

2. Limit lawn watering and landscape irrigation using sprinklers to time limits per watering station per assigned day as established by the General Manager and posted by the District. This provision does not apply to landscape irrigation systems using water efficient devices, including but not limited to: weather based controllers, drip/micro-irrigation systems and stream rotor sprinklers.

3. Turf and/or plant establishment is allowed if required by a landscape permit or necessary for erosion control, landscape renovation after a natural disaster, or establishment, repair or renovation of public use fields for schools or parks. New turf and/or plantings are exempt from irrigation limitations set forth in sections 4 (b) (3), 5 (b) (1) and 5 (b) (2) for a period of thirty (30) days following the date of planting.

4. Water landscaped areas, including trees and shrubs located on residential and commercial properties, and not irrigated by a landscape irrigation system governed by section 5 (b) (1), on the same schedule set forth in section 5 (b) (1) by using a bucket, hand-held hose with positive shut-off nozzle, or low-volume non-spray irrigation.

5. Repair all leaks within seventy-two (72) hours of notification by the District unless other arrangements are made with the General Manager.

SECTION 6.0 LEVEL 3 – WATER SHORTAGE

(a) Level 3 may be declared when the Water Authority notifies its member agencies that due to increasing cutbacks caused by drought or other reduction of supplies, a consumer demand reduction of up to 40 percent is required in order to have sufficient supplies available to meet anticipated demands. The District Board of Directors may declare Level 3 and implement the Level 3 conservation measures identified in this resolution to achieve a consumer demand reduction of up to 40%. The General Manager shall have the authority and discretion to implement water conservation measures commensurate with the level of demand reduction required and/or the reduction targets achieved, as described in Section 6 (b) below. The General Manager shall inform the Board of Directors of the status of the implementation of the measures set forth in this section and the resulting water conservation in a timely manner.

(b) All persons using District water shall comply with Level 1 water-use efficiency practices and Level 2 water conservation practices during Level 3 and shall also comply with the following additional mandatory conservation measures:

1. Stop filling or re-filling ornamental lakes or ponds, except to the extent needed to sustain aquatic life, provided that such animals are of significant value and have been actively managed within the water feature prior to declaration of another level under this resolution.

2. Stop operating ornamental fountains or decorative water features which discharge into the air a spray, mist, jet or stream of water. These types of fountains and water features may be operated on a limited basis for maintenance purposes only. All water features that have flowing or cascading water, whether decorative or otherwise, shall be maintained so as to prevent leaking and may only be refilled to replace normal evaporation. The operation of fountains and water features that do not use re-circulated water is prohibited.

3. Stop washing vehicles except at commercial carwashes that re-circulate water, or by high pressure/low volume wash systems.

4. Repair all leaks within forty-eight (48) hours of notification by the District unless other arrangements are made with the General Manager.

(c) Upon the declaration of Level 3, no new potable water service shall be provided, no new temporary meters or permanent meters shall be provided, and no statements of immediate ability to serve or provide potable water service (such as, will serve letters, certificates, or letters of availability) shall be issued, except under the following circumstances:

1. A valid, unexpired building permit has been issued for the project; or
 2. The project is necessary to protect the public's health, safety, and welfare;
- or
3. The applicant provides substantial evidence of an enforceable commitment that water demands for the project will be offset prior to the provision of a new water meter(s) to the satisfaction of District.

This provision shall not be construed to preclude the resetting or turn-on of meters to provide continuation of water service or to restore service that has been interrupted for a period of one year or less.

(d) Upon the declaration of Level 3, District will suspend consideration of annexations to its service area.

(e) The District may establish a water allocation for property served by the District using a method that does not penalize persons for the implementation of conservation methods or the installation of water saving devices. If the District establishes a water allocation it shall provide notice of the allocation by including it in the regular billing statement for the fee or charge or by any other mailing to the address to which the District customarily mails the billing statement for fees or charges for on-going water service. Following the effective date of the water allocation as established by the District, any person that uses water in excess of the allocation shall be subject to a penalty for each billing unit of water in excess of the allocation. The penalty for excess water usage shall be cumulative to any other remedy or fee that may be imposed for violation of this resolution.

