

Otay Water District



2005 Urban Water Management Plan

Prepared by
Otay Water District
and
MWH Americas, Inc.





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Abbreviations

Act	Urban Water Management Planning Act
AF	acre-feet
AF/yr	acre-feet per year
BMP	Best Management Practice
CII	Commercial/Industrial/Institutional
CIMIS	California Irrigation Management Information System
CLIP	Commercial Landscape Incentive Program
CUWCC	California Urban Water Conservation Council
District	Otay Water District
DWR	California Department of Water Resources
ERP	Emergency Response Plan
ESP	Emergency Storage Project
FCF	Flow Control Facility
FY	Fiscal Year
gpd	gallons per day
GIS	Geographical Information System
HEW	High-Efficiency Washer
IID	Imperial Irrigation District
IRP	Integrated Resources Plan
IRWMP	Integrated Regional Water Management Plan
LMSE	La Mesa-Sweetwater Extension (pipeline)
mgd	million gallons per day
mg/L	milligrams per liter
Metropolitan	Metropolitan Water District of Southern California
MOU	Memorandum of Understanding
MTBE	Methyl Tertiary Butyl Ether
MWWD	Metropolitan Wastewater Department, City of San Diego
PALM	Professional Assistance for Landscape Management
QSA	Quantification Settlement Agreements
RO	Reverse Osmosis
RWCWRF	Ralph W. Chapman Water Recycling Facility
SANDAG	San Diego Association of Governments
SB	Senate Bill
SBWRP	South Bay Water Reclamation Plant
SCADA	Supervisory Control and Data Acquisition
SPV	San Pasqual Valley
SWP	State Water Project
TDS	Total Dissolved Solids
TOC	Total Organic Carbon
ULFT	Ultra Low Flow Toilet
UMWP	Urban Water Management Plan
VIP	Voucher Incentive Program
Water Authority	San Diego County Water Authority
WBIC	Weather-Based Irrigation Controller
WTP	Water Treatment Plant

1. Introduction

Since 1984, California's Urban Water Management Planning Act (Act) has required each urban water supplier in the state to prepare an urban water management plan (UWMP). The requirement applies to each urban water supplier that provides water for municipal purposes either directly or indirectly to more than 3,000 customers or supplies more than 3,000 acre-feet (AF) of water annually. These agencies must update their urban water management plan at least once every five years on or before December 31, in years ending in five and zero. Sections 10610 through 10657 of the California Water Code detail the information that must be included in these plans. In accordance with the Act, the Otay Water District (District) is required to update and adopt its plan for submittal to the California Department of Water Resources (DWR) by December 31, 2005. **Appendix A** contains the text of the Act.

This report has been organized to follow the UWMP guidance manual prepared by DWR. It includes projections of the District's future demands and supplies, based on estimates of future growth in the District's service area. It also discusses the steps the District has taken to promote water conservation and ensure water is being used wisely. The strategies outlined in this report are intended to allow the District to continue to provide a safe and reliable water supply to its customers.

The District maintains its records of water use on a fiscal year (FY) that runs from July 1 through June 30. For example, FY 2005 runs from July 1, 2004 through June 30, 2005. In this document, projections of water demand over the course of a year are reported for fiscal years. For estimates that are based on an instantaneous value and not a year-long accumulation (for example, the service area population), values are assumed to be valid on January 1 of the corresponding year.

1.1 Agency Coordination

The District is a member public agency of the San Diego County Water Authority (Water Authority), and the Water Authority is a member public agency of the Metropolitan Water District of Southern California (Metropolitan). The statutory relationships between these agencies establish the District's entitlements to receive imported water.

The District joined the Water Authority as a member agency in 1956. The Water Authority is responsible for the supply of imported water into the San Diego County through its membership in Metropolitan. The District receives imported potable water from the aqueduct systems owned and operated by the Water Authority and Metropolitan. Together, these agencies work to ensure a diverse and reliable supply for the San Diego region.

Effective water planning for the Water Authority and its member agencies requires consistent projections of supply and demand. The Water Authority facilitated an Urban

Water Management Plan Working Group made up of staff from the Water Authority and its member agencies. This group provided a forum for exchanging demand and supply information. In addition, DWR and the California Urban Water Conservation Council (CUWCC) hosted a special workshop to review the requirements of the Act. At a separate workshop, the Working Group received a briefing from Metropolitan on its regional plan, and participants discussed strategies for coordination between the supply agencies. The District participated in several workshops and meetings, providing water supply and demand information as well as recycled water opportunities.

Also, in accordance with the Act, the District notified the land use jurisdictions (City of Chula Vista, City of San Diego and County of San Diego) within its service area that it was preparing the 2005 UWMP. Prior to adoption, the District mailed the 2005 UWMP to stakeholders including the Water Authority, the City of Chula Vista, the County of San Diego, and the City of San Diego. The notice and draft 2005 UWMP was also mailed to seven planning groups listed in Table 1, and to seven libraries either within or near the District's service area. The 2005 UWMP was first presented at a Water Resources Committee Meeting of the District's Board of Directors. A Public Hearing regarding the 2005 UWMP was held on November 7, 2005. Notices of the meeting were published in the San Diego Union-Tribune and The Star News on October 21 and October 28, 2005. Notices were also published in the East County Californian on October 20 and October 27, 2005. The District's Board of Directors adopted its final UWMP on December 7, 2005. The adoption resolution is included in **Appendix B**.

These coordination efforts are summarized in Table 1.

Table 1. Coordination with Appropriate Agencies

	Participated in UWMP development	Commented on the draft	Attended public meetings	Contacted for assistance	Received copy of draft	Sent notice of intention to adopt
San Diego County Water Authority	X			X	X	X
City of San Diego					X	X
City of Chula Vista					X	X
County of San Diego					X	X
Chula Vista Planning Commission					X	X
Crest/Dehesa Planning Group					X	X
Jamul/Dulzura Planning Group					X	X
Otay Mesa Planning Group					X	X
Spring Valley Community Planning Group					X	X
Sweetwater Planning Group					X	X
Valle de Oro Planning Group					X	X
Seven local libraries					X	

1.2 Resource Maximization

The District’s commitment to maximizing resources is reflected in its mission statement, which is,

to provide safe, reliable water and wastewater services to our community with innovation, in a cost-efficient, water-wise and environmentally responsible manner.

For many years, the District has worked to reduce its reliance on imported water, and in particular treated imported water. On August 3, 1994, the District’s Board of Directors established a goal of being able to meet 40% of annual demands from local water sources when water is unavailable from the Water Authority. The District and the Water Authority formed a policy in 1976 to provide the District with treated water from the Helix Water District when the District’s normal treated water supply is unavailable. A similar arrangement made with the City of San Diego in 1999 provides the District access to treated water from the City’s Otay Water Treatment Plant (WTP). The District has also aggressively developed its recycled water distribution system and has entered into an

agreement to purchase recycled water from the City of San Diego. These water sources are further discussed in Section 2.3.

Water conservation is also an important component of the District's commitment to reducing reliance on imported water. In partnership with the Water Authority, the City of Chula Vista, and developers, the District's water conservation efforts are expected to grow and expand. The District's water savings through conservation are expected to be approximately 5,400 acre-feet per year (AF/yr) by 2030, or approximately 7% of total demand. The District is also committed to continuing investigations of local groundwater, additional recycled water, desalination, and other potential water resources that could further reduce the District's reliance on imported water.

1.3 Senate Bills 610 and 221

Senate Bills (SB) 610 and 221 are the common names for Water Code Sections 10910 through 10914 and Government Code Sections 65867.5, 66455.3, and 66473.7. These bills amend state law to improve the link between water supply planning and 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 a written verification from the water purveyor that sufficient water supplies are available for certain large residential subdivisions prior to approval of a tentative map. The District's UWMP provides information that will be used in future assessments and verifications prepared to meet the requirements of these bills.

2. Service Area, Demands, and Supplies

This section of the report provides an overview of the District's service area, its current water supply, measures to reduce water demand, and projections of future supply.

2.1 Appropriate Level of Planning

The District's service area has experienced significant growth in the past five years, and the service area population is expected to increase by an additional 100,000 people by 2030. All of the District's potable demands are currently met with imported water provided through the Water Authority and Metropolitan. Much of the supply discussion in this report is based on the supply planning performed by these regional agencies.

2.2 Service Area Description

The District is located in the southern half of San Diego County and was created in 1956 by a small group of private citizens, ranchers and landowners who were concerned about the declining quality and quantity of water from their rural wells. The District joined the Water Authority as a member agency in the same year. The Water Authority is the agency responsible for the supply of imported water into the San Diego County through its membership in Metropolitan.

The service area is generally located within the south central portion of San Diego County and includes approximately 137 square miles, of which 125.5 square miles are within the District's boundaries and 11 square miles are in the District's Area of Influence. The topography of the service area is diverse, consisting of a variety of valleys, hills, mountains, lakes, and rivers. The area includes both urban and rural development. The major transportation arteries serving the area include State Highway 94 in the north and Interstate 805 in the southwest.

The District serves portions of the communities in the southern El Cajon, La Mesa, Rancho San Diego, Jamul, Spring Valley, Bonita, eastern Chula Vista, Eastlake and Otay Mesa areas. The area within the District's boundaries is roughly bounded on the north by the Padre Dam Municipal Water District, on the northwest by the Helix Water District, and on the west by the South Bay Irrigation District (Sweetwater Authority) and the City of San Diego. The southern boundary of the District is the international border with Mexico.

The Area of Influence is to the east of the current service area and is bounded on the west by the Upper and Lower Otay Reservoirs. It is comprised of portions of the Proctor Valley Parcel and all of the San Ysidro Mountains Parcel of the Otay Ranch.

The service area is shown in Figure 1.

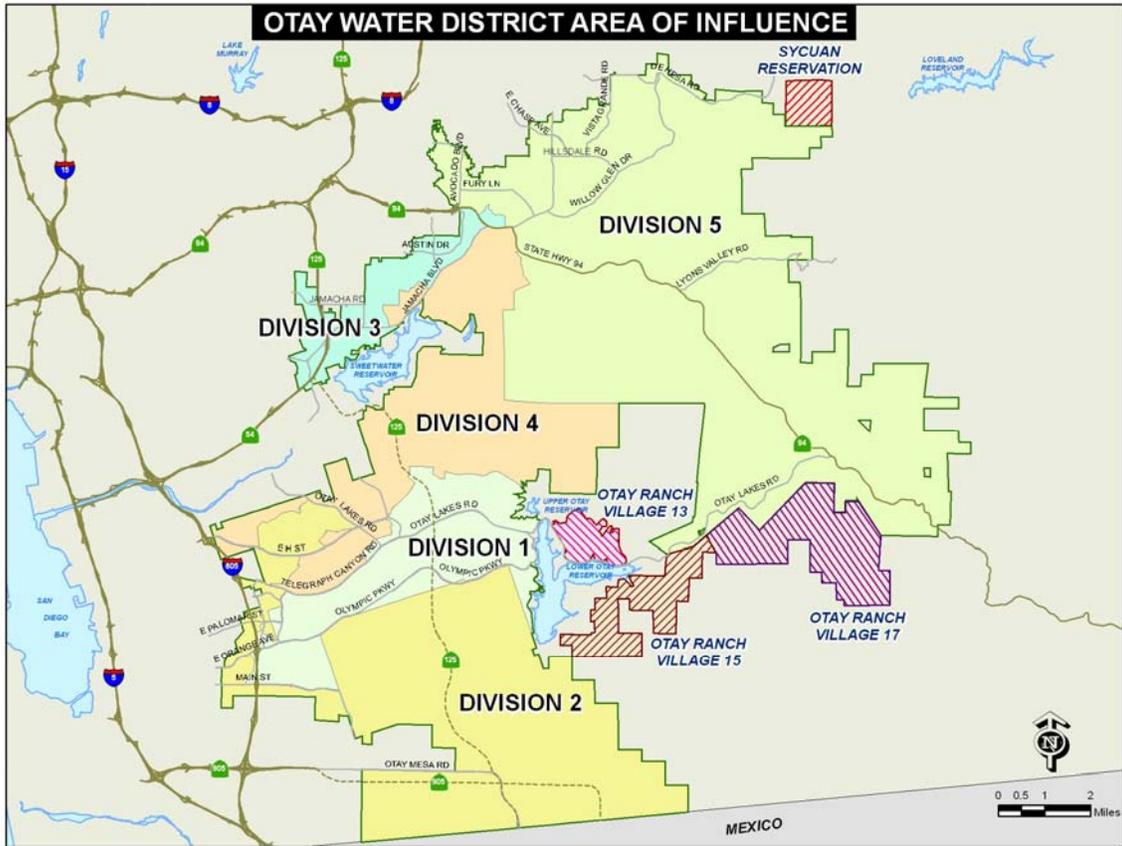


Figure 1. Otay Water District Service Area

The District’s service area population has grown from approximately 48,300 in 1980 to an estimated 2005 population of 179,000. Data on the future rate of growth within the District were obtained from the San Diego Association of Governments (SANDAG). SANDAG serves as the regional, intergovernmental planning agency and provides estimates of population and housing up to the year 2030. SANDAG has prepared forecasts of population, housing and employment in each census tract in 2005, 2010, 2020, and 2030. For this analysis, the District assumed that the population within each census tract was uniformly distributed around the tract. The census tract data were intersected with the District’s service area boundary using geographical information system (GIS) software. Populations for 2015 and 2025 were linearly interpolated between the SANDAG estimates for 2010, 2020, and 2030. The estimated service area population is shown in Table 2.

Table 2. Population – Current and Projected

	2005	2010	2015	2020	2025	2030
Service Area Population	179,000	222,390	242,540	262,690	267,920	273,150
Compound Annual Growth Rate		4.5%	1.7%	1.6%	0.4%	0.4%

The District’s long-term historic growth rate has been 3%. In recent years, the growth has occurred at a faster rate due to accelerated residential development in eastern Chula Vista. The SANDAG forecast shows this accelerated growth to continue for another five to ten years. The growth rate is expected to slow as the inventory of developable land is diminished.

The District is aware of several potential changes that are not reflected in the population projections in Table 2:

- Otay Ranch Village 13, also known as the Resort Village, is located east of Otay Lakes and is outside the District’s current service area. Plans for the development of this parcel show medium to high-density residential dwellings units, hotel, recreational facilities, commercial development, and parks. This area is expected to be a near-term annexation to the District, to the Water Authority, and to Metropolitan. The expected water demand for this development has been included in the projections in this report, beginning with the year 2010.
- The City of Chula Vista may revise its General Plan to show increased density of development. Preliminary indications are that this change will result in higher planned densities of development, resulting in a potential for an additional 5,000 dwelling units in the District’s service area. At the time of this report, the change has not been finalized or approved. It has also not been incorporated by SANDAG into the regional growth forecasts. This potential change is not reflected in the demand projections in this report.
- A group of developers is working on a proposed change to the Community Plan that would increase residential development in the Otay Mesa area, which would lead to higher water demands than the development currently expected. The Otay Mesa Coalition is holding workshops and working to obtain approval for the change to the Community Plan. The Coalition has not published information that would allow the District to estimate the impact on water demands, and the Coalition has not made the information available for review. This potential change has not been reflected in demand projections in this report.

The District provides water service to residential, commercial, industrial, and agricultural customers, and for environmental and fire protection uses. In addition to providing water throughout its service area, the District also provides sewage collection and treatment services to a portion of its service area known as the Jamacha basin. The District also operates the Ralph W. Chapman Water Recycling Facility (RWCWRF) with an effective capacity of 1.1 million gallons per day (mgd).

Climatic conditions within the service area are characteristically Mediterranean near the coast, with mild temperatures year round. Inland areas are both hotter in summer and

cooler in winter, with summer temperatures often exceeding 90 degrees and winter temperatures occasionally dipping to below freezing. Most of the region’s rainfall occurs in the period between December through March. Average annual rainfall is approximately 9.4 inches per year.

Historic climate data were obtained from the Western Regional Climate Center for Station 042706 (El Cajon). This station was selected because its annual temperature variation is representative of most of the District’s service area. While there is a station in Chula Vista, the temperature variation at the Chula Vista station is more typical of a coastal environment than the conditions in most of the District’s service area.

Evapotranspiration data were obtained from the California Irrigation Management Information System (CIMIS). Because conditions in the service area vary from coastal areas to inland areas, evapotranspiration data are reported for two stations: 147 (Otay Lakes), and 153 (Escondido SPV). The evapotranspiration data for station 147 are based on actual historical data since 1999, while the data for station 153 are based on the long-term averages provided by CIMIS. Climate and evapotranspiration data are summarized in Table 3.

Table 3. Climate Data

Month	Monthly Average Evapotranspiration (inches)		El Cajon (042706)	
	Otay Lakes No. 147	Escondido SPV No. 153	Average Rainfall (inches)	Average Temperature (Fahrenheit)
January	2.28	2.81	2.55	55.9
February	2.64	2.76	2.74	57.1
March	3.92	3.78	2.45	59.3
April	4.66	5.31	0.80	63.0
May	5.68	6.10	0.14	66.4
June	5.81	6.97	0.09	70.0
July	6.25	7.08	0.09	75.0
August	6.08	6.83	0.02	76.5
September	4.74	5.67	0.17	74.2
October	3.65	4.15	0.61	68.1
November	2.45	3.31	1.33	60.1
December	2.15	2.56	1.28	55.3
Annual	50.32	57.33	12.27	

The typical annual distribution for temperature and precipitation are shown in Figure 2.

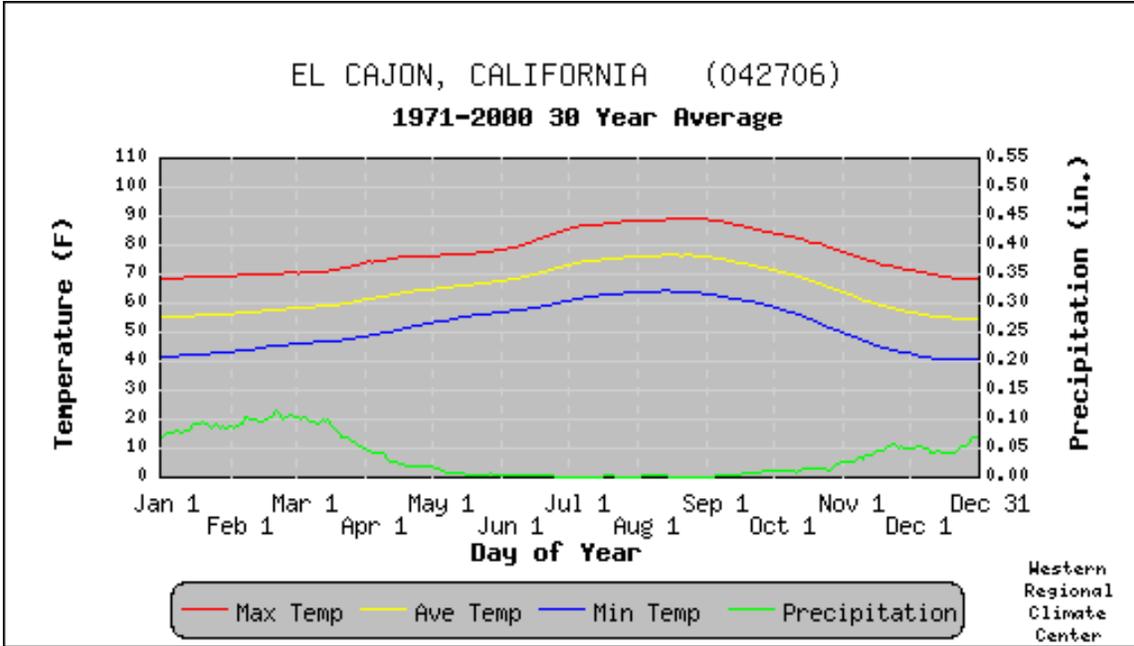


Figure 2. Average Temperature and Precipitation

2.3 Water Sources

This section discusses the water sources available to the District.

2.3.1 Potable Water

The District currently meets all its potable demands with imported treated water from the Water Authority. The Water Authority, as a wholesale agency, imports both raw water and treated water through separate pipelines for delivery to its member agencies in San Diego County. The Water Authority’s current and future supply portfolio is discussed in Section 2.11.

The District’s primary source of potable supply is treated water delivered through the Water Authority’s Pipeline No. 4. Pipeline No. 4 delivers potable water treated at Metropolitan’s Skinner WTP in Riverside County. The Water Authority has multiple flow control facilities (FCFs) on Pipeline No. 4 that feed into the District’s distribution system. During normal operations, most of the District’s potable demand is met with water from Pipeline No. 4. The District’s planning objective is to have sufficient capacity through Pipeline No. 4 to meet ultimate demands.

The District has entered into arrangements with the Water Authority and neighboring water agencies to provide potable water to their northern service area during periods when supply from Pipeline No. 4 is unavailable. One of these arrangements is based on a 1976 policy adopted by the Water Authority’s Board of Directors. As a result of accepting State Water

Project water into their system, the Water Authority's Board of Directors adopted a policy stating,

“the Authority will deliver treated water to its member agencies at all service connections installed prior to December 1, 1975, upon request and at an elevation equal to that now available.”

As a result of this policy, the Water Authority is obligated to provide the District with 8 mgd of treated water through a pipeline known as the La Mesa – Sweetwater Extension (LMSE). While this policy is understood by both parties, it has never been formalized in a written agreement.

One of the District's neighboring agencies, the Helix Water District, owns and operates the R. M. Levy WTP. The Water Authority has a formal agreement with the Helix Water District for 8 mgd of capacity from the R. M. Levy WTP. This capacity was acquired by the Water Authority on behalf of the District. Water from the R. M. Levy WTP is conveyed to the District through the LMSE.

In April 1997 the Water Authority and the Helix Water District entered into an agreement, known as the Capacity Agreement that addressed transmission of untreated water and the expansion of the R. M. Levy WTP. In December 1999 the Water Authority and the Helix Water District entered into another agreement known as the Flume Agreement. The Flume Agreement addressed the facilities need to convey treated water from the R. M. Levy WTP to the LMSE and eventually to the District. The Capacity Agreement and the Flume Agreement provide the framework for the Water Authority to comply with its policy of providing 8 mgd to the District (4 mgd at Otay 8 FCF and 4 mgd at Otay 14 FCF).

The policies and arrangements described above allow the District to receive 8 mgd of treated water. Negotiations are currently ongoing to increase this amount to an average of 12 mgd and a peak of 16 mgd. This agreement is anticipated to be signed in early 2006.

The District also has an agreement with the City of San Diego, which owns and operates the Otay WTP. The District entered into an agreement on January 11, 1999 with San Diego that provides the District with 10 mgd of capacity from the Otay WTP. The Otay WTP existing rated capacity is 40 mgd, with an actual effective capacity of approximately 34 mgd. The City's typical demand for treated water from the Otay WTP is approximately 20 mgd. The City's obligation to supply treated water under this agreement is contingent upon the availability of 10 mgd of surplus treated water, until the District pays for expansion of the Otay WTP. The Otay WTP may treat either imported raw water from the Water Authority's Pipeline No. 3 or local surface water stored in Lower Otay Reservoir. A trailer-mounted engine-driven pumping unit at the Otay WTP has the capability to pump 6 to 20 mgd into the District's service area. The agreement with the City of San Diego for potable water from the Otay WTP is included in **Appendix C**.

2.3.2 Recycled Supply

The District owns and operates the Ralph W. Chapman Water Recycling Facility (RWCWRF), which supplies approximately 1,230 AF/yr of recycled water. The District

has entered into an agreement with the City of San Diego to purchase additional recycled water from the City’s South Bay Water Reclamation Plant (SBWRP). The agreement with the City for water from the SBWRP is included in **Appendix D**. This agreement will provide an additional 6 mgd (or more if available) of recycled water to the District, or approximately 6,700 AF/yr. More information about the District’s recycled water planning is included in Section 5.

The District’s current and planned supplies are shown in Table 4.

Table 4. Current and Planned Water Supplies – AF/yr

Water Supply Sources	FY 2005	FY 2010	FY 2015	FY 2020	FY 2025	FY 2030
San Diego County Water Authority	37,618	45,772	52,349	59,799	66,560	75,108
Recycled Water	1,155	4,040	4,684	5,430	6,294	7,297
Total	38,773	49,812	57,033	65,229	72,854	82,405

In 2005, the RWCWRF produced 1,155 AF/yr of recycled water, slightly less than its full capacity. In addition, the District used potable water to supplement the recycled water system in areas where insufficient recycled water was available. The District’s estimated demand for recycled water in 2005 was 3,485 AF.

2.3.3 Groundwater

The District currently does not use local groundwater to meet any of its demands. The supply forecasts contained within this Plan do not consider local groundwater development as a proven supply resource. However, the District is investigating the potential for developing local groundwater to reduce its dependence on imported water.

Although groundwater supplies are less plentiful in the San Diego region than in some other areas of southern California, sufficient undeveloped supplies may exist to help meet a portion of the region’s future water needs. In the past, the District has studied numerous groundwater options with mixed results.

Both the geology and the semi-arid hydrologic conditions of the region limit groundwater supplies within the service area. Narrow river valleys with shallow alluvial deposits are characteristic of some of the more productive groundwater basins. Additionally, irrigation with saline imported water and over-pumping has led to excessive salinity in many of the most promising basins. Outside of these alluvial basins, much of the geology consists of fractured crystalline bedrock and fine-grained sedimentary deposits that are generally capable of yielding only small amounts of groundwater to domestic wells.

One groundwater opportunity of particular interest to the District and other agencies is the San Diego Formation, which reportedly lies within and/or adjacent to the District’s westerly boundary and runs along the coast from South San Diego to the international border. The District will consider new opportunities to collaborate with neighboring agencies to investigate the potential of the San Diego Formation in the future.

2.4 Reliability of Supply

The Act states that every urban water supplier shall include, as part of its plan, an assessment of the reliability of its water supplies. The water supply and demand assessment must compare the total projected water use with the expected water supply over the next 25 years in 5-year increments. This reliability assessment is required for normal, single dry-year and multiple dry water years.

The District currently obtains 100% of its potable water supply as imported water from the Water Authority. The Water Authority, in turn, obtains imported water from Metropolitan, who has prepared a regional UWMP. The reliability of the District's potable supply is dependent on these wholesale agencies. The District is committed to investing alternative water sources, such as groundwater or desalination, that would reduce its dependence on imported water. However, none of these alternative sources can be considered a firm supply at this point in time.

Metropolitan's 2005 UWMP includes a discussion of supply reliability. Metropolitan used a computer model to evaluate 70 years of historic hydrology and develop estimates of water surplus or shortage. The driest year on record was 1977, and the driest three-year period was 1990-92. The analysis determined that Metropolitan could maintain reliable supplies during normal or dry-year conditions if they re-occurred during the period 2005 through 2025. The analysis included new supplies under development as part of Metropolitan's Integrated Resources Plan (IRP), updated in 2003.

The Water Authority's 2005 UWMP also includes a discussion of supply reliability. The Water Authority will continue to rely on Metropolitan to help meet water demands. The Water Authority is also developing its own supplies, as discussed in Section 2.11. The Water Authority prepared an assessment of its supply reliability during a normal year hydrology, a dry year hydrology (1989), and multiple dry years scenarios (1989-1991). The Water Authority's analysis showed that it would meet demands under all these conditions through the year 2030.

The District works closely with the Water Authority and Metropolitan in future supply planning. These agencies have determined that they will be able to meet their projected demands through 2030, which include potable water demands for the District. The District has concluded that these wholesale agencies will be able to provide water to meet the District's projected demands. Based on the information provided by Metropolitan and the Water Authority, the water supply available to the District is considered to be consistent. Individual components of the supply, such as the Colorado River, will experience drought from time to time. However, the diversified improvements put in place by Metropolitan and the Water Authority have led these agencies to state that they will be able to meet demands for the next 25 years. The Water Authority has provided the District documentation of this supply. The documentation is included in **Appendix H**.

Tables are included in Section 7 of this report that show projected demand and supply during normal years, dry years, and multiple dry years. The projected supply in these tables is equal to the projected demand, based on the information provided by the Water

Authority and Metropolitan. If the District's future demands are slightly more or less than currently projected, it is anticipated that the supply portfolio maintained by the Water Authority and Metropolitan will be flexible enough to continue to meet the District's demands.

Recycled water demands are to be met with recycled water from the District's RWCWRF and the City of San Diego's SBWRP. During dry periods, many conservation measures are focused on reducing outdoor water use, which does not contribute to wastewater flow. In addition, because both of these plants are stripping plants, the recycled water output is limited by the treatment capacity and not by the supply of raw wastewater. Therefore, the District's recycled supply is not expected to be subject to reduction during dry periods.

2.5 Transfer or Exchange Opportunities

The District currently has arrangements to receive water from the Water Authority (through the Helix Water District) and the City of San Diego in times when its normal treated supply from Pipeline No. 4 is limited or curtailed. These connections are for use during emergencies or during planned interruptions in the supply of treated water from Pipeline No. 4. The water provided by these agencies, in most cases, will still be imported water from the Water Authority. However, the agreements to receive treated water from the Water Authority (through the Helix Water District) and the City of San Diego help decrease the District's vulnerability to outages in Pipeline No. 4.

At the wholesaler level, the Water Authority has engaged in a transfer with the Imperial Irrigation District (IID). Under this agreement, water conserved by IID will be transported by Metropolitan through the Colorado River Aqueduct and delivered to the Water Authority. Further information about this agreement can be found in the Water Authority's UWMP.

2.6 Water Use by Type for Past, Current and Future Deliveries

The District maintains records of its water consumption and its number of customers by customer type. The number of customers in each customer type is available as of the end of FY 2005. Because of limitations in the billing database, the most recent available data for water consumption by customer type are for the end of FY 2004. However, the total consumption for all customers for FY 2005 was known. The breakdown of consumption between customer types in FY 2005 was assumed to be the same as it was in FY 2004. These data are summarized in Table 5.

Table 5. Current Water Use and Customers by Customer Type

Customer Class	FY 2005 Customers	Percent of Customers	FY 2004 Actual Consumption (AF)	Percent of Consumption	FY 2005 Actual Consumption (AF)
Single-family residential	42,033	90%	20,113	52%	19,850
Multi-family residential	758	2%	2,931	8%	2,893
Commercial / Industrial	1,092	2%	1,570	4%	1,549
Institutional	225	< 1%	2,143	6%	2,115
Irrigation	1,621	3%	8,625	23%	8,512
Other	805	2%	2,298	6%	2,268
Unaccounted for	0	0%	517	1%	511
Total	46,534		38,198		37,697

Table 5 includes values for “Unaccounted-for” water. The District has meters for all its customers. Whenever possible, the District also estimates the water lost to any known un-metered events. For example, water used for construction does not fall into any of other the billing categories, but the District does attempt to quantify this water use.

The consumption in Table 5 does not equal the total amount of potable and recycled water that the District purchased and produced. In FY 2005, the District’s total water purchased and produced was 38,773 AF. The difference is system losses, which in FY 2005 were 1,076 AF, or approximately 3 percent of total water use. System losses include water used for storage, flushing, fire-fighting, and minor leaks in the distribution system.

Approximately 90% of the District’s customers are single-family residences. Much of the anticipated development in the District’s service area is also single-family residential. The relative composition of the District’s customers is expected to remain consistent. The other customer sectors, such as commercial, industrial, and institutional, are expected to grow at the same rate to support the residential development.

The Water Authority has used its CWA-MAIN model to prepare projections of future water use within the District’s service area. The CWA-MAIN model uses input data for population, demographics, climate, economic forecasts, and other variables to estimate future water use. The jurisdictional boundaries of the Water Authority, Metropolitan, and the District do not coincide perfectly in some areas. However, the District has elected to use these forecasts of future water use to maintain consistency with planning work by the Water Authority.

The Water Authority prepared two separate demand estimates for the District: one that includes only the currently served areas, and one that includes the potential near-term annexations of Village 13 and Peaceful Valley Ranch. Based on input from the developers of these areas, the District and the Water Authority have estimated an annual demand of 1,961 AF for Village 13 and 51 AF for Peaceful Valley Ranch, for a total of 2,012 AF in near-term annexations. The District has included this additional demand in its projections. The additional 2,012-AF demand is expected to phase in between 2005 and 2010.

The District’s projected water consumption is shown in Table 6. The numbers in Table 6 do not include the impact of system losses.

Table 6. Water Consumption Excluding Losses – AF/yr

	FY 2000	FY 2005	FY 2010	FY 2015	FY 2020	FY 2025	FY 2030
Single-family Residential	15,331	19,850	25,442	29,130	33,316	37,211	42,089
Multi-family Residential	1,986	2,893	3,708	4,245	4,855	5,423	6,134
Commercial / Industrial	3,043	1,549	1,986	2,274	2,600	2,904	3,285
Institutional / Government	2,089	2,115	2,711	3,104	3,550	3,965	4,485
Landscape	6,259	8,512	10,910	12,491	14,286	15,956	18,048
Agriculture	171	2,268	2,907	3,328	3,806	4,251	4,809
Other / Unaccounted for	0	511	655	749	857	957	1,083
Total	28,878	37,697	48,318	55,322	63,272	70,668	79,933

The District’s estimated growth in number of customers is shown in Table 7.

Table 7. Estimated Growth in Customers Served

	2000	2005	2010	2015	2020	2025	2030
Single-family	32,448	42,033	54,000	61,828	70,713	78,980	89,334
Multi-family	695	758	974	1,115	1,275	1,424	1,611
Commercial / Industrial	1,084	1,092	1,403	1,606	1,837	2,052	2,321
Institutional / Government	190	225	289	331	379	423	478
Landscape	1,060	1,621	2,083	2,384	2,727	3,046	3,445
Agriculture	40	805	1,034	1,184	1,354	1,513	1,711
Other / Unaccounted for	353	0	0	0	0	0	0
Total	35,870	46,534	59,783	68,449	78,286	87,437	98,900

The water consumption values in Table 6 do not include system losses. System losses are different than the unaccounted-for water in Table 6. While the unaccounted-for water is attributed by the District to certain events or locations, system losses are assumed to occur system-wide. Based on data for FY 2005, system losses for future years were estimated to be 3% of total water use.

Projected values for losses are shown in Table 8. Use of recycled water by District customers is included in the consumption values in Table 6, so it is not included as a line item in Table 8.

Table 8. Additional Water Uses and Losses – AF/yr

Water Use	FY 2000	FY 2005	FY 2010	FY 2015	FY 2020	FY 2025	FY 2030
System losses	1,733	1,076	1,494	1,711	1,957	2,186	2,472
Total	1,733	1,076	1,494	1,711	1,957	2,186	2,472

The District does not sell any water to other agencies. The sum of its water use is shown in Table 9.

Table 9. Total Water Use – AF/yr

Water Use	FY 2000	FY 2005	FY 2010	FY 2015	FY 2020	FY 2025	FY 2030
Sum of water consumption by customer category and additional water uses and losses	30,611	38,773	49,812	57,033	65,229	72,854	82,405

2.7 Demand Management Measures

Water conservation is a critical part of the District's 2005 UWMP and its long-term strategy for meeting the water needs of the District. The goals of the District's water conservation program are to:

- reduce the demand for more expensive, imported water
- demonstrate continued commitment to the Best Management Practices (BMPs)
- ensure a reliable water supply

The District is a signatory to the Memorandum of Understanding (MOU) Regarding Urban Water Conservation in California, which created the California Urban Water Conservation Council (CUWCC) in 1991. As a signatory, the District is required to submit biannual reports that detail the implementation of current water conservation practices. The District voluntarily agreed to implement the fourteen water conservation BMPs beginning in 1992. The District submits its annual report to the CUWCC every two years. The District's BMP Reports for 2001 to 2004, as well as the BMP Coverage Report for 2003-04, are included in **Appendix E**.

As a water retailer, the District reports on 13 BMPs of the 14 BMPs (BMP 10 applies only to wholesale agencies). In addition to the BMPs, the District also reports on the number of accounts by customer class and details its supply sources. Table 10 provides an overview of the progress of the District's compliance with the BMPs as required by the CUWCC.

Table 10. Best Management Practices for Urban Water Conservation in California

BMP	Description	Conservation Programs	Compliance
1	Water Survey Programs for Single-Family and Multi-Family Residential Customers	Residential Survey Program Residential Weather-Based Irrigation Controller Program	No
2	Residential Plumbing Retrofit	Showerhead Distribution	Yes
3	System Water Audits, Leak Detection and Repair	Distribution System Auditing Program	Yes
4	Metering with Commodity rates for all New Connections and Retrofit of Existing	Metered By Type	Yes
5	Large Landscape Conservation Programs and Incentives	Professional Assistance for Landscape Management (PALM) Protector Del Agua Commercial Landscape Incentive Program (CLIP) Commercial Weather-Based Irrigation Controller Program	Yes
6	High-Efficiency Washing Machine Rebate Programs	Residential High-Efficiency Clothes Washer (HEW) Program	Yes
7	Public Information Programs	Water Conservation Garden Pipeline and Communiqué Newsletters Special Events Website	Yes
8	School Education Programs	Classroom Kits Tours of the Water Conservation Garden Video Library Awards Programs Grants for School-site Gardens \$1,000 CSDA Scholarship	Yes
9	Conservation Programs for Commercial/Industrial/Institutional (CII) Accounts	CII Voucher Program	No
10	Wholesale Agency Assistance Programs	N/A	N/A
11	Conservation Pricing	By Ordinance	Yes
12	Conservation Coordinator	Full-time Coordinator Full-time Water Conservation Specialist	Yes
13	Water Waste Prohibition	By Ordinance	Yes
14	Residential Ultra Low Flow Toilet (ULFT) Replacement	Residential ULFT Voucher Program	Yes

The District is in compliance for 11 of the 13 BMPs on which it reports. The two BMPs not in compliance (1 and 9) are discussed in Section 2.8.

It should be noted that the Annual Report prepared by the CUWCC shows the District not in compliance with BMP 5. However, the CUWCC has determined that the District's

program is “At Least As Effective As” the original BMP requirements. A letter documenting this finding by CUWCC is included in **Appendix E**. In addition, the CUWCC reports currently show the District out of compliance with BMP 13, which deals with prohibitions against water waste. The District has adopted ordinances to prohibit the following uses of water:

- Gutter flooding
- Single-pass cooling systems
- Single-pass car wash
- Single-pass foundations
- Other water waste

The District has prepared a new draft Section 39 of its Code of Ordinance. This new draft includes the prohibition of new commercial single-pass laundry operations. It is believed that adding this prohibition will bring the District into full compliance on BMP 13.

Water conservation programs are developed and conducted on the premise that water conservation increases the water supply by reducing the demand on available supply, which is vital to the optimal operation of the District. Education is an important component to all of these programs. As a member agency of the Water Authority, the District also participates in many water conservation programs designed and conducted as a shared-cost participation program among the member agencies, the Water Authority and Metropolitan.

The District participates in a Joint Powers Authority with the Helix Water District, Grossmont-Cuyamaca Community College District, the San Diego County Water Authority, the City of San Diego, and the Padre Dam Municipal Water District to operate the 4.2-acre Water Conservation Demonstration Garden. The Garden’s mission is to, “promote water conservation in the southern California landscape through excellent exhibits and programs that educate and inspire the public.” The Garden educates customers about reducing landscape water use through the use of water-efficient landscapes.

Recent accomplishments of the District’s conservation programs include:

1. Replaced 24,000 square feet of turfgrass through the pilot Cash for Plants landscape retrofit program
2. Saved over 1,087 acre-feet in FY 2005 through its active water conservation programs, a 12% increase in water savings from the previous year
3. Over 80,000 students have participated in the District’s school programs to date

Estimates of the District’s savings due to conservation were prepared in cooperation with the Water Authority. For the past 15 years, the District has maintained records of water conserved through active conservation measures such as plumbing retrofits and incentives for toilet replacement. The Water Authority has recently begun estimating additional water savings from passive measures, such as efficiency standards for new construction. For

2005, the District’s estimated savings are 1,087 AF from active measures and an additional 1,200 AF from passive measures for a total of 2,287 AF. In order to maintain consistency with Water Authority calculations, the District has included passive measures in its overall conservation estimate from 2005 onward. The historic numbers from 1990 through 2005 are based on active measures only. The future projections from 2005 through 2030 are based on active and passive measures.

The historical water savings from the District’s conservation programs are shown in Figure 3. From 1990 through 2005, these programs have saved approximately 8,133 AF of water.

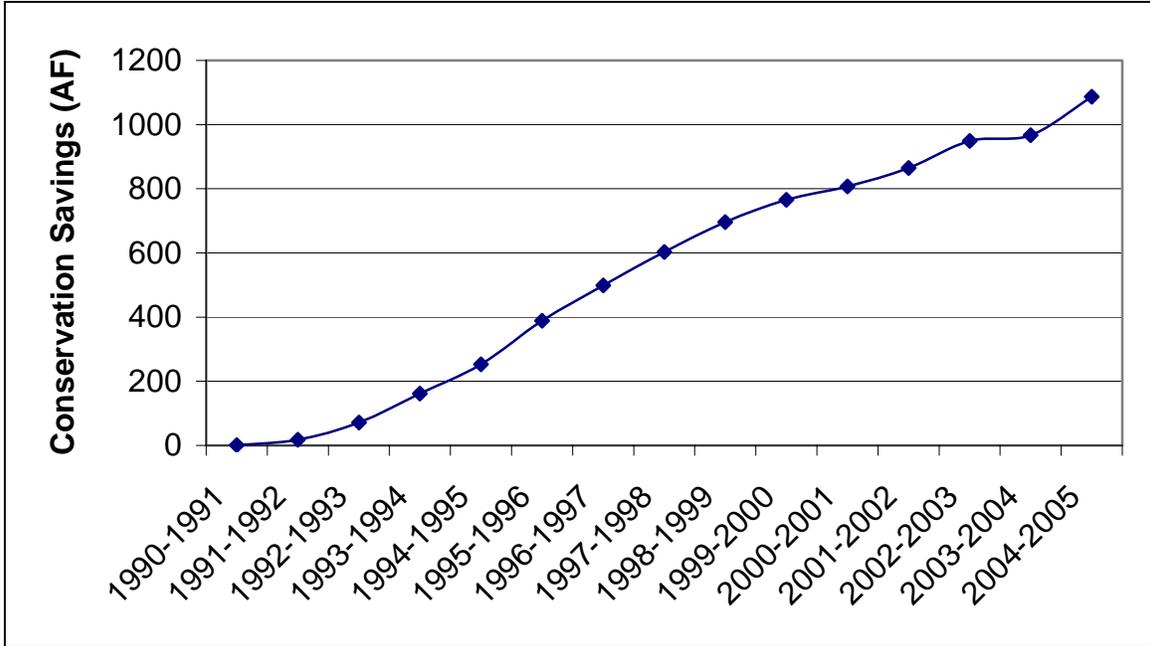


Figure 3. District Conservation Programs Annual Water Savings

The data in Figure 3 are based on active measures only. Beginning in 2005 and moving forward, the District will estimate conservation savings from both active and passive measures. Incentive programs that result in the replacement of less efficient toilets, showerheads, clothes washers and irrigation controllers are typically considered active measures. Passive measures include code compliance in new construction, ULFT natural replacement, and commercial HEW natural replacement. The District’s goals for future conservation are shown in Table 11.

Table 11. District Conservation Goals – AF/yr

Water Use	FY 2005	FY 2010	FY 2015	FY 2020	FY 2025	FY 2030
Conservation	2,287	4,132	4,526	4,854	5,165	5,387

The District continues to promote water conservation at a variety of events, including those involving developers in its service area. In addition, District staff partners with the Water

Authority to promote new technologies and incentives for new technologies such as dual-flush toilets in new residential construction and weather-based irrigation controllers.

