Urban WATER Management Plan

December 14, 2005

Monte Vista Water District

2005

PSOMAS

URBAN WATER MANAGEMENT PLAN 2005

MONTE VISTA WATER DISTRICT

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ACRONYMS and ABBREVIATIONS

AB	Assembly Bill
ACT	Urban Water Management Plan of 1983
AF	Acre Feet
AFY	Acre Feet per Year
ASR	Aquifer Storage and Recovery
AWPF	Advanced Water Purification Facilities
BMP	Best Management Practices
CA	California
CALFED	California and Federal Bay-Delta Program
CALSIM	California Water Allocation and Reservoir Operations Model
CCF	Hundred Cubic Feet
CCWRF	Carbon Canyon Water Reclamation Facility
CDA	Chino Basin Desalter Authority
CEQA	California Environmental Quality Act
CII	Commercial, Industrial and Institutional
CIM	California Institute for Men, Chino
CIMIS	California Irrigation Management Information System
CIMP	Capital Improvement Master Plan
CPTP	Coastal Pumping Transfer Program
CRA	Colorado River Aqueduct
CUWCC	California Urban Water Conservation Council
CVP	Central Valley Project
DBCP	Dibromochloropropane
DBP	Disinfection Byproducts
DHS	Department of Health Services
DMM	Demand Management Measure
DWCV	Desert Water Agency/Coachella Valley Water District
DWR	Department of Water Resources
EIR	Environmental Impact Report
EOC	Emergency Operations Center
ETo	Evapotranspiration
EPA	Environmental Protection Agency
FEMA	Federal Emergency Management Agency
gpcd	Gallons Per Capita Per Day
gpf	Gallons Per Flush
gpm	Gallons Per Minute
HEWM	High Efficiency Washing Machine
hrs	Hours
IAWP	Interim Agricultural Water Program
IEUA	Inland Empire Utilities Agency
IID	Imperial Irrigation District
In	Inches
IRP	Integrated Resources Plan
IRWM	Integrated Regional Water Management
JFSD	Jurupa Community Services District
JPA	Joint Powers Agreement
LRP	Local Resources Program
LTFP	Long Term Facilities Plan

LHMP	Local Hazard Mitigation Plan
M&I	Municipal and Industrial
MAF	Million Acre Feet
Max	Maximum
MCL	Maximum Contaminant Level
MEOC	MWD Emergency Operations Center
MG	Million Gallons
MGD	Million Gallons per Day
mg/L	Milligrams Per Liter
Min	Minimum
MOU	Memorandum of Understanding
MPR	Master Plan Report
MTBE	Methyl Tertiary Butyl Ether
MWD	Metropolitan Water District of Southern California
MZ	Management Zone
NDMA	N-nitrosodimethylamine
NPDES	National Pollutant Discharge Elimination System
NTU	Nephelometric Turbidity Units
OBMP	Optimum Basin Management Program
OCWD	Orange County Water District
PCE	Perchloroethylene
pCi/L	Picocuries per liter
PEIR	Program Environmental Impact Report
PPB	Part Per Billion
PPM	Parts Per Million
PPT	Parts Per Trillion
psi	Pounds Per Square Inch
PVID	Palo Verde Irrigation District
QSA	Quantification Settlement Agreement
RA	Replenishment Assessment
RO	Reverse Osmosis
RP	Regional Plant
RTS	Readiness To Serve
RUWMP	Regional Urban Water Management Plan
RWIP	Recycled Water Implementation Plan
RWQCB	Regional Water Quality Control Board
SARI	Santa Ana Regional Interceptor
SAWPA	Santa Ana Watershed Project Authority
SB	Senate Bill
SCADA	Supervisory Control Data Acquisition System
SCCWRRS	Southern California Comprehensive Water Reclamation and Reuse Study
SCIWP	Southern California Integrated Watershed Program
SDWA	Safe Drinking Water Act
SWP	State Water Project
SWRCB	State Water Resources Control Board
TAF	Thousand Acre Feet
TCE	Trichloroethylene
TDS	Total Dissolved Solids
THM	Trihalomethanes
TIN	Total Inorganic Nitrogen

TMDL	Total Maximum Daily Load
TVWMD	Three Valleys Municipal Water District
ug/L	Micrograms Per Liter
ULF	Ultra Low Flush
ULFT	Ultra Low Flush Toilet
USBR	U.S. Bureau of Reclamation
UWMP	Urban Water Management Plan
VOC	Volatile Organic Compounds
WFA	Water Facilities Authority
WET	Water Education for Teachers
WEWAC	Water Education Water Awareness Campaign
WMP	Water Master Plan
WMWD	Western Municipal Water District
WOC	Water Operations Center
WSDM	Water Surplus and Drought Management
WTP	Water Treatment Plant

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SECTION 1
INTRODUCTION

1.1 PURPOSE AND URBAN WATER MANAGEMENT PLAN SUMMARY

An Urban Water Management Plan (UWMP or Plan) prepared by a water purveyor is to ensure the appropriate level of reliability in water service sufficient to meet the needs of its various categories of customers during normal, dry, or multiple dry years. The California Urban Water Management Planning Act of 1983 (Act), as amended, requires urban water suppliers to develop an UWMP every five years in the years ending in zero and five.