SECTION 7.0 LEVEL 4 – WATER EMERGENCY

(a) Level 4 applies when the Water Authority Board of Directors declares a water shortage emergency pursuant to California Water Code section 350 and notifies its member agencies that Level 4 requires a demand reduction of more than 40 percent in order for the District to maximize supplies available to meet anticipated demands. The District Board of Directors shall declare a Level 4 emergency in the manner and on the grounds provided in California Water Code section 350.

(b) All persons using District water shall comply with water-use efficiency practices and conservation measures required under Level 1, Level 2, and Level 3 and shall also comply with the following additional mandatory conservation measures:

1. Stop all residential and commercial landscape irrigation, unless the District has determined that recycled water is available and may be lawfully applied to the use. This restriction shall not apply to the following categories of use.

A. Maintenance of trees and shrubs that are watered on the same schedule set forth in section 6 (b) (1) by using a bucket, hand-held hose with a positive shut-off nozzle, or low-volume non-spray irrigation;

B. Maintenance of existing landscaping necessary for fire protection as specified by the Fire Marshal of the local fire protection agency having jurisdiction over the property to be irrigated;

C. Maintenance of existing landscaping for erosion control;

D. Maintenance of plant materials identified to be rare or essential to the well being of rare animals;

E. Maintenance of landscaping within active public parks and playing fields, day care centers, school grounds, cemeteries, and golf course greens, provided that such irrigation does not exceed two (2) days per week according to the schedule established under section 6 (b) (1);

F. Watering of livestock; and

G. Public works projects and actively irrigated environmental mitigation projects.

H. Irrigation of crops and landscape products of commercial growers and nurseries.

2. Repair all water leaks within twenty-four (24) hours of notification by the District unless other arrangements are made with the General Manager.

(c) The District may establish a water allocation for property served by the District. If the District establishes a water allocation it shall provide notice of the allocation by including it in the regular billing statement for the fee or charge or by any other mailing to the address to which the District customarily mails the billing statement for fees or charges for on-going water service. Following the effective date of the water allocation as established by the District, any person that uses water in excess of the allocation shall be subject to a penalty for each billing unit of water in excess of the allocation. The penalty for excess water usage shall be cumulative to any other remedy or fee that may be imposed for violation of this resolution.

**SECTION 8.0 PROCEDURES FOR DETERMINATION AND NOTIFICATION
OF LEVEL OF ACTION**

(a) Level 1 under this Program applies at all times unless the District Board of Directors has declared Level 2, 3 or 4, per the procedures set forth in this section. The District shall, at a minimum, provide notice of a Level 1 declaration and condition by news release and by posting information on the District's website.

(b) The existence of a Level 2 or Level 3 may be declared by resolution of the District Board of Directors adopted at a regular or special public meeting held in accordance with State law. The mandatory conservation measures applicable to Level 2 or Level 3 shall take effect on the tenth (10) day after the date the response level is declared. Within five (5) days following the declaration of the level, the District shall publish a copy of the resolution in a newspaper used for publication of official notices.

(c) The existence of Level 4 may be declared in accordance with the procedures specified in California Water Code sections 351 and 352. The mandatory conservation measures applicable to Level 4 shall take effect on the tenth (10) day after the date the response level is declared. Within five (5) days following the declaration of the level, the District shall publish a copy of the resolution in a newspaper used for publication of official notices. If the District establishes a water allocation, it shall provide notice of the allocation by including it in the regular billing statement for the fee or charge or by any other mailing to the address to which the District customarily mails the billing statement for fees or charges for on-going water service. Water allocation shall be effective on the fifth (5) day following the date of mailing or at such later date as specified in the notice.