For FY 2005, the District saved approximately 1,087 acre-feet of water, which is enough to meet the annual needs of 2,174 homes for one year. Listed below are the current programs being implemented by the District:

- Cash for Plants Landscape Retrofit Program
- Signage Grant Received to Highlight Waterwise Model Homes
- Water Conservation Programs for New Homes
- Outreach Efforts to Otay Customers
- Commercial Water Conservation Programs
- Large Landscape Programs
- Residential ULFT Program-\$75 and \$95 Vouchers
- Residential High Efficiency Clothes Washer Program
- School Education Program
- Residential Weather-Based Irrigation Controller (WBIC) Incentive Program

The District remains on schedule to expand its current recycled water system over the next two years, and continues to actively promote water conservation programs to its customers. The District promotes its new and existing conservation programs through expanded outreach efforts, bill inserts, articles in the District's *Pipeline* newsletter, direct mailings to District customers, and through the Water Authority's marketing efforts. The District is committed to water conservation and recycling as reflected in its Strategic Plan, and expects to spend more effort and resources in the future to promote programs that improve landscape water efficiency.

2.8 Evaluation of Demand Management Measures not Implemented

The District is not in compliance with CUWCC criteria for two BMPs: 1 and 9.

BMP 1 calls for water survey programs for single-family and multi-family residential customers. The District implemented a program to market the surveys to both single-family and multi-family residences in 1991. The District has extended residential survey offers to 100% of the estimated residences in the service area. The only area where the District does not comply is in the number of completed surveys. The District has completed surveys for approximately 4% of its residential customers, while the coverage requirement calls for surveys to be completed for 7.9% of residential customers. The District is committed to continuing to market and perform water survey programs, but it is not feasible to complete enough surveys to meet the requirements of this BMP. According to the CUWCC, approximately 14% of reporting agencies are in compliance with this BMP.

BMP 9 deals with conservation programs for commercial, industrial, and institutional accounts. The District has identified and ranked by use its commercial, industrial, and institutional accounts. There are multiple potential tracks for compliance with this BMP, one based on surveys and one based on incentives for water savings. The Water Authority

has elected to pursue compliance through the use of incentives for water savings. The Water Authority currently manages a Voucher Incentive Program (VIP) to encourage the use of water-efficient equipment by commercial, industrial, and institutional customers. The District has participated in this program, but the District has a relatively small base of commercial and industrial customers. In recent years, the District has increased the water savings achieved through this program. However, the savings are not currently high enough to bring the District into full compliance with this BMP. The District will continue to participate in this program with the Water Authority. According to the CUWCC, approximately 16% of reporting agencies are in compliance with this BMP for FY 2004.

Based on the above discussion, the District has not identified any “non-implemented” BMPs. The District is participating in programs that pursue the objectives of BMP 1 and BMP 9, even though the District is not currently in compliance with all the requirements of these BMPs. There are no BMPs that the District has simply not implemented.

2.9 Planned Water Supply Projects and Programs

The District’s 2002 Water Resources Master Plan identified a number of capital improvement program projects to the potable and recycled water distribution systems. These pipelines, pump stations, and storage reservoirs improve the District’s ability to reliably deliver water to all its customers. Each year, the District updates its Capital Improvement Program to ensure that projects are completed in time to meet the needs of customers. While these distribution projects enhance the District’s ability to supply water, they do not represent a new source of water. The District will continue to rely on the Water Authority to provide treated potable water.

For the recycled system, the City of San Diego’s SBWRP constitutes a new source. The plant is currently operating and producing recycled water. The District is completing the conveyance infrastructure to transport the water from the City’s delivery point to the District’s recycled water service area. This project is under construction and is expected to be complete by the first quarter of 2007.

The SBWRP has an existing capacity of 15 mgd. It draws raw wastewater from a trunk sewer leading to the Point Loma treatment plant. During dry years, it is expected that there would continue to be adequate raw wastewater to meet demands for recycled water. Therefore, the District’s supply of recycled water from SBWRP is not expected to decrease during dry years.

This project is summarized in Table 12.

Table 12. Future Water Supply Projects

Project Name	Normal-year AF to District	Single Dry Year AF to District	Multiple Dry Year AF to District		
			Year 1	Year 2	Year 3
Pipeline and tank connecting to SBWRP	6,700	6,700	6,700	6,700	6,700

2.10 Desalination

The District is committed to participating in regional efforts to develop desalinated ocean water as a new supply. Because the District’s service area does not include any coastal areas, any ocean desalination project would likely be a joint project with neighboring agencies and/or the Water Authority. The Water Authority has planned its first desalination plant at the Encina Power Plant in Carlsbad. The Water Authority has also conducted studies of other potential sites for desalination.

The Water Authority, in coordination with Mexico, completed a South County / Tijuana Region Seawater Desalination Feasibility Study in 2005. That study considered six sites in Mexico and eight sites in the United States. The United States sites were located near the South Bay Power Plant and the International Boundary and Water Commission wastewater treatment plant. In Mexico, the selected sites were near the Rosarito Power Plant and the La Mision Beach Well site. At each site, scenarios were evaluated that included domestic water delivery or domestic and cross-border water delivery.

The 2005 study determined that desalination would be technically feasible in the South County and Mexico border region. The study did find uncertainties in the viability of intake and discharge infrastructure, particularly for the United States sites. That study also found that based on the projected growth in demands in the South County, a desalination facility would not be cost-effective until 2018 at the earliest. The District will continue working with the Water Authority and Mexico to monitor changes in desalination technology and evaluate the potential for regional projects.

The desalination of brackish groundwater may represent a potential new supply. The District’s on-going investigation of groundwater potential is discussed in Section 2.3.3.

2.11 Wholesale Water

The Water Authority is the wholesale water supplier to the District. The Water Authority is a member agency of Metropolitan and is responsible for obtaining imported water from Metropolitan. Metropolitan has two primary sources of imported water: the State Water Project (SWP), which transports water from the Sacramento-San Joaquin Delta in northern California, and the Colorado River Aqueduct, which transports water from the Colorado River behind Parker Dam.

The Water Authority is also developing its own sources of water to reduce its reliance on Metropolitan. A series of agreements between the Water Authority, Metropolitan, the IID, and several other parties was finalized in 2003. Known as the Quantification Settlement Agreements (QSA), these agreements allow the Water Authority to receive up to 200,000 AF/yr of water from IID. The agreements also provide the Water Authority with up to 77,700 AF/yr that will be saved as a result of lining the All-American and Coachella Canals. The Coachella Canal lining project is expected to be complete by early 2007, while lining of the All-American Canal is expected to be complete by 2008. The Water Authority is also planning an ocean desalination plant in Carlsbad that is expected to provide 56,000 AF/yr by 2015. Each of these projects is expected to produce a “drought-proof” supply that will not be reduced during dry years. The Water Authority’s 2005 UWMP provides additional information about these projects. The Water Authority is expected to continue to provide water to meet the District’s potable demands through 2030.

The projected demand for imported treated water from the Water Authority is shown in Table 13. These demands are based on the projections prepared by the Water Authority using the CWA-MAIN model, including the expected demand from the Resort Village. The demands in Table 13 do not include irrigation demands that the District expects to meet using recycled water.

Table 13. Agency Demand Projections Provided to Wholesale Supplier – AF/yr

Wholesaler	FY 2010	FY 2015	FY 2020	FY 2025	FY 2030
San Diego County Water Authority	45,772	52,349	59,799	66,560	75,108

The Water Authority will continue to import water from Metropolitan, while developing the independent supplies discussed above. The Water Authority’s projected water supplies are detailed in the Water Authority’s 2005 UWMP. The supply estimates from that report are summarized in Table 14. The supply estimates in Table 14 are for the Water Authority as a whole, not just for the District. However, they show the range of planned supplies in the Water Authority’s UWMP that could be available to the District.

Table 14. Wholesaler Sources of Water Potentially Available to District – AF/yr

	2010		2015		2020		2025		2030	
	Exist.	Plan	Exist.	Plan	Exist.	Plan	Exist.	Plan	Exist.	Plan
Desalination	-	-	-	56,000	-	56,000	-	56,000	-	56,000
IDD Transfer	70,000	-	100,000	-	190,000	-	200,000	-	200,000	-
AAC & CC lining	77,700		77,700		77,700		77,700		77,700	
Metropolitan	445,845		378,417		311,368		324,750		357,507	

A more detailed discussion of these supplies can be found in the Water Authority’s 2005 UWMP.

3. Determination of DMM Implementation

The District is a member of the California Urban Water Conservation Council and a signatory to the Memorandum of Understanding. The District's 2001 to 2004 BMP Activity Reports and the District's 2003-04 Annual BMP Coverage Report are included in **Appendix E**. The CUWCC database has not yet been updated to produce a 2005 Annual Report.

4. Water Shortage Contingency Plan

4.1 Stages of Action

The Act requires that urban water agencies conduct a water shortage contingency analysis as part of their 2005 UWMP. As a member agency of the Water Authority, the District is a participant in the Water Authority’s shortage contingency analysis, which addresses a catastrophic shortage situation and drought management. Table 15 shows the water supply stages the District has recognized in its draft Code of Ordinances Section 39. A draft version of this ordinance section is included in **Appendix F**.

Table 15 Water Supply Shortage Stages and Conditions

Stage No.	Water Supply Conditions	% Shortage
I	A temporary general water supply shortage due to increased demand or limited supplies such as a disruption to the potable water treatment, distribution or storage facilities of Metropolitan or the Water Authority, or of other agencies whereby such systems become inadequate to meet local or regional demand.	
II	A long-term scheduled or unscheduled shutdown, major system disruption, or multi-year drought.	15%, 25%,50%
III	A major unscheduled shutdown or disruption to the treated or untreated water systems such as those caused by natural disaster, major system failure, or acts of war.	50%

4.2 Estimate of Minimum Supply for Next Three Years

The Act requires an estimate of the minimum supply available during the next three years (2006 – 2008). It is suggested that the estimate be based on the driest three-year historic sequence for the water supply. The District’s supply of potable water comes from the Colorado River basin and the State Water Project, through Metropolitan and the Water Authority. Since the 1987-1992 drought, Metropolitan has sought to diversify its supply and reduce its vulnerability to drought. Metropolitan’s IRP outlines projects such as increased storage, groundwater storage, financial incentives for local projects and conservation, and long-term water transfers that provide Metropolitan with supply during dry years on the Colorado River and the State Water Project. Implementation of Metropolitan’s IRP is expected to provide sufficient water to its member agencies even during dry years.

The District’s recycled supply is currently provided by the RWCWRF. This plant has an effective capacity of approximately 1.1 mgd; raw wastewater flows that exceed the plant’s capacity are sent downstream to the San Diego Metropolitan Wastewater Department (MWW) for treatment. During a drought event, reduced water consumption could lead to reduced raw wastewater flows. However, much of the reduction in water use is expected to

come through a reduction in outdoor use, which should not impact wastewater flows. The supply of recycled water is considered to remain constant during multiple dry years.

The estimated minimum supply is shown in Table 16.

Table 16 Three-Year Estimated Minimum Water Supply – AF/Year

Source	FY 2006	FY 2007	FY 2008	Normal (2005)
Water Authority	42,619	44,982	44,535	37,618
Recycled – RWCWRF	1,230	1,230	1,230	1,155
Recycled – SBWRP	0	0	2,810	0
Total	43,849	46,212	48,574	38,773

4.3 Catastrophic Supply Interruption Plan

Catastrophic events such as earthquakes or regional power outages can impact water supply. As a member agency of the Water Authority, the District is a participant in the Water Authority’s Emergency Response Plan (ERP) and Emergency Storage Project (ESP). The ERP provides information to allow staff to respond to an emergency that impedes the Water Authority’s ability to provide reliable water service to the District. The ERP includes:

- Authorities, policies, and procedures associated with emergency response activities;
- Emergency Operations Center activities, including activation and deactivation guidelines;
- Multi-agency and multi-jurisdictional coordination, particularly between the Water Authority, its member agencies (including the District), and Metropolitan;
- Emergency staff, management, and organization required to assist in mitigating any significant emergency or disaster;
- Mutual Aid agreements and covenants that outline the terms and conditions under which mutual aid assistance will be provided; and
- Pre-emergency planning and emergency operations procedures.

The ESP is a system of reservoirs, pipelines, and other facilities that will work together to store and move water around the county in the event of a natural disaster. The entire project is expected to be completed by 2012. When completed, the ESP will provide 90,100 acre-feet of storage water for emergency purposes in the Water Authority’s service area. This amount is anticipated to meet the Water Authority’s needs through at least 2030.

The District has constructed storage reservoirs to provide water during an interruption in the Water Authority’s supply to the District. These reservoirs provide approximately 190 million gallons of storage, equal to approximately five days of average demand. The District has also established emergency interconnections with neighboring agencies to

provide water during an emergency. The District has planned for potable water availability from the City of San Diego Otay WTP (10 mgd) and the Water Authority through the R. M. Levy WTP (currently 8 mgd and proposed 16 mgd). See Section 2.3 for details on these two water sources.

The District has also established minor emergency interconnections with neighboring water agencies for use during short-term outages. The District has five minor interconnections with Helix Water District, three with Sweetwater Authority, and five with the City of San Diego. These minor interconnections are intended primarily for short-term repairs or emergencies. During an extended outage or drought, these neighboring agencies may not have sufficient supply at these minor interconnections to share significant amounts with the District.

4.4 Prohibitions, Penalties and Consumption Reduction Methods

The District has established prohibitions that become effective during different stages of water shortage. For the complete Otay Code of Ordinance, Section 39, see **Appendix F**. The mandatory prohibitions are shown in Table 17.

Table 17. Mandatory Prohibitions

Prohibitions	Stage When Prohibition Becomes Mandatory
Allowing water to leave a customer’s property by drainage onto adjacent property due to excessive irrigation, poor design and/or neglect	At all times
Not repairing leaks within 48 hours	At all times
Washing down paved areas, except to alleviate immediate safety or sanitation hazards	At all times
Lawn watering or irrigation during daylight	II (25%)
Use of hand-held hose without automatic shut-off nozzle	II (25%)
Use of potable water for commercial street cleaning	II (25%)
Filling of swimming pools, ponds or lakes	II (50%)
Operation of non-residential fountains	II (50%)
Residential car washing	II (50%)
All outdoor irrigation	III

In addition to the prohibitions above, the District has identified a number of methods to reduce water consumption during a drought. These methods have been grouped into categories intended to reduce demands 15%, 25%, and 50%. These methods are summarized in Table 18.

Table 18. Consumption Reduction Methods

Consumption Reduction Method	Stage When Method Takes Effect	Projected Reduction
Ask large irrigation customers to reduce usage.	II	15%
Require a 20-foot clearance for construction near water lines (will reduce losses due to accidental line breaks)	II	
Reduce or suspend deliveries to Mexico	II	
Require Interim Agricultural Water Program customers to reduce their usage by up to 30%	II	
Notify customers of need for additional conservation	II	25%
Enforce water conservation and use restrictions	II	
Consider mandating water budgets for large landscape accounts	II	
Coordinate with Metropolitan and the Water Authority to issue press notification to the media	II	50%
Ask customers to reduce irrigation	II	
Establish reduction targets for commercial landscape accounts	II	
Reduce or suspend augmentation of the recycled water distribution system with potable water	II	
Consider mandating water budgets for all customers	II	
Consider reassigning personnel to enforce water use regulations	II	
Suspend all water use from temporary meters	II	

The District may impose surcharges or other penalties for noncompliance with the requirements or prohibitions in accordance with Section 39 of its Code of Ordinance. These penalties are summarized in Table 19.

Table 19. Penalties and Charges

Penalty	Situation when Penalty May Take Effect
Written letter of warning to the customer	1 st Violation of Section 39
Notice of Violation	2 nd Violation of Section 39 within a 12-month period
\$100 surcharge	3 rd Violation of Section 39 within a 12-month period
\$200 surcharge	4 th Violation of Section 39 within a 12-month period
\$400 surcharge	Any subsequent violation within a 12-month period
Temporarily deactivate recycled or potable water meter	At any time if a customer is in violation of Section 39
Temporary installation of a flow restrictor, or temporary deactivation of a meter	2 nd Violation of Section 39 within a 12-month period
Discontinuance of service to a meter	Repeated violations of Section 39
30 days imprisonment, or \$1,000 fine	Any violation of Section 39

4.5 Revenue Impacts of Reduced Sales during Shortages

An extended water shortage would reduce the amount of water sold by the District to its customers. Since water bills are based on water consumption, the revenue received by the District would also be reduced. The most severe restrictions are intended to reduce consumption by 50%. The impacts of such a reduction on the District’s revenue are shown in Table 20.

Table 20. Actions and Conditions that Impact Revenues

Type	Anticipated Revenue Reduction
Reduced water sales (50% reduction)	\$13.4 million, or 30% of revenues

A 50% reduction in consumption would also reduce the District’s expenditures. The District’s costs for acquiring and delivering the water to its customers would be reduced, as shown in Table 21. Some of the District’s costs might be increased, such as additional staff time for monitoring water use or enforcing conservation policies. However, these efforts will be achieved by temporarily re-directing staff from other tasks. These changes in operation are not expected to cause a significant increase in the District’s total expenditures.

Table 21. Actions and Conditions that Impact Expenditures

Category	Anticipated Cost Reduction
Reduction in water purchase from Water Authority (50% reduction)	\$8.6 million, or 20% of expenditures

The tables above show a potential shortfall of \$4.8 million annually if consumption were reduced 50%. If the reduction was due to a short-term situation, the District could absorb the entire shortfall by drawing on its general fund reserves, which are maintained at a minimum of \$12 million. After conditions returned to normal, the District would replenish its reserves. The reserve fund could be restored to its full level by increasing rates 1% and directing the additional revenue to reserves for five years.

The District’s response would be more complex if the 50% reduction in consumption was expected to be permanent. The District would need to raise the average water bill by approximately 20% to balance its budget. This rate increase could be accommodated with phased increases of 5% per year over four years. Two factors would mitigate the need for more immediate increases. First, the District’s general fund reserves could be used to temporarily fill the gap between expenditures and revenues. Second, the \$4.8 million shortfall mentioned above includes an anticipated \$1.6 million that would go to the Water Authority as they raise their rates, assuming the reduction was occurring across the region. The Water Authority would likely spread their rate increases over several years, allowing the District to do the same.

A summary of the District’s anticipated response is shown in Table 22.

Table 22. Proposed Measures to Overcome Revenue Impacts

Measure	Summary of Effects
Rate adjustment	5% annual increase for four years; 20% increase in average water bill
Development of reserves	Reserves are currently maintained at a minimum of \$12 million. With the rate adjustment, the District would replenish any draw-down of reserves that occurred.

A permanent 50% reduction in water consumption might allow the District to achieve cost savings in some areas. The need for additional pumping, storage, and pipeline capacity might be reduced. The District might not require as much equipment or staff to maintain its infrastructure. However, the District might see higher expenditures in other areas, such as water use monitoring or answering questions from customers. Overall, these changes are not expected to have a significant impact on District expenditures.

4.6 Draft Ordinance and Use Monitoring Procedure

4.6.1 Water Shortage Contingency Ordinance/Resolution

The District’s Code of Ordinance Draft Section 39 contains specific information on handling water shortages. A draft version of Section 39 is included as **Appendix F**.

4.6.2 Mechanism to Determine Reductions in Water Use

Mechanisms to determine reductions in water use include Water Authority water purchase invoices and records, which show prior use for comparison; and District customer billing showing 36-month prior consumption history for each customer.

The District has implemented and has operated for many years a Supervisory Control and Data Acquisition (SCADA) system to control, monitor, and collect data regarding the operation of the water system. The major facilities that have SCADA capabilities are the water supply source, transmission network, pumping stations, and water storage reservoirs. The SCADA system allows for many and varied useful functions. Some of these functions provide for operating personnel to monitor the water supply source flow rates and reservoir levels, as well as turn pumps on or off. The SCADA system aids in the prevention of water reservoir overflow events and increases energy efficiency. The SCADA system can be used to monitor demands and evaluate the effectiveness of conservation measures.

The District’s mechanisms for monitoring water use are summarized in Table 23.

Table 23. Water Use Monitoring Mechanisms

Mechanisms for determining actual reductions	Type and quality of data expected
Daily production and distribution records	System-wide changes in demand
Customer billing data	Month-to-month changes in water use, and year-to-year changes for key customers
SCADA system	Short-term changes in pumping, flow rates, or reservoir levels showing increased water use

5. Recycled Water Plan

5.1 Coordination

The District provides wastewater collection and treatment only in a relatively small portion of its service area. The District owns and operates the RWCWRF, which has the ability to produce approximately 1.1 mgd of recycled water meeting Title 22 requirements for landscape irrigation purposes. In the remainder of the District’s water service area, wastewater is collected by the County of San Diego, the City of Chula Vista, or the City of San Diego. Wastewater from these agencies is conveyed to the City of San Diego’s MWWD for treatment. Some of this wastewater is treated by MWWD at its South Bay Water Reclamation Plant (SBWRP), and the remainder is sent to the Point Loma Wastewater Treatment Plant for treatment and disposal through an ocean outfall.

The agencies that participate in recycled water planning for the District’s service area are shown in Table 24.

Table 24. Participating Agencies

Participating agencies	Role in Plan Development
Otay Water District	Owns and operates Ralph W. Chapman Water Recycling Facility and the recycled water distribution network
City of San Diego MWWD	Owns and operates regional interceptors, South Bay Water Reclamation Plant, and Point Loma Wastewater Treatment Plant

5.2 Wastewater Quantity, Quality and Current Uses

5.2.1 Wastewater Collection & Treatment

Wastewater generated within the District’s wastewater service area is collected via approximately 80 miles of sewer mains that flow by gravity to the County of San Diego’s Steele Canyon Pump Station in Rancho San Diego. Approximately 2 mgd of wastewater flows to the pump station, from which approximately 1.1 mgd is diverted to the District’s RWCWRF. The balance of wastewater is sent to MWWD for treatment at the SBWRP or at the Point Loma Wastewater Treatment Plant. At RWCWRF, tertiary treatment of the 1.1 mgd has the ability to reliably produce approximately 1,230 AF/yr of recycled water. The estimated annual treated flow is shown in Table 25.

Table 25. Wastewater Collected and Treated in District’s Wastewater Service Area – AF/yr

	FY 2000	FY 2005	FY 2010	FY 2015	FY 2020	FY 2025	FY 2030
Wastewater collected & treated by District	1,120	1,155	1,230	1,230	1,230	1,230	1,230
Quantity that meets recycled water standard	1,120	1,155	1,230	1,230	1,230	1,230	1,230

A second source of recycled water will be the City of San Diego’s SBWRP. In the fall of 2003, the District signed an agreement with San Diego to purchase an average of 6 mgd of recycled water from the SBWRP. The District also acquired the right to purchase supply from the SBWRP that exceeds 6 mgd if San Diego has the supply available. The agreement will increase the District’s recycled water supply from 1.1 mgd to at least 7.1 mgd. A copy of the agreement is included as **Appendix D**.

The District agreed to build the necessary transmission and related facilities from the SBWRP to the existing recycled water transmission system. In the first quarter of 2007, the District is expected to complete construction of the transmission system facilities and take delivery of the recycled water produced at the SBWRP. The District continues to expand its recycled water system and has one of the largest distribution systems for recycled water in San Diego County.

All wastewater generated in the District’s service area that is not recycled is sent to MWW for treatment. This water is treated and discharged into the Pacific Ocean.

5.2.2 Recycled Water Uses

Currently, there are 491 reclaimed irrigation meters receiving recycled water produced at the RWCWRF. In 2005, approximately 1.1 mgd of recycled water was supplied to recycled water users. Current uses consist primarily of commercial landscape irrigation, golf course irrigation, and irrigation of public places like parks, streetscapes, schools, highway medians, and open space areas. The Olympic Training Center facility in Chula Vista also uses recycled water to irrigate practice fields and common areas around the campus. These users collectively demanded more water than the output of RWCWRF, and the District supplemented the recycled water system with potable water. The total demand on the District’s recycled water system was 3,485 AF in 2005. Because this demand exceeded the District’s available supply from RWCWRF, the District used potable water to supplement the recycled system. The District’s 2005 recycled water use is summarized in Table 26.

Table 26. Recycled Water Uses – Actual AF/yr

Type of Use	Treatment Level	FY 2005 AF/yr
Landscape	Tertiary – Title 22	1,155
Total		1,155

5.3 Potential and Projected Use, Optimization Plan with Incentives

5.3.1 Potential Uses of Recycled Water

The District’s service area is experiencing rapid growth and development in the geographic area where recycled water is approved for use. There are two distinct recycled water market areas within the southern part of the District’s service area, known as the Central

Area and the Otay Mesa Area. The Central Area includes a number of major residential developments, and the Otay Mesa Area is expected to develop almost exclusively as industrial with very small commercial and residential land uses. Developers in both systems are anticipating that recycled water will be available, and dual distribution pipelines are planned or already in place.

The District’s 2002 Water Resources Master Plan included an assessment of current and future demand for recycled water. Most of the currently identified uses are for outdoor irrigation. Other opportunities for the expanded uses of recycled water are being examined, including but not limited to wetlands and other habitat restoration, groundwater recharge, brackish water intrusion barriers and industrial process water. The juvenile detention facility in Otay Mesa was constructed with a dual distribution system to allow the use of recycled water for toilet flushing. When the District’s recycled water system is expanded to serve this area, the juvenile detention facility will be served with recycled water. The District has also recently entered into an agreement with Otay Landfill, Inc., the operator of the Otay Landfill. The landfill operators currently plan to use 100,000 gallons per day (gpd) of recycled water for daily landfill operations such as dust suppression. This conversion will offset an equivalent demand for potable water, estimated as 110 AF/yr.

The identified potential uses for recycled water are shown in Table 27.

Table 27. Recycled Water Uses – Potential AF/yr

Type of Use	Treatment Level	FY 2010	FY 2015	FY 2020	FY 2025	FY 2030
Landscape	Tertiary - Title 22	4,040	4,684	5,430	6,294	7,297
Total		4,040	4,684	5,430	6,294	7,297

5.3.2 Recycled Water Demand Projections

Demand for irrigation water varies significantly from month to month in San Diego County. The existing recycled water demand currently averages approximately 1 mgd during cold weather and exceeds 5.5 mgd during hot weather. At buildout, the average daily demand is expected to be 8.2 mgd, with a peak summer month demand of 17.8 mgd. The District’s recycled supply from RWCWRF and SBWRP will average 7 to 8 mgd over the course of a year. The District has determined that seasonal storage of recycled water is not available or cost-effective. Therefore, during peak demand periods the recycled water system may have to be supplemented with potable water. The District will continue to review existing and future wastewater treatment facilities in the South County as potential sources to increase its supply of recycled water. The projected demand for recycled water is shown in Table 28.

Table 28. Projected Future Use of Recycled Water in Service Area – AF/yr

Type of Use	FY 2010	FY 2015	FY 2020	FY 2025	FY 2030
Landscape	4,040	4,684	5,430	6,294	7,297
Total	4,040	4,684	5,430	6,294	7,297

The District’s projected recycled water demand is shown in Figure 4.

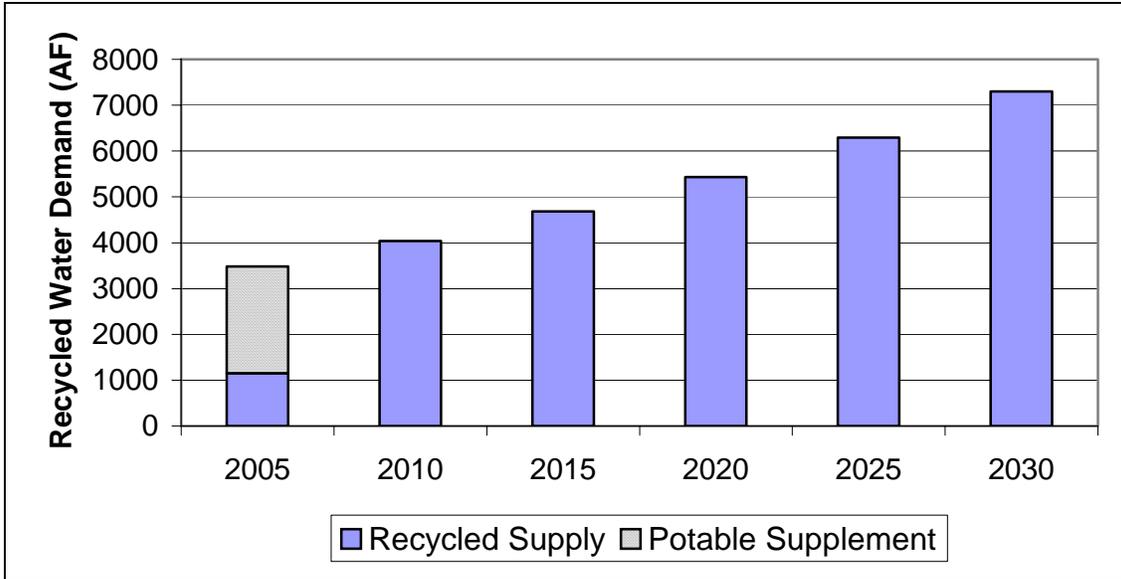


Figure 4. District's Projected Recycled Water Demand

The District's 2000 UWMP discussed the use of recycled water from RWCWRF to meet non-potable demands. The projected use from the 2000 UWMP is shown in Table 29.

Table 29. Recycled Water Uses – 2000 Projection Compared with 2005 Actual – AF/yr

Type of Use	2000 Projection for FY 2005	FY 2005 Actual Use
Landscape	1,120	1,155
Total	1,120	1,155

The actual 2005 use was slightly higher than the 2000 projection. The total demand on the District's recycled water system was 3,485 AF in 2005. Because this demand exceeded the District's available supply from RWCWRF, the District used potable water to supplement the recycled system.

5.3.3 Proposed Actions to Encourage Use of Recycled Water

The District made the commitment and commenced its wastewater recycling efforts over 15 years ago. A major component of the commitment to recycle was to enact an ordinance that requires recycled water be used for any and all appropriate and approved non-potable uses. The requirement continues today, with all new applications for water service being reviewed for opportunities to use recycled water. The District has also established financial incentives for the use of recycled water within its service area. The District's Code of Ordinance Section 26 details the requirements for the use of recycled water whenever feasible. Section 26 of the Ordinance is attached as **Appendix G**.

6. Water Quality Impacts on Reliability

The District is committed to providing high-quality water to its customers. Each of the District's water sources has water quality issues, as discussed below. However, all of these potential issues are being addressed through source control, treatment, or both. None of these water quality issues is expected to reduce the District's available water supply. The District's supply is not considered subject to reduction due to poor water quality.

6.1 Potable Water

The District's existing potable supply is provided by the Water Authority and Metropolitan from two sources: the Colorado River and the SWP. The District also has an agreement with the City of San Diego to receive water from the City's Otay WTP, which at certain times may treat local surface water. The District's future potable supply may include desalinated ocean water or local groundwater. Each of these sources has unique water quality issues. Much of this water quality discussion is based on information compiled by the Water Authority.

6.1.1 Colorado River

Two areas of concern about the quality of Colorado River water are perchlorate and salinity as measured by total dissolved solids (TDS).

Ammonium perchlorate is used as the main component in solid rocket propellant, and it can also be found in some types of munitions and fireworks. The primary human health concern related to perchlorate is its effects on the thyroid. Perchlorate has been detected at low levels in Metropolitan's Colorado River water supply.

In 2002 Metropolitan adopted a Perchlorate Action Plan. Metropolitan is actively monitoring perchlorate levels and working to prevent the introduction of perchlorate into the Colorado River system. Monitoring indicates that the perchlorate originates from a contaminated area in Nevada that leads to the Las Vegas Wash and eventually the Colorado River. The Nevada Department of Environmental Protection is managing a remediation program for this site. According to data compiled by Metropolitan, the amount of perchlorate entering the Colorado River from this site has dropped from 900 pounds per day in 1997 to less than 150 pounds per day in 2004. Metropolitan will continue to monitor its system for signs of perchlorate contamination.

The salinity in Colorado River water is due to naturally occurring saline sediments in the basin and to high-salinity return flows from agriculture. The range of TDS in the Colorado River is 525 milligrams per liter (mg/L) during high flows and 900 mg/L during drought conditions, averaging around 650 mg/L during normal water years. High TDS in water supplies causes high TDS at wastewater plants and can limit the eventual use of the

recycled water. Additionally, high levels of TDS can damage water delivery systems and home appliances.

Metropolitan has adopted a Salinity Management Plan to deal with the TDS issues. One part of this plan is to blend Colorado River water with other sources to achieve a blended TDS of less than 500 mg/L. Metropolitan is also involved in the Colorado River Basin Salinity Control Forum, which seeks to intercept and control sources of salt in the basin.

6.1.2 State Water Project

Water supplies from the SWP typically have significantly lower TDS levels than the Colorado River, averaging 250 mg/L. Because of this lower salinity, Metropolitan blends SWP water with higher salinity Colorado River 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.

Water from the SWP also has higher levels of bromide and total organic carbon (TOC) than Colorado River water. These constituents can lead to the formation of disinfection-by-products during treatment. The formation of disinfection-by-products can be controlled through appropriate technology selection and careful monitoring of water quality in the treatment process and in the distribution system. The California Urban Water Agencies retained an expert panel that identified target concentrations of bromide (50 parts per billion) and TOC (3 parts per million) in raw source water. These goals have been adopted as targets for the SWP intakes in the Sacramento-San Joaquin Delta.

6.1.3 Local Surface Water

Under its agreements with neighboring agencies, it is possible for water from local watersheds to be delivered to the District. In the past, the quality of local water sources has been considered good. The most significant reported problem is algae blooms, which can lead to taste and odor issues.

The Water Authority, the City of San Diego, and the County of San Diego have formed a Regional Water Management Group to develop an Integrated Regional Water Management Plan (IRWMP) for the San Diego region. The IRWMP will include measures to protect and enhance the quality of local water sources. The Water Authority is also working with its member agencies to improve watershed awareness and management.

6.1.4 Pacific Ocean

The proposed regional seawater desalination project at the Encina Power Station in Carlsbad will draw water from the Pacific Ocean. The TDS of the Pacific Ocean in San Diego County averages approximately 34,000 mg/L. The water will undergo a pretreatment process to remove suspended solids and organic material. The desalination facility will then use a reverse osmosis (RO) membrane treatment process to reduce the TDS to less than 350 mg/L. The product water will be post-treated to improve its aesthetic quality and help prevent corrosion in the distribution system. A residual disinfectant will also be added to the water. The product water will meet all applicable drinking water

regulations. The brine discharge will be returned to the ocean through the existing outfall used for cooling water at the power plant. This dilution is expected to minimize any adverse impacts on ocean water quality or the marine environment.

6.1.5 Groundwater

The District continues to evaluate the potential for local groundwater supply development. Two possible water quality issues with groundwater are contamination with Methyl Tertiary Butyl Ether (MTBE) and high salinity levels.

Until recently, MTBE was used as an additive to gasoline in order to reduce air pollution. MTBE can leak from underground storage tanks and make its way to groundwater aquifers. MTBE is very soluble in water and has a low affinity for soil, making treatment of MTBE more difficult than treatment of other gasoline components. Because of these issues, California has phased out the use of MTBE as a gasoline additive. As leaking underground storage tanks are replaced, the risk of MTBE contamination may be reduced.

Increased salinity in groundwater can result from seawater intrusion or return flows from irrigation that are high in salinity. Water quality officials may restrict the salinity level of water used for irrigation to protect groundwater supplies. In fact, the District's permit for use of recycled water from RWCWRF calls for a maximum TDS of 1,000 mg/L, to protect the underlying groundwater.

6.2 Recycled Water

The primary water quality issue for use of recycled water is salinity, as measured by TDS. Conventional wastewater treatment processes are not designed to remove salinity. Metropolitan's goal for potable water delivery is a TDS level of 500 mg/L, and residential use of water can add 200 to 300 mg/L of TDS. TDS concentrations over 1,000 mg/L in recycled water can lead to restrictions on use in irrigation or other applications

Recycled water from the District's RWCWRF has consistently had less than 1,000 mg/L TDS. The District's contract with the City of San Diego for water from SBWRP calls for delivery of water with less than 1,000 mg/L TDS.

7. Water Service Reliability

The District’s water supplies and expected reliability have been discussed in Section 2. This section presents tables with expected future demands during normal and dry conditions and estimated supplies.

Throughout this section, projected supplies are shown to match projected demands. This level of reliability is based on the documentation in the UWMPs prepared by Metropolitan and the Water Authority. These agencies have determined that they will be able to meet potable demands through 2030, during normal and dry conditions. The District currently relies on these agencies for its potable supply, and the District has worked with Metropolitan and the Water Authority to prepare consistent demand projections for the District’s service area. To maintain consistency in planning efforts, the District has shown future supplies meeting future demands.

7.1 Projected Normal Water Year Supply and Demand

The District’s potable water supply is expected to continue to be supplied by the Water Authority. Recycled water will provide additional supply. For the purposes of estimating demand, 2004 is considered to be a normal year. The projected supply and demand under normal weather are shown in Table 30.

Table 30. Projected Normal Year Supply and Demand Comparison – AF/yr

	FY 2005	FY 2010	FY 2015	FY 2020	FY 2025	FY 2030
Water Authority	37,618	45,772	52,349	59,799	66,560	75,108
Recycled	1,155	4,040	4,684	5,430	6,294	7,297
Total Supply	38,773	49,812	57,033	65,229	72,854	82,405
Supply as % of year 2005	100%	128%	147%	168%	188%	212%
Total Demand	38,773	49,812	57,033	65,229	72,854	82,405
Demand as % of year 2005	100%	128%	147%	168%	188%	212%
Difference (supply minus demand)		0	0	0	0	0

7.2 Projected Single-Dry-Year Supply and Demand Comparison

Changes in weather can lead to changes in water use. During dry years, water demands can be expected to increase. The Water Authority uses a computer model known as CWA-MAIN to estimate water demands. CWA-MAIN uses demographic and economic data, as well as weather data, to estimate water demands. Using CWA-MAIN, the Water Authority estimated dry-year demands for five-year increments from 2010 through 2030. On average, the dry-year demands were 7% higher than the normal demands. The District has elected to use the same 7% factor to estimate its dry-year demands. The weather that causes higher demands was considered to be a dry year such as 1989. The District’s

recycled water supply was assumed to be “drought-proof” and not subject to reduction during dry periods.

The projected dry-year supplies and demands are compared in Table 31.

Table 31. Projected Single Dry Year Supply and Demand Comparison – AF/yr

	FY 2010	FY 2015	FY 2020	FY 2025	FY 2030
Water Authority	49,259	56,341	64,365	71,660	80,876
Recycled	4,040	4,684	5,430	6,294	7,297
Total Supply	53,299	61,025	69,795	77,954	88,173
% of Normal Year	107%	107%	107%	107%	107%
Total Demand	53,299	61,025	69,795	77,954	88,173
% of Normal Year	107%	107%	107%	107%	107%
Difference (supply minus demand)	0	0	0	0	0

7.3 Projected Multiple-Dry-Year Supply and Demand Comparison

The Act requires water agencies to project demands and supplies during multiple dry years. Projections were prepared for five time frames: five-year periods ending in 2010, 2015, 2020, 2025, and 2030. Normal-year demands for intermediate years were interpolated between the demand values in Table 30. Dry-year demands were assumed to be 7% higher than normal demands. The multiple dry-year period would be assumed to be similar to the 1989-1991 period. The available recycled supply was assumed to increase to 4,040 AF/yr beginning in FY 2008, the first full fiscal year after completion of the infrastructure to bring recycled water from the SBWRP to the District. After 2010, the available recycled supply for intermediate years was interpolated between the supply values in Table 31.

The estimated supply and demand for five dry years ending in 2010 are summarized in Table 32.

Table 32. Projected Supply and Demand Comparison during Multiple Dry Year Period Ending in 2010 – AF/yr

	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010
Water Authority	42,619	44,982	44,534	46,896	49,259
Recycled	1,230	1,230	4,040	4,040	4,040
Total Supply	43,849	46,212	48,574	50,936	53,299
% of Normal Year	107%	107%	107%	107%	107%
Total Demand	43,849	46,212	48,574	50,936	53,299
% of Normal Year	107%	107%	107%	107%	107%
Difference (supply minus demand)	0	0	0	0	0

The estimated supply and demand for five dry years ending in 2015 are summarized in Table 33.

Table 33. Projected Supply and Demand Comparison during Multiple Dry Year Period Ending in 2015 – AF/yr

	FY 2011	FY 2012	FY 2013	FY 2014	FY 2015
Water Authority	50,675	52,091	53,509	54,925	56,341
Recycled	4,169	4,298	4,426	4,555	4,684
Total Supply	54,844	56,389	57,935	59,480	61,025
% of Normal Year	107%	107%	107%	107%	107%
Total Demand	54,844	56,389	57,935	59,480	61,025
% of Normal Year	107%	107%	107%	107%	107%
Difference (supply minus demand)	0	0	0	0	0

The estimated supply and demand for five dry years ending in 2020 are shown in Table 34.

Table 34. Projected Supply and Demand Comparison during Multiple Dry Year Period Ending in 2020 – AF/yr

	FY 2016	FY 2017	FY 2018	FY 2019	FY 2020
Water Authority	57,946	59,551	61,156	62,760	64,365
Recycled	4,833	4,982	5,132	5,281	5,430
Total Supply	62,779	64,533	66,287	68,041	69,795
% of Normal Year	107%	107%	107%	107%	107%
Total Demand	62,779	64,533	66,287	68,041	69,795
% of Normal Year	107%	107%	107%	107%	107%
Difference (supply minus demand)	0	0	0	0	0

The estimated supply and demand for five dry years ending in 2025 are shown in Table 35.

Table 35. Projected Supply and Demand Comparison during Multiple Dry Year Period Ending in 2025 – AF/yr

	FY 2021	FY 2022	FY 2023	FY 2024	FY 2025
Water Authority	65,824	67,283	68,742	70,201	71,660
Recycled	5,603	5,776	5,948	6,121	6,294
Total Supply	71,427	73,059	74,690	76,322	77,954
% of Normal Year	107%	107%	107%	107%	107%
Total Demand	71,427	73,059	74,690	76,322	77,954
% of Normal Year	107%	107%	107%	107%	107%
Difference (supply minus demand)	0	0	0	0	0

The estimated supply and demand for five dry years ending in 2030 are shown in Table 36.

Table 36. Projected Supply and Demand Comparison during Multiple Dry Year Period Ending in 2030 – AF/yr

	FY 2026	FY 2027	FY 2028	FY 2029	FY 2030
Water Authority	73,503	75,346	77,190	79,033	80,876
Recycled	6,495	6,695	6,896	7,096	7,297
Total Supply	79,998	82,042	84,086	86,129	88,173
% of Normal Year	107%	107%	107%	107%	107%
Total Demand	79,998	82,042	84,086	86,129	88,173
% of Normal Year	107%	107%	107%	107%	107%
Difference (supply minus demand)	0	0	0	0	0

8. Adoption and Implementation of UWMP

This Urban Water Management Plan was adopted by the District Board of Directors on December 7, 2005. A copy of the adoption resolution is attached in **Appendix B**.

Appendix A

Text of Urban Water Management Planning Act

Established: AB 797, Klehs, 1983

Amended: AB 2661, Klehs, 1990

AB 11X, Filante, 1991

AB 1869, Speier, 1991

AB 892, Frazee, 1993

SB 1017, McCorquodale, 1994

AB 2853, Cortese, 1994

AB 1845, Cortese, 1995

SB 1011, Polanco, 1995

AB 2552, Bates, 2000

SB 553, Kelley, 2000

SB 610, Costa, 2001

AB 901, Daucher, 2001

SB 672, Machado, 2001

SB 1348, Brulte, 2002

SB 1384, Costa, 2002

SB 1518, Torlakson, 2002

AB 105, Wiggins, 2004

SB 318, Alpert, 2004

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

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 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 and 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) 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:
 - (1) An average water year.
 - (2) A single dry water year.
 - (3) Multiple dry water years.