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

The Monte Vista Water District (District) 2005 UWMP has been prepared in compliance with the requirements of the Act, as amended to 2005 (Appendix A) [1], and includes the following:

- Water District Service Area
- Water District Facilities
- Water Sources and Supplies
- Water Quality Information
- Water Reliability Planning
- Water Use Provisions
- Water Demand Management Measures
- Water Shortage Contingency Plan
- Water Recycling

In summary, the water reliability analysis in Section 4 of this Plan indicates the District can expect its available supplies to significantly exceed anticipated demands over the 25 –year planning period. As a result of these surplus supplies, the District should not experience any problems in meetings its demands during normal, single or multiple dry year scenarios during the next 25 years.

[1] California Water Code, Division 6, Part 2.6; §10610, et. seq. Established by Assembly Bill 797 (1983).

1.2 URBAN WATER MANAGEMENT PLAN UPDATE PREPARATION

The District's 2005 UWMP revises the 2000 UWMP prepared by the District and incorporates changes enacted by legislation since 2000, including SB 610 (2001), AB 901 (2001), SB 672 (2001), SB 1348 (2002), SB 1384 (2002), SB 1518 (2002), AB 105 (2004), and SB 318 (2004).

The sections in this UWMP correspond to the outline of the Act, specifically Article 2, Contents of Plans, Sections 10631, 10632, and 10633. The sequence used to present the required information differs slightly in order to present information in a manner reflecting the unique characteristics of the District's water system. The Department of Water Resources (DWR) 2005 UWMP "Review for Completeness" Form has been completed, which identifies the locations of Act requirements in this Plan and is included as Appendix B.

Plan Adoption

Water Code section 10644(a) requires the District to prepare and adopt the UWMP on or before December 31, and file with the DWR within 30 days after adoption. The 2005 UWMP was adopted by resolution of the Monte Vista Board of Directors on December 14, 2005, following a public hearing. This Plan was submitted to the California Department of Water Resources and the State Library within 30 days of Council approval. Copies of the Notice of Public Hearing and the Resolution of Plan Adoption are included in Appendix C.

The Draft Plan was made available to the public prior to the Public Hearing and the final adopted Plan was made available to the public within 30 days following District Board approval. This Plan will be used by District staff to guide the District's water use planning and efficiency efforts through the year 2010 and beyond.

Agency Coordination and Public Participation

Development of the 2005 UWMP was performed by the District. In order to better prepare the District to develop the 2005 UWMP, District representatives attended four 2005 UWMP planning workshops:

1. Urban Water Institute, January 24, 2005
2. California DWR, February 11, 2005
3. Metropolitan Water District of Southern California, June 9, 2005
4. Inland Empire Utilities Agency, July 13, 2005

The District is dependent on two sources for its long-term water supply; groundwater received through the Chino Groundwater Basin managed by the Chino Basin Watermaster and imported State Water Project (SWP) water from the Metropolitan Water District of Southern California (MWD) through the Water Facilities Authority (WFA). All of the District's water supply planning relates to the policies, rules, and regulations of these water agencies.

Letters were sent to each of the District's water suppliers and to the County of San Bernardino, notifying them of the District's intent to update its 2000 UWMP and providing them an opportunity to participate. A wide range of information and data was obtained, discussed, and used from these agencies to assist in the preparation of the Plan. Additionally, these agencies and the County were notified of the public hearing and the availability of a draft 2005 UWMP for comment prior to its adoption.

This UWMP details the specifics as they relate to the Monte Vista Water District and its service area and will refer to MWD, WFA, IEUA, and Chino Basin Watermaster throughout. Appendix D lists the numerous references used during the development of this Plan.

The UWMP is intended to serve as a general, flexible, and open-ended document that periodically can be updated to reflect changes in the regional water supply trends, and conservation and water use efficiency policies. This Plan, along with the District's Water Master Plan and other planning documents, will be used by District staff to guide water use and management efforts through the year 2010, when the UWMP is required to be updated.

1.3 MONTE VISTA WATER DISTRICT WATER SERVICE AREA

Incorporation and Purpose

In the 1920's, the "Monte Vista Land Tract" and the surrounding region were almost exclusively involved in citrus farming. Water was essential for irrigation of the groves and numerous water companies were formed to provide water. In 1927, the Limited Mutual Water Company made the decision to provide domestic water services. Several other water companies decided to joint the effort and as the result of their joint venture, the Monte Vista Water District was incorporated in 1927, pursuant to the County Water District Law; Division 12, Section 30000 et seq. of the State Water Code.

Over the next decades, infrastructure development, land acquisition and purchase of smaller irrigation and water companies were priorities. Over the years, around a dozen annexations have been realized that have enabled the District to provide more efficient and cost-effective water services to residents in a growing area.