(d) The District Board of Directors may declare an end to a level by the adoption of a resolution at any regular or special meeting held in accordance with State law.

SECTION 9.0 NON-COMPLIANCE AND FEES

(a) Any person, who uses, causes to be used, or permits the use of water in violation of this resolution is guilty of an offense punishable as provided herein.

(b) Each day that a violation of this resolution occurs is a separate offense.

(c) Water Conservation Fees, as set forth in Section 4.4.17 of the District's Rules and Regulations, may be levied for each violation of a provision of this resolution as follows:

1. A first violation of any provision of this resolution shall result in a letter of warning.

2. A second violation of any provision of this resolution within one year shall result in the assessment of a Water Conservation Fee.

3. A third violation of this resolution within one year shall result in the assessment of an additional Water Conservation Fee.

4. Four or more violations of any provision of this resolution shall result in the assessment of additional Water Conservation Fees.

(d) Violation of a provision of this resolution is subject to enforcement through installation of a flow-restricting device in the meter. The cost of installing and removing a flow-restricting device will be paid for by the person, who uses, causes to be used, or permits the use of water in violation of this resolution.

(e) Each violation of this resolution may be prosecuted as a misdemeanor punishable by imprisonment in the county jail for not more than thirty (30) days or by a fine not exceeding \$1,000, or by both as provided in Water Code section 377.

(f) Willful violations of the mandatory conservation measures and water use restrictions as set forth in Section 7.0 and applicable during Level 4 may be enforced by discontinuing service to the property at which the violation occurs as provided by Water Code section 356. The cost of disconnecting and re-connecting water service be paid for by the person, who uses, causes to be used, or permits the use of water in violation of this resolution.

(g) All fees and costs associated with installing and removing a flow-restricting device and disconnecting and re-connecting water service will be added to the account of the person, who uses, causes to be used, or permits the use of water in violation of this resolution. Fees and costs will appear on and be payable with the first billing statement for the period the violation occurred and be subject to the same remedies that are imposed by the District for failure to pay other charges.

(h) All remedies provided for herein shall be cumulative and not exclusive.

SECTION 10.0 APPEALS

(a) Any person complaining about fees and/or other remedies applied in accordance with Section 9 of this resolution shall have that complaint be first taken up with the General Manager before any action will be taken by the District's Board of Directors.

(b) The General Manager's determination may be appealed in writing within ten days of the mailing of a notice of determination. Any determination not timely appealed shall be final.

(c) The person appealing the General Manager's determination shall submit a written request to the Board Secretary to have his or her appeal considered as an item for discussion and action at an upcoming Board meeting. The written request shall include: 1) a description of the issues, 2) evidence supporting the claim, and 3) a request for resolution of the dispute.

(d) The District shall at least ten days before the date of the hearing mail an appropriate notice of the regular or special meeting at which the appeal will be heard. The Board may, in its discretion, affirm, reverse or modify the determination.

ARTICLE TWO:

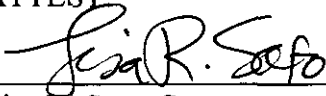
This resolution shall take effect immediately upon adoption or as otherwise established by State law for Vista Irrigation District. The 2001 Ordinance Sections were rescinded and repealed effective February 18, 2009. Where any of the 2001 Ordinance Sections are referenced and/or incorporated in or as part of any ordinance, other resolutions, or documents, the provisions of this resolution shall apply in place and instead of 2001 Ordinance Sections. If a conflict exists or arises between any provisions set forth in this resolution and any set forth in any ordinances or other resolutions, the provisions in this resolution shall take precedence.