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) Urban water suppliers that are members of the California Urban Water Conservation Council and submit annual reports to that council

in accordance with the “Memorandum of Understanding Regarding Urban Water Conservation in California,” dated September 1991, may submit the annual reports identifying water demand management measures currently being implemented, or scheduled for implementation, to satisfy the requirements of subdivisions (f) and (g).

- (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), including, but not limited to, ocean water, brackish water, and groundwater, as a long-term supply.

10631.5. The department shall take into consideration whether the urban water supplier is implementing or scheduled for implementation, the water demand management activities that the urban water supplier identified in its urban water management plan, pursuant to Section 10631, in evaluating applications for grants and loans made available pursuant to Section 79163. 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.

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, 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.

Articl 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 file with the department 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 filed with the department 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 outstanding elements of the individual plans. The department shall provide a copy of the report to each urban water supplier that has filed its plan with 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.

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.

10657.

- (a) The department shall take into consideration whether the urban water supplier has submitted an updated urban water management plan that is consistent with Section 10631, as amended by the act that adds this section, in determining whether the urban water supplier is eligible for funds made available pursuant to any program administered by the department.
- (b) This section shall remain in effect only until January 1, 2006, and as of that date is repealed, unless a later enacted statute, that is enacted before January 1, 2006, deletes or extends that date.

Appendix B

Resolution of Adoption and Related Documentation

RESOLUTION NO. 4066

A RESOLUTION OF THE BOARD OF DIRECTORS
OF OTAY WATER DISTRICT
ADOPTING THE DISTRICT URBAN WATER
MANAGEMENT PLAN 2005 UPDATE

WHEREAS, the proper and cost-effective conservation of our water resources is essential to insuring adequate water supplies now and in the future; and

WHEREAS, the Otay Water District ("District") has completed the 2005 update to the Urban water Management Plan ("Plan") pursuant to the requirements of California Water Code Section 10610 et seq.; and

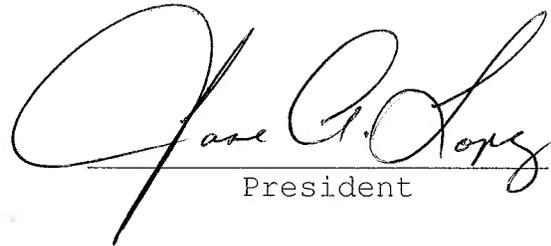
WHEREAS, the Plan is the formal document to discuss past, current and projected water demands; current and alternative water conservation measures; water supply deficiencies; and future water management practices. NOW,

THEREFORE, BE IT RESOLVED that the Board of Directors of the Otay Water District approves and adopts the Plan entitled "2005 Urban Water Management Plan" for the Otay Water District; and

BE IT FURTHER RESOLVED that the General Manager of the District is authorized and directed to implement the water conservation measures included in the updated Plan as the

District's part in the local and regional water conservation effort.

PASSED, APPROVED AND ADOPTED by the Board of Directors of Otay Water District at a regular meeting held this 7th day of December, 2005.


President

ATTEST:


District Secretary

Appendix C

Agreement with City of San Diego for Potable Water Supply from Otay WTP

[Handwritten signature]
DUPLICATE

November 19, 1998

AGREEMENT FOR THE PURCHASE OF TREATED WATER FROM THE OTAY WATER TREATMENT PLANT BETWEEN THE CITY OF SAN DIEGO AND THE OTAY WATER DISTRICT

This Agreement is made and entered into as of JAN 11 1999 by and between the Otay Water District ("OTAY"), a water district organized under the Municipal Water District Law of 1911, and the City of San Diego ("CITY"), a municipal corporation.

RECITALS

Whereas, the economy, employment and quality of life of the San Diego County region is dependent on a reliable and affordable water supply which requires cooperation of local water agencies both directly and through their joint imported water agency, the San Diego County Water Authority ("CWA"); and

Whereas treated water surplus to CITY needs (Surplus), hereby defined as treated water surplus over the Otay Water Treatment Plant's peak daily demand, is available to serve OTAY from the Otay Water Treatment Plant; and

Whereas, by making Surplus treated water available to OTAY, the CITY and the region will benefit by increased use of existing resources and potential savings in future regional facilities; and

Whereas, by entering into an agreement to provide Surplus treated water to OTAY, the CITY will improve the efficiency of its treatment plant operations and generate additional income; and

Whereas, the CWA will benefit by being able to defer deliveries of approximately ten MGD of treated water to OTAY; and

Whereas, the CWA recommends that each of its member agencies provide sufficient water reserves to withstand up to ten days of cutoff from imported treated water supplies; and

DOCUMENT NO. RR-291138
JAN 11 1999
FILED _____
OFFICE OF THE CITY CLERK
SAN DIEGO, CALIFORNIA

Whereas, OTAY relies exclusively on imported treated water and on imported raw water treated by others, for supplying its service area with water; and

Whereas, OTAY has determined that the most viable approach to establishing adequate reserves is to build a maximum of five days covered treated water storage and to secure treated water supply commitments from other agencies for the remainder; and

Whereas, the CITY is willing to sell Surplus treated water to OTAY from the CITY's Otay Water Treatment Plant and additional treated water in the future; and

Whereas, OTAY's future needs (OTAY's Needs) are for 10 to 20 million gallons per day (MGD) of treated water; and

Whereas, the CITY is willing to expand its Otay Water Treatment Plant to meet future OTAY and CITY needs.

NOWHEREFORE, in consideration of the terms and conditions set forth below, and other good and valuable consideration, the receipt and sufficiency of which are hereby acknowledged, the CITY and OTAY agree as follows:

ARTICLE I TERM

1.1 The term of this Agreement shall be for a period of fifty years commencing on January 1, 1999, and terminating on December 31, 2048.

ARTICLE II SALE OF TREATED WATER TO OTAY

2.1 The CITY agrees to sell OTAY Surplus treated water from the Otay Water Treatment Plant pursuant to the following terms:

2.1.1 The CITY and OTAY agree that until such time as OTAY pays the CITY a sum of money equivalent to the then current cost to expand the Otay Water Treatment Plant to meet OTAY's Needs, CITY's obligation to supply treated water under this Agreement is contingent upon there being available 10 MGD of Surplus treated water in the Otay Water Treatment Plant for the term of this Agreement, as determined by the CITY in its sole discretion.

2.1.2 In the event said Surplus is projected by the CITY, in its sole discretion, to be less than 10 MGD due to increased demand on the part of the CITY's water customers, CITY shall so notify OTAY and CITY and OTAY shall confer to see if OTAY's Needs may continue to be met by the CITY, provided however, the decision to expand the CITY's Otay Water Treatment Plant be at the CITY's sole discretion. The CITY shall not unreasonably refuse to expand to meet OTAY's Needs.

2.1.3 OTAY agrees to pay the CITY, as a contribution in aid of construction, a payment equal to the then current costs and expenses of said expansion including any financing or any debt service costs, multiplied by the percentage which OTAY's Needs represents with respect to the total additional treatment capacity contemplated by said expansion. Such costs and expenses include, but are not limited to, planning, surveying, design, construction, easement acquisition, environmental studies and/or environmental impact reports, processing required permits through agencies, implementation of environmental mitigation measures, field inspection, project administration to complete such expansion project, debt service and other financing costs, and any other reasonable costs and expenses incurred by the CITY ("Expansion Costs").

2.1.4 Should the CITY and OTAY agree on an expansion of the facility, the CITY and OTAY shall enter into a separate agreement specifying obligations pertaining to the sharing of costs and expenses for the expansion and construction of the Otay Water Treatment Plant, including but not limited to financing, expansion and construction costs, as well as the duration of OTAY's right to service from said plant in consideration of said sharing of costs and expenses. Such separate agreement must be approved prior to any expenditures for the expansion by the City.

2.1.5 The CITY shall retain ownership of the Otay Water Treatment Plant and any expanded portions thereof, notwithstanding anything contained herein.

2.2 Notwithstanding the forgoing, nothing in this Section 2 or in this Agreement shall obligate the CITY to make any payment for the acquisition, construction, maintenance, or operation of the CITY's water treatment facilities from moneys derived from taxes or from any income and revenue of the CITY other than moneys in or water revenues which go into the Water Utility Fund for the CITY's water system and from construction funds derived from the sale of water revenue bonds or other securities for the CITY's water system as are duly authorized.

2.2.1 Nothing in this Agreement shall be construed to obligate the CITY to pay from its annual income and revenues any sum which would create an indebtedness, obligation or liability within the meaning of the provisions of article XVI, section 18, of the California State Constitution.

2.2.2 Nothing in this Section 2 or in this Agreement, however, shall prevent the CITY, in its discretion, from using tax revenues or any other available revenues or funds of the CITY for any purpose for which the CITY is empowered to expend moneys under this Agreement .

2.2.3 Nothing in this section shall relieve the CITY or OTAY from their

obligations under this Agreement.

2.2.4 Nothing in this Section 2 or in this Agreement shall obligate OTAY to make any payment which would create an indebtedness, obligation, or liability within the meaning of article XVI, section 18 of the California State constitution, or which is not authorized by law.

ARTICLE III OTAY's OBLIGATIONS

3.1 The cost of water to be purchased by OTAY in the next succeeding fiscal year from the CITY shall be calculated by the CITY by determining in June of the preceding fiscal year, the projected cost and expenses of all operations, maintenance and overhead, and capital improvements, repairs and replacements under \$100,000 to be incurred at the CITY's Otay Water Treatment Plant. This calculation shall be divided by the total number of acre feet (AF) of water treated at the Otay Water Treatment Plant in the preceding fiscal year. This cost per AF shall be added to the raw water rate, as defined in section 3.1.2, to determine the projected actual cost to OTAY for the next succeeding fiscal year.

3.1.1 Notwithstanding the forgoing, if the projected cost of the treated water to be supplied by the CITY exceeds the CWA treated water rates, OTAY shall have the option of purchasing treated water from the City or from CWA.

3.1.2 Raw water costs billed to OTAY by the CITY shall not exceed the prevailing CWA raw water rate that was last paid by the CITY. All imported raw water used to provide OTAY with treated water shall be from OTAY's imported water allocation from CWA.

3.1.3 OTAY shall annually notify the CITY in writing before June 30th, its projected daily average demand to be received from the CITY for the next fiscal year.

3.2 OTAY shall pay the following costs and expenses within forty-five (45) calendar days of receipt of a bill from the CITY: monthly operating costs and expenses shall be as determined in section 3.1 above, multiplied by the number of acre feet of treated water delivered to OTAY during the previous calendar month.

3.2.1 In the event OTAY fails to make its payment(s) to the CITY by the date specified in section 3.2 above, OTAY shall be charged interest on the amount outstanding at a rate of interest then equal to the CITY's pooled investment return.

3.2.2 OTAY shall pay for operations, maintenance, and overhead costs and expenses ("O&M Costs") of the Otay Water Treatment Plant, including the expansion, up to the full amount of water delivered to OTAY from that facility, as

determined in section 3.2 above.

3.3 OTAY shall order treated water from CITY facilities twice a day at 8:00 AM and 2:00 PM.

3.4 OTAY shall be responsible for all costs and expenses associated with constructing facilities to receive treated water from the CITY's Otay Water Treatment Plant, including any CITY approved metering facilities. Once constructed and approved by the CITY, OTAY shall transfer ownership of the metering facilities to the CITY. The CITY shall maintain, repair and replace as necessary the metering facilities and read the meter.

ARTICLE IV CITY's OBLIGATIONS

4.1 In the event the rated capacity of the CITY's Otay Water Treatment Plant is diminished for any reason, including, but not limited to, equipment failure, source water quality changes, regulatory requirements or natural disaster, and OTAY is receiving Surplus treated water pursuant to Article II above, then OTAY shall be entitled to purchase such treated water that is then surplus to the CITY's needs. If OTAY has contributed to the expansion of the Otay Water Treatment Plant pursuant to section 2.1 above, then OTAY shall be entitled to receive an amount of available treated water produced by the Otay Water Treatment Plant which shall be determined by dividing the amount of capacity funded by OTAY by the design capacity of the plant, and then multiplying by the reduced capacity thereof.

4.2 During a declared drought, the amount of treated water that may be purchased by OTAY, whether Surplus or pursuant to a contribution to expansion, shall be reduced by the same percentage as the rationing that is imposed on all CITY customers.

4.3 The CITY shall bill OTAY directly for O&M Costs of water treated and delivered to OTAY. The O&M Costs are subject to adjustment as follows:

4.3.1 After the first fiscal year (beginning July 1 and ending June 30) and thereafter, the CITY shall determine before January 10th, its total O&M Costs, defined as year end O&M Costs, at the Otay Water Treatment Plant for the preceding fiscal year. The CITY shall make available to OTAY its books and records relevant to such determination and review the same with the General Manager of OTAY.

4.3.2 The total O&M Costs for the preceding fiscal year shall be divided by the total number of acre feet of water treated at the CITY's Otay Water Treatment Plant to determine the unit cost of the O&M Costs for said period. Such unit cost shall be multiplied by the water delivered to OTAY during such period.

4.3.3 An adjustment shall be made by January 10 of each year in the projected O&M Costs calculated per section 3.1 to reflect the total O&M Costs of producing and delivering the treated water to OTAY for the preceding fiscal year. The CITY shall bill or credit OTAY for such O&M Costs. Upon receipt of audited financial statements received after January 10 of each year, adjustments shall be made by the CITY in the succeeding monthly billings consistent with the costs and expenses actually incurred by the CITY.

4.4 After the Agreement commencement date and OTAY'S receipt of treated water from the CITY, the CITY shall bill OTAY monthly on or before the 15th of each month for the amounts due for the previous month's costs hereunder.

ARTICLE V MAJOR REPAIR, REPLACEMENT OR RECONSTRUCTION COSTS AND EXPENSES

5.1 A project is considered a major repair, replacement, or reconstruction if its total projected cost exceeds \$100,000.

5.2 In the event major repair, replacement, or reconstruction becomes necessary at the CITY's Otay Water Treatment Plant in order to supply OTAY with treated water pursuant to this agreement, the total cost shall be divided by the number of years of expected useful life of such improvement. Such number shall then be divided by the number of acre-feet treated at the CITY's Otay Water Treatment Plant in the past fiscal year to arrive at a cost per acre-foot. This cost per acre foot shall then be added to the cost of each acre foot of treated water delivered to OTAY and billed thereafter for the number of years of expected useful life of the improvement, as agreed to between the CITY and OTAY. This cost shall be adjusted annually based upon the actual water treated at the CITY's Otay Water Treatment Plant each fiscal year. For example, a major repair costs \$200,000 and is expected to have a useful life of 20 years; a total of 30,000 acre feet was treated at the Otay Water Treatment Plant during the past fiscal year, and OTAY pays the CITY \$500 per acre foot for treated water delivered. The following calculation would apply: \$200,000 divided by 20 years equals \$10,000 per year, \$10,000 per year divided by 30,000 acre feet per year equals \$0.33 per acre foot, \$500 plus \$0.33 equals the new rate of \$500.33 per acre foot of treated water that the CITY charges OTAY. If in the following fiscal year 32,000 acre feet are treated, then the adjustment would be \$10,000 divided by 32,000 acre feet which equals \$0.31 per acre foot. The \$0.31 would then be added to the updated cost OTAY pays the CITY per acre foot.

5.3 Major repair, replacement, or reconstruction project costs and expenses shall include, but not be limited to, the following: planning, surveying, design, construction, easement acquisition, environmental studies and/or environmental impact reports, processing required permits through agencies, implementation of

environmental mitigation measures, field inspection, project administration to complete such replacement project, debt service and other financing costs where applicable, and any other reasonable costs and expenses incurred by the CITY ("Replacement Costs").

5.4 The CITY shall maintain the Otay Water Treatment Plant and Lower Otay Reservoir outlet works in good repair and good working order in accordance with sound engineering practices by the CITY. It shall be the duty of the CITY to make any repair, replacement, or reconstruction necessary to keep such facilities in good operating condition.

5.5 Prior to the CITY undertaking any major repair, replacement, or reconstruction of the Otay Water Treatment Plant or the Lower Otay Reservoir outlet works, it shall review with OTAY the costs thereof. The CITY retains the right to proceed in any event.

5.6 In the event of an emergency, any necessary repairs, replacements, or reconstruction shall be implemented as expeditiously as possible, with notification as soon as reasonably possible to OTAY of the emergency and required repairs, replacements, and reconstruction.

5.7 Notwithstanding the provisions of Section 5.2 above, if as a result of natural disaster, operation of federal or state law or other causes beyond the control of the parties hereto, it becomes necessary for the CITY to undertake major repairs, replacements, or reconstruction of the Otay Water Treatment Plant, and OTAY has contributed to the expansion of the plant pursuant to section 2.1.3 of this Agreement, OTAY shall reimburse the CITY for its proportionate share of the cost of such repairs, replacements, or reconstruction not covered by grants, insurance, FEMA, etc. For example, if the Otay Water Treatment Plant can treat a maximum of 60 MGD and OTAY has contributed to the construction of 10 MGD pursuant to terms of this Agreement, then OTAY's share would be one-sixth (16.67 percent).

ARTICLE VI SUCCESSORS IN INTEREST

6.1 In the event that, at the sole discretion of the CITY, the CITY chooses to lease, privatize or sell the Otay Water Treatment Plant to any third party, the CITY agrees that it will require, as a condition of said lease, privatization or sale, a commitment on the part of said third party to honor the terms and conditions of this Agreement.

6.2 Nothing contained herein shall prevent the CITY from entering into a financing agreement which may impose limits on the CITY's power to sell the Otay Water Treatment Plant or any appurtenant facilities, if the CITY believes that such financing is in the CITY's best interests. Neither the entry into such a financing

agreement by the CITY nor its performance thereunder by the CITY shall constitute a breach or default by the CITY hereunder.

ARTICLE VII INDEMNIFICATION

The CITY and OTAY agree to defend, indemnify, protect and hold each other harmless from all claims, demands, losses and liability to the extent that the same are the result of error, omission or negligent act of its officers or employees, or any other persons acting pursuant to its control and performing under this agreement. However, the CITY and OTAY'S duty to indemnify and hold the other party harmless shall not include any claims or liability arising from the sole negligence or willful misconduct of the other party, its agents, officers, or employees.

ARTICLE VIII AMENDMENTS

This Agreement may be modified or amended by the parties hereto at any time. Provided, however, that any modification or amendment must be mutually agreed upon and executed in writing. Verbal modifications or amendments shall be of no effect.

ARTICLE IX WATER TREATMENT STANDARDS

The CITY shall treat all water to be sold to OTAY in accordance with all requirements of federal and state authorities, laws, rules, regulations, and standards. The treated water shall be of a quality substantially the same as delivered by the CITY to its customers.

ARTICLE X ASSIGNMENT

10.1 Neither OTAY nor the CITY shall assign this Agreement nor any interest herein, or permit the transfer thereof by operation of law or otherwise, without first obtaining the consent of the other expressed in writing and signed by the City Manager or OTAY General Manager.

10.2 Such consent shall not be unreasonably withheld by either party.

10.3 Any attempted transfer or assignment shall not create any right whatsoever in the transferee or assignee.

ARTICLE XI TERMINATION

11.1 In the event OTAY shall be adjudicated as bankrupt or become insolvent or subject to a receivership, the CITY may, at its discretion, terminate this Agreement without further notice.

11.2 In the event OTAY shall fail or refuse to perform any term, covenant, or condition of this Agreement and shall fail to cure such default within ninety days after written notice from the CITY, then the CITY may terminate this Agreement by giving OTAY written notice of its election to terminate this Agreement.

ARTICLE XII FORCE MAJEURE

In the event the rights and obligations of the parties to this Agreement shall be subject to unanticipated delays or cancellations caused by strikes, fire, accident, acts of God, orders of any military, civil, or governmental authority, litigation, or other cause beyond the control of the parties, the rights or obligations of the parties affected thereby shall be continued for a period equal to the period resulting from such delay.

ARTICLE XIII CONSTRUCTION OF THIS AGREEMENT

13.1 Any notice, demand, request, consent, approval or communication that either party desires or is required to give to the other party shall be in writing addressed to the other party as follows:

To CITY: c/o City Manager
City Administration Building
202 C Street MS 9A
San Diego, CA 92101

To OTAY: c/o General Manager
Otay Water District
2554 Sweetwater Springs Blvd.
Spring Valley, CA 91978-2096

or such other address as may have been specified by notifying the other party of the change of address. Notice shall be deemed served on the fourth business day following the day of mailing only if mailed with the United States Postal Service, by certified mail, return receipt requested.

13.2 Time is of the essence for each provision of this Agreement.

13.3 Nothing contained in this Agreement shall be construed as a limitation upon the powers of CITY as a chartered city of the State of California or OTAY.

13.4 All provisions hereof, expressed as either covenants or conditions on the part of CITY or OTAY to be performed or observed shall be deemed to be both covenants and conditions.

13.5 This Agreement shall be construed and interpreted in accordance with the laws of the State of California. OTAY covenants and agrees to submit to the personal jurisdiction of any state court located in San Diego County for any dispute, claim, or matter arising out of or related hereto. Either party may refer any dispute to non-binding mediation for resolution based on mutual consent.

13.6 This Agreement, including Attachments and/or Exhibits, contains all of the agreements of the parties and all prior negotiations and agreements are merged herein.

13.7 The Section headings and any captions are inserted herein only as a matter of convenience and for reference and shall have no effect on the interpretation of this Agreement.

13.8 When required by the context of this Agreement, the singular shall include the plural.

13.9 The unenforceability, invalidity or illegality of any provision of this Agreement shall not render the other provisions unenforceable, invalid or illegal, provided that the purpose and intent of the Agreement can be reasonably carried out without the unenforceable or invalid provision.

13.10 If either party commences an action against the other party arising out of or in connection with this Agreement, the prevailing party shall be entitled to request the court for an award of reasonable attorneys' fees and costs of suit from the losing party.

13.11 The failure of CITY to enforce a particular term, condition, or provision of this Agreement shall not constitute a waiver of that condition or provision or its enforceability.

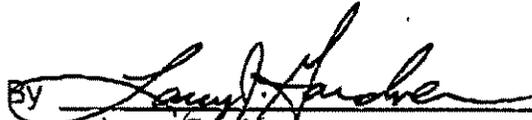
13.12 All payments to the CITY under the terms of this Agreement shall be made payable to the City Treasurer, and submitted to the CITY Water Department.

13.13 All payments required under this Agreement shall be deemed sufficiently paid if made by check collected on first presentation.

IN WITNESS WHEREOF, this Agreement is executed by the City of San Diego, acting by and through its City Manager, pursuant to ~~Ordinance No. O- R- 291138~~ RESOLUTION NO. authorizing such execution, and by OTAY.

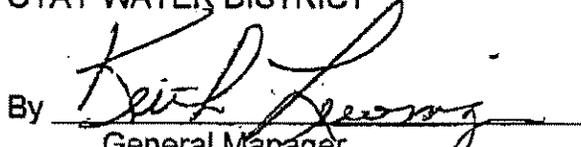
Dated this _____ day JAN 11 1999 1998.

THE CITY OF SAN DIEGO

By 
Larry Gardner
Water Department Director

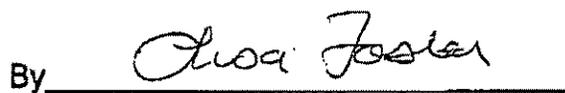
Dated this 19th day of November, 1998.

OTAY WATER DISTRICT

By 
General Manager

Approved as to form and legality on this day 15 of JANUARY, ¹⁹⁹⁹~~1998~~.

CASEY GWINN
City Attorney

By 
Deputy City Attorney

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(R-99-620)

RESOLUTION NUMBER R- 291138ADOPTED ON JAN 11 1999

WHEREAS, the economy and employment and quality of life of the San Diego County region is dependent on a reliable and affordable water supply which requires cooperation of local water agencies both directly and through their joint imported water agency, the San Diego County Water Authority ("CWA"); and

WHEREAS, treated water surplus to CITY needs (Surplus), hereby defined as treated water surplus over the Otay Water Treatment Plant's peak daily demand, is available to serve OTAY from the Otay Water Treatment Plant; and

WHEREAS, by making Surplus treated water available to OTAY, the CITY and the region will benefit by increased use of existing resources and potential savings in future regional facilities; and

WHEREAS, by entering into an agreement to provide Surplus treated water to OTAY, the CITY will improve the efficiency of its treatment plant operations and generate additional income; and

WHEREAS, the CWA will benefit by being able to defer deliveries of approximately ten MGD of treated water to OTAY; and

WHEREAS, the CWA recommends that each of its member agencies provide sufficient water reserves to withstand up to ten days of cutoff from imported treated water supplies; and

WHEREAS, OTAY relies exclusively on imported treated water and on imported raw water treated by others, for supplying its service area with water; and

WHEREAS, OTAY has determined that the most viable approach to establishing adequate reserves is to build a maximum of five days covered treated water storage and to secure treated water supply commitments from other agencies for the remainder; and

WHEREAS, the City is willing to sell Surplus treated water to OTAY from the CITY's Otay Water Treatment Plant and additional treated water in the future; and

WHEREAS, OTAY's future needs (OTAY's Needs) are for 10 to 20 million gallons per day (MGD) of treated water; and

WHEREAS, the CITY is willing to expand its Otay Water Treatment Plant to meet future OTAY and CITY needs; NOW, THEREFORE,

BE IT RESOLVED, by the Council of The City of San Diego, that the City Manager be and is hereby authorized and empowered to enter into an Agreement, a copy of which is on file in the Office of the City Clerk as Document No. RL-291138, with the Otay Water District regarding the purchase of surplus treated water from the City of San Diego.

BE IT FURTHER RESOLVED, that the City is authorized to sell OTAY treated water, surplus to the City's needs, from the CITY's Otay Water Treatment Plant upon execution of the agreement;

BE IT FURTHER RESOLVED, that the City is authorized to sell OTAY additional treated water;

BE IT FURTHER RESOLVED, that OTAY will pay the City's actual operating costs for treatment, which includes operation, maintenance, and overhead expenses, plus the prevailing CWA raw water rate regardless of whether local or imported raw water is treated;

BE IT FURTHER RESOLVED, that the agreement term is for fifty years.

APPROVED: CASEY GWINN, City Attorney

By Lisa Foster
Lisa Foster
Deputy City Attorney

LAF:jp
11/20/98
Or.Dept:Water
Aud.Cert:
R-99-620

Passed and adopted by the Council of San Diego on

JAN 11 1999

by the following vote:

YEAS: Mathis, Wear, Kehoe, Stevens, Warden, Stallings, McCarty,
Vargas, Mayor Golding.

NAYS: None.

NOT PRESENT: None.

AUTHENTICATED BY:

SUSAN GOLDING
Mayor of The City of San Diego, California

CHARLES G. ABDELNOUR
City Clerk of The City of San Diego, California

(Seal)

By: MARY A. CEPEDA, Deputy

I HEREBY CERTIFY that the above and foregoing is a full, true and correct copy of RESOLUTION NO. R- 291138, passed and adopted by the Council of The City of San Diego, California on JAN 11 1999.

CHARLES G. ABDELNOUR
City Clerk of The City of San Diego, California

(SEAL)

By: Mary A. Cepeda, Deputy

Appendix D

Agreement with City of San Diego for Recycled Water Supply from SBWRP

ORIGINAL

OFFICIAL

**AGREEMENT BETWEEN THE OTAY WATER DISTRICT
AND THE CITY OF SAN DIEGO FOR PURCHASE
OF RECLAIMED WATER FROM THE
SOUTH BAY WATER RECLAMATION PLANT**

OCT 20 2003

This Agreement is made and entered into this _____ day of 2003 between the Otay Water District ("Otay"), and the City of San Diego ("City") [collectively "Party(ies)"], with reference to the following

RECITALS

- A. WHEREAS, City owns and operates the South Bay Water Reclamation Plant ("SBWRP"), which has a design production capacity of approximately fifteen million gallons per day of tertiary water from collected and treated wastewater; of which 10 million gallons per day is available for sale, and
- B. WHEREAS, Otay provides water service, including Reclaimed Water service, to its customers and is willing to finance and construct facilities to transmit tertiary water from the SBWRP to its service area, and
- C. WHEREAS, Otay is seeking additional Reclaimed Water to meet projected demands, and
- D. WHEREAS, City desires to sell some or all of the Reclaimed Water it produces at its SBWRP and Otay desires to purchase said water; and
- E. WHEREAS, Maximizing the use of Reclaimed Water benefits the region by providing local supply to meet local demand thereby lessening the demand of the San Diego region for imported water

NOW, THEREFORE, in consideration of the mutual covenants and conditions set forth herein and for other good and valuable consideration, the receipt and sufficiency of which are hereby acknowledged, the Parties do hereby agree as follows

Section 1. Definitions

The following terms shall have the following meanings whenever used in this Agreement, unless the context requires otherwise

1.1 "Annual Contract Amount" means the quantity of Reclaimed Water, in acre-feet on an annual basis, that City agrees to produce, make available, deliver, and sell to Otay and Otay agrees to accept, and/or purchase from City

1.2 "Average Day Amount" means the quantity, in millions of gallons, of Reclaimed Water to be used for production planning purposes.

DOCUMENT NO. 22-298502
FILED OCT 20 2003
OFFICE OF THE CITY CLERK
SAN DIEGO, CALIFORNIA

1.3 "Beginning Date" means the date that Otay begins receiving Reclaimed Water from City under this Agreement or the Effective Date hereof, whichever is later. Beginning Date may occur after the Effective Date of this Agreement.

1.4 "Billing Cycle" has the meaning contained in Section 2.1 herein

1.5 "City" means the City of San Diego, a charter city

1.6 "Commodity Rate" means the rate for Reclaimed Water of Three Hundred Fifty dollars (\$350.00) per acre-foot.

1.7 "Constant Rate of Delivery" has the meaning contained in Section 4.2 herein

1.8 "Demand schedule" has the meaning contained in Section 4.1 herein

1.9 "Effective Date" means the date that the last Party executed the Agreement

1.10 "Fiscal Year" means July 1 through June 30

1.11 "Maximum Day Demand" means the quantity of Reclaimed Water delivered during any day

1.12 "MGD" means millions of gallons of Reclaimed Water per day.

1.13 "Monthly Meter Charges" means the amount charged by the City each month for a meter installed by the City.

1.14 "Otay" means the Otay Water District

1.15 "Point of Delivery" means the location to which City agrees to deliver Reclaimed Water to Otay, more particularly described in Exhibit A, attached hereto and by this reference incorporated herein

1.16 "Reclaimed Water" has the meaning set forth in Title 22, Division 4 of the California Code of Regulations for "recycled water" and means water which, as a result of treatment of wastewater, is suitable for a direct beneficial use or a controlled use that otherwise would not occur

1.17 "Reserved Capacity" has the meaning set forth in Section 2.2

1.18 "SBWRP" means the South Bay Water Reclamation Plant

1.19 "Term" has the meaning set forth in Section 8 herein

1 20 "Total Capacity Reservation Charge" has the meaning set forth in Section 2.2 herein.

Section 2. Rates and Charges

2 1 City agrees to produce, make available, deliver and sell to Otay, and Otay agrees to accept, and/or purchase from City, Reclaimed Water for Three Hundred Fifty dollars (\$350 00) per acre-foot as of the Effective Date of this Agreement. Otay agrees that for each year thereafter or any portion thereof (referred to herein as a "Billing Cycle"), the Commodity Rate for Reclaimed Water will escalate at the same rate adopted by the City council for other Reclaimed Water customers. The City will provide documentation supporting any increases prior to the Effective Date.

2 2 Otay shall pay City a one time Capacity Reservation Charge of \$ 3,600,000.00 ("Total Capacity Reservation Charge") \$1,800,000 00 shall be paid upon execution of this Agreement. The remaining \$1,800,000 00 shall be paid upon delivery of Reclaimed Water or January 1, 2007, whichever occurs first, unless an unforeseen delay has occurred pursuant to Section 3 2 3 of this Agreement. No additional capacity reservation charges will be charged to Otay for the Term of this Agreement.

2 2 1 The Total Capacity Reservation Charge paid by Otay shall reserve 6 0 MGD of capacity ("Reserved Capacity") for the quantities of Reclaimed Water specified in Section 3 of this Agreement. The Reserved Capacity shall be limited to a period of twenty years and coincide with the Term of this Agreement. The Total Capacity Reservation Charge shall not apply to any extensions or modifications to the term of this Agreement.

2 2 2 The Total Capacity Reservation Charge paid by Otay shall reserve and limit capacity to the specific Term of this Agreement and relate to the quantities of Reclaimed Water specified in Section 3 of this Agreement.

2 3 In addition to Commodity Charges, Otay shall pay the prevailing Monthly Meter Charges to be based on the rate for the 10" size meter as specified in the City of San Diego Reclaimed Rate Schedule.

Section 3. Quantity

3 1 Upon the execution of this Agreement, City agrees to produce, make available, deliver, and sell to Otay and Otay agrees to purchase from City, the Annual Contract Amount of Reclaimed Water per the schedule set forth in Exhibit B of this Agreement. Such amount shall be calculated between January 1 and December 31 of each year of the Term of this Agreement.

3 2 Otay agrees to purchase from the City no less than the Annual Contract Amount of Reclaimed Water from the time it commences delivery of Reclaimed Water. Otay is obligated

to pay the Annual Contract Amount even if it is not able to take or use the Reclaimed Water to the extent the reclaimed water is not sold to another party, as per Section 11.2

3.2.1 For the first year that Otay accepts delivery of Reclaimed Water, the Annual Contract Amount will be prorated based on the number of days remaining in that calendar year

3.2.2 The Annual Contract Amount is subject to adjustments for interruptions in service not caused by Otay, as more fully described in Section 4.4 of this Agreement.

3.2.3 In the event that Otay has failed to take delivery of Reclaimed Water from the City by January 1, 2007, Otay shall remain responsible to take and pay for the delivery of the Reclaimed Water or pay the Annual Contract Amount unless the Parties agree to an extension beyond January 1, 2007, due to an unforeseen delay in construction of any of the following facilities.

1. Otay pipeline connecting to the City pipeline at the north end of Dairy Mart Road Bridge
2. The Otay 680-1 pump station
3. The 450-1 reservoir off of Brandywine Road in Chula Vista
4. City construction of facilities up to and including the delivery point

3.3 On or before January 1 of each year, Otay may request that the schedule set forth in Exhibit B be revised to increase the quantity of Reclaimed Water that Otay purchases from the City. If such adjustment does not adversely impact City's ability to serve other City customers, including the SBWRP, and Otay has complied with all obligations in this Agreement, City may not unreasonably reject such an adjustment in the schedule.

3.4 Unless mutually agreed in writing by City and Otay, the quantity of Reclaimed Water to be purchased by Otay as set forth in Exhibit B shall not be reduced.

3.5 Subsequent to the execution of this Agreement, and subject to the availability of Reclaimed Water, deliveries to Otay in excess of the Maximum Day Demand shall not constitute a breach of this Agreement. Such excess deliveries shall be considered interruptible in nature, and they can be discontinued at any time.

Section 4. Rate of Production

4.1 Otay shall provide City a Demand Schedule that includes a two-week rolling daily demand schedule each weekday. Otay may request one change up to 10% in the Demand Schedule by giving three days advance notice.

4.2 Reclaimed Water produced at the SBWRP shall be pumped to Otay's 450 zones in an amount equal to or greater than 6 MGD, and balanced by City to attempt to meet the Demand Schedule provided by Otay. City shall notify Otay three days in advance if the Demand Schedule amount above 6 MGD, cannot be delivered.

4.3 SBWRP production of Reclaimed Water will meet Otay's peak summer and winter seasonal orders, subject to availability as specified in the Demand Schedule.

4.4 The Parties recognize that factors beyond the control of the City could cause operational difficulties resulting in the temporary production of Reclaimed Water which does not meet the terms of this Agreement or other regulatory agencies for Otay's intended uses. In such case, the City has sole discretion and may temporarily suspend Otay's supply of Reclaimed Water from the City's facilities. City shall use its best efforts to re-establish the production of Reclaimed Water and shall re-establish Otay's supply of such water accordingly. Otay will be responsible in providing a standby water supply that may be necessary in the event of an interruption in the supply of Reclaimed Water and hereby waives any right which it might have to recover from the City damages attributable to such interruption.

Section 5. Billing

5.1 City will read the meter at the end of each month and bill Otay within 15 calendar days thereafter at Otay's address 2554 Sweetwater Springs Boulevard, Spring Valley, CA 91978. Billing shall not commence until after the Beginning Date.

5.2 Payment shall be received at City's address listed on the invoice on or before the twentieth calendar day after the date of the invoice.

5.3 In the event Otay fails to pay any amount when due, interest thereon shall accrue at the rate of ten percent per annum from the date when due until payment is received. Failure to make a payment when due constitutes a default under this Agreement.

5.4 City shall be responsible for metering the Reclaimed Water delivered to Otay at the Point of Delivery and reading such meter for purposes of billing Otay. The quantity of Reclaimed Water for which payment is due by Otay in any month shall be the total quantity of Reclaimed Water Delivered to Otay in the preceding month as determined by the measuring

equipment described in Section 6 below.

5.4.1 Notwithstanding the foregoing, on or prior to February 15 of each Calendar Year City shall determine the actual quantity of Reclaimed Water taken by Otay in the prior Calendar Year. If the total quantity of Reclaimed Water taken is less than the Annual Contract Amount, then the City shall bill Otay for the difference between the Annual Contract Amount and the quantity of Reclaimed Water taken. Otay shall pay the invoice on or before March 30 of each Calendar Year.

5.5 Within thirty days after the end of each calendar year quarter, City shall furnish Otay with a statement showing the quantities of all Reclaimed Water delivered for the quarter

Section 6. Measuring Equipment

6.1 At City's sole cost and expense, City shall furnish and install at the Point of Delivery, Exhibit A, a measuring system for recording the quantity of Reclaimed Water delivered to Otay

6.2 During all reasonable hours, Otay shall have access to the measuring equipment and records pertinent to such measuring equipment and the quantity of Reclaimed Water delivered to Otay

6.3 City shall be responsible for maintaining the measuring equipment in good order and condition. City shall conduct tests at least once every twelve months to determine the accuracy of such metering equipment. City shall notify Otay at least forty-eight hours in advance of the time and location of such test. If Otay requests an additional test within twelve months, City shall charge, and Otay shall pay, an amount equal to City's cost to perform such test.

6.4 At its sole cost and expense, Otay shall have the right to independently test such measuring equipment at any time during normal business hours upon forty-eight hours prior notice to City. City shall have the right to monitor such tests

6.5 In the event the test of the measuring equipment shows that the equipment registers either more than 110 percent or less than ninety percent of the actual amount of Reclaimed Water delivered for a given flow rate, the total quantity of Reclaimed Water delivered to Otay will be deemed to be the Average Day Amount as measured by the measuring equipment when in working order. This adjustment shall be for a period extending back to the time when the inaccuracy began, if such time is ascertainable, and if such time is not ascertainable, for a period extending back to the last test of the measuring equipment or 120 days, whichever is less. In the event the metering equipment is deemed to be inaccurate, the metering equipment shall be calibrated to the manufacturer's specifications for the given flow rate or replaced at the City's sole cost and expense with accurate measuring equipment that is tested before it is placed in service

6.6 In the event of a dispute between City and Otay regarding the accuracy of the testing equipment used by City or Otay to conduct an accuracy test, City and Otay may mutually agree to have an independent accuracy test conducted. Such test shall be conducted by an independent measuring equipment company or other third Party suitable to both City and Otay. The cost of the test shall be paid equally by City and Otay.

Section 7. Responsibility for Quality of Reclaimed Water

7.1 City shall meet all applicable federal, state, and local health and water quality requirements for Reclaimed Water produced at the SBWRP and delivered to Otay at the Point of Delivery. The Reclaimed Water shall not exceed 1000 mg/l TDS.

7.2 Otay shall be responsible for all water handling facilities it owns and operates from and beyond the Point of Delivery. Otay agrees to be responsible for maintaining and operating such facilities at its own cost and expense. Otay shall ensure that connections to the Point of Delivery are properly designed, constructed, operated and maintained.

7.3 Otay shall be responsible for the quality of the Reclaimed Water from the Point of Delivery. Otay shall be in exclusive control and possession of the Reclaimed Water after it passes through the Point of Delivery and shall be solely responsible for any injury or damage to persons or property caused thereby. Otay shall meet all applicable federal, state, and local health and water quality requirements for Reclaimed Water from the Point of Delivery. Otay shall be solely responsible for obtaining and complying with all environmental approvals and permits.

7.4 Otay shall clearly mark all infrastructure as a non-potable water source not suitable for drinking. Otay shall educate and train its employees and users on the use of the Reclaimed Water consistent with Title 22, California Code of Regulations standards.

Section 8. Term

8.1 The Term of this Agreement shall be for twenty years, commencing on January 1, 2007 or when Otay begins to take Reclaimed Water, whichever occurs first.

8.2 Otay can renew this Agreement for an additional 20-year Term or a portion thereof, subject to the payment of additional applicable capacity reservation charges to the City.

Section 9 Grants and Subsidies

9.1 City and Otay will cooperate with each other in the efforts to obtain grants and subsidies for the Reclaimed Water distribution from the South Bay Plant. Otay shall have the right to apply for and receive all appropriate benefits from the Metropolitan Water District and

the San Diego County Water Authority incentives (LRP), Title XVI revenue, subsidies, and local grants, associated with costs of transporting and delivering Reclaimed Water through its transmission system.

Section 10. Pipelines

10.1 For the Term of this Agreement, City shall provide Otay with a portion of the transmission capacity to Otay in a 4,000-foot, 30-inch transmission system through the Dairy Mart Road Bridge, in an amount equal to the quantity identified in Section 3

10.2 At Otay's sole cost and expense, Otay shall plan, design, construct, operate and maintain the transmission piping system for transport of Reclaimed Water from the 4,000-foot, 30-inch conveyance system to the Otay 450 zone reservoirs. This pipeline shall be referenced in the facility book of the City and such reference shall clearly indicate that the pipeline is the property of Otay. Appurtenances and valve caps on the pipeline shall be marked "Otay Water District." Otay shall be permitted to use lockout caps in valve casings to ensure that City employees do not close Otay valves. Otay's facility books shall show all City mains and appurtenances in the general area of the pipeline to enable staff to better identify the source of any leak.

10.3 The Parties agree to jointly establish procedures for giving notice of any leaks, shutting down the pipeline in the event of a major break, repairing or maintaining the pipeline and using facilities for the purpose of repairing or maintaining the pipeline. Such procedures shall be effective upon the completion of the pipeline construction.

10.4 The Otay transmission main piping system travels through the City service area. Otay agrees to allow the City to utilize 1 MGD transmission capacity in the pipeline to serve Reclaimed Water customers in the City's service area.

Section 11. Right to Market

11.1 City and Otay shall each have the right to market Reclaimed Water to other entities. The Reclaimed Water rate charged by Otay to other entities or individuals shall not exceed 110% of Otay's costs, including capital costs, operation and maintenance, and the cost of the Reclaimed Water purchased from the City. Otay agrees that any proposed sale of Reclaimed Water to another Party must be approved by City. City agrees that City (1) shall not unreasonably withhold approval, and (2) shall provide Otay with notice of approval or disapproval within forty-five (45) calendar days of receipt of notification from Otay.

Am.
9/10/03
[Signature]

11.2 City shall have the right to contract for the sale of Reclaimed Water up to the 6.00 MGD allocated to but unused by Otay as reflected in Exhibit B to this Agreement. This means that as Otay ramps up its demand for but does not require 6.00 MGD, City may sell any surplus Reclaimed Water to other customers.

Section 12. Environmental Approvals

12.1 City and Otay shall provide mutual cooperative support and assistance with any and all environmental approvals, completing processes, and meeting all requirements for projects associated with the SBWRP Reclaimed Water production, transmission, pumping, and storage facilities necessary to the successful discharge of their respective responsibilities under this Agreement.

12.2 City and Otay shall cooperate in obtaining any required or necessary modifications of the Regional Water Quality Control Board surface water or groundwater regulations to allow for the use of SBWRP Reclaimed Water within Otay service areas

Section 13. Indemnification

13.1 With respect to any liability, including but not limited to claims asserted or costs, losses, attorney fees, or payments for injury to any person or property caused or claimed to be caused by the acts or omissions of Otay, or Otay's agents, officers, and employees, Otay agrees to defend, indemnify, protect, and hold City its agents, officers, and employees harmless from and against any and all liability. Also covered is liability arising from, connected with, caused by, or claimed to be caused by the active or passive negligent acts or omissions of City, its agents, officers, or employees which may be in combination with the active or passive negligent acts or omissions of Otay, its agents, officers, or employees, or any third Party. Otay's duty to defend, indemnify, protect, and hold harmless shall not include any claims or liability arising from the sole negligence or sole willful misconduct of City, its agents, officers, or employees.

13.2 With respect to any liability, including but not limited to claims asserted or costs, losses, attorney fees, or payments for injury to any person or property caused or claimed to be caused by the acts or omissions of City, or City's agents, officers, and employees, City agrees to defend, indemnify, protect, and hold Otay its agents, officers, and employees harmless from and against any and all liability. Also covered is liability arising from, connected with, caused by, or claimed to be caused by the active or passive negligent acts or omissions of Otay, its agents, officers, or employees which may be in combination with the active or passive negligent acts or omissions of City, its agents, officers, or employees, or any third Party. City's duty to defend, indemnify, protect, and hold harmless shall not include any claims or liability arising from the sole negligence or sole willful misconduct of Otay, its agents, officers, or employees.

Section 14. Insurance

14.1 Otay shall provide a Certificate of Insurance indicating that the City is named as an additional insured with coverage for both bodily injury and property damage in the form of a

combined single limit liability policy in the amount of not less than One Million Dollars (\$1,000,000). Further, the insurance policies shall be non-surplus, and issued by an entity licensed in the State of California, and have attached a rider whereby it is provided that in the event of expiration or proposed cancellation of such policies for any reason whatsoever, the City shall be notified by registered mail, return receipt requested, in no event less than 30 calendar days before expiration or cancellation is effective. The policy shall be kept in force for the duration of this Agreement. All deductibles on any policy shall be the responsibility of Otay. A certificate of this insurance shall be filed with the City upon execution of this Agreement. Failure to provide insurance as required in this section shall constitute a material breach of this agreement.

Section 15. Miscellaneous

15.1 Amendment: This Agreement may be modified or amended by the Parties at any time. Such modifications or amendments must be mutually agreed upon and executed in writing. Verbal modifications or amendments shall be of no effect.

15.2 Integration: This Agreement, including attachments and/or exhibits, contains all of the Agreements of the Parties and all-prior negotiations and Agreements are merged herein.

15.3 Notice: Any notice, demand, request, consent, approval or communication that either Party desires or is required to give to the other Party shall be in writing addressed to the other Party as follows:

To City of San Diego
Water Department Director
600 B Street, Suite 1300
San Diego, CA 92101

To Otay Water District:
General Manager
2554 Sweetwater Springs Blvd.
Spring Valley, CA 91978-2096

15.4 Mandatory Mediation: If a dispute arises out of, or relates to this Agreement, or the breach thereof, which cannot be resolved by the Parties, the Parties agree to mandatory mediation under the Rules of the American Arbitration Association or any other neutral organization agreed upon before having recourse in a court of law. Any agreements resulting from mediation shall be documented in writing by all Parties. All mediation results shall be "non-binding" and inadmissible for any purpose in any legal proceeding, unless all Parties otherwise agree upon, such admission in writing.

15.5 Waiver: No failure of either City or Otay to insist upon the strict performance by the other of any covenant, term or condition of this Agreement, nor any failure to exercise any right or remedy consequent upon a breach of any covenant, term, or condition of this Agreement,

shall constitute a waiver of any such breach or of such covenant, term or condition. No waiver of any breach shall affect or alter this Agreement, and each and every covenant, condition, and term hereof shall continue in full force and effect to any existing or subsequent breach.

15.6 Assignment: Otay shall not assign the obligations under this Agreement without City's prior written approval. Any assignment in violation of this paragraph shall constitute a default and is grounds for immediate termination of this Agreement, at the sole discretion of City. In no event shall any putative assignment create a contractual relationship between City and any putative assignee.

15.7 Successors-in-Interest: This Agreement and all rights and obligations contained herein shall be in effect whether or not any or all Parties to this Agreement have been succeeded by another entity, and all rights and obligations of the Parties shall be vested and binding on their successors-in-interest

15.8 Laws and Venue: This Agreement is entered into and shall be construed and interpreted in accordance with the laws of the State of California. Venue for actions arising out of the Agreement shall be in the City of San Diego, California.

15.9 Force Majeure: If the performance of any act required of City or Otay is directly prevented or delayed by reason of strikes, lockouts, labor disputes, unusual governmental delays, acts of God, fire, floods, epidemics, freight embargoes, or other causes beyond the reasonable control of the Party required to perform an act, that Party shall be excused from performing that act for the period of time equal to the period of time of the prevention or delay. In the event City or Otay claims the existence of such a delay, the Party claiming the delay shall notify the other Party in writing of that fact within 10 calendar days after the beginning of any such claimed delay.

15.10 Negotiated Agreement: The Parties agree that they have the right to be advised by counsel with respect to the negotiations, terms, and conditions of this Agreement, and the decision whether to seek advice of counsel with respect to this Agreement is the sole responsibility of each of the Parties. This Agreement shall not be construed in favor of or against either Party by reason of the extent to which each Party participated in the drafting of this Agreement.

15.11 Counterparts: This Agreement may be executed in counterparts, which when taken together shall constitute a single signed original as though all Parties had executed the same page.

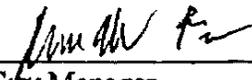
15.12 Abandonment: If any part of this Agreement is abandoned or indefinitely delayed, due to circumstances beyond the control of both Parties, this Agreement may be terminated by the City and Otay. In this event, each Party shall bear its own costs without liability to the other Party.

15.13 Delegation of Authority: When this Agreement refers to an act or approval to be performed by the City, that act or approval shall be performed by the City Manager, Water Department Director, or designee.

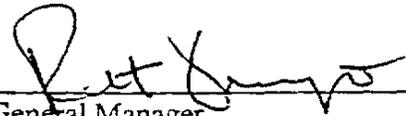
15.14 Authority to Sign: Each Party signing on behalf of a corporation, partnership, joint venture or governmental entity hereby declares that he, she, or it has the authority to sign on behalf of his, her or its respective corporation, partnership, joint venture, entity and agrees to hold the other Party or Parties hereto harmless if he, she or it does not have such authority

IN WITNESS WHEREOF, the Parties hereto have executed this agreement effective the date first written above.

CITY OF SAN DIEGO

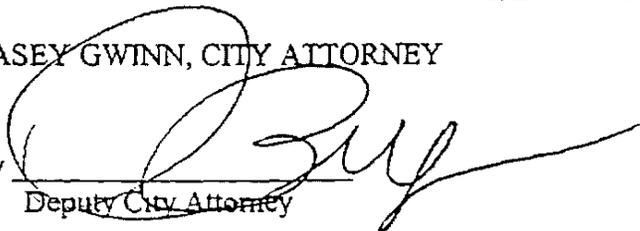
By 
City Manager

OTAY WATER DISTRICT

By 
General Manager

Approved as to form and legality on this 31 day of 10, 2003

CASEY GWINN, CITY ATTORNEY

By 
Deputy City Attorney

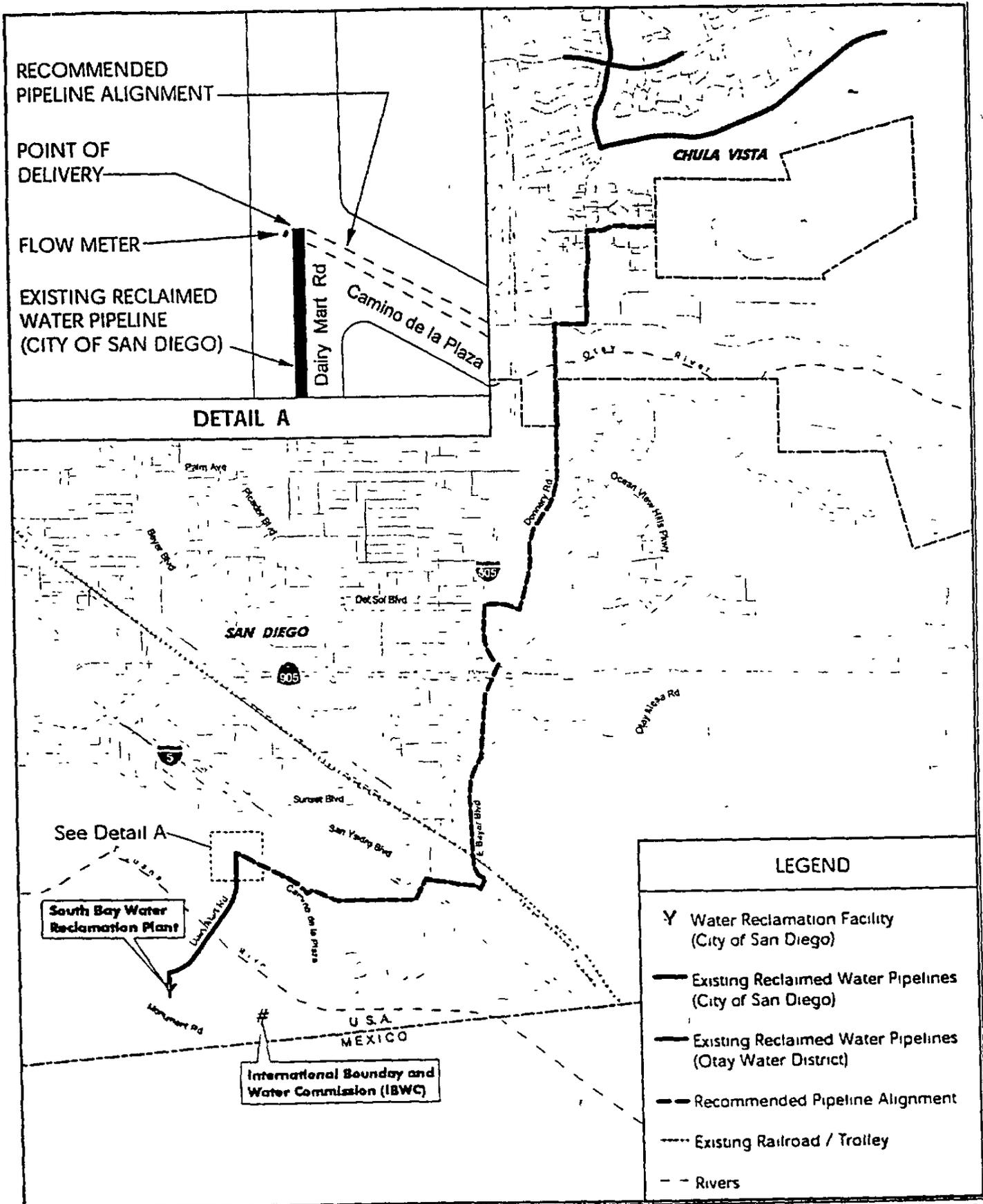


EXHIBIT A

**CITY OF SAN DIEGO RECLAIMED WATER
POINT OF DELIVERY TO OTAY**

EXHIBIT B
SCHEDULE OF RECLAIMED WATER DELIVERY
AGREEMENT BETWEEN THE OTAY WATER DISTRICT AND THE CITY OF SAN DIEGO
FOR PURCHASE OF RECLAIMED WATER

Calendar Year	Average Annual Demand (mgd)*	Annual Contract Amount (mg)**	Annual Contract Amount Acre Feet
2003	2 100	767	2,352
2004	2 230	816	2,505
2005	2 350	858	2,632
2006	2 480	905	2,778
2007	2 600	949	2,912
2008	2 730	999	3,066
2009	2 850	1,040	3,192
2010	2,980	1,088	3 338
2011	3 610	1,318	4,044
2012	3 740	1,369	4,201
2013	3 860	1,409	4,324
2014	3 990	1,456	4,469
2015	4,110	1,500	4,604
2016	4 240	1,551	4,762
2017	4 370	1,595	4,895
2018	4 490	1,639	5,029
2019	4 620	1,686	5,175
2020	4,730	1,731	5,312
2021	4 820	1,759	5,399
2022	4 900	1,789	5,488
2023	4 980	1,818	5,578
2024	5 060	1,847	5,668
2025	5 140	1,876	5,758
2026	5 220	1,905	5,847

*mgd. Million Gallons per Day

**mg Million Gallons

(R-2004-346)

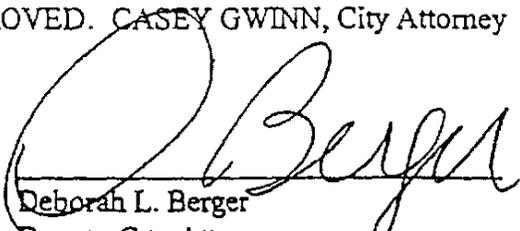
RESOLUTION NUMBER R- 298502

ADOPTED ON OCT 20 2003

BE IT RESOLVED, by the Council of The City of San Diego, that the City Manager is authorized to execute, for and on behalf of the City, an agreement with the Otay Water District for the purchase of reclaimed water from the South Bay Water Reclamation Plant, under the terms and conditions set forth in the Agreement on file in the office of the City Clerk as Document No. RR- 298502, together with any reasonably necessary modifications or amendments thereto which do not increase project scope or cost and which the City Manager shall deem necessary from time to time in order to carry out the purposes and intent of this project and agreement.

APPROVED. CASEY GWINN, City Attorney

By


Deborah L. Berger
Deputy City Attorney

DLB:jc
09/26/03
Aud.Cert:n/a
Or.Dept:Water
R-2004-346
Form=auagr frm

Passed and adopted by the Council of San Diego on OCT 20 2003 by the following vote:

YEAS: PETERS, ZUCCHET, ATKINS, LEWIS, MAIENSCHHEIN, FRYE, MADAFFER, INZUNZA, MAYOR MURPHY.

NAYS: NONE.

NOT PRESENT: NONE.

AUTHENTICATED BY.

DICK MURPHY

Mayor of The City of San Diego, California

CHARLES G. ABDELNOUR

City Clerk of The City of San Diego, California

(SEAL)

By: Mary Cepeda, Deputy

I HEREBY CERTIFY that the above and foregoing is a full, true and correct copy of
RESOLUTION NO. R- 298502, passed and adopted by the Council of The
City of San Diego, California on OCT 20 2003.

CHARLES G. ABDELNOUR

City Clerk of The City of San Diego, California

(SEAL)

By: Mary A. Cepeda Deputy

Appendix E
BMP Reports 2001 - 2004

Reported as of 10/

Water Supply & Reuse

Reporting Unit:

Otay Water District

Year:

2001

Water Supply Source Information

Supply Source Name	Quantity (AF) Supplied	Supply Type
SDCWA	30001.9	Imported
Otay Reclamation Plant	961.6	Recycled

Total AF: 30963.5

Reported as of 10/

Accounts & Water Use

Reporting Unit Name: **Otay Water District** Submitted to **CUWCC** Year: **2001**
 11/27/2002

A. Service Area Population Information:

1. Total service area population 144000

B. Number of Accounts and Water Deliveries (AF)

Type	Metered		Unmetered	
	No. of Accounts	Water Deliveries (AF)	No. of Accounts	Water Deliveries (AF)
1. Single-Family	34706	15337.1	0	0
2. Multi-Family	707	2061.13	0	0
3. Commercial	879	1575.38	0	0
4. Industrial	0	0	0	0
5. Institutional	232	1972.02	0	0
6. Dedicated Irrigation	1129	6511.47	0	0
7. Recycled Water	0	0	0	0
8. Other	659	2285.6	0	0
9. Unaccounted	NA	1220.85	NA	0
Total	38312	30963.55	0	0
		Metered		Unmetered

Reported as of 10/

Reported as of 10/

BMP 01: Water Survey Programs for Single-Family and Multi-Family Residential Customers

Reporting Unit: **Otay Water District** BMP Form Status: **100% Complete** Year: **2001**

A. Implementation

- 1. Based on your signed MOU date, 09/04/1991, your Agency STRATEGY DUE DATE is: 09/03/1993
- 2. Has your agency developed and implemented a targeting/marketing strategy for SINGLE-FAMILY residential water use surveys? yes
 - a. If YES, when was it implemented? 7/1/1995
- 3. Has your agency developed and implemented a targeting/marketing strategy for MULTI-FAMILY residential water use surveys? yes
 - a. If YES, when was it implemented? 7/1/1995

B. Water Survey Data

Survey Counts:	Single Family Accounts	Multi-Family Units
1. Number of surveys offered:	32201	721
2. Number of surveys completed:	120	0

Indoor Survey:

- 3. Check for leaks, including toilets, faucets and meter checks yes yes
- 4. Check showerhead flow rates, aerator flow rates, and offer to replace or recommend replacement, if necessary yes yes
- 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 yes yes

Outdoor Survey:

- 6. Check irrigation system and timers yes yes
- 7. Review or develop customer irrigation schedule yes yes
- 8. Measure landscaped area (Recommended but not required for surveys) yes yes
- 9. Measure total irrigable area (Recommended but not required for surveys) yes yes
- 10. Which measurement method is typically used (Recommended but not required for surveys) Pacing
- 11. Were customers provided with information packets that included evaluation results and water savings recommendations? yes yes
- 12. Have the number of surveys offered and completed, survey results, and survey costs been tracked? yes yes
 - a. If yes, in what form are surveys tracked? database

b. Describe how your agency tracks this information.

Contractor (Volt VIEWTECH) tracks the number of completed surveys through a database

C. Water Survey Program Expenditures

	This Year	Next Year
1. Budgeted Expenditures	4429	3200
2. Actual Expenditures	2450	

D. "At Least As Effective As"

1. Is your AGENCY implementing an "at least as effective as" variant of this BMP? 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

Residential surveys were offered to all single family and multifamily customers through our webpage, at community events, over the phone by our customer service staff, and at our service counter. There were no targeted mailings during this fiscal year.

Reported as of 10/

BMP 02: Residential Plumbing Retrofit

Reporting Unit: **Otay Water District** BMP Form Status: **100% Complete** Year: **2001**

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? 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

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

5. Estimated percent of multi-family households with low-flow showerheads: 75%

6. 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 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 United States must be 2.5 gpm maximum

B. Low-Flow Device Distribution Information

1. Has your agency developed a targeting/ marketing strategy for distributing low-flow devices? yes

a. If YES, when did your agency begin implementing this strategy? 1/1/1992

b. Describe your targeting/ marketing strategy.

Over 550,000 showerheads have been distributed in the region to date. Marketing that has been done in the San Diego region includes the following: residential survey distribution, direct distribution to customers (lobby counter), distribution at community events, by customer request and distribution at CBO events

Low-Flow Devices Distributed/ Installed	SF Accounts	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?		yes
a. If YES, in what format are low-flow devices tracked?		Spreadsheet

b. If yes, describe your tracking and distribution system :

The San Diego County Water Authority documented distribution in the region in a spreadsheet by region, rather than by specific member agency.

C. Low-Flow Device Distribution Expenditures

	This Year	Next Year
1. Budgeted Expenditures	0	0
2. Actual Expenditures	0	

D. "At Least As Effective As"

1. Is your AGENCY implementing an "at least as effective as" variant of this BMP? 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 will continue to pursue grant funding opportunities in the future to conduct a formal saturation study on showerheads in the future.

Reported as of 10,

BMP 03: System Water Audits, Leak Detection and Repair

Reporting Unit: **Otay Water District** BMP Form Status: **100% Complete** Year: **2001**

A. Implementation

- 1. Has your agency completed a pre-screening system audit for this reporting year? yes
- 2. If YES, enter the values (AF/Year) used to calculate verifiable use as a percent of total production:
 - a. Determine metered sales (AF) 29208.25
 - b. Determine other system verifiable uses (AF) 534.4
 - c. Determine total supply into the system (AF) 30001.9
 - d. Using the numbers above, if (Metered Sales + Other Verifiable Uses) / Total Supply is < 0.9 then a full-scale system audit is required. 0.99
- 3. Does your agency keep necessary data on file to verify the values used to calculate verifiable uses as a percent of total production? yes
- 4. Did your agency complete a full-scale audit during this report year? no
- 5. Does your agency maintain in-house records of audit results or the completed AWWA audit worksheets for the completed audit? yes
- 6. Does your agency operate a system leak detection program? yes
 - a. If yes, describe the leak detection program:

Leak detection is based on purchased vs. sales, physical observations of wet spots, mainflushing load contents, and field staff calls.

B. Survey Data

- 1. Total number of miles of distribution system line. 541.1
- 2. Number of miles of distribution system line surveyed. 12.7

C. System Audit / Leak Detection Program Expenditures

	This Year	Next Year
1. Budgeted Expenditures	120000	120000
2. Actual Expenditures	120000	

D. "At Least As Effective As"

- 1. Is your AGENCY implementing an "at least as effective as" variant of this BMP? 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

- b.1. Includes potable and recycled distribution line

Reported as of 10/

BMP 04: Metering with Commodity Rates for all New Connections and Retrofit of Existing

Reporting Unit: **Otay Water District** BMP Form Status: **100% Complete** Year: **2001**

A. Implementation

- 1. Does your agency require meters for all new connections and bill by volume-of-use? yes
- 2. Does your agency have a program for retrofitting existing unmetered connections and bill by volume-of-use? no
 - a. If YES, when was the plan to retrofit and bill by volume-of-use existing unmetered connections completed?
 - b. Describe the program:
- 3. Number of previously unmetered accounts fitted with meters during report year. 0

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? no
 - a. If YES, when was the feasibility study conducted? (mm/dd/yy)
 - b. Describe the feasibility study:

- 2. Number of CII accounts with mixed-use meters. 1111
- 3. Number of CII accounts with mixed-use meters retrofitted with dedicated irrigation meters during reporting period. 0

C. Meter Retrofit Program Expenditures

	This Year	Next Year
1. Budgeted Expenditures	0	0
2. Actual Expenditures	0	

D. "At Least As Effective As"

- 1. Is your AGENCY implementing an "at least as effective as" variant of this BMP? 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

B.2 This figure is an estimate as there are some commercial accounts that will not have any significant landscaping. All CII accounts with more than an acre of landscaping are required to have dedicated irrigation meters.

Reported as of 10/

BMP 05: Large Landscape Conservation Programs and Incentives

Reporting Unit: **Otay Water District** BMP Form Status: **100% Complete** Year: **2001**

A. Water Use Budgets

- 1. Number of Dedicated Irrigation Meter Accounts: 1129
- 2. Number of Dedicated Irrigation Meter Accounts with Water Budgets: 1129
- 3. Budgeted Use for Irrigation Meter Accounts with Water Budgets (AF): 14310
- 4. Actual Use for Irrigation Meter Accounts with Water Budgets (AF): 6659
- 5. Does your agency provide water use notices to accounts with budgets each billing cycle? yes

B. Landscape Surveys

- 1. Has your agency developed a marketing / targeting strategy for landscape surveys? yes
 - a. If YES, when did your agency begin implementing this strategy? 8/10/1990
 - b. Description of marketing / targeting strategy:

Our contractor prescreens potential customers by reviewing water usage data records and comparing typical patterns of other industry or SIC water usage. Customers that exhibit unusually high water usage relative to their size of property are sent a letter and a program brochure, inviting them to participate in the program. We regularly disperse brochures and advertising to a variety of candidates, home owner's associations as well as large turf customers. Program brochures are located in our front lobby and our customer service department refers inquiring customers to the contractor.

- 2. Number of Surveys Offered. 2
- 3. Number of Surveys Completed. 2
- 4. Indicate which of the following Landscape Elements are part of your survey:
 - a. Irrigation System Check yes
 - b. Distribution Uniformity Analysis yes
 - c. Review / Develop Irrigation Schedules yes
 - d. Measure Landscape Area yes
 - e. Measure Total Irrigable Area yes
 - f. Provide Customer Report / Information yes
- 5. Do you track survey offers and results? yes
- 6. Does your agency provide follow-up surveys for previously completed surveys? yes
 - a. If YES, describe below:

All customers receive an offer for a follow-up survey.

C. Other BMP 5 Actions

- 1. An agency can provide mixed-use accounts with ETo-based no

landscape budgets in lieu of a large landscape survey program.
Does your agency provide mixed-use accounts with landscape budgets?

- 2. Number of CII mixed-use accounts with landscape budgets. 0
- 3. Do you offer landscape irrigation training? yes
- 4. Does your agency offer financial incentives to improve landscape water use efficiency? yes

Type of Financial Incentive:	Budget (Dollars/Year)	Number Awarded to Customers	Total Amount Awarded
a. Rebates	0	0	0
b. Loans	0	0	0
c. Grants	0	0	0

5. Do you provide landscape water use efficiency information to new customers and customers changing services? yes

a. If YES, describe below:

Yes, new customers are required by Otay's planning department to provide square footage of landscaped area and receive notice of the Water Efficient Irrigation Ordinance and monthly allocation. On changing services, they are notified by Customer Service or Water Conservation of the allocation and banking system. Surveyed account info kept in file and tracked. If consumption history shows no improvement within 6 months, a review and/or second survey is recommended to customer.

- 6. Do you have irrigated landscaping at your facilities? yes
 - a. If yes, is it water-efficient? yes
 - b. If yes, does it have dedicated irrigation metering? no
- 7. Do you provide customer notices at the start of the irrigation season? no
- 8. Do you provide customer notices at the end of the irrigation season? no

D. Landscape Conservation Program Expenditures

	This Year	Next Year
1. Budgeted Expenditures	2400	1800
2. Actual Expenditures	552.5	

E. "At Least As Effective As"

1. Is your AGENCY implementing an "at least as effective as" variant of this BMP? Yes

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."

On October 17, 1990 the Otay Water District passed Ordinance No. 367 which mandated the installation of a separate landscape meter on commercial or industrial properties if they are located on a parcel of land an acre or more in size. Then in December of 1993, the District approved Ordinance No. 424 allowing commercial customers who obtained a single water meter to October 1990 to obtain a second meter for indoor use without paying water capacity fees if the additional meter is solely for the purpose of isolating current indoor water use from that used for

outdoor landscaping. The landscape meter requirement is found in Section 27 of the District's Code of Ordinances.

F. Comments

A. Includes both recycled and potable landscape accounts. This program was not heavily promoted during this fiscal year. The penalty structure for landscape accounts was turned off in January of 2000, and interest in the program dropped. However, program brochures were displayed in our lobby and at events.

Reported as of 10/

BMP 06: High-Efficiency Washing Machine Rebate Programs

Reporting Unit: **Otay Water District** BMP Form Status: **100% Complete** Year: **2001**

A. Implementation

1. Do any energy service providers or waste water utilities in your service area offer rebates for high-efficiency washers? yes

a. If YES, describe the offerings and incentives as well as who the energy/waste water utility provider is.

San Diego Gas & Electric offers a \$75 rebate for qualifying machines. They use the ENERGY STAR criteria, while Otay, CWA and MET use the Consortium for Energy Efficiency (CEE) criteria which lists a water factor. In most cases to date, the lists are nearly identical.

2. Does your agency offer rebates for high-efficiency washers? yes

3. What is the level of the rebate? 125

4. Number of rebates awarded. 103

B. Rebate Program Expenditures

	This Year	Next Year
1. Budgeted Expenditures	2650	7735
2. Actual Expenditures	2575	

C. "At Least As Effective As"

1. Is your AGENCY implementing an "at least as effective as" variant of this BMP? 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

Vouchers are provided instead of rebates

Reported as of 10/

BMP 07: Public Information Programs

Reporting Unit:
Otay Water District

BMP Form Status:
100% Complete

Year:
2001

A. Implementation

1. Does your agency maintain an active public information program to promote and educate customers about water conservation? yes

a. If YES, describe the program and how it's organized.

Otay's water conservation department also serves to promote and educate customers about water conservation. The Otay Water District is the lead agency in the oversight of the Water Conservation Garden, a 4.2 acre demonstration constructed jointly by Otay and Helix Water Districts.

2. Indicate which and how many of the following activities are included in your public information program.

Public Information Program Activity	Yes/No	Number of Events
a. Paid Advertising	yes	0
b. Public Service Announcement	yes	0
c. Bill Inserts / Newsletters / Brochures	yes	3
d. Bill showing water usage in comparison to previous year's usage	yes	
e. Demonstration Gardens	yes	1
f. Special Events, Media Events	yes	0
g. Speaker's Bureau	yes	0
h. Program to coordinate with other government agencies, industry and public interest groups and media	yes	

B. Conservation Information Program Expenditures

	This Year	Next Year
1. Budgeted Expenditures	0	0
2. Actual Expenditures	0	

C. "At Least As Effective As"

1. Is your AGENCY implementing an "at least as effective as" variant of this BMP? 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

Otay relies upon the County Water Authority for the more generic public information services, however the numbers above only reflect the activities conducted by Otay. Otay has hired a PR firm which promotes water conservation along with the District's other programs. Articles/stories run in Otay's quarterly newsletter (the Pipeline) regularly. A bill insert went out in the summer of 2000 promoting both energy and water efficiency and there was an article in the Pipeline (Otay's quarterly newsletter). Otay's water conservation budget noted in BMP 12 includes

promotion and marketing.

Reported as of 10/

BMP 08: School Education Programs

Reporting Unit:
Otay Water District

BMP Form Status:
100% Complete

Year:
2001

A. Implementation

1. Has your agency implemented a school information program to promote water conservation? yes

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	yes	109	4301	5
Grades 4th-6th	yes	142	6966	0
Grades 7th-8th	yes	9	415	0
High School	yes	0	0	0

3. Did your Agency's materials meet state education framework requirements? yes

4. When did your Agency begin implementing this program? 9/9/1990

B. School Education Program Expenditures

	This Year	Next Year
1. Budgeted Expenditures	21600	19200
2. Actual Expenditures	9372.39	

C. "At Least As Effective As"

1. Is your AGENCY implementing an "at least as effective as" variant of this BMP? 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 San Diego County Water Authority started tracking the school program activity by member agency in FY 01/02. For this fiscal year, a portion of the numbers noted above are estimates. About 80% of the students reached were done so through Otay's school education specialist, who was hired in 1994. Presentations include school tours conducted at Otay's Water Reclamation Plant.

Reported as of 10/

BMP 09: Conservation Programs for CII Accounts

Reporting Unit: **Otay Water District** BMP Form Status: **100% Complete** Year: **2001**

A. Implementation

- 1. Has your agency identified and ranked COMMERCIAL customers according to use? yes
- 2. Has your agency identified and ranked INDUSTRIAL customers according to use? No
- 3. Has your agency identified and ranked INSTITUTIONAL customers according to use? yes

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? no

CII Surveys	Commercial Accounts	Industrial Accounts	Institutional Accounts
a. Number of New Surveys Offered	0	0	0
b. Number of New Surveys Completed	0	0	0
c. Number of Site Follow-ups of Previous Surveys (within 1 yr)	0	0	0
d. Number of Phone Follow-ups of Previous Surveys (within 1 yr)	0	0	0
CII Survey Components	Commercial Accounts	Industrial Accounts	Institutional Accounts
e. Site Visit	no	no	no
f. Evaluation of all water-using apparatus and processes	no	no	no
g. Customer report identifying recommended efficiency measures, paybacks and agency incentives	no	no	no
Agency CII Customer Incentives	Budget (\$/Year)	No. Awarded to Customers	Total \$ Amount Awarded
h. Rebates	0	0	0
i. Loans	0	0	0
j. Grants	0	0	0
k. Others	0	0	0

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?	yes
6. Does your agency document and maintain records on how savings were realized and the method of calculation for estimated savings?	yes
7. Estimated annual savings (AF/yr) from site-verified actions taken by agency since 1991.	32.04
8. Estimated annual savings (AF/yr) from non-site-verified actions taken by agency since 1991.	0

B. Conservation Program Expenditures for CII Accounts

	This Year	Next Year
1. Budgeted Expenditures	4000	5300
2. Actual Expenditures	2776.5	

C. "At Least As Effective As"

1. Is your AGENCY implementing an "at least as effective as" variant of this BMP? 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 County Water Authority and its member agencies including Otay Water District offer vouchers for cooling tower conductivity meters, commercial High-efficiency clothes washers and low flow (including waterless) urinals. Otay does not separate out their industrial customers. They are grouped with our commercial accounts and ranked.

Reported as of 10,

BMP 09a: CII ULFT Water Savings

Reporting Unit: **Otay Water District** BMP Form Status: **100% Complete** Year: **2001**

1. Did your agency implement a CII ULFT replacement program in the reporting year? Yes
 If No, please explain why on Line B. 10.

A. Targeting and Marketing

1. What basis does your agency use to target customers for participation in this program? Potential savings
CII Sector or subsector
 Check all that apply.

a. Describe which method you found to be the most effective overall, and which was the most effective per dollar expended.

Our CII Voucher Incentive Program contractor, HDMC has been a significant player in the promotion of water-efficient products in San Diego County. Working in cooperation with WSA Marketing, a San Diego based marketing and communications firm, HDMC has conducted extensive education, outreach, public relations, advertising and direct marketing activities. HDMC and WSA Marketing have created relationships with the owners, managers, and related customer service supervisors and staff and water-efficient product suppliers from Valley Center to San Ysidro for the past five years. Partnerships have been established with business owners, as well as key employees at wholesale and retail suppliers. Understanding of supplier's business profiles, sales operations and accounting policies and procedures are key to the success of the program. Working relationships and/or qualified data have been gathered on over 200 plumbers. Dealers sign contracts each year in order to participate in a program that is responsible for increasing their sales significantly.

2. How does your agency advertise this program? Check all that apply. Web page
Newspapers
Trade publications
Other print media
Trade shows and events

a. Describe which method you found to be the most effective overall, and which was the most effective per dollar expended.

Extensive marketing in the region, outreach to retail and wholesale dealers with ongoing communication and training has made this program successful in San Diego County.

B. Implementation

1. Does your agency keep and maintain customer participant information? (Read the Help information for a complete list of all the information for this BMP.) Yes

2. Would your agency be willing to share this information if the CUWCC did a study to evaluate the program on behalf of your agency? Yes

3. What is the total number of customer accounts participating in the program during the last year ? 43

CII Subsector	Number of Toilets Replaced			
	Standard Gravity Tank	Air Assisted	Valve Floor Mount	Valve Wall Mount
4.				
a. Offices	0	0	0	0
b. Retail / Wholesale	0	0	0	0
c. Hotels	0	0	0	0
d. Health	23	0	0	0
e. Industrial	0	0	0	0
f. Schools: K to 12	0	0	0	0
g. Eating	0	0	0	0
h. Government	0	0	0	0
i. Churches	10	0	0	0
j. Other	0	0	0	0

5. Program design.

Rebate or voucher

6. Does your agency use outside services to implement this program? Yes

a. If yes, check all that apply.

Consultant
Plumbing contractors/subcontracts

7. Participant tracking and follow-up.

Letter
Telephone
Site Visit

8. Based on your program experience, please rank on a scale of 1 to 5, with 1 being the least frequent cause and 5 being the most frequent cause, the following reasons why customers refused to participate in the program.

- a. Disruption to business 4
- b. Inadequate payback 5
- c. Inadequate ULFT performance 3
- d. Lack of funding 5
- e. American's with Disabilities Act 2
- f. Permitting 2
- g. Other. Please describe in B. 9.

9. Please describe general program acceptance/resistance by customers, obstacles to implementation, and other issues affecting program implementation or effectiveness.

The CII voucher incentive program continues to increase in popularity in the San Diego region. Extensive marketing by the contractor coupled with member agency support has proven to be quite successful.

10. Please provide a general assessment of the program for this reporting year. Did your program achieve its objectives? Were your targeting and marketing approaches effective? Were program costs in line with expectations and

budgeting?

This program met its expectations. The contractor is very successful in targeting and marketing this program and program costs were in line with what was expected. Otay is about 50% built out so the opportunity to replace older fixtures is lower than comparable agencies.

C. Conservation Program Expenditures for CII ULFT

1. CII ULFT Program: Annual Budget & Expenditure Data

	Budgeted	Actual Expenditure
a. Labor	0	0
b. Materials	0	0
c. Marketing & Advertising	0	0
d. Administration & Overhead	0	0
e. Outside Services	0	0
f. Total	0	0

2. CII ULFT Program: Annual Cost Sharing

a. Wholesale agency contribution	3052.5
b. State agency contribution	0
c. Federal agency contribution	0
d. Other contribution	1072.5
e. Total	4125

D. Comments

Reported as of 10/

BMP 11: Conservation Pricing

Reporting Unit:
Otay Water District

BMP Form
 Status:
100% Complete

Year:
2001

A. Implementation

Rate Structure Data Volumetric Rates for Water Service by Customer Class

1. Residential

a. Water Rate Structure	Increasing Block
b. Sewer Rate Structure	Service Not Provided
c. Total Revenue from Volumetric Rates	\$10645052
d. Total Revenue from Non-Volumetric Charges, Fees and other Revenue Sources	\$5282068.22

2. Commercial

a. Water Rate Structure	Uniform
b. Sewer Rate Structure	Service Not Provided
c. Total Revenue from Volumetric Rates	\$2851097
d. Total Revenue from Non-Volumetric Charges, Fees and other Revenue Sources	\$1421321.92

3. Industrial

a. Water Rate Structure	Uniform
b. Sewer Rate Structure	Service Not Provided
c. Total Revenue from Volumetric Rates	\$0
d. Total Revenue from Non-Volumetric Charges, Fees and other Revenue Sources	\$0

4. Institutional / Government

a. Water Rate Structure	Uniform
b. Sewer Rate Structure	Service Not Provided
c. Total Revenue from Volumetric Rates	\$1608171
d. Total Revenue from Non-Volumetric Charges, Fees and other Revenue Sources	\$585429.28

5. Irrigation

a. Water Rate Structure	Uniform
b. Sewer Rate Structure	Service Not Provided
c. Total Revenue from Volumetric Rates	\$4970471
d. Total Revenue from Non-Volumetric Charges, Fees and other Revenue Sources	\$1774334.58

6. Other

a. Water Rate Structure	Uniform
b. Sewer Rate Structure	Service Not Provided
c. Total Revenue from Volumetric Rates	\$130438
d. Total Revenue from Non-Volumetric Charges, Fees and other Revenue Sources	\$229854.61

B. Conservation Pricing Program Expenditures

	This Year	Next Year
1. Budgeted Expenditures	0	0
2. Actual Expenditures	0	

C. "At Least As Effective As"

1. Is your AGENCY implementing an "at least as effective as" variant of this BMP? 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

About 12% of our customers also pay sewer fees to the Otay water district. They are charged a flat rate for sewer. Note 3 c: OWD's industrial accounts are classified as commercial accounts so the revenue from these accounts is not known at this time.

Reported as of 10/

BMP 12: Conservation Coordinator

Reporting Unit: **Otay Water District** BMP Form Status: **100% Complete** Year: **2001**

A. Implementation

- 1. Does your Agency have a conservation coordinator? yes
- 2. Is this a full-time position? yes
- 3. If no, is the coordinator supplied by another agency with which you cooperate in a regional conservation program ?
- 4. Partner agency's name:
- 5. If your agency supplies the conservation coordinator:
 - a. What percent is this conservation coordinator's position? 15%
 - b. Coordinator's Name William Granger
 - c. Coordinator's Title Water Conservation Manager
 - d. Coordinator's Experience and Number of Years 8 years experience in developing and managing water conservation programs
 - e. Date Coordinator's position was created (mm/dd/yyyy) 3/28/1991
- 6. Number of conservation staff, including Conservation Coordinator. 2

B. Conservation Staff Program Expenditures

	This Year	Next Year
1. Budgeted Expenditures	390730	367340
2. Actual Expenditures	348583.91	

C. "At Least As Effective As"

- 1. Is your AGENCY implementing an "at least as effective as" variant of this BMP? 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

#5a My predecessors (two between February 2001 and February 2002) spent most of their time administering the Water Conservation Garden, which opened in the fall of 1999. The Garden now requires a bit less oversight and there is a concerted effort to shift more of my time to other conservation programs. #6 In the prior reporting period, there were 5 staff listed. The Garden is in a state of transition from a management perspective, and initially required more time of my predecessor to manage the facility. Three of the staff were at the water conservation Garden, a joint powers authority administered by Otay Water District, since Otay is the lead agency. Otay's Water Conservation Manager currently oversees the Garden staff, but their salaries are paid for by the Garden Authority. In FY 00-01, Otay paid for approximately half of the Garden's Operation and Maintenance budget

Reported as of 10/

BMP 13: Water Waste Prohibition

Reporting Unit: **Otay Water District** BMP Form Status: **100% Complete** Year: **2001**

A. Requirements for Documenting BMP Implementation

1. Is a water waste prohibition ordinance in effect in your service area? yes

a. If YES, describe the ordinance:

The District's water waste prohibition ordinance enforces a water conservation program to reduce the quantity of water used and that water resources available be put to maximum beneficial use to the extent to which they are capable, and that the waste or unreasonable use, or unreasonable method of use, of water be prevented.

2. Is a copy of the most current ordinance(s) on file with CUWCC? yes

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:

The majority of the City of Chula Vista and portions of unincorporated areas of San Diego County, including Spring Valley, Rancho San Diego, Bonita, Jamul, El Cajon.

District Rules and Regulations for Water Conservation, adopted November 1990. Water-Efficient Landscape Irrigation Ordinance, enacted March 1992.

B. Implementation

1. Indicate which of the water uses listed below are prohibited by your agency or service area.

- a. Gutter flooding yes
- b. Single-pass cooling systems for new connections yes
- c. Non-recirculating systems in all new conveyor or car wash systems yes
- d. Non-recirculating systems in all new commercial laundry systems no
- e. Non-recirculating systems in all new decorative fountains yes
- f. Other, please name yes
Customer Plumbing Leaks, Midday Irrigation, Hosing of Hard Surfaces, and Water Automatically Served in Restaurants (Stage 4).

2. Describe measures that prohibit water uses listed above:

The following measures apply at all times: (a) At no time shall water be wasted or used unreasonably, (b) Water shall not be allowed to leave the the customer's property by drainage onto adjacent properties or public or private roadways or streets due to excessive irrigation and/or neglect, (c) Customers shall be required to repair all water leaks within 48 hours of knowledge that a leak exists, (d) water shall not be used to wash down sidewalks, driveways, parking areas, tennis courts, patios, or other paved areas except to alleviate immediate safety or sanitation hazards, (e) Lawn watering or irrigation, other than by hand or drip methods, is prohibited except between the hours of 4:00 p.m. and 9:00 a.m. the following morning. New plantings and newly seeded areas are exempt from these limits for 30 days, (f) The use of hand-held hose for spraying,

lawn watering, vehicle washing or structure washing is prohibited without an automatic shut-off nozzle. The following measures apply during Stage 2 and above: (a) No non-residential fountains shall be operated unless reclaimed water is used, (b) Restaurants shall not serve water to their customers except when specifically requested. During Stages 4 and above: No filling, refilling, or adding to artificial ponds or lakes shall be permitted unless reclaimed water is used.