PASSED AND ADOPTED by the following roll call vote of the Board of Directors of the Vista Irrigation District this 1st day of June, 2011:

AYES: Directors Vásquez, Dorey, Williams, and MacKenzie
NOES: None
ABSTAIN: None
ABSENT: Director Miller



Jo Mackenzie, President

ATTEST:


Lisa R. Soto, Secretary
Board of Directors
Vista Irrigation District

RESOLUTION NO. 10-42

RESOLUTION OF THE VISTA IRRIGATION DISTRICT
AMENDING RULES AND REGULATIONS PERTAINING TO THE
SPECIAL AGRICULTURAL WATER RATE

WHEREAS, the Board of Directors of the San Diego County Water Authority approved continuing the stand-alone transitional Special Agricultural Water Rate two additional years on March 25, 2010; and

WHEREAS, the Board of Directors of the Vista Irrigation District approved participation in San Diego County Water Authority's stand-alone transitional Special Agricultural Water Rate; and

WHEREAS, participation in this program necessitates that rules and regulations be amended pursuant to stand-alone transitional Special Agricultural Water Rate requirements.

WHEREAS, upon the effective date of this resolution, the rules and regulations pertaining to the Special Agricultural Water Rate contained in Resolution No. 08-53 shall be repealed and replaced with provisions set forth herein.

NOW, THEREFORE, BE IT RESOLVED by the Board of Directors of the Vista Irrigation District, as follows:

SPECIAL AGRICULTURAL WATER RATE

1.1 Definitions

- A. *CWA*: San Diego County Water Authority.
- B. *Interim Agricultural Water Program*: The Interim Agricultural Water Program (IAWP) is an agricultural water discount program offered by the Metropolitan Water District of Southern California.
- D. *MWD*: Metropolitan Water District of Southern California.
- E. *Owner*: Owner of Record per the County of San Diego.
- F. *Reduction in Delivery*: Reduction in delivery to these customers will be a minimum of thirteen percent (13%) regardless of MWD's municipal and industrial cutback level. At least a five percent (5%) differential between CWA's municipal and industrial cutback level and the Special Agricultural Water Rate cutback level will be maintained.
- G. *Special Agricultural Water Rate (SAWR)*: The SAWR adopted by CWA's Board on October 23, 2008 and extended on March 25, 2010, wherein an agricultural water discount for treated water and untreated water shall be applied to water purchased by those water agencies participating in the SAWR.
- H. *VID*: Vista Irrigation District

- 1.2 Qualification to Participate in this Program: Only customers terminating participation in the IAWP are eligible to participate in the SAWR. The rules require that the program be limited to water used for: "The growing or raising, in conformity with recognized practices of husbandry, for the purposes of commerce, trade, or industry, of agricultural, horticultural, or floricultural products, and produced: (1) for human consumption or for the market; (2) for the feeding of fowl or livestock produced for human consumption or for the market; or (3) for the feeding of fowl or livestock for the purpose of obtaining their products for human consumption or for the market, such products to be grown are raised on a parcel of land having an area of not less than one acre utilized exclusively therefore."
- 1.3 Duration of Program: The SAWR program expires on December 31, 2012. Once an owner has entered into this program, the owner's land will be subject to the conditions of this program for the duration of the program unless the agricultural owner's lands no longer qualify for the program or the owner terminates participation in the program, subject to the conditions specified below. It is the intent of the VID Board of Directors that the benefits and obligations of the program shall run with the land and not with the owner, and it is the responsibility of the owner to disclose that the land is subject to this program.
- 1.4 Request to Terminate Participation in Program: Owners enrolling in the program in 2011 will be able to terminate participation (opt-out) in the program effective January 1, 2012. Request to terminate participation received in 2011 will be effective beginning January 1, 2012. SAWR reductions will continue to be enforced through the end of the calendar year in which the request to terminate participation is received. Once an owner terminates participation in the program, he/she may not re-enroll.
- 1.5 Amount of Discount to be Passed on to District Agricultural Customers: A discounted commodity rate will be applied to each individual agricultural account in an amount equal to the SAWR discount received from CWA. VID will use a melded rate, based on the SAWR for treated and untreated water, as the discount.
- 1.6 Parcels served by multiple meters: If a parcel qualifying under this program is served by more than one meter, then all meters shall be considered included in this program and will be subject to a Reduction in Delivery.
- 1.7 Agricultural Meters Serving One or More Homes: When a meter supplies water to a parcel qualifying under this program which contains one or more residences, the first 26 units of water delivered per month shall be considered domestic water and shall be billed at the District's domestic water rate. The SAWR shall only apply to that water used after the first 26 units of water per month.
- 1.8 Execution of Program Forms: The Certification and Acknowledgment Form must be signed by the owner of the property and shall be recorded against the property. In cases where the owner has given the proper power of attorney to an agent, the agent may execute the Certification and Acknowledgment Form by providing a copy of the power of attorney to the District.
- 1.9 Verification of Program Qualifications: The District may require proof that the agricultural products raised by the owner were produced for human consumption or for the market by furnishing the District with copies of bills of sale or other documentation acceptable to the District.