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. yes
- 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. yes
 - ii.) Implement an identified maximum number of gallons discharged per gallon of soft water produced. yes
- c. Allow local agencies, including municipalities and special 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. yes

4. Does your agency include water softener checks in home water audit programs? 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? no

C. Water Waste Prohibition Program Expenditures

	This Year	Next Year
1. Budgeted Expenditures	0	0
2. Actual Expenditures	0	

D. "At Least As Effective As"

1. Is your AGENCY implementing an "at least as effective as" variant of this BMP? 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

Reported as of 10/

BMP 14: Residential ULFT Replacement Programs

Reporting Unit: **Otay Water District** BMP Form Status: **100% Complete** Year: **2001**

A. Implementation

	Single-Family Accounts	Multi-Family Units
1. Does your Agency have program(s) for replacing high-water-using toilets with ultra-low flush toilets?	yes	yes

Number of Toilets Replaced by Agency Program During Report Year

Replacement Method	SF Accounts	MF Units
2. Rebate	0	0
3. Direct Install	0	0
4. CBO Distribution	0	0
5. Other	600	339
Total	600	339

6. Describe your agency's ULFT program for single-family residences.

A \$75 voucher is available to replace all of a household's 3.5-5 gpf toilets. New construction/bathroom remodels do not qualify

7. Describe your agency's ULFT program for multi-family residences.

Participating MF customers are offered a voucher redeemable for up to \$75 off the purchase price of all the 3.5+ gallon per flush toilets in the multi-family complex. New construction/bathroom remodels do not qualify.

8. Is a toilet retrofit on resale ordinance in effect for your service area? no

9. 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

	This Year	Next Year
1. Budgeted Expenditures	22200	40300
2. Actual Expenditures	22477.99	

C. "At Least As Effective As"

1. Is your AGENCY implementing an "at least as effective as" variant of this BMP? 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 San Diego region uses vouchers rather than rebates

Reported as of 10/

Water Supply & Reuse

Reporting Unit:

Otay Water District

Year:

2002

Water Supply Source Information

Supply Source Name	Quantity (AF) Supplied	Supply Type
SDCWA	35578.6	Imported
Otay Reclamation Plant	1082.6	Recycled

Total AF: 36661.2

Reported as of 10/

Accounts & Water Use

Reporting Unit Name: Submitted to Year:
Otay Water District CUWCC **2002**
 11/27/2002

A. Service Area Population Information:

1. Total service area population 153000

B. Number of Accounts and Water Deliveries (AF)

Type	Metered		Unmetered	
	No. of Accounts	Water Deliveries (AF)	No. of Accounts	Water Deliveries (AF)
1. Single-Family	36838	17848.5	0	0
2. Multi-Family	721	2200.6	0	0
3. Commercial	912	1632.85	0	0
4. Industrial	0	0	0	0
5. Institutional	218	2076.4	0	0
6. Dedicated Irrigation	1202	7800.11	0	0
7. Recycled Water	0	0	0	0
8. Other	734	2740.15	0	0
9. Unaccounted	NA	2362.64	NA	0
Total	40625	36661.25	0	0

Metered

Unmetered

Reported as of 10/

Reported as of 10,

BMP 01: Water Survey Programs for Single-Family and Multi-Family Residential Customers

Reporting Unit: **Otay Water District** BMP Form Status: **100% Complete** Year: **2002**

A. Implementation

- 1. Based on your signed MOU date, 09/04/1991, your Agency STRATEGY DUE DATE is: 09/03/1993
- 2. Has your agency developed and implemented a targeting/marketing strategy for SINGLE-FAMILY residential water use surveys? yes
 - a. If YES, when was it implemented? 7/1/1995
- 3. Has your agency developed and implemented a targeting/marketing strategy for MULTI-FAMILY residential water use surveys? yes
 - a. If YES, when was it implemented? 7/1/1995

B. Water Survey Data

Survey Counts:	Single Family Accounts	Multi-Family Units
1. Number of surveys offered:	36836	721
2. Number of surveys completed:	12	0

Indoor Survey:

- 3. Check for leaks, including toilets, faucets and meter checks yes yes
- 4. Check showerhead flow rates, aerator flow rates, and offer to replace or recommend replacement, if necessary yes yes
- 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 yes yes

Outdoor Survey:

- 6. Check irrigation system and timers yes yes
- 7. Review or develop customer irrigation schedule yes yes
- 8. Measure landscaped area (Recommended but not required for surveys) yes yes
- 9. Measure total irrigable area (Recommended but not required for surveys) yes yes
- 10. Which measurement method is typically used (Recommended but not required for surveys) Pacing
- 11. Were customers provided with information packets that included evaluation results and water savings recommendations? yes yes
- 12. Have the number of surveys offered and completed, survey results, and survey costs been tracked? yes yes
 - a. If yes, in what form are surveys tracked? database

b. Describe how your agency tracks this information.

The contractor (VoltVIEWTECH) tracks number of surveys through a database

C. Water Survey Program Expenditures

	This Year	Next Year
1. Budgeted Expenditures	3200	3200
2. Actual Expenditures	342.5	

D. "At Least As Effective As"

1. Is your AGENCY implementing an "at least as effective as" variant of this BMP? 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

During most of this fiscal year there was an interim water conservation manager who focused her time on managing other programs. This program was promoted on the web site, and brochures were distributed at events and in the office when people came in to pay their bills. In June, 2002 a bill insert was sent out to 2/3rds of the Single family and MF customer accounts (it went out a week into the billing cycle). The vast majority of those who saw the insert and called for a survey will be in the FY 02/03 figures.

BMP 02: Residential Plumbing Retrofit

Reporting Unit: **Otay Water District** BMP Form Status: **100% Complete** Year: **2002**

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? 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

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

5. Estimated percent of multi-family households with low-flow showerheads: 75%

6. 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 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 United States must be 2.5 gpm maximum

B. Low-Flow Device Distribution Information

1. Has your agency developed a targeting/ marketing strategy for distributing low-flow devices? yes

a. If YES, when did your agency begin implementing this strategy? 1/1/1992

b. Describe your targeting/ marketing strategy.

Over 550,000 showerheads have been distributed in the region to date. Marketing that has been done in the San Diego region includes the following: residential survey distribution, direct distribution to customers (lobby counter), distribution at community events, by customer request and distribution at CBO events

Low-Flow Devices Distributed/ Installed	SF Accounts	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?		yes
a. If YES, in what format are low-flow devices tracked?		Spreadsheet

b. If yes, describe your tracking and distribution system :

The San Diego County Water Authority documented distribution in the region in a spreadsheet by region, rather than by specific member agency.

C. Low-Flow Device Distribution Expenditures

	This Year	Next Year
1. Budgeted Expenditures	0	0
2. Actual Expenditures	0	

D. "At Least As Effective As"

1. Is your AGENCY implementing an "at least as effective as" variant of this BMP? 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

Reported as of 10,

BMP 03: System Water Audits, Leak Detection and Repair

Reporting Unit:	BMP Form Status:	Year:
Otay Water District	100% Complete	2002

A. Implementation

- 1. Has your agency completed a pre-screening system audit for this reporting year? yes
- 2. If YES, enter the values (AF/Year) used to calculate verifiable use as a percent of total production:
 - a. Determine metered sales (AF) 33832.96
 - b. Determine other system verifiable uses (AF) 465.6
 - c. Determine total supply into the system (AF) 35578.6
 - d. Using the numbers above, if (Metered Sales + Other Verifiable Uses) / Total Supply is < 0.9 then a full-scale system audit is required. 0.96
- 3. Does your agency keep necessary data on file to verify the values used to calculate verifiable uses as a percent of total production? yes
- 4. Did your agency complete a full-scale audit during this report year? no
- 5. Does your agency maintain in-house records of audit results or the completed AWWA audit worksheets for the completed audit? yes
- 6. Does your agency operate a system leak detection program? yes
 - a. If yes, describe the leak detection program:

Leak detection is based on purchased vs. sales, physical observations of wet spots, mainflushing load contents, and field staff calls. Otay staff calls in American Leak Detection service depending upon the urgency or the staffing.

B. Survey Data

- 1. Total number of miles of distribution system line. 568
- 2. Number of miles of distribution system line surveyed. 14.95

C. System Audit / Leak Detection Program Expenditures

	This Year	Next Year
1. Budgeted Expenditures	120000	120000
2. Actual Expenditures	120000	

D. "At Least As Effective As"

- 1. Is your AGENCY implementing an "at least as effective as" variant of this BMP? 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

- b.1. Includes potable and recycled distribution line

Reported as of 10/

BMP 04: Metering with Commodity Rates for all New Connections and Retrofit of Existing

Reporting Unit: **Otay Water District** BMP Form Status: **100% Complete** Year: **2002**

A. Implementation

- 1. Does your agency require meters for all new connections and bill by volume-of-use? yes
- 2. Does your agency have a program for retrofitting existing unmetered connections and bill by volume-of-use? no
 - a. If YES, when was the plan to retrofit and bill by volume-of-use existing unmetered connections completed?
 - b. Describe the program:
- 3. Number of previously unmetered accounts fitted with meters during report year. 0

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? no
 - a. If YES, when was the feasibility study conducted? (mm/dd/yy)
 - b. Describe the feasibility study:
- 2. Number of CII accounts with mixed-use meters. 1130
- 3. Number of CII accounts with mixed-use meters retrofitted with dedicated irrigation meters during reporting period. 0

C. Meter Retrofit Program Expenditures

	This Year	Next Year
1. Budgeted Expenditures	0	0
2. Actual Expenditures	0	

D. "At Least As Effective As"

- 1. Is your AGENCY implementing an "at least as effective as" variant of this BMP? 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

B.2 This figure is an estimate as there are some commercial accounts that will not have significant landscaping. All CII accounts with more than an acre of landscaping are required to have dedicated irrigation meters.

Reported as of 10/

BMP 05: Large Landscape Conservation Programs and Incentives

Reporting Unit: **Otay Water District** BMP Form Status: **100% Complete** Year: **2002**

A. Water Use Budgets

- 1. Number of Dedicated Irrigation Meter Accounts: 1202
- 2. Number of Dedicated Irrigation Meter Accounts with Water Budgets: 1202
- 3. Budgeted Use for Irrigation Meter Accounts with Water Budgets (AF): 12924
- 4. Actual Use for Irrigation Meter Accounts with Water Budgets (AF): 7749
- 5. Does your agency provide water use notices to accounts with budgets each billing cycle? yes

B. Landscape Surveys

- 1. Has your agency developed a marketing / targeting strategy for landscape surveys? yes
 - a. If YES, when did your agency begin implementing this strategy? 8/10/1990
 - b. Description of marketing / targeting strategy:

Our contractor prescreens potential customers by reviewing water usage data records and comparing typical patterns of other industry or SIC water usage. Customers that exhibit unusually high water usage relative to their size of property are sent a letter and a program brochure, inviting them to participate in the program. We regularly disperse brochures and advertising to a variety of candidates, home owner's associations as well as large turf customers. Program brochures are located in our front lobby and our customer service department refers inquiring customers to the contractor.

- 2. Number of Surveys Offered. 5
- 3. Number of Surveys Completed. 5
- 4. Indicate which of the following Landscape Elements are part of your survey:
 - a. Irrigation System Check yes
 - b. Distribution Uniformity Analysis yes
 - c. Review / Develop Irrigation Schedules yes
 - d. Measure Landscape Area yes
 - e. Measure Total Irrigable Area yes
 - f. Provide Customer Report / Information yes
- 5. Do you track survey offers and results? yes
- 6. Does your agency provide follow-up surveys for previously completed surveys? yes
 - a. If YES, describe below:

C. Other BMP 5 Actions

- 1. An agency can provide mixed-use accounts with ETo-based no

landscape budgets in lieu of a large landscape survey program.
 Does your agency provide mixed-use accounts with landscape budgets?

- 2. Number of CII mixed-use accounts with landscape budgets. 0
- 3. Do you offer landscape irrigation training? yes
- 4. Does your agency offer financial incentives to improve landscape water use efficiency? yes

Type of Financial Incentive:	Budget (Dollars/Year)	Number Awarded to Customers	Total Amount Awarded
a. Rebates	0	0	0
b. Loans	0	0	0
c. Grants	0	0	0

5. Do you provide landscape water use efficiency information to new customers and customers changing services? yes

a. If YES, describe below:

Yes, new customers are required by Otay's planning department to provide square footage of landscaped area and receive notice of the Water Efficient Irrigation Ordinance and monthly allocation. On changing services, they are notified by Customer Service or Water Conservation of the allocation and banking system. Surveyed account info kept in file and tracked. If consumption history shows no improvement within 6 months, a review and/or second survey is recommended to customer.

- 6. Do you have irrigated landscaping at your facilities? yes
 - a. If yes, is it water-efficient? yes
 - b. If yes, does it have dedicated irrigation metering? no
- 7. Do you provide customer notices at the start of the irrigation season? no
- 8. Do you provide customer notices at the end of the irrigation season? no

D. Landscape Conservation Program Expenditures

	This Year	Next Year
1. Budgeted Expenditures	1800	1800
2. Actual Expenditures	1187	

E. "At Least As Effective As"

1. Is your AGENCY implementing an "at least as effective as" variant of this BMP? Yes

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."

On October 17, 1990 the Otay Water District passed Ordinance No. 367 which mandated the installation of a separate landscape meter on commercial or industrial properties if they are located on a parcel of land an acre or more in size. Then in December of 1993, the District approved Ordinance No. 424 allowing commercial customers who obtained a single water meter to October 1990 to obtain a second meter for indoor use without paying water capacity fees if the additional meter is solely for the purpose of isolating current indoor water use from that used for

outdoor landscaping. The landscape meter requirement is found in Section 27 of the District's Code of Ordinances.

F. Comments

Reported as of 10/

BMP 06: High-Efficiency Washing Machine Rebate Programs

Reporting Unit: **Otay Water District** BMP Form Status: **100% Complete** Year: **2002**

A. Implementation

1. Do any energy service providers or waste water utilities in your service area offer rebates for high-efficiency washers? yes

a. If YES, describe the offerings and incentives as well as who the energy/waste water utility provider is.

San Diego Gas & Electric offers a \$75 rebate for qualifying machines. They use the ENERGY STAR criteria, while Otay, CWA and MET use the CEC criteria which lists a water factor. In most cases to date, the lists are nearly identical.

2. Does your agency offer rebates for high-efficiency washers? yes

3. What is the level of the rebate? 125

4. Number of rebates awarded. 221

B. Rebate Program Expenditures

	This Year	Next Year
1. Budgeted Expenditures	7735	14000
2. Actual Expenditures	5431.5	

C. "At Least As Effective As"

1. Is your AGENCY implementing an "at least as effective as" variant of this BMP? 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

A.2. Vouchers are offered instead of rebates

Reported as of 10,

BMP 07: Public Information Programs

Reporting Unit: **Otay Water District** BMP Form Status: **100% Complete** Year: **2002**

A. Implementation

1. Does your agency maintain an active public information program to promote and educate customers about water conservation? yes

a. If YES, describe the program and how it's organized.

Otay's water conservation department also serves to promote and educate customers about water conservation. The Otay Water District is the lead agency in the oversight of the Water Conservation Garden, a 4.2 acre demonstration constructed jointly by Otay and Helix

2. Indicate which and how many of the following activities are included in your public information program.

Public Information Program Activity	Yes/No	Number of Events
a. Paid Advertising	yes	0
b. Public Service Announcement	yes	1
c. Bill Inserts / Newsletters / Brochures	yes	4
d. Bill showing water usage in comparison to previous year's usage	yes	
e. Demonstration Gardens	yes	1
f. Special Events, Media Events	yes	0
g. Speaker's Bureau	yes	0
h. Program to coordinate with other government agencies, industry and public interest groups and media	yes	

B. Conservation Information Program Expenditures

	This Year	Next Year
1. Budgeted Expenditures	0	0
2. Actual Expenditures	0	

C. "At Least As Effective As"

1. Is your AGENCY implementing an "at least as effective as" variant of this BMP? 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

Otay relies upon the County Water Authority for the more generic public information services, however the numbers above only reflect the activities conducted by Otay. Otay has hired a PR firm which promotes water conservation along with the District's other programs. Articles/stories run in Otay's quarterly newsletter (the Pipeline) regularly. A bill insert went out in the June of 2002 promoting landscape water efficiency and there was an article in the Pipeline (Otay's quarterly newsletter). Another bill insert went out in April 2002 encouraging Otay customers to visit the Garden, and specifically promoted the Spring

Garden Festival at the Garden. Otay's water conservation budget noted in BMP 12 includes promotion and marketing.

Reported as of 10/

BMP 08: School Education Programs

Reporting Unit: **Otay Water District** BMP Form Status: **100% Complete** Year: **2002**

A. Implementation

1. Has your agency implemented a school information program to promote water conservation? yes

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	yes	135	5107	6
Grades 4th-6th	yes	121	6100	1
Grades 7th-8th	yes	0	0	1
High School	yes	0	0	1

3. Did your Agency's materials meet state education framework requirements? yes

4. When did your Agency begin implementing this program? 9/9/1990

B. School Education Program Expenditures

	This Year	Next Year
1. Budgeted Expenditures	19200	19900
2. Actual Expenditures	12469	

C. "At Least As Effective As"

1. Is your AGENCY implementing an "at least as effective as" variant of this BMP? 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

Presentations include school tours conducted at the Water Conservation Garden.

Reported as of 10/

BMP 09: Conservation Programs for CII Accounts

Reporting Unit: **Otay Water District** BMP Form Status: **100% Complete** Year: **2002**

A. Implementation

- 1. Has your agency identified and ranked COMMERCIAL customers according to use? yes
- 2. Has your agency identified and ranked INDUSTRIAL customers according to use? No
- 3. Has your agency identified and ranked INSTITUTIONAL customers according to use? yes

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? no

CII Surveys	Commercial Accounts	Industrial Accounts	Institutional Accounts
a. Number of New Surveys Offered	0	0	0
b. Number of New Surveys Completed	0	0	0
c. Number of Site Follow-ups of Previous Surveys (within 1 yr)	0	0	0
d. Number of Phone Follow-ups of Previous Surveys (within 1 yr)	0	0	0
CII Survey Components	Commercial Accounts	Industrial Accounts	Institutional Accounts
e. Site Visit	no	no	no
f. Evaluation of all water-using apparatus and processes			no
g. Customer report identifying recommended efficiency measures, paybacks and agency incentives		no	no
Agency CII Customer Incentives	Budget (\$/Year)	No. Awarded to Customers	Total \$ Amount Awarded
h. Rebates	0	0	0
i. Loans	0	0	0
j. Grants	0	0	0
k. Others	0	0	0

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?	yes
6. Does your agency document and maintain records on how savings were realized and the method of calculation for estimated savings?	yes
7. Estimated annual savings (AF/yr) from site-verified actions taken by agency since 1991.	32.04
8. Estimated annual savings (AF/yr) from non-site-verified actions taken by agency since 1991.	0

B. Conservation Program Expenditures for CII Accounts

	This Year	Next Year
1. Budgeted Expenditures	5300	5300
2. Actual Expenditures	2812.5	

C. "At Least As Effective As"

- 1. Is your AGENCY implementing an "at least as effective as" variant of this BMP? 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 County Water Authority and its member agencies including Otay Water District offer vouchers for cooling tower conductivity meters, commercial High-efficiency clothes washers and low flow (including waterless) urinals. Otay does not separate out their industrial customers. They are grouped with our commercial accounts and ranked.

Reported as of 10,

BMP 09a: CII ULFT Water Savings

Reporting Unit: **Otay Water District** BMP Form Status: **100% Complete** Year: **2002**

1. Did your agency implement a CII ULFT replacement program in the reporting year? **Yes**
If No, please explain why on Line B. 10.

A. Targeting and Marketing

1. What basis does your agency use to target customers for participation in this program? **Potential savings CII Sector or subsector**
Check all that apply.

a. Describe which method you found to be the most effective overall, and which was the most effective per dollar expended.

Our CII Voucher Incentive Program contractor, HDMC has been a significant player in the promotion of water-efficient products in San Diego County. Working in cooperation with WSA Marketing, a San Diego based marketing and communications firm, HDMC has conducted extensive education, outreach, public relations, advertising and direct marketing activities. HDMC and WSA Marketing have created relationships with the owners, managers, and related customer service supervisors and staff and water-efficient product suppliers from Valley Center to San Ysidro for the past five years. Partnerships have been established with business owners, as well as key employees at wholesale and retail suppliers. Understanding of supplier's business profiles, sales operations and accounting policies and procedures are key to the success of the program. Working relationships and/or qualified data have been gathered on over 200 plumbers. Dealers sign contracts each year in order to participate in a program that is responsible for increasing their sales significantly.

2. How does your agency advertise this program? Check all that apply. **Web page
Newspapers
Trade publications
Other print media
Trade shows and events**

a. Describe which method you found to be the most effective overall, and which was the most effective per dollar expended.

Extensive marketing in the region, outreach to retail and wholesale dealers with ongoing communication and training has made this program successful in San Diego County.

B. Implementation

1. Does your agency keep and maintain customer participant information? (Read the Help information for a complete list of all the information for this BMP.) **Yes**

2. Would your agency be willing to share this information if the CUWCC did a study to evaluate the program on behalf of your agency? **Yes**

3. What is the total number of customer accounts participating in the program during the last year ? **71**

CII Subsector	Number of Toilets Replaced			
	Standard Gravity Tank	Air Assisted	Valve Floor Mount	Valve Wall Mount
4.				
a. Offices	0	0	0	0
b. Retail / Wholesale	0	0	0	0
c. Hotels	0	0	0	0
d. Health	0	0	0	0
e. Industrial	0	0	0	0
f. Schools: K to 12	58	0	0	0
g. Eating	0	0	0	0
h. Government	0	0	0	0
i. Churches	13	0	0	0
j. Other	0	0	0	0

5. Program design.

Rebate or voucher

6. Does your agency use outside services to implement this program? Yes

a. If yes, check all that apply.

Consultant
Plumbing contractors/subcontracts

7. Participant tracking and follow-up.

Letter
Telephone
Site Visit

8. Based on your program experience, please rank on a scale of 1 to 5, with 1 being the least frequent cause and 5 being the most frequent cause, the following reasons why customers refused to participate in the program.

- a. Disruption to business 4
- b. Inadequate payback 5
- c. Inadequate ULFT performance 3
- d. Lack of funding 5
- e. American's with Disabilities Act 2
- f. Permitting 2
- g. Other. Please describe in B. 9.

9. Please describe general program acceptance/resistance by customers, obstacles to implementation, and other issues affecting program implementation or effectiveness.

The CII voucher incentive program continues to increase in popularity in the San Diego region. Extensive marketing by the contractor coupled with member agency support has proven to be quite successful.

10. Please provide a general assessment of the program for this reporting year. Did your program achieve its objectives? Were your targeting and marketing approaches effective? Were program costs in line with expectations and

budgeting?

This program met its expectations. The contractor is very successful in targeting and marketing this program and program costs were in line with what was expected. Otay is about 50% built out so the opportunity to replace older fixtures is lower than comparable agencies.

C. Conservation Program Expenditures for CII ULFT

1. CII ULFT Program: Annual Budget & Expenditure Data

	Budgeted	Actual Expenditure
a. Labor	0	0
b. Materials	0	0
c. Marketing & Advertising	0	0
d. Administration & Overhead	0	0
e. Outside Services	0	0
f. Total	0	0

2. CII ULFT Program: Annual Cost Sharing

a. Wholesale agency contribution	6567.5
b. State agency contribution	0
c. Federal agency contribution	0
d. Other contribution	2307.5
e. Total	8875

D. Comments

Reported as of 10/

BMP 11: Conservation PricingReporting Unit:
Otay Water DistrictBMP Form
Status:
100% CompleteYear:
2002**A. Implementation****Rate Structure Data Volumetric Rates for Water Service by Customer Class****1. Residential**

a. Water Rate Structure	Increasing Block
b. Sewer Rate Structure	Uniform
c. Total Revenue from Volumetric Rates	\$13115264
d. Total Revenue from Non-Volumetric Charges, Fees and other Revenue Sources	\$5733147.59

2. Commercial

a. Water Rate Structure	Uniform
b. Sewer Rate Structure	Service Not Provided
c. Total Revenue from Volumetric Rates	\$3010433
d. Total Revenue from Non-Volumetric Charges, Fees and other Revenue Sources	\$1489247.54

3. Industrial

a. Water Rate Structure	Uniform
b. Sewer Rate Structure	Service Not Provided
c. Total Revenue from Volumetric Rates	\$0
d. Total Revenue from Non-Volumetric Charges, Fees and other Revenue Sources	\$0

4. Institutional / Government

a. Water Rate Structure	Uniform
b. Sewer Rate Structure	Service Not Provided
c. Total Revenue from Volumetric Rates	\$1666537
d. Total Revenue from Non-Volumetric Charges, Fees and other Revenue Sources	\$261966.13

5. Irrigation

a. Water Rate Structure	Uniform
b. Sewer Rate Structure	Service Not Provided
c. Total Revenue from Volumetric Rates	\$5870819
d. Total Revenue from Non-Volumetric Charges, Fees and other Revenue Sources	\$1368356.5

6. Other

a. Water Rate Structure	Uniform
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Reported as of 10/

BMP 12: Conservation Coordinator

Reporting Unit: **Otay Water District** BMP Form Status: **100% Complete** Year: **2002**

A. Implementation

- 1. Does your Agency have a conservation coordinator? yes
- 2. Is this a full-time position? yes
- 3. If no, is the coordinator supplied by another agency with which you cooperate in a regional conservation program ?
- 4. Partner agency's name:
- 5. If your agency supplies the conservation coordinator:
 - a. What percent is this conservation coordinator's position? 25%
 - b. Coordinator's Name William Granger
 - c. Coordinator's Title Water Conservation Manager
 - d. Coordinator's Experience and Number of Years 8 years experience in developing and managing water conservation programs
 - e. Date Coordinator's position was created (mm/dd/yyyy) 3/28/1991
- 6. Number of conservation staff, including Conservation Coordinator. 2

B. Conservation Staff Program Expenditures

	This Year	Next Year
1. Budgeted Expenditures	367340	334700
2. Actual Expenditures	349029	

C. "At Least As Effective As"

- 1. Is your AGENCY implementing an "at least as effective as" variant of this BMP? 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

Since the Water Conservation Garden opened in 1999, more and more of my position's time had been spent administering the Garden. This commitment has slowly decreased over time as the Garden staff have become more autonomous and there has been a concerted effort to shift my duties over to the Garden staff. My position still officially oversees the 5 Water Conservation Garden staff, but they and the Water Conservation Garden budget are not reflected in the figures above.

Reported as of 10/

BMP 13: Water Waste Prohibition

Reporting Unit: **Otay Water District** BMP Form Status: **100% Complete** Year: **2002**

A. Requirements for Documenting BMP Implementation

1. Is a water waste prohibition ordinance in effect in your service area? yes

a. If YES, describe the ordinance:

The District's water waste prohibition ordinance enforces a water conservation program to reduce the quantity of water used and that water resources available be put to maximum beneficial use to the extent to which they are capable, and that the waste or unreasonable use, or unreasonable method of use, of water be prevented.

2. Is a copy of the most current ordinance(s) on file with CUWCC? yes

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:

The majority of the City of Chula Vista and portions of unincorporated areas of San Diego County, including Spring Valley, Rancho San Diego, Bonita, Jamul, El Cajon.

District Rules and Regulations for Water Conservation, adopted November 1990. Water-Efficient Landscape Irrigation Ordinance, enacted March 1992.

B. Implementation

1. Indicate which of the water uses listed below are prohibited by your agency or service area.

- a. Gutter flooding yes
- b. Single-pass cooling systems for new connections yes
- c. Non-recirculating systems in all new conveyor or car wash systems yes
- d. Non-recirculating systems in all new commercial laundry systems no
- e. Non-recirculating systems in all new decorative fountains yes
- f. Other, please name yes
Customer Plumbing Leaks, Midday Irrigation, Hosing of Hard Surfaces, and Water Automatically Served in Restaurants (Stage 4).

2. Describe measures that prohibit water uses listed above:

The following measures apply at all times: (a) At no time shall water be wasted or used unreasonably, (b) Water shall not be allowed to leave the the customer's property by drainage onto adjacent properties or public or private roadways or streets due to excessive irrigation and/or neglect, (c) Customers shall be required to repair all water leaks within 48 hours of knowledge that a leak exists, (d) water shall not be used to wash down sidewalks, driveways, parking areas, tennis courts, patios, or other paved areas except to alleviate immediate safety or sanitation hazards, (e) Lawn watering or irrigation, other than by hand or drip methods, is prohibited except between the hours of 4:00 p.m. and 9:00 a.m. the following morning. New plantings and newly seeded areas are exempt from these limits for 30 days, (f) The use of hand-held hose for spraying,

lawn watering, vehicle washing or structure washing is prohibited without an automatic shut-off nozzle. The following measures apply during Stage 2 and above: (a) No non-residential fountains shall be operated unless reclaimed water is used, (b) Restaurants shall not serve water to their customers except when specifically requested. During Stages 4 and above: No filling, refilling, or adding to artificial ponds or lakes shall be permitted unless reclaimed water is used.

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. yes
- 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. yes
 - ii.) Implement an identified maximum number of gallons discharged per gallon of soft water produced. yes
- c. Allow local agencies, including municipalities and special 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. yes

4. Does your agency include water softener checks in home water audit programs? 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? no

C. Water Waste Prohibition Program Expenditures

	This Year	Next Year
1. Budgeted Expenditures	0	0
2. Actual Expenditures	0	

D. "At Least As Effective As"

1. Is your AGENCY implementing an "at least as effective as" variant of this BMP? 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

BMP 14: Residential ULFT Replacement Programs

Reporting Unit: **Otay Water District** BMP Form Status: **100% Complete** Year: **2002**

A. Implementation

	Single-Family Accounts	Multi-Family Units
1. Does your Agency have program(s) for replacing high-water-using toilets with ultra-low flush toilets?	yes	yes

Number of Toilets Replaced by Agency Program During Report Year

Replacement Method	SF Accounts	MF Units
2. Rebate	0	0
3. Direct Install	0	0
4. CBO Distribution	0	0
5. Other	875	155
Total	875	155

6. Describe your agency's ULFT program for single-family residences.

SF customers are offered a voucher redeemable for up to \$75 off the purchase price of all the 3.5+ gallon per flush toilets in their home. Toilets installed as part of new construction or bathroom additions do not qualify.

7. Describe your agency's ULFT program for multi-family residences.

Participating MF customers are offered a voucher redeemable for up to \$75 off the purchase price of all the 3.5+ gallon per flush toilets in the multi-family complex. New construction/bathroom additions do not qualify.

8. Is a toilet retrofit on resale ordinance in effect for your service area? no

9. 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

	This Year	Next Year
1. Budgeted Expenditures	36386	40300
2. Actual Expenditures	22857.58	

C. "At Least As Effective As"

1. Is your AGENCY implementing an "at least as effective as" variant of this BMP? 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

Water Supply & Reuse

Reporting Unit:

Otay Water District

Year:

2003

Water Supply Source Information

Supply Source Name	Quantity (AF) Supplied	Supply Type
Ralph W. Chapman Water Recycling Facility	1117.4	Recycled
San Diego County Water Authority	34535.8	Imported

Total AF: 35653.2

Reported as of 9/2

Accounts & Water Use

Reporting Unit Name: **Otay Water District** Submitted to CUWCC: **12/01/2004** Year: **2003**

A. Service Area Population Information:

1. Total service area population 161000

B. Number of Accounts and Water Deliveries (AF)

Type	Metered		Unmetered	
	No. of Accounts	Water Deliveries (AF)	No. of Accounts	Water Deliveries (AF)
1. Single-Family	38731	18286.18	0	0
2. Multi-Family	728	2337.11	0	0
3. Commercial	931	1509.15	0	0
4. Industrial	0	0	0	0
5. Institutional	255	2091.24	0	0
6. Dedicated Irrigation	1293	7432.51	0	0
7. Recycled Water	0	0	0	0
8. Other	812	2272.0054	0	0
9. Unaccounted	NA	1725	NA	0
Total	42750	35653.1954	0	0

Reported as of 9/2

BMP 01: Water Survey Programs for Single-Family and Multi-Family Residential Customers

Reporting Unit: **Otay Water District** BMP Form Status: **100% Complete** Year: **2003**

A. Implementation

- 1. Based on your signed MOU date, 09/04/1991, your Agency STRATEGY DUE DATE is: 09/03/1993
- 2. Has your agency developed and implemented a targeting/marketing strategy for SINGLE-FAMILY residential water use surveys? yes
 - a. If YES, when was it implemented? 7/1/1995
- 3. Has your agency developed and implemented a targeting/marketing strategy for MULTI-FAMILY residential water use surveys? yes
 - a. If YES, when was it implemented? 7/1/1995

B. Water Survey Data

Survey Counts:	Single Family Accounts	Multi-Family Units
1. Number of surveys offered:	36836	721
2. Number of surveys completed:	168	0

Indoor Survey:

- 3. Check for leaks, including toilets, faucets and meter checks yes yes
- 4. Check showerhead flow rates, aerator flow rates, and offer to replace or recommend replacement, if necessary yes yes
- 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 yes yes

Outdoor Survey:

- 6. Check irrigation system and timers yes yes
- 7. Review or develop customer irrigation schedule yes yes
- 8. Measure landscaped area (Recommended but not required for surveys) yes yes
- 9. Measure total irrigable area (Recommended but not required for surveys) yes yes
- 10. Which measurement method is typically used (Recommended but not required for surveys) Pacing
- 11. Were customers provided with information packets that included evaluation results and water savings recommendations? yes yes
- 12. Have the number of surveys offered and completed, survey results, and survey costs been tracked? yes yes
 - a. If yes, in what form are surveys tracked? database

b. Describe how your agency tracks this information.

The contractor (VoltVIEWTECH) tracks number of surveys through a database. Letters were sent to 2,239 of the top 30% SF homes encouraging them to participate in the free residential survey program.

C. Water Survey Program Expenditures

	This Year	Next Year
1. Budgeted Expenditures	3200	6000
2. Actual Expenditures	4692.5	

D. "At Least As Effective As"

1. Is your AGENCY implementing an "at least as effective as" variant of this BMP? 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

This program was promoted regularly throughout the irrigation season (March-November) with targeted mailings to the top 30% of residential water users. In addition, the program was promoted in our front lobby, and at events. All of the District's customers received the bill insert in August ("Summer is Here... is your your yard ready"), promoting the residential survey program and other programs.

Reported as of 9/2

BMP 02: Residential Plumbing Retrofit

Reporting Unit: **Otay Water District** BMP Form Status: **100% Complete** Year: **2003**

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? 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
- 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
- 5. Estimated percent of multi-family households with low-flow showerheads: 75%
- 6. 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 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 United States must be 2.5 gpm maximum

B. Low-Flow Device Distribution Information

- 1. Has your agency developed a targeting/ marketing strategy for distributing low-flow devices? yes
 - a. If YES, when did your agency begin implementing this strategy? 1/1/1992
 - b. Describe your targeting/ marketing strategy.

Over 550,000 showerheads have been distributed in the region to date. Marketing that has been done in the San Diego region includes the following: residential survey distribution, direct distribution to customers (lobby counter), distribution at community events, by customer request and distribution at CBO events. In addition, this fiscal year, the Otay Water District distributed 200 showerheads to customers who came in to pay their bills.

Low-Flow Devices Distributed/ Installed	SF Accounts	MF Units
2. Number of low-flow showerheads distributed:	200	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?		yes
a. If YES, in what format are low-flow devices tracked?		Spreadsheet
b. If yes, describe your tracking and distribution system :		

The San Diego County Water Authority documented distribution in the region in a spreadsheet by region, rather than by specific member agency.

C. Low-Flow Device Distribution Expenditures

	This Year	Next Year
1. Budgeted Expenditures	1500	0
2. Actual Expenditures	1500	

D. "At Least As Effective As"

1. Is your AGENCY implementing an "at least as effective as" variant of this BMP? 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

Staff ordered and received 1,000 low flow showerheads and distributed 200 this fiscal year. The flow rate on these showerheads is 2.0 gallons per minute, below the federal standard.

Reported as of 9/2

BMP 03: System Water Audits, Leak Detection and Repair

Reporting Unit: **Otay Water District** BMP Form Status: **100% Complete** Year: **2003**

A. Implementation

- 1. Has your agency completed a pre-screening system audit for this reporting year? yes
- 2. If YES, enter the values (AF/Year) used to calculate verifiable use as a percent of total production:
 - a. Determine metered sales (AF) 33480.6
 - b. Determine other system verifiable uses (AF) 447.6
 - c. Determine total supply into the system (AF) 34535.8
 - d. Using the numbers above, if (Metered Sales + Other Verifiable Uses) / Total Supply is < 0.9 then a full-scale system audit is required. 0.98
- 3. Does your agency keep necessary data on file to verify the values used to calculate verifiable uses as a percent of total production? yes
- 4. Did your agency complete a full-scale audit during this report year? no
- 5. Does your agency maintain in-house records of audit results or the completed AWWA audit worksheets for the completed audit? yes
- 6. Does your agency operate a system leak detection program? yes
 - a. If yes, describe the leak detection program:

Leak detection is based on purchased vs. sales, physical observations of wet spots, mainflushing load contents, and field staff calls. Otay staff calls in American Leak Detection service depending upon the urgency or the staffing

B. Survey Data

- 1. Total number of miles of distribution system line. 630
- 2. Number of miles of distribution system line surveyed. 15.3

C. System Audit / Leak Detection Program Expenditures

	This Year	Next Year
1. Budgeted Expenditures	122854	137389
2. Actual Expenditures	121912	

D. "At Least As Effective As"

- 1. Is your AGENCY implementing an "at least as effective as" variant of this BMP? 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

b.1. Includes potable and recycled distribution line

Reported as of 9/2

BMP 04: Metering with Commodity Rates for all New Connections and Retrofit of Existing

Reporting Unit: **Otay Water District** BMP Form Status: **100% Complete** Year: **2003**

A. Implementation

- 1. Does your agency require meters for all new connections and bill by volume-of-use? yes
- 2. Does your agency have a program for retrofitting existing unmetered connections and bill by volume-of-use? no
 - a. If YES, when was the plan to retrofit and bill by volume-of-use existing unmetered connections completed?
 - b. Describe the program:
- 3. Number of previously unmetered accounts fitted with meters during report year. 0

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? no
 - a. If YES, when was the feasibility study conducted? (mm/dd/yy)
 - b. Describe the feasibility study:
- 2. Number of CII accounts with mixed-use meters. 595
- 3. Number of CII accounts with mixed-use meters retrofitted with dedicated irrigation meters during reporting period. 0

C. Meter Retrofit Program Expenditures

	This Year	Next Year
1. Budgeted Expenditures	0	0
2. Actual Expenditures	0	

D. "At Least As Effective As"

- 1. Is your AGENCY implementing an "at least as effective as" variant of this BMP? 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

B.2 This figure is a rough estimate and represents about half of the CII accounts in FY 03. Many CII accounts do not have significant amounts of landscaping, and are therefore not mixed use. Most importantly, since 1990, the District has required that all CII accounts on a parcel larger than one acre are must have a dedicated irrigation meter. There are known CII sites with mixes use meters including Donovan Correctional Facility, Southwestern College and Cuyamaca Colleges.

Reported as of 9/2

BMP 05: Large Landscape Conservation Programs and Incentives

Reporting Unit: **Otay Water District** BMP Form Status: **100% Complete** Year: **2003**

A. Water Use Budgets

- | | |
|--|-------|
| 1. Number of Dedicated Irrigation Meter Accounts: | 1293 |
| 2. Number of Dedicated Irrigation Meter Accounts with Water Budgets: | 1293 |
| 3. Budgeted Use for Irrigation Meter Accounts with Water Budgets (AF): | 14237 |
| 4. Actual Use for Irrigation Meter Accounts with Water Budgets (AF): | 7451 |
| 5. Does your agency provide water use notices to accounts with budgets each billing cycle? | yes |

B. Landscape Surveys

- | | |
|--|-----------|
| 1. Has your agency developed a marketing / targeting strategy for landscape surveys? | yes |
| a. If YES, when did your agency begin implementing this strategy? | 8/10/1990 |
| b. Description of marketing / targeting strategy: | |

Our contractor prescreens potential customers by reviewing water usage data records and comparing typical patterns of other industry or SIC water usage. Customers that exhibit unusually high water usage relative to their size of property are sent a letter and a program brochure, inviting them to participate in the program. We regularly disperse brochures and advertising to a variety of candidates, home owner's associations as well as large turf customers. Program brochures are located in our front lobby and our customer service department refers inquiring customers to the contractor.

- | | |
|---|------|
| 2. Number of Surveys Offered. | 1293 |
| 3. Number of Surveys Completed. | 16 |
| 4. Indicate which of the following Landscape Elements are part of your survey: | |
| a. Irrigation System Check | yes |
| b. Distribution Uniformity Analysis | yes |
| c. Review / Develop Irrigation Schedules | yes |
| d. Measure Landscape Area | yes |
| e. Measure Total Irrigable Area | yes |
| f. Provide Customer Report / Information | yes |
| 5. Do you track survey offers and results? | yes |
| 6. Does your agency provide follow-up surveys for previously completed surveys? | yes |
| a. If YES, describe below: | |

Follow-up surveys are offered at the customer's request.

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. | no |
|---|----|

Does your agency provide mixed-use accounts with landscape budgets?

2. Number of CII mixed-use accounts with landscape budgets. 0

3. Do you offer landscape irrigation training? yes

4. Does your agency offer financial incentives to improve landscape water use efficiency? yes

Type of Financial Incentive:	Budget (Dollars/Year)	Number Awarded to Customers	Total Amount Awarded
a. Rebates	0	0	0
b. Loans	0	0	0
c. Grants	0	0	0

5. Do you provide landscape water use efficiency information to new customers and customers changing services? yes

a. If YES, describe below:

Yes, new customers are required by Otay's planning department to provide square footage of landscaped area and receive notice of the Water Efficient Irrigation Ordinance and monthly allocation. After activating their account, customers are notified by Customer Service or Water Conservation of the allocation and banking system. Surveyed account info kept in file and tracked.

6. Do you have irrigated landscaping at your facilities? yes

a. If yes, is it water-efficient? yes

b. If yes, does it have dedicated irrigation metering? no

7. Do you provide customer notices at the start of the irrigation season? no

8. Do you provide customer notices at the end of the irrigation season? no

D. Landscape Conservation Program Expenditures

	This Year	Next Year
1. Budgeted Expenditures	1800	2200
2. Actual Expenditures	3891.25	

E. "At Least As Effective As"

1. Is your AGENCY implementing an "at least as effective as" variant of this BMP? 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."

F. Comments

Reported as of 9/2

BMP 06: High-Efficiency Washing Machine Rebate Programs

Reporting Unit: **Otay Water District** BMP Form Status: **100% Complete** Year: **2003**

A. Implementation

1. Do any energy service providers or waste water utilities in your service area offer rebates for high-efficiency washers? yes

a. If YES, describe the offerings and incentives as well as who the energy/waste water utility provider is.

San Diego Gas & Electric offers a \$75 rebate for qualifying machines. They use the ENERGY STAR criteria, while Otay, CWA and MET use the CEC criteria which lists a water factor. In most cases to date, the lists are nearly identical.

2. Does your agency offer rebates for high-efficiency washers? yes

3. What is the level of the rebate? 125

4. Number of rebates awarded. 675

B. Rebate Program Expenditures

	This Year	Next Year
1. Budgeted Expenditures	14000	18100
2. Actual Expenditures	15455	

C. "At Least As Effective As"

1. Is your AGENCY implementing an "at least as effective as" variant of this BMP? 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

A.2. Vouchers are offered instead of rebates.

Reported as of 9/2

BMP 07: Public Information Programs

Reporting Unit: **Otay Water District** BMP Form Status: **100% Complete** Year: **2003**

A. Implementation

1. Does your agency maintain an active public information program to promote and educate customers about water conservation? yes

a. If YES, describe the program and how it's organized.

Otay's water conservation department also serves to promote and educate customers about water conservation. The District regularly promotes water conservation and seeks to educate its customers about waterwise landscaping principals, as well as to encourage them to participate in the ULFT and HEW voucher programs. The District is active in a number of large public outreach events including the City of Chula Vista's Cinco de Mayo (May) and Lemon Festival (August), Bonita Festival (September), and events held at the Water Conservation Garden. The District also regularly encourages its customers to visit the Water Conservation Garden, which it built in cooperation with the Helix Water District and Cuyamaca College in 1999. The District regularly hosts residential and professional landscape classes at the Garden.

2. Indicate which and how many of the following activities are included in your public information program.

Public Information Program Activity	Yes/No	Number of Events
a. Paid Advertising	yes	2
b. Public Service Announcement	yes	0
c. Bill Inserts / Newsletters / Brochures	yes	7
d. Bill showing water usage in comparison to previous year's usage	yes	
e. Demonstration Gardens	yes	2
f. Special Events, Media Events	yes	1
g. Speaker's Bureau	yes	0
h. Program to coordinate with other government agencies, industry and public interest groups and media	yes	

B. Conservation Information Program Expenditures

	This Year	Next Year
1. Budgeted Expenditures	24000	45000
2. Actual Expenditures	21525	

C. "At Least As Effective As"

1. Is your AGENCY implementing an "at least as effective as" variant of this BMP? 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

Otay relies upon the County Water Authority for the more generic public information services, however the numbers above only reflect the activities conducted by Otay. Articles/stories run in Otay's quarterly

newsletter (the Pipeline) regularly. 2 a. Ads were purchased in the Otay Mesa Chamber and the Chula Vista Chamber of Commerce newsletters. c. includes four newsletters, two bill inserts and one printing of the Welcome to Otay new customer brochure mailed to about 9,000 new customer account activations each year. e. Spring Garden Festival, Pollution Solution Fair (April) and the Fall Festival

Reported as of 9/2

BMP 08: School Education Programs

Reporting Unit: **Otay Water District** BMP Form Status: **100% Complete** Year: **2003**

A. Implementation

1. Has your agency implemented a school information program to promote water conservation? yes

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	yes	110	6768	1
Grades 4th-6th	yes	182	7356	4
Grades 7th-8th	yes	2	100	0
High School	yes	0	0	0

3. Did your Agency's materials meet state education framework requirements? yes

4. When did your Agency begin implementing this program? 9/9/1990

B. School Education Program Expenditures

	This Year	Next Year
1. Budgeted Expenditures	16900	8500
2. Actual Expenditures	8168.61	

C. "At Least As Effective As"

1. Is your AGENCY implementing an "at least as effective as" variant of this BMP? 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

Presentations include school tours conducted at the Water Conservation Garden. The District funds tours to the Garden for schools within its service area. The District's wholesale water agency, the San Diego County Water Authority, also provides classroom materials and presentations within the District's service area. Unfortunately, the Authority did not track their FY 03 activity, so the numbers above include 04 participation levels.

Reported as of 9/2

BMP 09: Conservation Programs for CII Accounts

Reporting Unit: **Otay Water District** BMP Form Status: **100% Complete** Year: **2003**

A. Implementation

- 1. Has your agency identified and ranked COMMERCIAL customers according to use? yes
- 2. Has your agency identified and ranked INDUSTRIAL customers according to use? no
- 3. Has your agency identified and ranked INSTITUTIONAL customers according to use? yes

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? no

CII Surveys	Commercial Accounts	Industrial Accounts	Institutional Accounts
a. Number of New Surveys Offered	0	0	0
b. Number of New Surveys Completed	0	0	0
c. Number of Site Follow-ups of Previous Surveys (within 1 yr)	0	0	0
d. Number of Phone Follow-ups of Previous Surveys (within 1 yr)	0	0	0
CII Survey Components	Commercial Accounts	Industrial Accounts	Institutional Accounts
e. Site Visit	no	no	no
f. Evaluation of all water-using apparatus and processes	no	no	no
g. Customer report identifying recommended efficiency measures, paybacks and agency incentives	no	no	no
Agency CII Customer Incentives	Budget (\$/Year)	No. Awarded to Customers	Total \$ Amount Awarded
h. Rebates	0	0	0
i. Loans	0	0	0
j. Grants	0	0	0
k. Others	5300	22	1284.13

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? yes
- 6. Does your agency document and maintain records on how savings were realized and the method of calculation for estimated savings? yes
- 7. Estimated annual savings (AF/yr) from site-verified actions taken by agency since 1991. 19.36
- 8. Estimated annual savings (AF/yr) from non-site-verified actions taken by agency since 1991. 0

B. Conservation Program Expenditures for CII Accounts

	This Year	Next Year
1. Budgeted Expenditures	5300	10000
2. Actual Expenditures	1284.13	

C. "At Least As Effective As"

- 1. Is your AGENCY implementing an "at least as effective as" variant of this BMP? 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 County Water Authority and its member agencies including Otay Water District offer vouchers for cooling tower conductivity meters, commercial High-efficiency clothes washers and low flow (including waterless)urinals. Otay does not separate out their industrial customers. They are grouped with our commercial accounts and ranked. 4. k- includes total number of commercial High Efficiency Clothes Washer Vouchers provided (21) plus one cooling tower conductivity controller incentive and 26 pre-rinse spray valves installed through CUWCC's pre-rinse installation program.

Reported as of 9/2

BMP 09a: CII ULFT Water Savings

Reporting Unit: **Otay Water District** BMP Form Status: **100% Complete** Year: **2003**

1. Did your agency implement a CII ULFT replacement program in the reporting year? Yes
 If No, please explain why on Line B. 10.

A. Targeting and Marketing

1. What basis does your agency use to target customers for participation in this program? Potential savings
CII Sector or subsector
 Check all that apply.

a. Describe which method you found to be the most effective overall, and which was the most effective per dollar expended.

Our CII Voucher Incentive Program contractor, HDMC has been a significant player in the promotion of water-efficient products in San Diego County. Working in cooperation with WSA Marketing, a San Diego based marketing and communications firm, HDMC has conducted extensive education, outreach, public relations, advertising and direct marketing activities. HDMC and WSA Marketing have created relationships with the owners, managers, and related customer service supervisors and staff and water-efficient product suppliers from Valley Center to San Ysidro for the past five years. Partnerships have been established with business owners, as well as key employees at wholesale and retail suppliers. Understanding of supplier's business profiles, sales operations and accounting policies and procedures are key to the success of the program. Working relationships and/or qualified data have been gathered on over 200 plumbers. Dealers sign contracts each year in order to participate in a program that is responsible for increasing their sales significantly.

2. How does your agency advertise this program? Check all that apply. Web page
Newspapers
Trade publications
Other print media
Trade shows and events

a. Describe which method you found to be the most effective overall, and which was the most effective per dollar expended.

Extensive marketing in the region, outreach to retail and wholesale dealers with ongoing communication and training has made this program successful in San Diego County.

B. Implementation

1. Does your agency keep and maintain customer participant information? (Read the Help information for a complete list of all the information for this BMP.) Yes

2. Would your agency be willing to share this information if the CUWCC did a study to evaluate the program on behalf of your agency? Yes

3. What is the total number of customer accounts participating in the program during the last year ? 8

CII Subsector **Number of Toilets Replaced**

4.	Standard Gravity Tank	Air Assisted	Valve Floor Mount	Valve Wall Mount
a. Offices	0	0	0	0
b. Retail / Wholesale	0	0	0	0
c. Hotels	0	0	0	0
d. Health	0	0	0	0
e. Industrial	0	0	0	0
f. Schools: K to 12	0	0	0	0
g. Eating	0	0	0	0
h. Govern-ment	0	0	0	0
i. Churches	0	0	0	0
j. Other	0	0	0	0

5. Program design.

Rebate or voucher

6. Does your agency use outside services to implement this program?

Yes

a. If yes, check all that apply.

Consultant

Plumbing contractors/subcontracts

7. Participant tracking and follow-up.

Telephone

Site Visit

8. Based on your program experience, please rank on a scale of 1 to 5, with 1 being the least frequent cause and 5 being the most frequent cause, the following reasons why customers refused to participate in the program.

- a. Disruption to business 4
- b. Inadequate payback 5
- c. Inadequate ULFT performance 3
- d. Lack of funding 5
- e. American's with Disabilities Act 2
- f. Permitting 2
- g. Other. Please describe in B. 9.

9. Please describe general program acceptance/resistance by customers, obstacles to implementation, and other issues affecting program implementation or effectiveness.

The CII voucher incentive program continues to increase in popularity in the San Diego region. Extensive marketing by the contractor coupled with member agency support has proven to be quite successful.

10. Please provide a general assessment of the program for this reporting year. Did your program achieve its objectives? Were your targeting and marketing approaches effective? Were program costs in line with expectations and budgeting?

This program met its expectations. The contractor is very successful in targeting and marketing this program and program

costs were in line with what was expected. Otay is about 50% built out so the opportunity to replace older fixtures is lower than comparable agencies.

C. Conservation Program Expenditures for CII ULFT

1. CII ULFT Program: Annual Budget & Expenditure Data

	Budgeted	Actual Expenditure
a. Labor	0	0
b. Materials	0	0
c. Marketing & Advertising	0	0
d. Administration & Overhead	5296.28	552.5
e. Outside Services	0	0
f. Total	5296.28	552.5

2. CII ULFT Program: Annual Cost Sharing

a. Wholesale agency contribution	1020
b. State agency contribution	0
c. Federal agency contribution	0
d. Other contribution	5296.28
e. Total	6316.28

D. Comments

Section C.2 This total represents the amount of funds available in our CII Voucher Incentive Program which besides ULFT's includes; CTCC's, Urinals, and HEW's. The contributing wholesale agencies are MWD and the SDCWA.

Reported as of 9/2

BMP 11: Conservation Pricing

Reporting Unit:	BMP Form	Year:
Otay Water District	Status:	2003
	100% Complete	

A. Implementation

Rate Structure Data Volumetric Rates for Water Service by Customer Class

1. Residential

a. Water Rate Structure	Increasing Block
b. Sewer Rate Structure	Uniform
c. Total Revenue from Volumetric Rates	\$15148332.57
d. Total Revenue from Non-Volumetric Charges, Fees and other Revenue Sources	\$5185748.11

2. Commercial

a. Water Rate Structure	Uniform
b. Sewer Rate Structure	Uniform
c. Total Revenue from Volumetric Rates	\$3375842.25
d. Total Revenue from Non-Volumetric Charges, Fees and other Revenue Sources	\$1410998.94

3. Industrial

a. Water Rate Structure	Service Not Provided
b. Sewer Rate Structure	Service Not Provided
c. Total Revenue from Volumetric Rates	\$0
d. Total Revenue from Non-Volumetric Charges, Fees and other Revenue Sources	\$0

4. Institutional / Government

a. Water Rate Structure	Uniform
b. Sewer Rate Structure	Uniform
c. Total Revenue from Volumetric Rates	\$1908438.47
d. Total Revenue from Non-Volumetric Charges, Fees and other Revenue Sources	\$177570.9

5. Irrigation

a. Water Rate Structure	Uniform
b. Sewer Rate Structure	Service Not Provided
c. Total Revenue from Volumetric Rates	\$6098389.05
d. Total Revenue from Non-Volumetric Charges, Fees and other Revenue Sources	\$575498.89

6. Other

a. Water Rate Structure	Uniform
b. Sewer Rate Structure	Service Not Provided
c. Total Revenue from Volumetric Rates	\$1618181.44
d. Total Revenue from Non-Volumetric Charges, Fees and other Revenue Sources	\$448766.76

B. Conservation Pricing Program Expenditures

	This Year	Next Year
1. Budgeted Expenditures	0	0
2. Actual Expenditures	0	

C. "At Least As Effective As"

1. Is your AGENCY implementing an "at least as effective as" variant of this BMP? 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

Note 1 b: The District provides sewer service to only a small portion (about 4,500 accounts) within its service area. Revenue reflects sewer and potable water. Source: Del and Grace Note 3 c: OWD's industrial accounts are classified as commercial accounts so the revenue from these accounts is not known 6. c. Other revenue is from agriculture, fire meters, outside users and construction usage

Reported as of 9/2

BMP 12: Conservation Coordinator

Reporting Unit: **Otay Water District** BMP Form Status: **100% Complete** Year: **2003**

A. Implementation

- 1. Does your Agency have a conservation coordinator? yes
- 2. Is this a full-time position? yes
- 3. If no, is the coordinator supplied by another agency with which you cooperate in a regional conservation program ?
- 4. Partner agency's name:
- 5. If your agency supplies the conservation coordinator:
 - a. What percent is this conservation coordinator's position? 70%
 - b. Coordinator's Name William Granger
 - c. Coordinator's Title Water Conservation Manager
 - d. Coordinator's Experience and Number of Years 9 years experience in developing and managing water conservation programs
 - e. Date Coordinator's position was created (mm/dd/yyyy) 3/28/1991
- 6. Number of conservation staff, including Conservation Coordinator. 2

B. Conservation Staff Program Expenditures

	This Year	Next Year
1. Budgeted Expenditures	293600	362300
2. Actual Expenditures	287155.13	

C. "At Least As Effective As"

- 1. Is your AGENCY implementing an "at least as effective as" variant of this BMP? 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

Beginning this fiscal year, we started spending less time administering the Water Conservation Garden and Garden staff. Budgeted expenditures include labor.

Reported as of 9/2

BMP 13: Water Waste Prohibition

Reporting Unit: **Otay Water District** BMP Form Status: **100% Complete** Year: **2003**

A. Requirements for Documenting BMP Implementation

1. Is a water waste prohibition ordinance in effect in your service area? yes

a. If YES, describe the ordinance:

The District's water waste prohibition ordinance enforces a water conservation program to reduce the quantity of water used and that water resources available be put to maximum beneficial use to the extent to which they are capable, and that the waste or unreasonable use, or unreasonable method of use, of water be prevented.

2. Is a copy of the most current ordinance(s) on file with CUWCC? yes

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:

The majority of the City of Chula Vista and portions of unincorporated areas of San Diego County, including Spring Valley, Rancho San Diego, Bonita, Jamul, El Cajon.	District Rules and Regulations for Water Conservation, adopted November 1990. Water-Efficient Landscape Irrigation Ordinance, enacted March 1992.
---	---

B. Implementation

1. Indicate which of the water uses listed below are prohibited by your agency or service area.

- a. Gutter flooding yes
- b. Single-pass cooling systems for new connections yes
- c. Non-recirculating systems in all new conveyor or car wash systems yes
- d. Non-recirculating systems in all new commercial laundry systems no
- e. Non-recirculating systems in all new decorative fountains yes
- f. Other, please name yes
 Customer Plumbing Leaks, Midday Irrigation, Hosing of Hard Surfaces, and Water Automatically Served in Restaurants (Stage 4).

2. Describe measures that prohibit water uses listed above:

The following measures apply at all times: (a) At no time shall water be wasted or used unreasonably, (b) Water shall not be allowed to leave the the customer's property by drainage onto adjacent properties or public or private roadways or streets due to excessive irrigation and/or neglect, (c) Customers shall be required to repair all water leaks within 48 hours of knowledge that a leak exists, (d) water shall not be used to wash down sidewalks, driveways, parking areas, tennis courts, patios, or other paved areas except to alleviate immediate safety or sanitation hazards, (e) Lawn watering or irrigation, other than by hand or drip methods, is prohibited except between the hours of 4:00 p.m. and 9:00 a.m. the following morning. New plantings and newly seeded areas are exempt from these limits for 30 days, (f) The use of hand-held hose for spraying, lawn watering, vehicle washing or structure washing is prohibited without an automatic shut-off nozzle. The following measures apply during Stage

2 and above: (a) No non-residential fountains shall be operated unless reclaimed water is used, (b) Restaurants shall not serve water to their customers except when specifically requested. During Stages 4 and above: No filling, refilling, or adding to artificial ponds or lakes shall be permitted unless reclaimed water is used.

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. yes
- 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. yes
 - ii.) Implement an identified maximum number of gallons discharged per gallon of soft water produced. yes
- c. Allow local agencies, including municipalities and special 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. yes

4. Does your agency include water softener checks in home water audit programs? 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? no

C. Water Waste Prohibition Program Expenditures

	This Year	Next Year
1. Budgeted Expenditures	0	0
2. Actual Expenditures	0	

D. "At Least As Effective As"

1. Is your AGENCY implementing an "at least as effective as" variant of this BMP? 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

Reported as of 9/2

BMP 14: Residential ULFT Replacement Programs

Reporting Unit: **Otay Water District** BMP Form Status: **100% Complete** Year: **2003**

A. Implementation

	Single-Family Accounts	Multi-Family Units
1. Does your Agency have program(s) for replacing high-water-using toilets with ultra-low flush toilets?	yes	yes

Number of Toilets Replaced by Agency Program During Report Year

Replacement Method	SF Accounts	MF Units
2. Rebate	0	0
3. Direct Install	0	0
4. CBO Distribution	0	0
5. Other	1443	281

Total 1443 281

6. Describe your agency's ULFT program for single-family residences.

SF customers are offered a voucher redeemable for up to \$75 off the purchase price of all the 3.5+ gallon per flush toilets in their home. Toilets installed as part of new construction or bathroom additions do not qualify.

7. Describe your agency's ULFT program for multi-family residences.

Participating MF customers are offered a voucher redeemable for up to \$75 off the purchase price of all the 3.5+ gallon per flush toilets in the multi-family complex. New construction/bathroom additions do not qualify.

8. Is a toilet retrofit on resale ordinance in effect for your service area? no

9. 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

	This Year	Next Year
1. Budgeted Expenditures	40300	52000
2. Actual Expenditures	38145.66	

C. "At Least As Effective As"

1. Is your AGENCY implementing an "at least as effective as" variant of this BMP? 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

Reported as of 9/2

Reported as of 9/2

Water Supply & Reuse

Reporting Unit:

Otay Water District

Year:

2004

Water Supply Source Information

Supply Source Name	Quantity (AF) Supplied	Supply Type
Ralph W. Chapman Water Recycling Facility	1305.3	Recycled
San Diego County Water Authority	38917.8	Imported

Total AF: 40223.1

Accounts & Water Use

Reporting Unit Name: **Otay Water District** Submitted to **CUWCC** Year: **2004**
 12/01/2004

A. Service Area Population Information:

1. Total service area population 170000

B. Number of Accounts and Water Deliveries (AF)

Type	Metered		Unmetered	
	No. of Accounts	Water Deliveries (AF)	No. of Accounts	Water Deliveries (AF)
1. Single-Family	40759	20113.29	0	0
2. Multi-Family	745	2931.27	0	0
3. Commercial	990	1569.9	0	0
4. Industrial	0	0	0	0
5. Institutional	1422	2143.06	0	0
6. Dedicated Irrigation	1450	8624.82	0	0
7. Recycled Water	0	0	0	0
8. Other	787	2298.03	0	0
9. Unaccounted	NA	2542.7	NA	0
Total	46153	40223.07	0	0

Metered

Unmetered

Reported as of 9/2

BMP 01: Water Survey Programs for Single-Family and Multi-Family Residential Customers

Reporting Unit: **Otay Water District** BMP Form Status: **100% Complete** Year: **2004**

A. Implementation

- 1. Based on your signed MOU date, 09/04/1991, your Agency STRATEGY DUE DATE is: 09/03/1993
- 2. Has your agency developed and implemented a targeting/marketing strategy for SINGLE-FAMILY residential water use surveys? yes
 - a. If YES, when was it implemented? 7/1/1995
- 3. Has your agency developed and implemented a targeting/marketing strategy for MULTI-FAMILY residential water use surveys? yes
 - a. If YES, when was it implemented? 7/1/1995

B. Water Survey Data

Survey Counts:	Single Family Accounts	Multi-Family Units
1. Number of surveys offered:	1500	0
2. Number of surveys completed:	104	0

Indoor Survey:

- 3. Check for leaks, including toilets, faucets and meter checks yes yes
- 4. Check showerhead flow rates, aerator flow rates, and offer to replace or recommend replacement, if necessary yes yes
- 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 yes yes

Outdoor Survey:

- 6. Check irrigation system and timers yes yes
- 7. Review or develop customer irrigation schedule yes yes
- 8. Measure landscaped area (Recommended but not required for surveys) yes yes
- 9. Measure total irrigable area (Recommended but not required for surveys) yes yes
- 10. Which measurement method is typically used (Recommended but not required for surveys) Pacing
- 11. Were customers provided with information packets that included evaluation results and water savings recommendations? yes yes
- 12. Have the number of surveys offered and completed, survey results, and survey costs been tracked? yes yes
 - a. If yes, in what form are surveys tracked? database

b. Describe how your agency tracks this information.

The contractor (VoltVIEWTECH) tracks number of surveys through a database. Letters were sent to 1,500 of the top 30% SF homes encouraging them to participate in the free residential survey program.

C. Water Survey Program Expenditures

	This Year	Next Year
1. Budgeted Expenditures	6000	4250
2. Actual Expenditures	2885	

D. "At Least As Effective As"

1. Is your AGENCY implementing an "at least as effective as" variant of this BMP? 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

This program was promoted regularly throughout the irrigation season (March-November) with targeted mailings to the top 30% of residential water users. In addition, the program was promoted in our front lobby, and at events.

Reported as of 9/2

BMP 02: Residential Plumbing Retrofit

Reporting Unit: **Otay Water District** BMP Form Status: **100% Complete** Year: **2004**

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? 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

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

5. Estimated percent of multi-family households with low-flow showerheads: 75%

6. 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 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 United States must be 2.5 gpm maximum

B. Low-Flow Device Distribution Information

1. Has your agency developed a targeting/ marketing strategy for distributing low-flow devices? yes

a. If YES, when did your agency begin implementing this strategy? 1/1/1992

b. Describe your targeting/ marketing strategy.

Over 550,000 showerheads have been distributed in the region to date. Marketing that has been done in the San Diego region includes the following: residential survey distribution, direct distribution to customers (lobby counter), distribution at community events, by customer request and distribution at CBO events. In addition, this fiscal year, the Otay Water District distributed 750 showerheads to customers who came in to pay their bills.

Low-Flow Devices Distributed/ Installed	SF Accounts	MF Units
2. Number of low-flow showerheads distributed:	750	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?		yes
a. If YES, in what format are low-flow devices tracked?		Spreadsheet
b. If yes, describe your tracking and distribution system :		

The San Diego County Water Authority documented distribution in the region in a spreadsheet by region, rather than by specific member agency. Recently, the District began tracking the distribution of showerheads beginning in FY 02.

C. Low-Flow Device Distribution Expenditures

	This Year	Next Year
1. Budgeted Expenditures	0	1000
2. Actual Expenditures	0	

D. "At Least As Effective As"

1. Is your AGENCY implementing an "at least as effective as" variant of this BMP? 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

Staff ordered and received 1,000 low flow (2.0 gpm) showerheads in FY 03 and did not need to order additional showerheads this FY.

Reported as of 9/2

BMP 03: System Water Audits, Leak Detection and Repair

Reporting Unit: **Otay Water District** BMP Form Status: **100% Complete** Year: **2004**

A. Implementation

- 1. Has your agency completed a pre-screening system audit for this reporting year? yes
- 2. If YES, enter the values (AF/Year) used to calculate verifiable use as a percent of total production:
 - a. Determine metered sales (AF) 37197.68
 - b. Determine other system verifiable uses (AF) 482.7
 - c. Determine total supply into the system (AF) 37197.68
 - d. Using the numbers above, if (Metered Sales + Other Verifiable Uses) / Total Supply is < 0.9 then a full-scale system audit is required. 1.01
- 3. Does your agency keep necessary data on file to verify the values used to calculate verifiable uses as a percent of total production? yes
- 4. Did your agency complete a full-scale audit during this report year? no
- 5. Does your agency maintain in-house records of audit results or the completed AWWA audit worksheets for the completed audit? yes
- 6. Does your agency operate a system leak detection program? yes
 - a. If yes, describe the leak detection program:

Leak detection is based on purchased vs. sales, physical observations of wet spots, mainflushing load contents, and field staff calls. Otay staff calls in American Leak Detection Service depending upon the urgency or the staffing.

B. Survey Data

- 1. Total number of miles of distribution system line. 672.43
- 2. Number of miles of distribution system line surveyed. 13.9

C. System Audit / Leak Detection Program Expenditures

	This Year	Next Year
1. Budgeted Expenditures	137389	143946
2. Actual Expenditures	122728	

D. "At Least As Effective As"

- 1. Is your AGENCY implementing an "at least as effective as" variant of this BMP? 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

b.1. Includes potable and recycled distribution line B.2 6.3 miles surveyed plus 76 service leaks where typically .1 mile is inspected per investigation.

Reported as of 9/2

BMP 04: Metering with Commodity Rates for all New Connections and Retrofit of Existing

Reporting Unit: **Otay Water District** BMP Form Status: **100% Complete** Year: **2004**

A. Implementation

- 1. Does your agency require meters for all new connections and bill by volume-of-use? yes
- 2. Does your agency have a program for retrofitting existing unmetered connections and bill by volume-of-use? no
 - a. If YES, when was the plan to retrofit and bill by volume-of-use existing unmetered connections completed?
 - b. Describe the program:
- 3. Number of previously unmetered accounts fitted with meters during report year. 0

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? no
 - a. If YES, when was the feasibility study conducted? (mm/dd/yy)
 - b. Describe the feasibility study:
- 2. Number of CII accounts with mixed-use meters. 553
- 3. Number of CII accounts with mixed-use meters retrofitted with dedicated irrigation meters during reporting period. 0

C. Meter Retrofit Program Expenditures

	This Year	Next Year
1. Budgeted Expenditures	0	0
2. Actual Expenditures	0	

D. "At Least As Effective As"

- 1. Is your AGENCY implementing an "at least as effective as" variant of this BMP? 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

B.2 This figure is a rough estimate and represents about half of the CII accounts. Many CII accounts do not have significant amounts of landscaping, and are therefore not mixed use. Most importantly, since 1990, the District has required that all CII accounts on a parcel larger than one acre have a dedicated irrigation meter. There are known CII sites with mixed use meters including Donovan Correctional Facility, Southwestern College and Cuyamaca Colleges.

Reported as of 9/2

BMP 05: Large Landscape Conservation Programs and Incentives

Reporting Unit: **Otay Water District** BMP Form Status: **100% Complete** Year: **2004**

A. Water Use Budgets

- | | |
|--|-------|
| 1. Number of Dedicated Irrigation Meter Accounts: | 1460 |
| 2. Number of Dedicated Irrigation Meter Accounts with Water Budgets: | 1460 |
| 3. Budgeted Use for Irrigation Meter Accounts with Water Budgets (AF): | 15441 |
| 4. Actual Use for Irrigation Meter Accounts with Water Budgets (AF): | 8717 |
| 5. Does your agency provide water use notices to accounts with budgets each billing cycle? | yes |

B. Landscape Surveys

- | | |
|--|-----------|
| 1. Has your agency developed a marketing / targeting strategy for landscape surveys? | yes |
| a. If YES, when did your agency begin implementing this strategy? | 8/10/1990 |
| b. Description of marketing / targeting strategy: | |

Our contractor prescreens potential customers by reviewing water usage data records and comparing typical patterns of other industry or SIC water usage. Customers that exhibit unusually high water usage relative to their size of property are sent a letter and a program brochure, inviting them to participate in the program. We regularly disperse brochures and advertising to a variety of candidates, home owner's associations as well as large turf customers. Program brochures are located in our front lobby and our customer service department refers inquiring customers to the contractor.

- | | |
|---|------|
| 2. Number of Surveys Offered. | 1460 |
| 3. Number of Surveys Completed. | 26 |
| 4. Indicate which of the following Landscape Elements are part of your survey: | |
| a. Irrigation System Check | yes |
| b. Distribution Uniformity Analysis | yes |
| c. Review / Develop Irrigation Schedules | yes |
| d. Measure Landscape Area | yes |
| e. Measure Total Irrigable Area | yes |
| f. Provide Customer Report / Information | yes |
| 5. Do you track survey offers and results? | yes |
| 6. Does your agency provide follow-up surveys for previously completed surveys? | yes |
| a. If YES, describe below: | |

Follow-up surveys are offered at the customer's request.

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. | no |
|---|----|

- Does your agency provide mixed-use accounts with landscape budgets? 0
- 2. Number of CII mixed-use accounts with landscape budgets. 0
- 3. Do you offer landscape irrigation training? yes
- 4. Does your agency offer financial incentives to improve landscape water use efficiency? yes

Type of Financial Incentive:	Budget (Dollars/Year)	Number Awarded to Customers	Total Amount Awarded
a. Rebates	27200	0	0
b. Loans	0	0	0
c. Grants	0	0	0

- 5. Do you provide landscape water use efficiency information to new customers and customers changing services? yes
- a. If YES, describe below:

Yes, new customers are required by Otay's planning department to provide square footage of landscaped area and receive notice of the Water Efficient Irrigation Ordinance and monthly allocation. On changing services, they are notified by Customer Service or Water Conservation of the allocation and banking system. Surveyed account info kept in file and tracked. If consumption history shows no improvement within 6 months, a review and/or second survey is recommended to customer.

- 6. Do you have irrigated landscaping at your facilities? yes
 - a. If yes, is it water-efficient? yes
 - b. If yes, does it have dedicated irrigation metering? no
- 7. Do you provide customer notices at the start of the irrigation season? no
- 8. Do you provide customer notices at the end of the irrigation season? no

D. Landscape Conservation Program Expenditures

	This Year	Next Year
1. Budgeted Expenditures	2200	10000
2. Actual Expenditures	6706.25	

E. "At Least As Effective As"

- 1. Is your AGENCY implementing an "at least as effective as" variant of this BMP? 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."

F. Comments

4. a. Home Owners Associations with significant turfgrass areas were encouraged to replace their turfgrass with waterwise plant material through the District's pilot Cash for Plants program. Funding was limited to four sites at \$5,000 per site. In addition, a \$7,200 incentive was available for installing artificial turf grass in sports fields. Both programs were promoted through either direct mailing or by cold calling high schools within the District.

Reported as of 9/2

October 10, 2005

Mr. William Granger
Water Conservation Coordinator
Otay Water District
2554 Sweetwater Springs Boulevard
Spring Valley, CA 91978

Dear William:

I am writing in regard to the Urban Water Management Plan for the Otay Water District and the possible confusion that may arise concerning Otay's compliance with the requirements for BMP 5 (Large Landscape Conservation Programs and Incentives). According to the Council's BMP Reporting Website, Otay does not appear to meet the coverage requirements, or targets, for BMP 5. However, since the BMP Reporting Database is a fixed reporting format, it does not currently provide opportunities for water agencies doing different - and sometimes better - programs to get numerical credit. Therefore, I want to enclose a letter for your Urban Water Management Plan that clarifies this issue.

The Otay Water District has language in its Code of Ordinances that satisfies in spirit the intent of the BMP, or at least the intent of Condition 2B dealing with the coverage requirements for mixed use meters within this BMP. Since 1990, Otay has required that commercial properties situated on a parcel of 1 or more acres purchase a separate landscape meter. Then in 1993, Otay allowed accounts that were in place before 1990 when this language was added to its Code of Ordinances to purchase a separate landscape meter. As a result, Otay saw a decrease in the number of commercial mixed use meters.

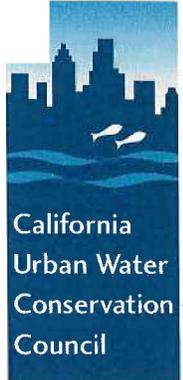
The current database does not currently allow a reporting field (either in BMP 5 or BMP 4 for Metering) to capture the results of an ordinance such as this. It is a unique approach in California, and greatly increases the number of dedicated landscape meters - a highly desirable goal. The database is also not currently capturing the number of mixed use meters who have received a large landscape survey. Otay's total number of completed surveys includes a number of surveys conducted at our mixed use sites including a state run prison, a hospital, and a community college.

The BMP Reporting database allows strategies that are "at least as effective as" to be so noted in the database, but no numerical calculations are captured. We will work to help correct this for the next BMP Reporting period. In the meantime, I wish to have the official record show that Otay Water District is in full compliance with BMP 5.

Sincerely yours,



Mary Ann Dickinson
Executive Director



455 Capitol Mall
Suite 703
Sacramento

California 95874

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5885

FAX 976/552-5877

www.cuwcc.org

BMP 06: High-Efficiency Washing Machine Rebate Programs

Reporting Unit: **Otay Water District** BMP Form Status: **100% Complete** Year: **2004**

A. Implementation

1. Do any energy service providers or waste water utilities in your service area offer rebates for high-efficiency washers? yes

a. If YES, describe the offerings and incentives as well as who the energy/waste water utility provider is.

San Diego Gas & Electric offers a \$75 rebate for qualifying machines. They use the ENERGY STAR criteria, while Otay, CWA and MET use the CEC criteria which lists a water factor. In most cases to date, the lists are nearly identical.

2. Does your agency offer rebates for high-efficiency washers? yes

3. What is the level of the rebate? 125

4. Number of rebates awarded. 1044

B. Rebate Program Expenditures

	This Year	Next Year
1. Budgeted Expenditures	18100	18100
2. Actual Expenditures	24012	

C. "At Least As Effective As"

1. Is your AGENCY implementing an "at least as effective as" variant of this BMP? 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

A.2. Vouchers are offered instead of rebates.

Reported as of 9/2

BMP 07: Public Information Programs

Reporting Unit: **Otay Water District** BMP Form Status: **100% Complete** Year: **2004**

A. Implementation

1. Does your agency maintain an active public information program to promote and educate customers about water conservation? yes

a. If YES, describe the program and how it's organized.

Otay's water conservation department also serves to promote and educate customers about water conservation. The District regularly promotes water conservation and seeks to educate its customers about waterwise landscaping principals, as well as to encourage them to participate in the ULFT and HEW voucher programs. The District is active in a number of large public outreach events including the City of Chula Vista's Cinco de Mayo (May) and Lemon Festival (August), Bonita Festival (September), and events held at the Water Conservation Garden. The District also regularly encourages its customers to visit the Water Conservation Garden, which it built in cooperation with the Helix Water District and Cuyamaca College in 1999. The District regularly hosts residential and professional landscape classes at the Garden.

2. Indicate which and how many of the following activities are included in your public information program.

Public Information Program Activity	Yes/No	Number of Events
a. Paid Advertising	yes	6
b. Public Service Announcement	yes	1
c. Bill Inserts / Newsletters / Brochures	yes	8
d. Bill showing water usage in comparison to previous year's usage	yes	
e. Demonstration Gardens	yes	2
f. Special Events, Media Events	yes	0
g. Speaker's Bureau	yes	3
h. Program to coordinate with other government agencies, industry and public interest groups and media	yes	

B. Conservation Information Program Expenditures

	This Year	Next Year
1. Budgeted Expenditures	45000	45000
2. Actual Expenditures	40300	

C. "At Least As Effective As"

1. Is your AGENCY implementing an "at least as effective as" variant of this BMP? 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

2. a. paid advertising in the Otay mesa Chamber of Commerce newsletter, the Spring Valley Chamber newsletter, and the Chula Vista Chamber newsletter. b. PSA was written and distributed promoting the

new technologies and clothes washer give-away at the May 2004 Spring Garden Festival. c. Includes four newsletters, two bill inserts, Welcome to Otay brochure, and Cash for Plants pilot program brochure. e. Includes the Spring and Fall Festival at the Garden as well as the two folk festival events in August of 2003. G. Presentations to Olivenhain WD, WindingWalk HOA, CWA Water Conservation Action Committee

Reported as of 9/2

BMP 08: School Education Programs

Reporting Unit:
Otay Water District

BMP Form Status:
100% Complete

Year:
2004

A. Implementation

1. Has your agency implemented a school information program to promote water conservation? yes

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	yes	38	5010	4
Grades 4th-6th	yes	119	5997	2
Grades 7th-8th	yes	3	175	0
High School	yes	0	0	0

3. Did your Agency's materials meet state education framework requirements? yes

4. When did your Agency begin implementing this program? 9/9/1990

B. School Education Program Expenditures

	This Year	Next Year
1. Budgeted Expenditures	8500	12680
2. Actual Expenditures	10352.96	

C. "At Least As Effective As"

1. Is your AGENCY implementing an "at least as effective as" variant of this BMP? 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

Presentations include school tours conducted at the Water Conservation Garden. The District funds tours to the Garden for schools within its service area. Includes data received from the San Diego County Water Authority for school activities conducted within Otay.

Reported as of 9/2

BMP 09: Conservation Programs for CII Accounts

Reporting Unit: **Otay Water District** BMP Form Status: **100% Complete** Year: **2004**

A. Implementation

- 1. Has your agency identified and ranked COMMERCIAL customers according to use? yes
- 2. Has your agency identified and ranked INDUSTRIAL customers according to use? yes
- 3. Has your agency identified and ranked INSTITUTIONAL customers according to use? yes

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? no

CII Surveys	Commercial Accounts	Industrial Accounts	Institutional Accounts
a. Number of New Surveys Offered	0	0	0
b. Number of New Surveys Completed	0	0	0
c. Number of Site Follow-ups of Previous Surveys (within 1 yr)	0	0	0
d. Number of Phone Follow-ups of Previous Surveys (within 1 yr)	0	0	0
CII Survey Components	Commercial Accounts	Industrial Accounts	Institutional Accounts
e. Site Visit	no	no	no
f. Evaluation of all water-using apparatus and processes	no	no	no
g. Customer report identifying recommended efficiency measures, paybacks and agency incentives	no	no	no
Agency CII Customer Incentives	Budget (\$/Year)	No. Awarded to Customers	Total \$ Amount Awarded
h. Rebates	0	0	0
i. Loans	0	0	0
j. Grants	0	0	0
k. Others	0	0	0

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? yes
- 6. Does your agency document and maintain records on how savings were realized and the method of calculation for estimated savings? yes
- 7. Estimated annual savings (AF/yr) from site-verified actions taken by agency since 1991. 28.41
- 8. Estimated annual savings (AF/yr) from non-site-verified actions taken by agency since 1991. 0

B. Conservation Program Expenditures for CII Accounts

	This Year	Next Year
1. Budgeted Expenditures	10000	6000
2. Actual Expenditures	4728.51	

C. "At Least As Effective As"

- 1. Is your AGENCY implementing an "at least as effective as" variant of this BMP? 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 County Water Authority and its member agencies including Otay Water District offer vouchers for cooling tower conductivity meters, commercial High-efficiency clothes washers and low flow (including waterless)urinals. Otay does not separate out their industrial customers. They are grouped with our commercial accounts and ranked. Savings includes 26 pre-rinse spray valves installed during this FY, plus 61 commercial HEWs, 1 cooling tower conductivity controller, 3 low flow urinals and 4 waterbrooms.

Reported as of 9/2

BMP 09a: CII ULFT Water Savings

Reporting Unit: **Otay Water District** BMP Form Status: **100% Complete** Year: **2004**

1. Did your agency implement a CII ULFT replacement program in the reporting year? No
 If No, please explain why on Line B. 10.

A. Targeting and Marketing

1. What basis does your agency use to target customers for participation in this program?
 Check all that apply.

a. Describe which method you found to be the most effective overall, and which was the most effective per dollar expended.

2. How does your agency advertise this program? Check all that apply.

Trade shows and events

a. Describe which method you found to be the most effective overall, and which was the most effective per dollar expended.

B. Implementation

1. Does your agency keep and maintain customer participant information? (Read the Help information for a complete list of all the information for this BMP.) Yes

2. Would your agency be willing to share this information if the CUWCC did a study to evaluate the program on behalf of your agency? Yes

3. What is the total number of customer accounts participating in the program during the last year ?

CII Subsector	Number of Toilets Replaced			
	Standard Gravity Tank	Air Assisted	Valve Floor Mount	Valve Wall Mount
4.				
a. Offices				
b. Retail / Wholesale				
c. Hotels				
d. Health				
e. Industrial				
f. Schools: K to 12				
g. Eating				
h. Government				
i. Churches				
j. Other				

5. Program design.

6. Does your agency use outside services to implement this program? Yes

a. If yes, check all that apply.

7. Participant tracking and follow-up.

8. Based on your program experience, please rank on a scale of 1 to 5, with 1 being the least frequent cause and 5 being the most frequent cause, the following reasons why customers refused to participate in the program.

a. Disruption to business

b. Inadequate payback

c. Inadequate ULFT performance

d. Lack of funding

e. American's with Disabilities Act

f. Permitting

g. Other. Please describe in B. 9.

9. Please describe general program acceptance/resistance by customers, obstacles to implementation, and other issues affecting program implementation or effectiveness.

10. Please provide a general assessment of the program for this reporting year. Did your program achieve its objectives? Were your targeting and marketing approaches effective? Were program costs in line with expectations and budgeting?

Programs are tracked on a fiscal year. As this was a three-year program, sunsetting on July 1, 2004, all reporting for BMP 9a was completed in 2003.

C. Conservation Program Expenditures for CII ULFT

1. CII ULFT Program: Annual Budget & Expenditure Data

	Budgeted	Actual Expenditure
a. Labor		
b. Materials		
c. Marketing & Advertising		
d. Administration & Overhead		
e. Outside Services		
f. Total	0	0

2. CII ULFT Program: Annual Cost Sharing

a. Wholesale agency contribution		
b. State agency contribution		
c. Federal agency contribution		
d. Other contribution		
e. Total		0

D. Comments

Reported as of 9/2

BMP 11: Conservation Pricing

Reporting Unit:
Otay Water District

BMP Form
 Status:
100% Complete

Year:
2004

A. Implementation

Rate Structure Data Volumetric Rates for Water Service by Customer Class

1. Residential

a. Water Rate Structure	Increasing Block
b. Sewer Rate Structure	Uniform
c. Total Revenue from Volumetric Rates	\$16738536.94
d. Total Revenue from Non-Volumetric Charges, Fees and other Revenue Sources	\$5849784.87

2. Commercial

a. Water Rate Structure	Uniform
b. Sewer Rate Structure	Uniform
c. Total Revenue from Volumetric Rates	\$3788863.15
d. Total Revenue from Non-Volumetric Charges, Fees and other Revenue Sources	\$1529308.43

3. Industrial

a. Water Rate Structure	Service Not Provided
b. Sewer Rate Structure	Service Not Provided
c. Total Revenue from Volumetric Rates	\$0
d. Total Revenue from Non-Volumetric Charges, Fees and other Revenue Sources	\$0

4. Institutional / Government

a. Water Rate Structure	Uniform
b. Sewer Rate Structure	Uniform
c. Total Revenue from Volumetric Rates	\$1920141.66
d. Total Revenue from Non-Volumetric Charges, Fees and other Revenue Sources	\$197681.08

5. Irrigation

a. Water Rate Structure	Uniform
b. Sewer Rate Structure	Service Not Provided
c. Total Revenue from Volumetric Rates	\$7040733.37
d. Total Revenue from Non-Volumetric Charges, Fees and other Revenue Sources	\$612741.07

6. Other

a. Water Rate Structure	Uniform
b. Sewer Rate Structure	Service Not Provided
c. Total Revenue from Volumetric Rates	\$1588228.43
d. Total Revenue from Non-Volumetric Charges, Fees and other Revenue Sources	\$493985.54

B. Conservation Pricing Program Expenditures

	This Year	Next Year
1. Budgeted Expenditures	0	0
2. Actual Expenditures	0	

C. "At Least As Effective As"

1. Is your AGENCY implementing an "at least as effective as" variant of this BMP? 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

Note 1 b: The District provides sewer service to only a small portion (about 4,500 accounts) within its service area. Revenue reflects sewer and potable water. Source: Del and Grace Note 3 c: OWD's industrial accounts are classified as commercial accounts so the revenue from these accounts is not known 6.c. Other revenue is from Otay's agricultural accounts and outside users, fire service and construction usage.