- 1.10 Liability for SAWR Penalties and Charges as Required by VID: Should VID determine that water purchased under this program was done so under the basis of incorrect information supplied by the applicant or used for purposes other than agricultural purposes as defined in Section 1.2, VID may assess penalties and charges. The District shall assess the then current owner these rates, penalties and charges even though the then current owner may not have been the owner executing the Certification and Acknowledgment Form.
- 1.11 Interruption in Delivery of Water: The owner shall certify and acknowledge by executing the Certification and Acknowledgment Form or Request to Terminate Participation Form that he/she further acknowledges that his/her parcel is subject to reductions in delivery up to full interruption based on water supply conditions as determined by VID. For owners who have terminated participation in the program after January 1 of a given year, the condition that their parcels are subject to reductions in delivery up to full interruption remain in place until January 1 of the following calendar year.
- 1.12 VID Matching Agricultural Rate: The VID Board authorizes a matching reduction in water rates for local water to any agricultural customer participating in CWA's SAWR program.
- 1.13 Non-Compliance, Penalty Water Rates and Fees
- A. Any person, who uses, causes to be used, or permits the use of water in violation of this resolution is guilty of an offense punishable as provided herein.
 - B. Each day that a violation of this resolution occurs is a separate offense.
 - C. Water usage in excess of required reductions, as set forth in Section 1.1 F, will be billed at the SAWR plus a penalty water rate.
 - D. Water Conservation Fees, as set forth in Section 4.4.17 of the District's Rules and Regulations, may be levied for each violation of a provision of this resolution as follows:
 - 1. A first violation of any provision of this resolution shall result in a letter of warning.
 - 2. A second violation of any provision of this resolution within one year shall result in the assessment of Water Conservation Fee.
 - 3. A third violation of this resolution within one year shall result in the assessment of an additional Water Conservation Fee.
 - 4. Four or more violations of any provision of this resolution shall result in the assessment of an additional Water Conservation Fee.
 - E. Violation of a provision of this resolution is subject to enforcement through installation of a flow-restricting device in the meter. The cost of installing and removing a flow-restricting device will be paid for by the person, who uses, causes to be used, or permits the use of water in violation of this resolution.


- F. All fees and costs associated with installing and removing a flow-restricting device and disconnecting and re-connecting water service will be added to the account of the person, who uses, causes to be used, or permits the use of water in violation of this resolution. Fees and costs will appear on and be payable with the first billing statement for the period the violation occurred and be subject to the same remedies that are imposed by the District for failure to pay other charges.
- G. All remedies provided for herein shall be cumulative and not exclusive. In addition, remedies may be invoked, combined, or accelerated based on the timing and severity of the violation.

1.14 Appeals

- A. Any person complaining about fees and/or other remedies applied in accordance with Section 1.13 shall have that complaint be first taken up with the General Manager before any action will be taken by the District's Board of Directors.
- B. The General Manager's determination may be appealed in writing within ten days of the mailing of a notice of determination. Any determination not timely appealed shall be final.
- C. The person appealing the General Manager's determination shall submit a written request to the Board Secretary to have his or her appeal considered as an item for discussion and action at an upcoming Board meeting. The written request shall include: 1) a description of the issues, 2) evidence supporting the claim, and 3) a request for resolution of the dispute.
- D. The District shall at least ten days before the date of the hearing mail an appropriate notice of the regular or special meeting at which the appeal will be heard. The Board may, in its discretion, affirm, reverse or modify the determination.