Reported as of 9/2

BMP 12: Conservation Coordinator

Reporting Unit: **Otay Water District** BMP Form Status: **100% Complete** Year: **2004**

A. Implementation

- 1. Does your Agency have a conservation coordinator? yes
- 2. Is this a full-time position? yes
- 3. If no, is the coordinator supplied by another agency with which you cooperate in a regional conservation program ?
- 4. Partner agency's name:
- 5. If your agency supplies the conservation coordinator:
 - a. What percent is this conservation coordinator's position? 100%
 - b. Coordinator's Name William Granger
 - c. Coordinator's Title Water Conservation Manager
 - d. Coordinator's Experience and Number of Years 10 years experience developing and managing water conservation programs
 - e. Date Coordinator's position was created (mm/dd/yyyy) 3/28/1991
- 6. Number of conservation staff, including Conservation Coordinator. 2

B. Conservation Staff Program Expenditures

	This Year	Next Year
1. Budgeted Expenditures	362300	332700
2. Actual Expenditures	267657.48	

C. "At Least As Effective As"

- 1. Is your AGENCY implementing an "at least as effective as" variant of this BMP? 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

Beginning this fiscal year, the lead agency responsibilities including managing the Garden staff was transferred to another agency. Labor budget was \$108800.

Reported as of 9/2

BMP 13: Water Waste Prohibition

Reporting Unit:	BMP Form Status:	Year:
Otay Water District	100% Complete	2004

A. Requirements for Documenting BMP Implementation

1. Is a water waste prohibition ordinance in effect in your service area? yes

a. If YES, describe the ordinance:

The District's water waste prohibition ordinance enforces a water conservation program to reduce the quantity of water used and that water resources available be put to maximum beneficial use to the extent to which they are capable, and that the waste or unreasonable use, or unreasonable method of use, of water be prevented.

2. Is a copy of the most current ordinance(s) on file with CUWCC? yes

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:

The majority of the City of Chula Vista and portions of unincorporated areas of San Diego County, including Spring Valley, Rancho San Diego, Bonita, Jamul, El Cajon.	District Rules and Regulations for Water Conservation, adopted November 1990. Water-Efficient Landscape Irrigation Ordinance, enacted March 1992.
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B. Implementation

1. Indicate which of the water uses listed below are prohibited by your agency or service area.

- a. Gutter flooding yes
- b. Single-pass cooling systems for new connections yes
- c. Non-recirculating systems in all new conveyor or car wash systems yes
- d. Non-recirculating systems in all new commercial laundry systems no
- e. Non-recirculating systems in all new decorative fountains yes
- f. Other, please name yes
 Customer Plumbing Leaks, Midday Irrigation, Hosing of Hard Surfaces, and Water Automatically Served in Restaurants (Stage 4).

2. Describe measures that prohibit water uses listed above:

The following measures apply at all times: (a) At no time shall water be wasted or used unreasonably, (b) Water shall not be allowed to leave the the customer's property by drainage onto adjacent properties or public or private roadways or streets due to excessive irrigation and/or neglect, (c) Customers shall be required to repair all water leaks within 48 hours of knowledge that a leak exists, (d) water shall not be used to wash down sidewalks, driveways, parking areas, tennis courts, patios, or other paved areas except to alleviate immediate safety or sanitation hazards, (e) Lawn watering or irrigation, other than by hand or drip methods, is prohibited except between the hours of 4:00 p.m. and 9:00 a.m. the following morning. New plantings and newly seeded areas are exempt from these limits for 30 days, (f) The use of hand-held hose for spraying, lawn watering, vehicle washing or structure washing is prohibited without an automatic shut-off nozzle. The following measures apply during Stage

2 and above: (a) No non-residential fountains shall be operated unless reclaimed water is used, (b) Restaurants shall not serve water to their customers except when specifically requested. During Stages 4 and above: No filling, refilling, or adding to artificial ponds or lakes shall be permitted unless reclaimed water is used.

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. yes
- 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. yes
 - ii.) Implement an identified maximum number of gallons discharged per gallon of soft water produced. yes
- c. Allow local agencies, including municipalities and special 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. yes

4. Does your agency include water softener checks in home water audit programs? 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? no

C. Water Waste Prohibition Program Expenditures

	This Year	Next Year
1. Budgeted Expenditures	0	0
2. Actual Expenditures	0	

D. "At Least As Effective As"

1. Is your AGENCY implementing an "at least as effective as" variant of this BMP? 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

Reported as of 9/2

BMP 14: Residential ULFT Replacement Programs

Reporting Unit: **Otay Water District** BMP Form Status: **100% Complete** Year: **2004**

A. Implementation

	Single-Family Accounts	Multi-Family Units
1. Does your Agency have program(s) for replacing high-water-using toilets with ultra-low flush toilets?	yes	yes

Number of Toilets Replaced by Agency Program During Report Year

Replacement Method	SF Accounts	MF Units
2. Rebate	0	0
3. Direct Install	0	0
4. CBO Distribution	0	0
5. Other	1176	177

Total 1176 177

6. Describe your agency's ULFT program for single-family residences.

SF customers are offered a voucher redeemable for up to \$75 off the purchase price of all the 3.5+ gallon per flush toilets in their home. Toilets installed as part of new construction or bathroom additions do not qualify. Beginning this fiscal year, SF customers were offered \$95 to replace their older toilets with dual-flush toilets. Two of the one thousand one hundred and seventy six toilets installed in SF homes were dual-flush toilets. As a pilot program, the District offered a \$45 incentive toward dual-flush toilets offered in new construction. However, no one took advantage of this program this fiscal year and the incentive was increased to \$70 beginning in FY 05.

7. Describe your agency's ULFT program for multi-family residences.

Participating MF customers are offered a voucher redeemable for up to \$75 off the purchase price of all the 3.5+ gallon per flush toilets in the multi-family complex. New construction/bathroom additions do not qualify. A \$95 voucher was available for the installation of dual-flush toilets in MF residences.

8. Is a toilet retrofit on resale ordinance in effect for your service area? no

9. 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

	This Year	Next Year
1. Budgeted Expenditures	52000	38000
2. Actual Expenditures	29800	

C. "At Least As Effective As"

1. Is your AGENCY implementing an "at least as effective as" variant of this BMP? 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

actual expenditures need to be confirmed by accounting. In FY 04, the District budgeted \$14,000 toward our share of a dual-flush toilet incentive in new construction. 2 dual-flush toilets were installed in Otay through the voucher program.

Reported as of 9/2

Reported as of 9/2

BMP 01 Coverage: Water Survey Programs for Single-Family and Multi-Family Residential Customers

Reporting Unit:
Otay Water District

Reporting Period:
03-04

MOU Exhibit 1 Coverage Requirement

No exemption request filed

Agency indicated "at least as effective as" implementation during report period?

No

A Reporting Unit (RU) must meet three conditions to satisfy strict compliance for BMP 1.

Condition 1: Adopt survey targeting and marketing strategy on time

Condition 2: Offer surveys to 20% of SF accounts and 20% of MF units during report period

Condition 3: Be on track to survey 15% of SF accounts and 15% of MF units within 10 years of implementation start date.

Test for Condition 1

Otay Water District to Implement Targeting/Marketing Program by:	1999		
		Single-Family	Multi-Family
Year Otay Water District Reported Implementing Targeting/Marketing Program:	1991	1991	1991
Otay Water District Met Targeting/Marketing Coverage Requirement:	YES	YES	YES

Test for Condition 2

			Single-Family	Multi-Family
Survey Program to Start by:	1998	Residential Survey Offers (%)	138.02%	108.58%
Reporting Period:	03-04	Survey Offers ≥ 20%	YES	YES

Test for Condition 3

	Completed Residential Surveys	
	<u>Single Family</u>	<u>Multi-Family</u>
Total Completed Surveys 1999 - 2004:	434	
Past Credit for Surveys Completed Prior to 1999 (Implementation of Reporting Database):	626	28
Total + Credit	1,060	28

Residential Accounts in Base Year	27,776	664
Otay Water District Survey Coverage as % of Base Year Residential Accounts	3.82%	4.22%
Coverage Requirement by Year 7 of Implementation per Exhibit 1	7.90%	7.90%
Otay Water District on Schedule to Meet 10-Year Coverage Requirement	NO	NO

BMP 1 COVERAGE STATUS SUMMARY:

Water supplier has not met one or more coverage requirements for this BMP.

Reported as of 9/2

BMP 02 Coverage: Residential Plumbing Retrofit

Reporting Unit:

Reporting Period:

Otay Water District

03-04

MOU Exhibit 1 Coverage Requirement

No exemption request filed

Agency indicated "at least as effective as" implementation during report period?

No

An agency must meet one of three conditions to satisfy strict compliance for BMP 2.

Condition 1: The agency has demonstrated that 75% of SF accounts and 75% of MF units constructed prior to 1992 are fitted with low-flow showerheads.

Condition 2: An enforceable ordinance requiring the replacement of high-flow showerheads and other water use fixtures with their low-flow counterparts is in place for the agency's service area.

Condition 3: The agency has distributed or directly installed low-flow showerheads and other low-flow plumbing devices to not less than 10% of single-family accounts and 10% of multi-family units constructed prior to 1992 during the reporting period.

Test for Condition 1

Report Year	Report Period	Single-Family		Multi-Family	
		Reported Saturation	Saturation > 75%?	Reported Saturation	Saturation > 75%?
1999	99-00	75.00%	YES	75.00%	YES
2000	99-00	75.00%	YES	75.00%	YES
2001	01-02	75.00%	YES	75.00%	YES
2002	01-02	75.00%	YES	75.00%	YES
2003	03-04	75.00%	YES	75.00%	YES
2004	03-04	75.00%	YES	75.00%	YES

Test for Condition 2

Report Year	Report Period	Otay Water District has ordinance requiring showerhead retrofit?
1999	99-00	NO
2000	99-00	NO
2001	01-02	NO
2002	01-02	NO
2003	03-04	NO
2004	03-04	NO

Test for Condition 3

Reporting Period: 03-04

<u>1992 SF Accounts</u>	<u>Num. Showerheads Distributed to SF Accounts</u>	<u>Single-Family Coverage Ratio</u>	<u>SF Coverage Ratio > 10%</u>
23,625	950	4.0%	NO
<u>1992 MF Accounts</u>	<u>Num. Showerheads Distributed to MF Accounts</u>	<u>Multi-Family Coverage Ratio</u>	<u>MF Coverage Ratio > 10%</u>

632

NO

BMP 2 COVERAGE STATUS SUMMARY:
Water supplier is meeting coverage requirements for this BMP.

Reported as of 9/2

BMP 03 Coverage: System Water Audits, Leak Detection and Repair

Reporting Unit:
Otay Water District

Reporting Period:
03-04

MOU Exhibit 1 Coverage Requirement

No exemption request filed

Agency indicated "at least as effective as" implementation during report period? No

An agency must meet one of two conditions to be in compliance with BMP 3:

Condition 1: Perform a prescreening audit. If the result is equal to or greater than 0.9 nothing more needs be done.

Condition 2: Perform a prescreening audit. If the result is less than 0.9, perform a full audit in accordance with AWWA's Manual of Water Supply Practices, Water Audits, and Leak Detection.

Test for Conditions 1 and 2

<u>Report Year</u>	<u>Report Period</u>	<u>Pre-Screen Completed</u>	<u>Pre-Screen Result</u>	<u>Full Audit Indicated</u>	<u>Full Audit Completed</u>
1999	99-00	YES	93.7%	No	NO
2000	99-00	YES	92.8%	No	NO
2001	01-02	YES	99.1%	No	NO
2002	01-02	YES	96.4%	No	NO
2003	03-04	YES	98.2%	No	NO
2004	03-04	YES	101.3%	No	NO

BMP 3 COVERAGE STATUS SUMMARY:

Water supplier is meeting coverage requirements for this BMP.

Reported as of 9/2

BMP 04 Coverage: Metering with Commodity Rates for all New Connections and Retrofit of Existing

Reporting Unit: **Otay Water District** Reporting Period: **03-04**

MOU Exhibit 1 Coverage Requirement

No exemption request filed
 Agency indicated "at least as effective as" implementation during report period? **No**

An agency must be on track to retrofit 100% of its unmetered accounts within 10 years to be in compliance with BMP 4.

Test for Compliance

Total Meter Retrofits Reported through 2004	
No. of Unmetered Accounts in Base Year	
Meter Retrofit Coverage as % of Base Year Unmetered Accounts	
Coverage Requirement by Year 6 of Implementation per Exhibit 1	42.0%
RU on Schedule to meet 10 Year Coverage Requirement	YES

BMP 4 COVERAGE STATUS SUMMARY:
Water supplier is meeting coverage requirements for this BMP.

BMP 05 Coverage: Large Landscape Conservation Programs and Incentives

Reporting Unit:
Otay Water District

Reporting Period:
03-04

MOU Exhibit 1 Coverage Requirement

No exemption request filed

Agency indicated "at least as effective as" implementation during report period? No

An agency must meet three conditions to comply with BMP 5.

Condition 1: Develop water budgets for 90% of its dedicated landscape meter accounts within four years of the date implementation is to start.

Condition 2: (a) Offer landscape surveys to at least 20% of its CII accounts with mixed use meters each report cycle and be on track to survey at least 15% of its CII accounts with mixed use meters within 10 years of the date implementation is to start OR (b) Implement a dedicated landscape meter retrofit program for CII accounts with mixed use meters or assign landscape budgets to mixed use meters.

Condition 3: Implement and maintain customer incentive program(s) for irrigation equipment retrofits.

Test for Condition 1

Year	Report Period	BMP 5 Implementation Year	No. of Irrigation Meter Accounts	No. of Irrigation Accounts with Budgets	Budget Coverage Ratio	90% Coverage Met by Year 4
1999	99-00	1	1,034	1,034	100.0%	NA
2000	99-00	2	1,076	1,076	100.0%	NA
2001	01-02	3	1,129	1,129	100.0%	NA
2002	01-02	4	1,202	1,202	100.0%	Yes
2003	03-04	5	1,293	1,293	100.0%	Yes
2004	03-04	6	1,460	1,460	100.0%	Yes

Test for Condition 2a (survey offers)

Select Reporting Period:	03-04
Large Landscape Survey Offers as % of Mixed Use Meter CII Accounts	124.1%
Survey Offers Equal or Exceed 20% Coverage Requirement	YES

Test for Condition 2a (surveys completed)

Total Completed Landscape Surveys Reported through Credit for Surveys Completed Prior to Implementation of Reporting Database	78
Total + Credit	78
CII Accounts in Base Year	2,218
RU Survey Coverage as a % of Base Year CII Accounts	3.5%
Coverage Requirement by Year of Implementation per Exhibit 1	6.3%
RU on Schedule to Meet 10 Year Coverage	

Requirement NO

Test for Condition 2b (mixed use budget or meter retrofit program)

Report Year	Report Period	BMP 5 Implementation Year	Agency has mix-use budget program	No. of mixed-use budgets
1999	99-00	1	NO	
2000	99-00	2	NO	
2001	01-02	3	NO	
2002	01-02	4	NO	
2003	03-04	5	NO	
2004	03-04	6	NO	

Report Year	Report Period	BMP 4 Implementation Year	No. of mixed use CII accounts	No. of mixed use CII accounts fitted with irrig. meters
1999	99-00	1		
2000	99-00	2		
2001	01-02	3	1,111	
2002	01-02	4	1,130	
2003	03-04	5	595	
2004	03-04	6	553	

Test for Condition 3

Report Year	Report Period	BMP 5 Implementation Year	RU offers financial incentives?	No. of Loans	Total Amt. Loans
1999	99-00	1	NO		
2000	99-00	2	NO		
2001	01-02	3	YES		
2002	01-02	4	YES		
2003	03-04	5	YES		
2004	03-04	6	YES		

Report Year	Report Period	No. of Grants	Total Amt. Grants	No. of rebates	Total Amt. Rebates
1999	99-00				
2000	99-00				
2001	01-02				
2002	01-02				
2003	03-04				
2004	03-04				

BMP 5 COVERAGE STATUS SUMMARY:
Water supplier has not met one or more coverage requirements for this BMP.

Reported as of 9/2

BMP 06 Coverage: High-Efficiency Washing Machine Rebate Programs

Reporting Unit:
Otay Water District

Reporting Period:
03-04

MOU Exhibit 1 Coverage Requirement

No exemption request filed

Agency indicated "at least as effective as" implementation during report period? No

An agency must meet one condition to comply with BMP 6.

Condition 1: Offer a cost-effective financial incentive for high-efficiency washers if one or more energy service providers in service area offer financial incentives for high-efficiency washers.

Test for Condition 1

Year	Report Period	BMP 6 Implementation Year	Rebate Offered by ESP?	Rebate Offered by RU?	Rebate Amount
1999	99-00	1	NO	NO	
2000	99-00	2	YES	YES	100.00
2001	01-02	3	YES	YES	125.00
2002	01-02	4	YES	YES	125.00
2003	03-04	5	YES	YES	125.00
2004	03-04	6	YES	YES	125.00

Year	Report Period	BMP 6 Implementation Year	No. Rebates Awarded	Coverage Met?
1999	99-00	1		YES
2000	99-00	2	10	YES
2001	01-02	3	103	YES
2002	01-02	4	221	YES
2003	03-04	5	675	YES
2004	03-04	6	1,044	YES

BMP 6 COVERAGE STATUS SUMMARY:

Water supplier is meeting coverage requirements for this BMP.

Reported as of 9/2

BMP 07 Coverage: Public Information Programs

Reporting Unit:

Reporting Period:

Otay Water District

03-04

MOU Exhibit 1 Coverage Requirement

No exemption request filed

Agency indicated "at least as effective as" implementation during report period?

No

An agency must meet one condition to comply with BMP 7.

Condition 1: Implement and maintain a public information program consistent with BMP 7's definition.

Test for Condition 1

<u>Year</u>	<u>Report Period</u>	<u>BMP 7 Implementation Year</u>	<u>RU Has Public Information Program?</u>
1999	99-00	2	YES
2000	99-00	3	YES
2001	01-02	4	YES
2002	01-02	5	YES
2003	03-04	6	YES
2004	03-04	7	YES

BMP 7 COVERAGE STATUS SUMMARY:

Water supplier is meeting coverage requirements for this BMP.

Reported as of 9/2

BMP 08 Coverage: School Education Programs

Reporting Unit:
Otay Water District

Reporting Period:
03-04

MOU Exhibit 1 Coverage Requirement

No exemption request filed

Agency indicated "at least as effective as" implementation during report period? No

An agency must meet one condition to comply with BMP 8.

Condition 1: Implement and maintain a school education program consistent with BMP 8's definition.

Test for Condition 1

<u>Year</u>	<u>Report Period</u>	<u>BMP 8 Implementation Year</u>	<u>RU Has School Education Program?</u>
1999	99-00	2	YES
2000	99-00	3	YES
2001	01-02	4	YES
2002	01-02	5	YES
2003	03-04	6	YES
2004	03-04	7	YES

BMP 8 COVERAGE STATUS SUMMARY:

Water supplier is meeting coverage requirements for this BMP.

Reported as of 9/2

BMP 09 Coverage: Conservation Programs for CII Accounts

Reporting Unit:
Otay Water District

Reporting Period:
03-04

MOU Exhibit 1 Coverage Requirement

No exemption request filed

Agency indicated "at least as effective as" implementation during report period? No

An agency must meet three conditions to comply with BMP 9.

Condition 1: Agency has identified and ranked by use commercial, industrial, and institutional accounts.

Condition 2(a): Agency is on track to survey 10% of commercial accounts, 10% of industrial accounts, and 10% of institutional accounts within 10 years of date implementation to commence.

OR

Condition 2(b): Agency is on track to reduce CII water use by an amount equal to 10% of baseline use within 10 years of date implementation to commence.

OR

Condition 2(c): Agency is on track to meet the combined target as described in Exhibit 1 BMP 9 documentation.

Test for Condition 1

Year	Report Period	BMP 9 Implementation Year	Ranked Com. Use	Ranked Ind. Use	Ranked Inst. Use
1999	99-00	1	YES	YES	YES
2000	99-00	2	YES	YES	YES
2001	01-02	3	YES	NO	YES
2002	01-02	4	YES	NO	YES
2003	03-04	5	YES	NO	YES
2004	03-04	6	YES	YES	YES

Test for Condition 2a

	Commercial	Industrial	Institutional
Total Completed Surveys Reported through 2004			
Credit for Surveys Completed Prior to Implementation of Reporting Databases			
Total + Credit			
CII Accounts in Base Year	1,785		433
RU Survey Coverage as % of Base Year CII Accounts			
Coverage Requirement by Year 6 of Implementation per Exhibit 1	4.2%	4.2%	4.2%
RU on Schedule to Meet 10 Year Coverage Requirement	NO	NO	NO

Test for Condition 2a

Performance

Year	Report Period	BMP 9 Implementation Year	Performance Target Savings (AF/yr)	Performance Target Savings Coverage	Target Savings Coverage Requirement	Coverage Requirement Met
1999	99-00	1	2	0.0%	0.5%	NO
2000	99-00	2	3	0.0%	1.0%	NO
2001	01-02	3	32	0.4%	1.7%	NO
2002	01-02	4	32	0.4%	2.4%	NO
2003	03-04	5	19	0.2%	3.3%	NO
2004	03-04	6	28	0.3%	4.2%	NO

Test for Condition 2c

Total BMP 9 Surveys + Credit	
BMP 9 Survey Coverage	
BMP 9 Performance Target Coverage	0.3%
BMP 9 Survey + Performance Target Coverage	0.3%
Combined Coverage Equals or Exceeds Coverage Requirement?	NO

BMP 9 COVERAGE STATUS SUMMARY:

Water supplier has not met one or more coverage requirements for this BMP.

BMP 11 Coverage: Conservation Pricing

Reporting Unit:
Otay Water District

Reporting Period:
03-04

MOU Exhibit 1 Coverage Requirement

No exemption request filed

Agency indicated "at least as effective as" implementation during report period? No

An agency must meet one condition to comply with BMP 11.

Agency shall maintain rate structure consistent with BMP 11's definition of conservation pricing. Implementation methods shall be at least as effective as eliminating non-conserving pricing and adopting conserving pricing. For signatories supplying both water and sewer service, this BMP applies to pricing of both water and sewer service. Signatories that supply water but not sewer service shall make good faith efforts to work with sewer agencies so that those sewer agencies adopt conservation pricing for sewer service.

a) Non-conserving pricing provides no incentives to customers to reduce use. Such pricing is characterized by one or more of the following components: rates in which the unit price decreases as the quantity used increases (declining block rates); rates that involve charging customers a fixed amount per billing cycle regardless of the quantity used; pricing in which the typical bill is determined by high fixed charges and low commodity charges.

b) Conservation pricing provides incentives to customers to reduce average or peak use, or both. Such pricing includes: rates designed to recover the cost of providing service; and billing for water and sewer service based on metered water use. Conservation pricing is also characterized by one or more of the following components: rates in which the unit rate is constant regardless of the quantity used (uniform rates) or increases as the quantity used increases (increasing block rates); seasonal rates or excess-use surcharges to reduce peak demands during summer months; rates based upon the longrun marginal cost or the cost of adding the next unit of capacity to the system.

Test for Condition 1

<u>Year</u>	<u>Report Period</u>	<u>RU Employed Non Conserving Rate Structure</u>	<u>RU Meets BMP 11 Coverage Requirement</u>
1999	99-00	NO	YES
2000	99-00	NO	YES
2001	01-02	NO	YES
2002	01-02	NO	YES
2003	03-04	NO	YES
2004	03-04	NO	YES

BMP 11 COVERAGE STATUS SUMMARY:

Water supplier is meeting coverage requirements for this BMP.

Reported as of 9/2

BMP 12 Coverage: Conservation Coordinator

Reporting Unit:

Reporting Period:

Otay Water District

03-04

MOU Exhibit 1 Coverage Requirement

No exemption request filed

Agency indicated "at least as effective as" implementation during report period?

No

Agency shall staff and maintain the position of conservation coordinator and provide support staff as necessary.

Test for Compliance

Report Year	Report Period	Conservation Coordinator Position Staffed?	Total Staff on Team (incl. CC)
1999	99-00	YES	4
2000	99-00	YES	5
2001	01-02	YES	2
2002	01-02	YES	2
2003	03-04	YES	2
2004	03-04	YES	2

BMP 12 COVERAGE STATUS SUMMARY:

Water supplier is meeting coverage requirements for this BMP.

Reported as of 9/2

BMP 13 Coverage: Water Waste Prohibition

Reporting Unit:

Reporting Period:

Otay Water District

03-04

MOU Exhibit 1 Coverage Requirement

No exemption request filed

Agency indicated "at least as effective as" implementation during report period? No

An agency must meet one condition to comply with BMP 13.

Implementation methods shall be enacting and enforcing measures prohibiting gutter flooding, single pass cooling systems in new connections, non-recirculating systems in all new conveyer car wash and commercial laundry systems, and non-recycling decorative water fountains.

Test for Condition 1

Agency or service area prohibits:

Year	<u>Gutter Flooding</u>	<u>Single-Pass Cooling Systems</u>	<u>Single-Pass Car Wash</u>	<u>Single-Pass Laundry</u>	<u>Single-Pass Fountains</u>	<u>Other</u>	<u>RU has ordinance that meets coverage requirement</u>
1999	yes	yes	yes	no	yes	yes	NO
2000	yes	yes	yes	no	yes	yes	NO
2001	yes	yes	yes	no	yes	yes	NO
2002	yes	yes	yes	no	yes	yes	NO
2003	yes	yes	yes	no	yes	yes	NO
2004	yes	yes	yes	no	yes	yes	NO

BMP 13 COVERAGE STATUS SUMMARY:

Water supplier has not met one or more coverage requirements for this BMP.

BMP 14 Coverage: Residential ULFT Replacement Programs

Reporting Unit: **Otay Water District**

MOU Exhibit 1 Coverage Requirement

A Reporting Unit (RU) must meet one of the following conditions to be in compliance with BMP 14.

Condition 1: Retrofit-on-resale (ROR) ordinance in effect in service area.

Condition 2: Water savings from toilet replacement programs equal to 90% of Exhibit 6 coverage requirement.

An agency with an exemption for BMP 14 is not required to meet one of the above conditions. This report treats an agency with missing base year data required to compute the Exhibit 6 coverage requirement as out of compliance with BMP 14.

Status: Water supplier is meeting coverage requirements for this BMP. as of 2004

Coverage Year	BMP 14 Data Submitted to CUWCC	Exemption Filed with CUWCC	ROR Ordinance in Effect	Exhibit 6 Coverage Req'mt (AF)	Toilet Replacement Program Water Savings* (AF)
1998	No			32.84	
1999	Yes	No	No	94.65	53.44
2000	Yes	No	No	181.91	153.97
2001	Yes	No	No	291.44	282.69
2002	Yes	No	No	420.34	436.88
2003	Yes	No	No	565.99	636.61
2004	Yes	No	No	726.01	867.97
2005	No	No	No	898.26	
2006	No	No	No	1080.81	
2007	No	No	No	1271.90	

*NOTE: Program water savings listed are net of the plumbing code. Savings are cumulative (not annual) between 1991 and the given year. Residential ULFT count data from unsubmitted forms are NOT included in the calculation.

BMP 14 COVERAGE STATUS SUMMARY:

Water supplier is meeting coverage requirements for this BMP.

BMP 14 Coverage: Residential ULFT Replacement Programs

Reporting Unit: Otoy Water District

BMP 14 Coverage Calculation Detail: Retrofit on Resale (ROR) Ordinance Water Savings

	Single Family	Multi-Family
1992 Housing Stock		
Average rate of natural replacement (% of remaining stock)	.04	.04
Average rate of housing demolition (% of remaining stock)	.005	.005
Estimated Housing Units with 3.5+ gpf Toilets in 1997	19283.25	515.85
Average resale rate	.04	.04
Average persons per unit		
Average toilets per unit		
Average savings per home (gpd; from Exhibit 6)	38.4	52.2

Single Family Housing Units

Coverage Year	Unretrofitted Houses	Houses Sold	Houses Unsold	Sold and Retrofitted	Sold and Already Retrofitted	Unsold and Retrofitted	Gross ROR Savings (AFY)	Nat'l Replacement Only Savings (AFY)	Net ROR Savings (AFY)
1998	17779.01	767.47	18419.36	767.47		736.77	251.42	219.73	31.69
1999	16392.10	763.64	18327.27	707.60	56.03	679.30	311.07	251.43	59.64
2000	15113.39	759.82	18235.63	652.41	107.41	626.31	366.06	281.86	84.20
2001	13934.42	756.02	18144.45	601.51	154.51	577.45	416.76	311.08	105.69
2002	12847.42	752.24	18053.73	554.59	197.65	532.41	463.51	339.14	124.38
2003	11845.22	748.48	17963.46	511.33	237.15	490.87	506.61	366.08	140.54
2004	10921.20	744.74	17873.64	471.44	273.30	452.58	546.35	391.94	154.41
2005	10069.26	741.01	17784.28	434.66	306.35	417.28	582.99	416.78	166.21
2006	9283.78	737.31	17695.36	400.76	336.55	384.73	616.77	440.63	176.14
2007	8559.57	733.62	17606.88	369.49	364.13	354.71	647.92	463.54	184.38

Multi Family Housing Units

Coverage Year	Unretrofitted Houses	Houses Sold	Houses Unsold	Sold and Retrofitted	Sold and Already Retrofitted	Unsold and Retrofitted	Gross ROR Savings (AFY)	Nat'l Replacement Only Savings (AFY)	Net ROR Savings (AFY)
1998	475.61	20.53	492.74	20.53		19.71	9.14	7.99	1.15
1999	438.51	20.43	490.28	18.93	1.50	18.17	11.31	9.14	2.17
2000	404.30	20.33	487.83	17.45	2.87	16.75	13.31	10.25	3.06
2001	372.76	20.22	485.39	16.09	4.13	15.45	15.16	11.31	3.84
2002	343.69	20.12	482.96	14.84	5.29	14.24	16.86	12.33	4.52
2003	316.88	20.02	480.55	13.68	6.34	13.13	18.42	13.31	5.11
2004	292.16	19.92	478.14	12.61	7.31	12.11	19.87	14.25	5.62
2005	269.37	19.82	475.75	11.63	8.20	11.16	21.20	15.16	6.04
2006	248.35	19.72	473.37	10.72	9.00	10.29	22.43	16.02	6.41

2007	228.98	19.63	471.01	9.88	9.74	9.49	23.56	16.86	6.71
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Appendix F

Otay Water District Draft Code of Ordinance Section 39

SECTION 39
PROGRAM

CONSERVATION AND WATER SHORTAGE RESPONSE

39.01 DECLARATION OF POLICY.

California Water Code Sections 375 et seq. permit public entities that supply water at retail to adopt and enforce a water conservation program to reduce the quantity of water used by the people therein for the purpose of conserving the water supplies of such public entity. The Board of Directors hereby establishes a comprehensive water conservation program pursuant to California Water Code Sections 375 et seq., based upon the need to conserve water supplies and to avoid or minimize the effects of any future shortage.

39.02 FINDINGS

The Board of Directors finds and determines that the conditions prevailing in San Diego County, including the region's reliance on imported water, requires that available water resources be put to maximum beneficial use to the extent to which they are capable; that the waste or unreasonable use, or unreasonable method of use of water be prevented; and that the conservation of such water be encouraged with a view to the maximum reasonable and beneficial use thereof in the interests of the residents of the District and for the public welfare.

Notwithstanding local and regional efforts to diversify water supplies to improve reliability, the Board of Directors furthermore finds and determines that a water shortage may occur based upon one or more of the following conditions:

- A. A general water supply shortage due to increased demand or limited supplies.
- B. Treatment, distribution or storage facilities of the Metropolitan Water District of Southern California (Metropolitan) or the San Diego County Water Authority (Water Authority) or other agencies become inadequate.
- C. A major failure or disruption of the water supply, treatment, storage or distribution facilities of Metropolitan, the Water Authority, or other agencies occurs.
- D. A major failure or disruption of the water supply, storage or distribution facilities of the District.

39.03 APPLICATION

The provisions of this Section 39 shall apply to all water served to persons, customers, and property by the District.

- A. Exceptions - The provisions of this Section 39 shall not apply to any hospital, health care or convalescent facility, veterans home or any other type of facility where the health and welfare would be affected by restricted water use. This shall also not apply to veterinary hospitals and facilities. However, this Section 39 does apply to outdoor grounds, yard and parking areas of these facilities.

39.04 AUTHORIZATION

The General Manager, or a designated representative, is hereby authorized and directed to implement the provisions of this Section 39. Additionally, the General Manager, or designated representative, is hereby authorized to make minor and limited exceptions to prevent undue hardship or unreasonable restrictions, provided that water shall not be wasted or used unreasonably and the purposes of this Section 39 can be accomplished.

39.05 WATER CONSERVATION PROGRAM

The District will evaluate and implement activities that encourage water conservation with the goal of using water more efficiently, including notifying customers that the following measures apply at all times and until further notification:

- A. No customer of the District shall knowingly use water or permit the use of water supplied by the District for residential, commercial, industrial, agricultural, governmental or any other purpose in a manner contrary to any provision of this Section 39.
- B. Water may not be allowed to leave the customer's property by drainage onto adjacent properties or public or private roadways or streets due to excessive irrigation, poor design and/or neglect.
- C. Customers are required to repair all water leaks within 48 hours of knowledge that a leak exists.

- D. Water should not be used to wash down sidewalks, driveways, parking areas, tennis courts, patios, or other paved areas except to alleviate immediate safety or sanitation hazards.
- E. Lawn watering or irrigation is recommended to occur two (2) hours after sunset and an at least one (1) hour before sunrise. New plantings and newly seeded areas are exempt from these limits for 30 days.
- F. Customers are encouraged to use an automatic shutoff nozzle when using a hand-held hose for spraying, lawn watering, vehicle washing or structure washing.
- G. Water may not be used for new single pass evaporative cooling systems, new non-recirculating conveyor car wash systems, new non-recirculating decorative fountains, and new non-recirculating commercial laundry systems.

39.06 WATER SHORTAGE CONTINGENCY PLAN

A. STAGE I

- 1. Defined as: A temporary general water supply shortage due to increased demand or limited supplies such as a disruption to the potable water treatment, distribution or storage facilities of Metropolitan or the Water Authority, or other agencies whereby such systems become inadequate to meet local or regional demand.
- 2. In addition to efficiency measures cited in 39.05, the following actions may be implemented in concert with Metropolitan or Water Authority announcements and determinations of water availability, or as deemed necessary by the District:
 - a. Operations staff shall closely monitor water storage levels and consumption rates and report this information to the Senior Management Team.
 - b. Staff shall make efforts to communicate the additional need for customers to conserve water.

- c. As necessary, staff will evaluate activating interagency connections.

B. STAGE II

1. Defined as: A longterm scheduled or unscheduled shutdown, major system disruption, or multiyear drought; dependent on the severity and estimated duration of the water shortage. Includes events leading to MWD or the Water Authority notifying member agencies that water deliveries will be reduced for a limited period of time.
2. The following measures can be implemented to achieve up to a fifteen percent (15%) reduction in treated water use:
 - a. Large irrigation customers will be asked to reduce usage. Treated water allocations for large landscape customers may be reduced if goals are not met in order to achieve Metropolitan or Water Authority reduction targets.
 - b. The District will notify developers and contractors that any excavation or other earthwork being performed must maintain a minimum 20-foot horizontal clearance from any water lines in operation, water mains or District easements.
 - c. Treated water deliveries to Mexico may be reduced or suspended.
3. The following measures can be implemented to achieve up to a twenty-five percent (25%) reduction in treated water use:
 - a. Lawn watering or irrigation is prohibited during daylight hours.
 - b. Use of a hand-held hose for spraying, lawn watering, vehicle washing or structure washing is prohibited without an automatic shut-off nozzle.
 - c. Customers will receive notice of the need for additional indoor and outdoor conservation including eliminating a watering day or postponing all outdoor water use such as car washing, delaying

the installation of new plantings or reseeded turf areas until water flows return to normal.

- d. Water conservation and use restrictions will be enforced.
 - e. Use of potable water for commercial street cleaning shall be prohibited.
 - f. District shall consider mandating water budgets for large landscape accounts.
4. The following measures shall occur to achieve up to a fifty percent (50%) reduction in treated water use:
- a. Stage I conservation measures become mandatory except as provided in this section.
 - b. Staff shall coordinate with MWD or the Water Authority to issue press notification to the media.
 - c. The filling or refilling of swimming pools, artificial ponds, lakes and ornamental fountains shall be prohibited including those using recycled water.
 - d. No non-residential fountains shall be operated.
 - e. Customers shall be asked to reduce or postpone landscape irrigation and delay or prohibit installing new turf, plantings or reseeded turf areas. The district shall consider providing incentives to remove or replace existing turf or plantings.
 - f. Commercial landscape accounts shall reduce or postpone landscape irrigation. Reduction targets may be established to achieve regional conservation goals.
 - g. Residential car washing will be prohibited. Customers will be urged to use commercial car washes that recycle their water.

- h. The District will notify developers and contractors that any excavation or other earthwork being performed must maintain a minimum 20-foot horizontal clearance from any water lines in operation, water mains or district easements.
- i. Treated water deliveries to Mexico will be reduced or suspended.
- j. Reduce or suspend any augmentation of the recycled water distribution system.
- k. Activate additional district interconnections as-needed.
- l. District shall consider mandating water budgets for all customers.
- m. District will consider reassigning personnel to enforce provisions of Section 39.
- n. All water use from temporary meters shall be suspended.

C. STAGE III

- 1. Defined as: A major unscheduled shutdown or disruption to the treated or untreated water systems such as those caused by natural disaster, major system failure, or acts of war.
- 2. In addition to making every effort to urgently communicate the need to conserve water, the following measures shall apply during a Stage III water emergency to achieve up to a fifty percent (50%) reduction in treated water use:
 - a. All water use from temporary meters shall be suspended.
 - b. Activate district interconnections as-needed.
 - c. Suspend augmentation of the recycled water distribution system.
 - d. Staff shall coordinate with MWD or the Water Authority to issue press notification to the media.

- e. Activate, if necessary, the Emergency Operations Center (EOC).
- f. All outdoor irrigation may be prohibited including residential, commercial and irrigation customers.
- g. All of the above mentioned measures shall be strictly implemented and enforced.
- h. Suspend treated water deliveries to Mexico.
- m. District will consider reassigning personnel to enforce provisions of Section 39.

39.07 IMPLEMENTATION OF CONSERVATION STAGES

- A. The District shall monitor the projected supply and demand for water by its customers on a daily basis. The General Manager shall determine the extent of the conservation required through the implementation and/or termination of conservation stages in order for the District to prudently plan for and supply water to its customers.
- B. If the General Manager determines it is necessary for the District to declare a stage of water alert higher than that which the Water Authority has declared, the General Manager may order the appropriate stage of water conservation be implemented or terminated in accordance with the applicable provisions of the District Code of Ordinances.
- C. Stage II and Stage III declarations and notifications shall be published a minimum of three consecutive times in a newspaper of general circulation.
- D. The stage designated shall become effective immediately upon announcement.
- E. Stage I, II and III declarations shall be reported to the Board of Directors at its next regular meeting. The Board shall thereupon ratify the declaration, rescind the declaration, or direct the declaration of a different stage.

39.08 SURCHARGES FOR NONCOMPLIANCE.

A. The implementation and administration of the conditions of this Section 39 impose additional administrative and operational costs in the District's operations. For such reasons, surcharges are hereby imposed for customer violations of requirements or prohibitions set forth in Section 39. The surcharges will be administered by the Finance Department. In addition to the surcharges, the District may limit or discontinue service for repeated violations.

B. The surcharges imposed are as follows:

1. The first violation of Section 39 by a customer shall result in a written letter of warning to the customer.
2. The second violation of Section 39 by a customer who has received a warning within a twelve-month moving year shall result in a Notice of Violation. Other preventive measures may also be taken by District.
3. The third violation of Section 39 by a customer who has received a warning and a Notice of Violation within a twelve-month moving year shall result in a \$100 surcharge to be added to the customer's bill for services. Other preventive measures may also be taken by District.
4. The fourth violation of Section 39 by the same customer within a twelve-month moving year shall result in a \$200 surcharge to the customer's bill for services. Other preventive measures may also be taken by District.
5. Any subsequent violation by the same customer within a twelve-month moving year shall result in a \$400 surcharge to the customer's bill for services. Other preventive measures may also be taken by District.

C. The "twelve-month moving year" is defined as the most recent consecutive twelve months at the time of a violation.

D. Any surcharge imposed shall be added to the customer's next billing for water service and shall be due and payable in accordance with requirements for payment of regular water bills

for service. Failure to pay shall result in any appropriate actions as outlined in Section 34.

39.09 ACCUMULATED VIOLATIONS

At such time the General Manager declares or determines that shortages are no longer in effect or that conservation measures are no longer required, the number of violations accumulated to a customer's account under this Section 39 shall be reduced to zero. However, the customer must still pay any surcharges imposed by the District which have not been paid prior to the termination of the conservation stage.

39.10 LIMITING OR DISCONTINUING SERVICE

Maximizing available water resources and beneficial use is in the interest of the people of the district. Therefore, the waste or unreasonable use, or unreasonable method of use, of water is not in the public interest and shall be prevented. For such reasons, limiting or discontinuing service may hereby be imposed on customers for violations or repeated violations of requirements or prohibitions set forth in this Section 39.

- A. At any time the district may temporarily deactivate a potable or recycled water meter if a customer is in violation of any applicable provision of Section 39.
- B. The second violation of water conservation measures imposed under this Section 39, within a twelve-month moving year, may result in the installation of a flow restrictor on a meter, or the temporary deactivation of the meter.
- C. Subsequent violations may result in discontinuance of service to the meter at any time after the third violation.
- D. Flow Restrictor Usage -
 - 1. The first installation of a flow restrictor will be for a period of seven days.
 - 2. Each subsequent violation may result in either complete discontinuance of service or an additional seven day flow restriction period per violation. For example, the fourth violation may result in a 21-day flow restriction period).

3. For each installation of the flow restrictor, the customer must pay a charge of \$125 for installing and removing the flow restrictor.

39.11 PENALTY.

As provided in Water Code Section 377, any violation of this Section 39 is a misdemeanor. Upon conviction thereof such person shall be punished by imprisonment in the county jail for not more than 30 days, or by fine not exceeding one thousand dollars (\$1,000), or by both. In addition to any other remedies which the District may have for the enforcement of this Section, service of water shall be discontinued or appropriately limited to any customer who willfully uses water or permits the use of water in violation of any provision hereof.

Appendix G

Otay Water District Code of Ordinance Section 26

SECTION 26 WATER RECLAMATION PLAN AND IMPLEMENTING PROCEDURES

26.01 FINDINGS

The state policies regarding use of reclaimed water are in the best interest of the Otay Water District. The majority of jurisdictions in San Diego County have adopted measures to promote water reclamation. This ordinance is necessary to protect the common water supply of the region which is vital to public health and safety, and to prevent endangerment of public and private property. San Diego County is highly dependent on limited imported water for domestic, agricultural and industrial uses. The reliability of the supply of imported water is uncertain. By developing and utilizing reclaimed water, the need for additional imported water can be reduced. In light of these circumstances, certain uses of potable water may be considered unreasonable or to constitute a nuisance where reclaimed water is available or production of reclaimed water is unduly impaired. Reclaimed water would be more readily available in seasons of drought when the supply of potable water for nonessential uses may be uncertain.

26.02 USE OF RECLAIMED WATER

- A. District Policy: It is the policy of the District that reclaimed water shall be used within the jurisdiction wherever its use is financially and technically feasible, and consistent with legal requirements, preservation of public health, safety and welfare, and the environment.

- B. Required Use for Greenbelt Purposes: No customer of the District shall make, cause, use or permit the use of potable water supplied by the District for greenbelt uses, including, but not limited to, cemeteries, golf courses, parks and highway landscaped areas, when, following notice and a hearing, the District finds that reclaimed water is available under the following conditions:
 - 1. the reclaimed water is of adequate quality and is available for such greenbelt use;
 - 2. the reclaimed water may be furnished to such areas at a reasonable cost, comparable to or less than the cost of supplying potable domestic water;
 - 3. the State Department of Health Services has determined that such use would not be detrimental to public health; and

4. the use of reclaimed water will not adversely affect downstream water rights, will not degrade water quality.

The findings may include terms and conditions under which reclaimed water shall be used. In addition, the District may assist the customer in obtaining any permits or approvals required for the use of reclaimed water.

26.03 DEFINITIONS

The following terms are defined for purposes of this ordinance:

- A. Agricultural Purposes: Agricultural purposes include the growing of field and nursery crops, row crops, trees, and vines and the feeding of fowl and livestock.
- B. Artificial Lake: A human-made lake, pond, lagoon, or other body of water that is used wholly or partly for landscape, scenic or noncontact recreational purposes.
- C. Commercial Office Building: Any building for office or commercial uses with water requirements which include, but are not limited to, landscape irrigation, toilets, urinals and decorative fountains.
- D. Reclaimed Water Distribution System: A piping system intended for the delivery of reclaimed water separate form and in addition to the potable water distribution system.
- E. Greenbelt Areas: A greenbelt area includes, but is not limited to golf courses, cemeteries, parks and landscaping.
- F. Industrial Process Water: Water used by any industrial facility with process water requirements which include, but are not limited to, rinsing, washing, cooling and circulation, or construction, including any facility regulated for industrial waste discharge under District Code of Ordinances Sections 52.04, 52.05 and 52.06.
- G. Off-Site Facilities: Water facilities from the source of supply to the point of connection with the on-site facilities, normally up to and including the water meter.

- H. On-Site Facilities: Water facilities under the control of the owner normally downstream from the water meter.
- I. Potable Water: Water which conforms to the federal, state and local standards for human consumption.
- J. Reclaimed Water: Reclaimed water means water which, as a result of treatment, is suitable for a direct beneficial use or controlled use that would not otherwise occur. (See Water Code Section 13050(n).)
- K. Waste Discharge: Waste Discharge means water deposited, released or discharged into a sewer system from any commercial, industrial or residential source which contains levels of any substance or substances which may cause substantial harm to any water treatment or reclamation facility or which may prevent any use of reclaimed water authorized by law.

26.04 WATER RECLAMATION MASTER PLAN

- A. General: The General Manager shall prepare and adopt a Water Reclamation Master Plan to define, encourage, and develop the use of reclaimed water within the District's boundaries. The Master Plan shall be updated not less often than every five years.
- B. Contents of the Reclamation Master Plan: The Master Plan shall include, but not be limited to, the following:
 - 1. Plants and Facilities. Evaluation of the location and size of present and future reclamation treatment plants, distribution pipelines, pump stations, reservoirs, and other related facilities, including cost estimates and potential financing methods.
 - 2. Reclaimed Water Service Areas. A designation, based on the criteria set forth in Section 26.02 and the information derived from Section 26.04B.1. and this Section 26.04B.2. of the areas within the District that can or may in the future use reclaimed water in lieu of potable water. Reclaimed water uses may include, but are not limited to, the irrigation of greenbelt and agricultural areas, filling of artificial lakes, and appropriate industrial and commercial uses.

3. Designate Tributary Areas. For each water reclamation facility identified in the Master Plan, designate proposed tributary areas. Within such areas, discharges to the sewage system shall be subject to permitting, monitoring and control measures to protect public health, safety and public and private property. Designation of tributary areas shall be adopted by ordinances, and may be included in the Master Plan. Prior to designation of tributary areas, appropriate notice shall be given to property owners and residents of the area.
4. Quality of Water to be Reclaimed. For each water reclamation treatment facility, evaluate water quality with respect to the effect on anticipated uses of reclaimed water to be served by each treatment facility. Evaluate sources of waste discharge and sewer inflow that may, directly or cumulatively, substantially contribute to adverse water quality conditions in reclaimed water.
5. Tributary Protection Measures. Develop recommended control measures and management practices for each designated tributary area to maintain or improve the quality of reclaimed water. Such control measures may include capital improvements to the sewer collection system and waste discharge restrictions for industrial, commercial and residential discharges.
6. Mandatory Reclaimed Water Use. For each reclaimed water service area, evaluate whether greenbelt irrigation, agricultural irrigation, commercial office buildings, filling of artificial lakes, or industrial processes shall be limited to the use of reclaimed water. As appropriate, mandate construction of reclaimed water distribution systems or other facilities in new and existing developments for current or future reclaimed water use as a condition of any development approval or continued water service if future reclamation facilities are proposed in the Master Plan that could adequately serve the development, in accordance with the procedures described in Section 26.05. Identify resources and adopt measures

to assist water users in the financing of necessary conversions.

7. Rules and Regulations. Establish general rules and regulations governing the use and distribution of reclaimed water.
8. Public Awareness Program. Establish a comprehensive water reclamation public awareness program.
9. Coordination Among Agencies. An examination of the potential for initiating a coordinated effort between the District and other regional agencies to share in the production and utilization of reclaimed water.

26.05 PROCEDURES

A. Existing Potable Water Service.

1. Preliminary Determination. Based upon the Master Plan, upon the designation of each reclaimed water service area or the commencement of the design of new reclaimed water facilities, the General Manager shall make preliminary determinations as to which existing potable water customers shall be converted to the use of reclaimed water. Each water customer shall be notified of the basis for a determination that conversion to reclaimed water service will be required, as well as the proposed conditions and schedule for conversion.
2. Notice. The notice of the preliminary determination, including the proposed conditions and time schedule for compliance, and a reclaimed water permit application shall be sent to the water customer by certified mail.
3. Objections; Appeals. The water customer may file a notice of objection with the District within thirty (30) days after any notice of determination to comply is delivered or mailed to the customer, and may request reconsideration of the determination or modification of the proposed conditions or schedule for conversion. The objection must be in writing and specify the reasons for the objection. The preliminary determination shall be final if the customer does not file a timely objection. Staff (Engineering Department) shall review the objection and

shall confirm, modify or abandon the preliminary determination. Upon issuance of a final determination by Staff, customer may appeal the determination upon written application to the Board of Directors after the final determination made by the Staff. (Engineering Department).

B. Development and Water Service Approvals.

1. Conditions. Upon application by a developer, owner or water customer (herein referred to as "applicant") for a tentative map, subdivision map, land use permit or other development project as defined by Government Code Section 65928 or for new or altered water service, the District Staff shall review the Master Plan and make a preliminary determination whether the current or proposed use of the subject property is required to be served with reclaimed water or to include facilities designed to accommodate the use of reclaimed water in the future. Based upon such determination, use of reclaimed water and provision of reclaimed water distribution systems or other facilities for the use of reclaimed water, and application for a permit for such use may be required as a condition of approval of any such application, in addition to any other conditions of approval for service.
2. Alterations and Remodeling. On a case-by-case basis, upon application for a permit for the alteration or remodeling of multifamily, commercial or industrial structures (including, for example, hotels), the District Staff shall review the Master Plan and make a preliminary determination whether the subject property shall be required to be served with reclaimed water or to include facilities designed to accommodate the use of reclaimed water in the future. Based upon such determination, use of reclaimed water and provision of reclaimed water distribution systems or other facilities for the use of reclaimed water, and application for a permit for such use, may be required as a condition of approval of the application.
3. Notice of Determination. A notice of the basis for the preliminary determination, proposed conditions of approval and schedule for compliance shall be provided to the applicant prior to approval of the develop-

ment application or application for water service.

4. Requested Service. On a case-by-case basis, upon application for a permit to use reclaimed water on a property not covered by Sections 26.05.A.1, 26.05.B.1, or 26.05.B.2 above, the General Manager shall review the Master Plan and make a determination whether the subject property shall be served with reclaimed water. Based upon such determination, the application for the permit shall be accepted and processed subject to Section 26.05.C.

- C. Reclaimed Water Permit Process. Upon a final determination by the General Manager that a property shall be served with reclaimed water, or adoption of a condition of development approval or water service requiring use or accommodation of the use of reclaimed water, the water customer owner or applicant shall obtain a reclaimed water permit.

1. Permit Conditions. The permit shall specify the design and operational requirements for the applicant's water distribution facilities and schedule for compliance, based on the rules and regulations adopted pursuant to Section 26.04.B and shall require compliance with both the California Department of Health Services Wastewater Reclamation Criteria (see California Code of Administrative Regulations, Title 22), and requirements of the Regional Water Quality Control Board.
2. Plan Approval. Plans for the reclaimed and non-reclaimed water distribution systems for the parcel shall be reviewed by the District Engineer and a field inspection conducted before the permit is granted.
3. Permit Issuance. Upon approval of plans the permit shall be issued. Reclaimed water shall not be supplied to a property until inspection by the District Engineer determines that the applicant is in compliance with the permit conditions.

- D. Temporary Use of Potable Water. At the discretion of the General Manager, potable water may be made available on a temporary basis, until reclaimed water is available. Before the applicant receives temporary potable water, a water reclamation per-

mit, as described in Section 26.05.C, must be obtained for new on-site distribution facilities. Prior to commencement of reclaimed water service, an inspection of the on-site facilities will be conducted to verify that the facilities have been maintained and are in compliance with the reclaimed water permit and current requirements for service. Upon verification of compliance, the applicant shall be notified of the corrective actions necessary and shall have at least thirty (30) days to take such actions prior to initiation of enforcement proceedings.

- E. Reclaimed Water Rate. The rate charged for reclaimed water shall be established by Ordinance of the Board of Directors.

26.06 REGULATION OF WASTE DISCHARGE TO SEWERAGE SYSTEMS

- A. Intent. The District recognizes that to maintain adequate wastewater quality for water reclamation treatment processes, and to protect public and private property, restrictions may be required on certain industrial, commercial and residential waste discharges to a sewerage system that is located within a designated tributary area of an existing or planned reclamation facility.
- B. Adopted Tributary Protection Measures. Waste discharges to the sewerage system from any industrial, commercial or residential source may be restricted or prohibited upon a finding, following a noticed public hearing, that the type or class of discharge involved is capable of causing or may cause substantial damage or harm to any sewage treatment or reclamation facility or to any significant user or users or potential user or users of reclaimed water within an area which has been planned for reclaimed water service. Prohibitions for certain discharges and guidelines for acceptability of wastes are set forth in District Code of Ordinances Sections 52.04, PROHIBITIONS AGAINST DISCHARGE OF OBJECTIONABLE WASTES, which prohibits discharge of certain items into the District sewer system, including, but not limited to, brine discharge from on-site self-regenerating water softener units; 52.05, GUIDELINES TO DETERMINE ACCEPTABILITY OF WASTES; and 52.06, DISCHARGE OF INDUSTRIAL WASTE.

26.07 SANCTIONS.

- A. Public Nuisance. Discharge of wastes or the use of reclaimed water in any manner in violation of

this ordinance or of any permit issued hereunder is hereby declared a public nuisance and shall be corrected or abated as directed by the General Manager. Any person creating such a public nuisance is guilty of a misdemeanor.

- B. Injunction. Whenever a discharge of wastes or use of reclaimed water is in violation of this ordinance or otherwise causes or threatens to cause a condition of nuisance, the District may seek injunctive relief as may be appropriate to enjoin such discharge or use.
- C. Permit Revocation. In addition to any other statute or rule authorizing termination of water service, the General Manager may revoke a permit issued hereunder if a violation of any provision of this ordinance is found to exist or if a discharge of wastes or use of reclaimed water causes or threatens to cause a nuisance.
- D. Penalty. Any owner and/or operator who violates this ordinance shall, for each day of violation, or portion thereof, be subject to a fine not exceeding \$1,000. In addition, water service to the property may be discontinued.

26.08 VALIDITY

If any provision of this Section 26 or the application thereof to any person or circumstance is held invalid, the remainder of Section 26 and the application of such provisions to other persons or circumstances shall not be affected thereby.

Appendix H

San Diego County Water Authority

Documentation of Supply Reliability

M E M O R A N D U M

December 1, 2005

TO: Member Agency Managers

FROM: Ken Weinberg, Director of Water Resources 

RE: Information on Water Authority Supplies included in 2005 Urban Water Management Plan as required under California Water Code Section 10631 (k)

The purpose of this memorandum is to address California Water Code Section 10631 (k) of the Urban Water Management Planning Act (Act). This section requires the exchange of supply and demand information between the wholesale agency and its member agencies. The Water Authority is to provide information that identifies and quantifies, to the extent practicable, the existing and planned sources of water available from the Water Authority under multiple dry-year, single dry-year, and average year conditions, in five-year increments for the 20-year term required under the Act.

This supply information is included in the Water Authority's 2005 Urban Water Management Plan (2005 Plan), adopted on November 17, 2005. A copy of the 2005 Plan is attached. The Water Authority's supplies include deliveries from the Metropolitan Water District (Metropolitan). Documentation on Metropolitan's supplies is included in its 2005 Regional Urban Water Management Plan, adopted on November 8, 2005. In addition, attached is a memorandum from Metropolitan, which contains supply reliability tables documenting long-term reliability, consistent with requirements of the Act. As stated in Section 8 of the Water Authority's 2005 Plan, if the projected Water Authority and member agency supplies are developed as planned, along with implementation of Metropolitan's Integrated Resources Plan, no shortages are anticipated within the Water Authority's service area under normal, single dry-year, or multiple dry-water years through 2030.

Member agency input into development of the Water Authority's 2005 Plan was critical to its preparation and ultimate adoption by the Board. The Water Authority would like to thank its member agencies for their assistance and input during this yearlong process. The table below summarizes the activities that occurred between our agencies during this effort:

Date	Water Authority Activities
September 2004	Presented to member agencies an overview of CWA-MAIN Model used to develop regional water demand forecast.
October 2004	Held kick-off meeting with agencies to initiate update of local supply and conservation projections.
February 2005	Hosted DWR Workshop on plan preparation and additional review of local supply and conservation projections.
March – April 2005	Met individually with several member agencies on draft preliminary demand forecast and local supply and conservation projections.
May 2005	Distributed preliminary water demand forecast to member agencies. Forecast included demands on the Water Authority by member agency.
May 2005	Hosted member agency meeting to review preparation of Metropolitan’s 2005 RUWMP and discuss additional coordination issues.
June 2005	Held technical meeting with member agencies to review water demand forecast.
September 2005	Distributed updated water demand forecast that was revised based on member agency input.
September 2005	Distributed member agency draft 2005 Plan for member agency technical review.
October 2005	Addressed member agencies’ comments in public review draft of 2005 Plan that was distributed to Board members and made available to public.
November 2005	Water Authority’s 2005 Plan adopted by Board.

In addition to preparation of the urban water management plan every five years, the Water Authority prepares an annual water supply report that documents implementation of the Water Authority’s planned supply projects and programs. This report is prepared in accordance with subdivision (a) of Section 8.00.050 of the Water Authority’s Administrative Code, which states: “The General Manager shall provide each Authority member agency and the County of San Diego and each city in the County of San Diego with a copy of the Authority’s most recently adopted Urban Water Management Plan and an annual statement regarding the Authority’s water supplies and implementation of Authority’s plans and programs to meet the future water supply requirements of its member agencies as determined by the Authority pursuant to law and the memorandum of agreement between the Authority and the San Diego Association of Governments.” Staff anticipates preparing the next annual report towards the end of 2006 and will provide the document following its approval by the Water Authority’s Board of Directors.

Thank you again for your assistance in preparation of the Water Authority’s 2005 Plan. Please contact Dana Frieauf, Principal Water Resources Specialist, at dfrieauf@sdewa.org or 858-522-6749, if you have any questions on the information provided in this memorandum.

Attachments

MWD

METROPOLITAN WATER DISTRICT OF SOUTHERN CALIFORNIA

Date: August 18, 2005
To: Urban Water Management Plan Coordinators
From: Michael Hurley, Water Resource Management Group
Subject: Reliability Tables for the 2005 RUWMP

California Water Code §10631 of the Urban Water Management Planning Act (Act) requires wholesale water agencies to provide urban water suppliers that rely upon that wholesale agency information that identifies and quantifies, to the extent practicable, the existing and planned sources of water available from the wholesale agency under multiple dry-year, single dry-year and average year conditions, in five-year increments for the 20-year term required under the Act

Attached are the final draft reliability tables documenting Metropolitan's long-term reliability consistent with the requirements of the Act. The tables show supplies and demands under multiple dry-year, single dry-year and average year conditions. Also included are the existing and planned supplies from In-basin, California Aqueduct and Colorado River Aqueduct sources used to develop the reliability tables.

Additionally, I've attached a slightly revised draft data set at the regional level based on comments regarding local supplies from some of the member agencies.

If you have any questions or comments, please contact me at (213) 217-6221 or mhurley@mwdh2o.com.

Multiple Dry-year Supply Capability¹ & Projected Demands					
(Repeat of 1990-92 Hydrology)					
(acre-feet per year)					
	2010	2015	2020	2025	2030
Current Supplies					
Colorado River Aqueduct ²	722,000	699,000	699,000	699,000	699,000
California Aqueduct ³	911,600	911,600	911,600	911,600	911,600
In-Basin Storage	481,500	480,200	462,800	449,000	449,000
Supplies Under Development					
Colorado River Aqueduct	95,000	460,000	400,000	400,000	400,000
California Aqueduct	330,000	214,500	269,500	269,500	269,500
In-Basin Storage	78,000	103,000	103,000	103,000	103,000
Transfers to Other Agencies	0	(35,000)	(35,000)	(35,000)	(35,000)
Metropolitan Supply Capability	2,618,100	2,833,300	2,810,900	2,797,100	2,797,100
Metropolitan Supply Capability w/CRA Maximum of 1.25 MAF⁴	2,618,100	2,765,600	2,710,700	2,689,400	2,689,400
Firm Demands on Metropolitan^{5,6}	2,410,000	2,431,000	2,459,000	2,596,000	2,729,000
Potential Reserve & Replenishment Supplies	208,100	334,600	251,700	93,400	-39,600

¹ Represents supply capability for resource programs under listed year type.

² Colorado River Aqueduct includes water management program supplies conveyed by the aqueduct

³ California Aqueduct includes Central Valley transfers and storage program supplies conveyed by the aqueduct

⁴ Maximum CRA deliveries limited to 1.25 MAF including SDCWA/IID Transfer supplies and Coachella and All-American Canals lining supplies.

⁵ Based on SCAG 2004 RTP, SANDAG 2030 forecasts, projections of member agency existing and contracted active conservation and local supplies, remaining regional targets for active conservation and local supplies, SDCWA/IID Transfer supplies and Coachella and All-American Canals lining supplies.

⁶ Includes projected firm sales plus 70% of projected IAWP agricultural sales

Single Dry-year Supply Capability¹ & Projected Demands					
(Repeat of 1977 Hydrology)					
(acre-feet per year)					
	2010	2015	2020	2025	2030
Current Supplies					
Colorado River Aqueduct ²	722,000	699,000	699,000	699,000	699,000
California Aqueduct ³	777,000	777,000	777,000	777,000	777,000
In-Basin Storage	840,000	837,800	807,900	784,300	784,300
Supplies Under Development					
Colorado River Aqueduct	95,000	460,000	400,000	400,000	400,000
California Aqueduct	330,000	214,500	269,500	269,500	269,500
In-Basin Storage	78,000	103,000	103,000	103,000	103,000
Transfers to Other Agencies	0	(35,000)	(35,000)	(35,000)	(35,000)
Metropolitan Supply Capability	2,842,000	3,056,300	3,021,400	2,997,800	2,997,800
Metropolitan Supply Capability w/CRA Maximum of 1.25 MAF⁴	2,842,000	2,988,600	2,921,200	2,890,100	2,890,100
Firm Demands on Metropolitan^{5,6}	2,326,000	2,342,000	2,377,000	2,504,000	2,631,000
Potential Reserve & Replenishment Supplies	516,000	646,600	544,200	386,100	259,100

¹ Represents supply capability for resource programs under listed year type.

² Colorado River Aqueduct includes water management program supplies conveyed by the aqueduct

³ California Aqueduct includes Central Valley transfers and storage program supplies conveyed by the aqueduct

⁴ Maximum CRA deliveries limited to 1.25 MAF including SDCWA/IID Transfer supplies and Coachella and All-American Canals lining supplies.

⁵ Based on SCAG 2004 RTP, SANDAG 2030 forecasts, projections of member agency existing and contracted active conservation and local supplies, remaining regional targets for active conservation and local supplies, SDCWA/IID Transfer supplies and Coachella and All-American Canals lining supplies.

⁶ Includes projected firm sales plus 70% of projected IAWP agricultural sales

Average Supply Capability¹ & Projected Demands					
(Average of 1922 - 2004 Hydrologies)					
(acre-feet per year)					
	2010	2015	2020	2025	2030
Current Supplies					
Colorado River Aqueduct ²	711,000	678,000	677,000	677,000	677,000
California Aqueduct ³	1,772,000	1,772,000	1,772,000	1,772,000	1,772,000
In-Basin Storage	0	0	0	0	0
Supplies Under Development					
Colorado River Aqueduct	0	0	0	0	0
California Aqueduct	185,000	185,000	240,000	240,000	240,000
In-Basin Storage	0	0	0	0	0
Transfers to Other Agencies	0	(35,000)	(35,000)	(35,000)	(35,000)
Metropolitan Supply Capability	2,668,000	2,600,000	2,654,000	2,654,000	2,654,000
Metropolitan Supply Capability w/CRA Maximum of 1.25 MAF⁴	2,668,000	2,600,000	2,654,000	2,654,000	2,654,000
Firm Demands on Metropolitan^{5,6}	2,073,000	2,095,000	2,131,000	2,258,000	2,390,000
Potential Reserve & Replenishment Supplies	595,000	505,000	523,000	396,000	264,000

¹ Represents supply capability for resource programs under listed year type.

² Colorado River Aqueduct includes water management program supplies conveyed by the aqueduct

³ California Aqueduct includes Central Valley transfers and storage program supplies conveyed by the aqueduct

⁴ Maximum CRA deliveries limited to 1.25 MAF including SDCWA/IID Transfer supplies and Coachella and All-American Canals lining supplies.

⁵ Based on SCAG 2004 RTP, SANDAG 2030 forecasts, projections of member agency existing and contracted active conservation and local supplies, remaining regional targets for active conservation and local supplies, SDCWA/IID Transfer supplies and Coachella and All-American Canals lining supplies.

⁶ Includes projected firm sales plus 70% of projected IAWP agricultural sales

In Basin Storage Activities

Program Capabilities

Year 2010

(acre-feet per year)

Hydrology	Multiple Dry Years (1990-92)	Single Dry Year (1977)	Average Year (1922-2004)
Current Programs			
Metropolitan Surface Storage (DVL, Mathews, Skinner)	297,500	510,000	0
Flexible Storage in Castaic & Perris Groundwater Conjunctive-use	73,000	219,000	0
North Las Posas Storage	47,000	47,000	0
Prop 13 Storage	64,000	64,000	0
Subtotal of Current Programs	481,500	840,000	0
Programs Under Development			
Groundwater Conjunctive-use Raymond Basin	22,000	22,000	0
Prop 13 Storage Programs	1,000	1,000	0
Additional Programs ¹	55,000	55,000	0
Subtotal of Proposed Programs	78,000	78,000	0
Maximum Supply Capability	559,500	918,000	0

¹ Includes expansions of existing programs

In Basin Storage Activities

Program Capabilities

Year 2015

(acre-feet per year)

Hydrology	Multiple Dry Years (1990-92)	Single Dry Year (1977)	Average Year (1922-2004)
Current Programs			
Metropolitan Surface Storage (DVL, Mathews, Skinner)	296,200	507,800	0
Flexible Storage in Castaic & Perris Groundwater Conjunctive-use	73,000	219,000	0
North Las Posas Storage	47,000	47,000	0
Prop 13 Storage	64,000	64,000	0
Subtotal of Current Programs	480,200	837,800	0
Programs Under Development			
Groundwater Conjunctive-use			
Raymond Basin	22,000	22,000	0
Prop 13 Storage Programs	1,000	1,000	0
Additional Programs ¹	80,000	80,000	0
Subtotal of Proposed Programs	103,000	103,000	0
Maximum Supply Capability	583,200	940,800	0

¹ Includes expansions of existing programs

In Basin Storage Activities

Program Capabilities

Year 2020

(acre-feet per year)

Hydrology	Multiple Dry Years (1990-92)	Single Dry Year (1977)	Average Year (1922-2004)
Current Programs			
Metropolitan Surface Storage (DVL, Mathews, Skinner)	278,800	477,900	0
Flexible Storage in Castaic & Perris Groundwater Conjunctive-use	73,000	219,000	0
North Las Posas Storage	47,000	47,000	0
Prop 13 Storage	64,000	64,000	0
Subtotal of Current Programs	462,800	807,900	0
Programs Under Development			
Groundwater Conjunctive-use Raymond Basin	22,000	22,000	0
Prop 13 Storage Programs	1,000	1,000	0
Additional Programs ¹	80,000	80,000	0
Subtotal of Proposed Programs	103,000	103,000	0
Maximum Supply Capability	565,800	910,900	0

¹ Includes expansions of existing programs

In Basin Storage Activities

Program Capabilities

Year 2025

(acre-feet per year)

Hydrology	Multiple Dry Years (1990-92)	Single Dry Year (1977)	Average Year (1922-2004)
Current Programs			
Metropolitan Surface Storage (DVL, Mathews, Skinner)	265,000	454,300	0
Flexible Storage in Castaic & Perris Groundwater Conjunctive-use	73,000	219,000	0
North Las Posas Storage	47,000	47,000	0
Prop 13 Storage	64,000	64,000	0
Subtotal of Current Programs	449,000	784,300	0
Programs Under Development			
Groundwater Conjunctive-use Raymond Basin	22,000	22,000	0
Prop 13 Storage Programs	1,000	1,000	0
Additional Programs ¹	80,000	80,000	0
Subtotal of Proposed Programs	103,000	103,000	0
Maximum Supply Capability	552,000	887,300	0

¹ Includes expansions of existing programs

In Basin Storage Activities

Program Capabilities

Year 2030

(acre-feet per year)

Hydrology	Multiple Dry Years (1990-92)	Single Dry Year (1977)	Average Year (1922-2004)
Current Programs			
Metropolitan Surface Storage (DVL, Mathews, Skinner)	265,000	454,300	0
Flexible Storage in Castaic & Perris Groundwater Conjunctive-use	73,000	219,000	0
North Las Posas Storage	47,000	47,000	0
Prop 13 Storage	64,000	64,000	0
Subtotal of Current Programs	449,000	784,300	0
Programs Under Development			
Groundwater Conjunctive-use Raymond Basin	22,000	22,000	0
Prop 13 Storage Programs	1,000	1,000	0
Additional Programs ¹	80,000	80,000	0
Subtotal of Proposed Programs	103,000	103,000	0
Maximum Supply Capability	552,000	887,300	0

¹ Includes expansions of existing programs and North Las Posas Phase 3

California Aqueduct
 Program Capabilities
 Year 2010
 (acre-feet per year)

Hydrology	Multiple Dry Years (1990-92)	Single Dry Year (1977)	Average Year (1922-2004)
Current Programs			
SWP Deliveries ^{1,2}	509,000	175,000	1,472,000
San Luis Carryover ³	93,000	280,000	280,000
SWP Call-back of DWCV Table A Transfer	25,600	5,000	0
Central Valley Storage and Transfers			
Semitropic Program	107,000	107,000	0
Arvin Edison Program	90,000	90,000	0
San Bernardino Valley MWD Program	37,000	70,000	20,000
Kern Delta Program	50,000	50,000	0
Subtotal of Current Programs	911,600	777,000	1,772,000
Programs Under Development			
Delta Improvements ⁴	55,000	55,000	185,000
Market Transfer Options	150,000	150,000	0
Central Valley Transfers/Purchases	125,000	125,000	0
Mojave Program	0	0	0
Subtotal of Proposed Programs	330,000	330,000	185,000
Maximum Supply Capability	1,241,600	1,107,000	1,957,000

¹ Single Dry-year figure includes 76 TAF of additional SWP supplies in 1977 per DWR

² Multiple and Single Dry year figures include DWCV Table A supplies

³ Includes DWCV carryover

⁴ Includes Phase 8 and increased pumping capacity

California Aqueduct
 Program Capabilities
 Year 2015
 (acre-feet per year)

Hydrology	Multiple Dry Years (1990-92)	Single Dry Year (1977)	Average Year (1922-2004)
Current Programs			
SWP Deliveries ^{1,2}	509,000	175,000	1,472,000
San Luis Carryover ³	93,000	280,000	280,000
SWP Call-back of DWCV Table A Transfer	25,600	5,000	0
Central Valley Storage and Transfers			
Semitropic Program	107,000	107,000	0
Arvin Edison Program	90,000	90,000	0
San Bernardino Valley MWD Program	37,000	70,000	20,000
Kern Delta Program	50,000	50,000	0
Subtotal of Current Programs	911,600	777,000	1,772,000
Programs Under Development			
Delta Improvements ⁴	55,000	55,000	185,000
Market Transfer Options	0	0	0
Central Valley Transfers/Purchases	125,000	125,000	0
Mojave Program	34,500	34,500	0
Subtotal of Proposed Programs	214,500	214,500	185,000
Maximum Supply Capability	1,126,100	991,500	1,957,000

¹ Single Dry-year figure includes 76 TAF of additional SWP supplies in 1977 per DWR

² Multiple and Single Dry year figures include DWCV Table A supplies

³ Includes DWCV carryover

⁴ Includes Phase 8 and increased pumping capacity

California Aqueduct
 Program Capabilities
 Year 2020
 (acre-feet per year)

Hydrology	Multiple Dry Years (1990-92)	Single Dry Year (1977)	Average Year (1922-2004)
Current Programs			
SWP Deliveries ^{1,2}	509,000	175,000	1,472,000
San Luis Carryover ³	93,000	280,000	280,000
SWP Call-back of DWCV Table A Transfer	25,600	5,000	
Central Valley Storage and Transfers			
Semitropic Program	107,000	107,000	0
Arvin Edison Program	90,000	90,000	0
San Bernardino Valley MWD Program	37,000	70,000	20,000
Kern Delta Program	50,000	50,000	0
Subtotal of Current Programs	911,600	777,000	1,772,000
Programs Under Development			
Delta Improvements ⁴	110,000	110,000	240,000
Market Transfer Options	0	0	0
Central Valley Transfers/Purchases	125,000	125,000	0
Mojave Program	34,500	34,500	0
Subtotal of Proposed Programs	269,500	269,500	240,000
Maximum Supply Capability	1,181,100	1,046,500	2,012,000

¹ Single Dry-year figure includes 76 TAF of additional SWP supplies in 1977 per DWR

² Multiple and Single Dry year figures include DWCV Table A supplies

³ Includes DWCV carryover

⁴ Includes Phase 8 and increased pumping capacity

FINAL DRAFT

California Aqueduct
 Program Capabilities
 Year 2025
 (acre-feet per year)

Hydrology	Multiple Dry Years (1990-92)	Single Dry Year (1977)	Average Year (1922-2004)
Current Programs			
SWP Deliveries ^{1,2}	509,000	175,000	1,472,000
San Luis Carryover ³	93,000	280,000	280,000
SWP Call-back of DWCV Table A Transfer	25,600	5,000	0
Central Valley Storage and Transfers			
Semitropic Program	107,000	107,000	0
Arvin Edison Program	90,000	90,000	0
San Bernardino Valley MWD Program	37,000	70,000	20,000
Kern Delta Program	50,000	50,000	0
Subtotal of Current Programs	911,600	777,000	1,772,000
Programs Under Development			
Delta Improvements ⁴	110,000	110,000	240,000
Market Transfer Options	0	0	0
Central Valley Transfers/Purchases	125,000	125,000	0
Mojave Program	34,500	34,500	0
Subtotal of Proposed Programs	269,500	269,500	240,000
Maximum Supply Capability	1,181,100	1,046,500	2,012,000

¹ Single Dry-year figure includes 76 TAF of additional SWP supplies in 1977 per DWR

² Multiple and Single Dry year figures include DWCV Table A supplies

³ Includes DWCV carryover

⁴ Includes Phase 8 and increased pumping capacity

FINAL DRAFT

California Aqueduct
 Program Capabilities
 Year 2030
 (acre-feet per year)

Hydrology	Multiple Dry Years (1990-92)	Single Dry Year (1977)	Average Year (1922-2004)
Current Programs			
SWP Deliveries ^{1,2}	509,000	175,000	1,472,000
San Luis Carryover ³	93,000	280,000	280,000
SWP Call-back of DWCV Table A Transfer	25,600	5,000	0
Central Valley Storage and Transfers			
Semitropic Program	107,000	107,000	0
Arvin Edison Program	90,000	90,000	0
San Bernardino Valley MWD Program	37,000	70,000	20,000
Kern Delta Program	50,000	50,000	0
Subtotal of Current Programs	911,600	777,000	1,772,000
Programs Under Development			
Delta Improvements ⁴	110,000	110,000	240,000
Market Transfer Options	0	0	0
Central Valley Transfers/Purchases	125,000	125,000	0
Mojave Program	34,500	34,500	0
Subtotal of Proposed Programs	269,500	269,500	240,000
Maximum Supply Capability	1,181,100	1,046,500	2,012,000

¹ Single Dry-year figure includes 76 TAF of additional SWP supplies in 1977 per DWR

² Multiple and Single Dry year figures include DWCV Table A supplies

³ Includes DWCV carryover

⁴ Includes Phase 8 and increased pumping capacity

FINAL DRAFT

Colorado River Aqueduct
 Program Capabilities
 Year 2010
 (acre-feet per year)

Hydrology	Multiple Dry Years (1990-92)	Single Dry Year (1977)	Average Year (1922-2004)
Current Programs			
Base Apportionment – Priority 4	526,000	526,000	526,000
IID/MWD Conservation Program	85,000	85,000	85,000
Priority 5 Apportionment	0	0	30,000
PVID Land Management Program	111,000	111,000	70,000
Subtotal of Current Programs	722,000	722,000	711,000
Programs Under Development			
Hayfield Storage Program	0	0	0
Lower Coachella Storage Program	0	0	0
Chuckwalla Storage Program	0	0	0
Salton Sea Restoration Transfer	95,000	95,000	0
Subtotal of Proposed Programs	95,000	95,000	0
Less: Coachella SWP/QSA Transfer	0	0	0
Maximum Metropolitan Supply Capability	817,000	817,000	711,000
Additional Non-Metropolitan CRA Supplies			
SDCWA/IID Transfer	60,000	70,000	70,000
Coachella & All-American Canals Lining	93,700	93,700	93,700
Maximum CRA Supply Capability	970,700	980,700	874,700
Maximum Expected CRA Deliveries	970,700	980,700	874,700

Colorado River Aqueduct
 Program Capabilities
 Year 2015
 (acre-feet per year)

Hydrology	Multiple Dry Years (1990-92)	Single Dry Year (1977)	Average Year (1922-2004)
Current Programs			
Base Apportionment – Priority 4	503,000	503,000	503,000
IID/MWD Conservation Program	85,000	85,000	85,000
Priority 5 Apportionment	0	0	20,000
PVID Land Management Program	111,000	111,000	70,000
Subtotal of Current Programs	699,000	699,000	678,000
Programs Under Development			
Hayfield Storage Program	100,000	100,000	0
Lower Coachella Storage Program	150,000	150,000	0
Chuckwalla Storage Program	0	0	0
Salton Sea Restoration Transfer	210,000	210,000	0
Subtotal of Proposed Programs	460,000	460,000	0
Less: Coachella SWP/QSA Transfer	(35,000)	(35,000)	(35,000)
Maximum Metropolitan Supply Capability	1,124,000	1,124,000	643,000
Additional Non-Metropolitan CRA Supplies			
SDCWA/IID Transfer	100,000	100,000	100,000
Coachella & All-American Canals Lining	93,700	93,700	93,700
Maximum CRA Supply Capability	1,317,700	1,317,700	836,700
Maximum Expected CRA Deliveries	1,250,000	1,250,000	836,700

FINAL DRAFT

Colorado River Aqueduct
 Program Capabilities
 Year 2020
 (acre-feet per year)

Hydrology	Multiple Dry Years (1990-92)	Single Dry Year (1977)	Average Year (1922-2004)
Current Programs			
Base Apportionment – Priority 4	503,000	503,000	503,000
IID/MWD Conservation Program	85,000	85,000	85,000
Priority 5 Apportionment	0	0	19,000
PVID Land Management Program	111,000	111,000	70,000
Subtotal of Current Programs	699,000	699,000	677,000
Programs Under Development			
Hayfield Storage Program	100,000	100,000	0
Lower Coachella Storage Program	150,000	150,000	0
Chuckwalla Storage Program	150,000	150,000	0
Salton Sea Restoration Transfer	0	0	0
Subtotal of Proposed Programs	400,000	400,000	0
Less: Coachella SWP/QSA Transfer	(35,000)	(35,000)	(35,000)
Maximum Metropolitan Supply Capability	1,064,000	1,064,000	642,000
Additional Non-Metropolitan CRA Supplies			
SDCWA/IID Transfer	192,500	192,500	192,500
Coachella & All-American Canals Lining	93,700	93,700	93,700
Maximum CRA Supply Capability	1,350,200	1,350,200	928,200
Maximum Expected CRA Deliveries	1,250,000	1,250,000	928,200

Colorado River Aqueduct
 Program Capabilities
 Year 2025
 (acre-feet per year)

Hydrology	Multiple Dry Years (1990-92)	Single Dry Year (1977)	Average Year (1922-2004)
Current Programs			
Base Apportionment – Priority 4	503,000	503,000	503,000
IID/MWD Conservation Program	85,000	85,000	85,000
Priority 5 Apportionment	0	0	19,000
PVID Land Management Program	111,000	111,000	70,000
Subtotal of Current Programs	699,000	699,000	677,000
Programs Under Development			
Hayfield Storage Program	100,000	100,000	0
Lower Coachella Storage Program	150,000	150,000	0
Chuckwalla Storage Program	150,000	150,000	0
Salton Sea Restoration Transfer	0	0	0
Subtotal of Proposed Programs	400,000	400,000	0
Less: Coachella SWP/QSA Transfer	(35,000)	(35,000)	(35,000)
Maximum Metropolitan Supply Capability	1,064,000	1,064,000	642,000
Additional Non-Metropolitan CRA Supplies			
SDCWA/IID Transfer	200,000	200,000	200,000
Coachella & All-American Canals Lining	93,700	93,700	93,700
Maximum CRA Supply Capability	1,357,700	1,357,700	935,700
Maximum Expected CRA Deliveries	1,250,000	1,250,000	935,700

Colorado River Aqueduct
 Program Capabilities
 Year 2030
 (acre-feet per year)

Hydrology	Multiple Dry Years (1990-92)	Single Dry Year (1977)	Average Year (1922-2004)
Current Programs			
Base Apportionment – Priority 4	503,000	503,000	503,000
IID/MWD Conservation Program	85,000	85,000	85,000
Priority 5 Apportionment	0	0	19,000
PVID Land Management Program	111,000	111,000	70,000
Subtotal of Current Programs	699,000	699,000	677,000
Programs Under Development			
Hayfield Storage Program	100,000	100,000	0
Lower Coachella Storage Program	150,000	150,000	0
Chuckwalla Storage Program	150,000	150,000	0
Salton Sea Restoration Transfer	0	0	0
Subtotal of Proposed Programs	400,000	400,000	0
Less: Coachella SWP/QSA Transfer	(35,000)	(35,000)	(35,000)
Maximum Metropolitan Supply Capability	1,064,000	1,064,000	642,000
Additional Non-Metropolitan CRA Supplies			
SDCWA/IID Transfer	200,000	200,000	200,000
Coachella & All-American Canals Lining	93,700	93,700	93,700
Maximum CRA Supply Capability	1,357,700	1,357,700	935,700
Maximum Expected CRA Deliveries	1,250,000	1,250,000	935,700

Metropolitan Water District of Southern California

Average Year

Demographics (1)	2005	2010	2015	2020	2025	2030
Population	18,233,700	19,138,000	19,914,600	20,664,600	21,367,500	22,053,200
Occupied Housing Units	5,803,800	6,145,200	6,444,600	6,751,100	7,075,600	7,376,400
Single Family	3,477,300	3,651,000	3,767,600	3,945,800	4,128,700	4,250,100
Multi-Family	2,326,500	2,494,200	2,677,000	2,805,300	2,946,800	3,126,300
Persons Per Household	3.08	3.05	3.03	3.01	2.97	2.94
Urban Employment	8,186,200	8,991,300	9,402,700	9,795,200	10,163,000	10,537,600

Conservation	2005	2010	2015	2020	2025	2030
Total Conservation	735,900	865,200	955,200	1,027,600	1,106,900	1,188,300
Installed Active Devices Through 2004	91,200	85,800	63,200	23,000	900	100
IRP Conservation Target (2)	6,100	27,100	38,300	45,700	30,500	23,800
Code-Based and Price-Effect Savings (3)	388,600	502,300	603,700	708,900	825,500	914,400
Pre-1990 Conservation	250,000	250,000	250,000	250,000	250,000	250,000

Total Demands After Conservation	2005	2010	2015	2020	2025	2030
Total Demands	4,303,900	4,647,500	4,764,200	4,927,200	5,068,100	5,190,400
Retail Agricultural	347,800	318,800	285,000	250,500	215,000	194,600
Retail Municipal and Industrial	3,768,000	4,053,400	4,196,900	4,392,100	4,569,600	4,719,400
Groundwater Replenishment	140,100	200,400	212,800	215,100	214,000	206,900
Seawater Barrier	48,000	74,900	69,500	69,500	69,500	69,500

Local Supplies	2005	2010	2015	2020	2025	2030
Total Local Supplies	2,107,600	2,377,400	2,465,900	2,593,300	2,613,500	2,612,100
Groundwater	1,341,500	1,416,000	1,429,800	1,431,000	1,443,500	1,442,300
Surface Water	59,400	100,000	99,500	99,200	99,200	98,600
Los Angeles Aqueduct	373,300	252,500	253,000	252,900	253,200	253,600
IRP Local Resource Program Target	0	12,800	33,000	38,300	37,500	37,500
Groundwater Recovery	60,500	81,700	82,100	85,300	85,300	85,300
Total Recycling	221,000	328,800	350,900	376,400	377,200	377,200
<i>M&I and Agricultural</i>	<i>152,300</i>	<i>180,900</i>	<i>204,000</i>	<i>229,500</i>	<i>230,300</i>	<i>230,300</i>
<i>Groundwater Replenishment</i>	<i>52,000</i>	<i>90,000</i>	<i>90,000</i>	<i>90,000</i>	<i>90,000</i>	<i>90,000</i>
<i>Sea Water Barrier</i>	<i>16,800</i>	<i>57,900</i>	<i>56,900</i>	<i>56,900</i>	<i>56,900</i>	<i>56,900</i>
Other Imported Supplies	51,900	185,600	217,600	310,100	317,600	317,600

Demands on Metropolitan	2005	2010	2015	2020	2025	2030
Total Metropolitan Demands	2,196,100	2,270,100	2,298,300	2,334,000	2,454,500	2,578,300
Full Service (Tier I and Tier II)	1,918,900	2,007,000	2,039,100	2,085,400	2,225,400	2,364,800
Replenishment Water Rate (4)	167,500	169,200	179,700	182,800	183,100	176,800
Interim Agricultural Water Program	109,700	93,900	79,500	65,800	46,000	36,700

Firm Demands on Metropolitan (5)	2005	2010	2015	2020	2025	2030
Firm Demands on Metropolitan (5)	1,996,000	2,073,000	2,095,000	2,131,000	2,258,000	2,390,000

Notes:

All units are acre-feet unless specified, rounded to the nearest hundred

Totals may not sum due to rounding

(1) Growth Projections: SCAG 2004 Regional Transportation Plan; SANDAG 2030 Forecast

(2) The 2030 savings target is derived from the 2003 IRP Update forecast projections for 2030; it is not an official target for 2030.

(3) Measured from 1990; Includes plumbing codes for pre-rinse spray heads and high efficiency washing machines

(4) Replenishment Water Rate demands include: seasonal shift, groundwater spreading, and groundwater in-lieu

(5) Firm demand on Metropolitan equals Full Service demands plus 70% of the Interim Agricultural Water Program demands



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