PASSED AND ADOPTED by the Board of Directors of the Vista Irrigation District this 20th day of October 2010, by the following roll call vote:

AYES: Directors Miller, Vásquez, Dorey, MacKenzie, and Williams
 NOES: None
 ABSTAIN: None
 ABSENT: None



 Howard S. Williams, President

ATTEST:



Lisa R. Soto, Secretary
 Board of Directors
 VISTA IRRIGATION DISTRICT

RESOLUTION NO. 10-43

RESOLUTION OF THE VISTA IRRIGATION DISTRICT
AMENDING EXISTING RULES AND REGULATIONS PERTAINING TO THE
INTERIM AGRICULTURAL WATER PROGRAM

WHEREAS, the Board of Directors of the Vista Irrigation District (VID) adopted rules and regulations pertaining to Metropolitan Water District of Southern California's (MWD) Interim Agricultural Water Program (IAWP) on November 19, 2008; and

WHEREAS, Section 1.13, Non-Compliance, Penalty Water Rate and Fees, of the rules and regulations pertaining to the IAWP includes a reference to the fee section contained in VID's Rules and Regulations and lists specific Water Conservation Fee amounts; and

WHEREAS, each time the Board of Directors approves new fee amounts, the Board of Directors is required to amend IAWP rules and regulations to incorporate the new fee amounts; and

WHEREAS, amending the IAWP rules and regulations to remove the Water Conservation Fee amounts and replace them with language referencing the fee amounts contained in VID's Rules and Regulations eliminates the need to amend the IAWP rules and regulations to incorporate revisions to fee amounts; and

WHEREAS, upon the effective date of this resolution, the rules and regulations pertaining to the IAWP contained in Resolution No. 08-52 shall be repealed and replaced with provisions set forth herein.

NOW, THEREFORE, BE IT RESOLVED by the Board of Directors of the Vista Irrigation District, as follows:

INTERIM AGRICULTURAL WATER PROGRAM

1.1 Definitions

- A. *Owner*: Owner of Record per the County of San Diego.
- B. *Interim Agricultural Water Program*: The Interim Agricultural Water Program (IAWP) adopted by the Board of Directors of the Metropolitan Water District of Southern California on May 10, 1994, renewed on September 10, 1996, extended on March 12, 2002, and amended on October 14, 2008, wherein an agricultural water discount for treated water and untreated water shall be applied to water purchased by those water agencies participating in the IAWP.
- C. *Interim Agricultural Water Program Certification and Acknowledgment Form*: A Vista Irrigation District form on which the owner of qualifying agricultural lands certifies that his/her land qualifies for the IAWP and acknowledges that by participating in this program, his/her property is subject to reduction in delivery up to the full interruption based upon water supply conditions as determined by VID.
- D. *MWD*: Metropolitan Water District of Southern California.
- E. *CWA*: San Diego County Water Authority.

- F. *Reduction in Delivery:* Participants in this program may be first in line to have a percentage of their normal water supply "interrupted" due to a declared drought. Under the program, the following reductions may be enforced:

Regional Shortage Level	Regional Shortage Percentage	2008	2009	2010	2011	2012
	Voluntary	Up To 30%		Up To 24%	Up To 18%	Up To 11%
1	5%	30%	30%	24%	18%	11%
2	10%	30%	30%	25%	20%	15%
3	15%	40%	40%	34%	28%	21%
4	20%	50%	50%	43%	35%	28%
5	25%	75%	75%	63%	50%	38%
6	30%	100%	100%	75%	60%	45%
7	35%	100%	100%	84%	68%	51%
8	40%	100%	100%	85%	70%	55%
9	45%	100%	100%	86%	73%	59%
10	50%	100%	100%	88%	75%	63%

These reductions apply to all agricultural water supplied by the Vista Irrigation District. In any case, the Vista Irrigation District reserves the right to enforce any reduction in water deliveries to the Vista Irrigation District's agricultural customers which it receives from either MWD or CWA.

- G. *Request to Terminate Participation Form:* A Vista Irrigation District form on which the owner requests termination of participation in the IAWP and acknowledges that by terminating participation in this program, his/her water commodity rate will increase to the domestic water rate and that he/she will not be able to re-enroll in the program.

H. *VID:* Vista Irrigation District

- 1.2 Qualifications to Participate in this Program: Agricultural customers of the Vista Irrigation District who utilized IAWP water in fiscal year 2007 and qualify under the rules may participate in this program. The rules require that the program be limited to water used for: "The growing or raising, in conformity with recognized practices of husbandry, for the purposes of commerce, trade, or industry, of agricultural, horticultural, or floricultural products, and produced: (1) for human consumption or for the market; (2) for the feeding of fowl or livestock produced for human consumption or for the market; or (3) for the feeding of fowl or livestock for the purpose of obtaining their products for human consumption or for the market, such products to be grown or raised on a parcel of land having an area of not less than one acre utilized exclusively therefore."
- 1.3 Duration of Program: The IAWP is being phased-out over four calendar years resulting in the termination of the program on December 31, 2012. Once an agricultural owner has entered into this program, the owner's land will be subject to the conditions of this program for the duration of the program unless the agricultural owner's lands no longer qualify for the program or the owner terminates participation in the program, subject to the conditions specified below. It is the intent of the Vista Irrigation District Board of Directors that the benefits and obligations of the

program shall run with the land and not with the owner, and it is the responsibility of the owner to disclose that the land is subject to this program.

- 1.4 Request to Terminate Participation in Program: Owners can terminate participation (opt-out) in the program each January, until the program ends on December 31, 2012. Request to terminate participation received in a given year will be effective beginning January 1 of the following calendar year. IAWP reductions will continue to be enforced through the end of the calendar year in which the request to terminate participation is received. On the effective date of the request to terminate participation, the owner will pay the full domestic water rate and not be subject to reduction in deliveries associated with IAWP. Once an owner terminates participation in the program, he/she may not re-enroll.
- 1.5 Amount of Discount to be Passed on to District Agricultural Customers: A discounted commodity rate will be applied to each individual agricultural account in an amount equal to the interim agricultural water rate discount received from MWD. VID will use a melded rate, based on the interim agricultural water rates for treated and untreated water, as the discount.
- 1.6 Parcels served by multiple meters: If a parcel qualifying under this program is served by more than one meter, then all meters shall be considered included in this program and will be subject to a Reduction in Delivery.
- 1.7 Agricultural Meters Serving One or More Homes: When a meter supplies water to a parcel qualifying under this program which contains one or more residences, the first 26 units of water delivered per month shall be considered domestic water and shall be billed at the District's domestic water rate. The Interim Agricultural Discount shall only apply to that water used after the first 26 units of water per month.
- 1.8 Execution of Program Forms: The Certification and Acknowledgment Form and Request to Terminate Participation Form must be signed by the owner of the property and shall be recorded against the property. In cases where the owner has given the proper power of attorney to an agent, the agent may execute the Certification and Acknowledgment Form or Request to Terminate Participation Form by providing a copy of the power of attorney to the District.
- 1.9 Verification of Program Qualifications: The District may require proof that the agricultural products raised by the owner were produced for human consumption or for the market by furnishing the District with copies of bills of sale or other documentation acceptable to the District.
- 1.10 Liability for Interim Agricultural Discount Penalties and Charges as Required by VID: Should VID determine that water purchased under this program was done so under the basis of incorrect information supplied by the applicant or used for purposes other than agricultural purposes as defined in Section 1.2, VID may assess penalties and charges. The District shall assess the then current owner these rates, penalties and charges even though the then current owner may not have been the owner executing the Certification and Acknowledgment Form. The District shall immediately disqualify that parcel from participating in the program.

- 1.11 Interruption in Delivery of Water: The owner shall certify and acknowledge by executing the Certification and Acknowledgment Form or Request to Terminate Participation Form that he/she further acknowledges that his/her parcel is subject to reductions in delivery up to full interruption based on water supply conditions as determined by VID. For owners who have terminated participation in the program after January 1 of a given year, the condition that their parcels are subject to reductions in delivery up to full interruption remain in place until January 1 of the following calendar year .
- 1.12 VID Matching Agricultural Rate: The VID Board authorizes a matching reduction in water rates for local water to any agricultural customer participating in MWD's IAWP.
- 1.13 Non-Compliance, Penalty Water Rate and Fees
- A. Any person, who uses, causes to be used, or permits the use of water in violation of this resolution is guilty of an offense punishable as provided herein.
 - B. Each day that a violation of this resolution occurs is a separate offense.
 - C. Water usage in excess of required reductions, as set forth in Section 1.1 F, will be billed at the IAWP rate plus a penalty water rate.
 - D. Water Conservation Fees, as set forth in Section 4.4.17 of the District's Rules and Regulations, may be levied for each violation of a provision of this resolution as follows:
 - 1. A first violation of any provision of this resolution shall result in a letter of warning.
 - 2. A second violation of any provision of this resolution within one year shall result in the assessment of a Water Conservation Fee.
 - 3. A third violation of this resolution within one year shall result in the assessment of an additional Water Conservation Fee.
 - 4. Four or more violations of any provision of this resolution shall result in the assessment of an additional Water Conservation Fee.
 - E. Violation of a provision of this resolution is subject to enforcement through installation of a flow-restricting device in the meter. The cost of installing and removing a flow-restricting device will be paid for by the person, who uses, causes to be used, or permits the use of water in violation of this resolution.
 - F. All fees and costs associated with installing and removing a flow-restricting device and disconnecting and re-connecting water service will be added to the account of the person, who uses, causes to be used, or permits the use of water in violation of this resolution. Fees and costs will appear on and be payable with the first billing statement for the period the violation occurred and be subject to the same remedies that are imposed by the District for failure to pay other charges.


- G. All remedies provided for herein shall be cumulative and not exclusive. In addition, remedies may be invoked, combined, or accelerated based on the timing and severity of the violation.

1.14 Appeals

- A. Any person complaining about fees and/or other remedies applied in accordance with Section 1.13 shall have that complaint be first taken up with the General Manager before any action will be taken by the District's Board of Directors.
- B. The General Manager's determination may be appealed in writing within ten days of the mailing of a notice of determination. Any determination not timely appealed shall be final.
- C. The person appealing the General Manager's determination shall submit a written request to the Board Secretary to have his or her appeal considered as an item for discussion and action at an upcoming Board meeting. The written request shall include: 1) a description of the issues, 2) evidence supporting the claim, and 3) a request for resolution of the dispute.
- D. The District shall at least ten days before the date of the hearing mail an appropriate notice of the regular or special meeting at which the appeal will be heard. The Board may, in its discretion, affirm, reverse or modify the determination.

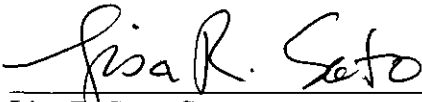
PASSED AND ADOPTED by the Board of Directors of the Vista Irrigation District this 20th day of October 2010, by the following roll call vote:

AYES: Directors Miller, Vásquez, Dorey, MacKenzie, and Williams
NOES: None
ABSTAIN: None
ABSENT: None



Howard S. Williams, President

ATTEST:



Lisa R. Soto, Secretary

Board of Directors

VISTA IRRIGATION DISTRICT