In the early days, groundwater was the major water supply. Enough naturally occurring recharge meant the groundwater was sufficient to meet the needs of the area. After the construction of the Colorado River Aqueduct, connections to that supply source assisted in bringing water to the region as supplemental supply to a rapidly growing region.

In 1979, legislation was approved whereby county water districts had the option of retaining or omitting the word "County" from their name. The Board of Directors shortly thereafter authorized the deletion of the word "County" to better depict to the public that the District was an independent special district.

In 1988, a 77-million-gallons-per-day (MGD) surface water treatment plant, owned jointly by the District, and the cities of Upland, Ontario, Chino and Chino Hills, began receiving imported water from the State Water Project (SWP). New supply of water was needed to meet periods of increased demand and also to blend groundwater supplies to reduce the amount of nitrates to meet drinking water quality standards set by state and federal regulatory agencies.

In February 1999, the District purchased the Monte Vista Irrigation Company, a private water company founded in 1908, previously involved with agricultural and domestic water supply to the cities of Montclair and Ontario. Through this acquisition, the District increased its production rights in the Chino Groundwater Basin by approximately 1,000 acre-feet per year (AFY).

At the current time, the District relies on approximately 55 percent of its water supply from imported water and 45 percent from groundwater supplies. These percentages vary according to changing supply conditions.

In 1998, the District adopted a Capital Improvement Plan that addresses water system, supply and storage infrastructure needs over a 30-year period. An accompanying Financial Master Plan was also adopted to provide a mechanism for funding the identified capital projects at a cost of $65 million. Since 1998, three new wells have been constructed and several pipeline rehabilitation and replacement projects have been completed. An existing 3 MGD reservoir was acquired. By 2010, four new wells will be constructed and two existing wells will be modified. Four of these wells will be operated as Aquifer Storage and Recovery (ASR) wells providing a means to inject water into the groundwater basin for extraction at a later time. One of the new wells will be a joint project with the City of Chino, made possible through funding from Proposition 13, the Water Bond of March 2000, through MWD. This particular well will also be equipped with well head treatment facilities for nitrate extraction. The District was awarded a $100,000 grant from DWR through Proposition 13 to study the feasibility of using ASR wells to recharge the basin and to also improve water quality. The study recommended that the District move forward with the ASR program. The District was able to obtain a low interest loan through DWR for $3.7 million to construct the new ASR facilities. As a result, by 2010, the District will increase its ability to produce groundwater by 10 MGD for a total of over 30 million gallons (MG) of groundwater production capacity per day.

The operation of the District is governed by a Board of Directors, comprised of five members, elected at large within the District. The Board appoints, by majority vote, a General Manager/Secretary, Manager of Finance and Administration, and Legal Counsel, who serve at the pleasure of the Board. The District has 32 full time employees who work in the areas of engineering, water systems/water quality, maintenance, meter reading, customer service, billing, finance, human resources and administration.

Location

The District lies adjacent to the westerly border of San Bernardino County and provides retail and wholesale water services to the cities of Montclair and Chino Hills, a portion of the City of Chino and the unincorporated area lying between the cities of Ontario, Chino, Chino Hills, and Pomona as shown in Figure 1.1. The District service area lies between 700 and 1,250 feet above mean sea level, rising gently northward toward the San Bernardino mountains, approximately six miles from the northernmost boundary of the District. The District and its environs are now essentially urbanized with development within the District service area predominately residential, but with considerable commercial and light industrial development, as well as some residual agriculture.

Retail Service Area

The retail service area contains approximately 6,120 acres (9.56 square miles), lying adjacent to the westerly border of San Bernardino County with the majority of the land use zoned as residential, along with concentrations of commercial, light manufacturing and agricultural areas. The District presently has more than 11,000 metered connections.

Wholesale Services

In addition to its retail customers, the District provides wholesale water supply to the City of Chino Hills under the provisions of a long-term contractual agreement executed in July 1998. At the current time, the City of Chino Hills receives approximately 13,000 AFY of water under the terms of the agreement with the District and represents 50 to 75 percent of the city's water supply. The City of Chino Hills, which was incorporated in 1991, encompasses 46 square miles at the southwest corner of San Bernardino County at the junction of four counties. The current population of Chino Hills is about 77,800.[2]

Climate Characteristics

The District is located in an area known as the Chino Basin; the largest Basin in the upper Santa Ana River Valley. The Basin climate zone of Southern California is characterized as desert and precipitation rates historically have varied widely within the District. The climatological pattern is interrupted infrequently by periods of extremely hot weather, winter storms, or Santa Ana winds.

The District's average temperature ranges from 67 degrees Fahrenheit in January to 94 degrees Fahrenheit in July and August. Annual precipitation is typically approximately 16 inches,[3] occurring mostly between November and April. There is little or no summer rainfall and often the predominant periods of rain do not occur until January. Evapotranspiration (ETo)[4] in the region averages 49.7 inches annually. Table 1.3-1 lists the average annual ETo, temperatures and rainfall for the District's service area.

[2] State Department of Finance, May 2, 2005.
[3] IEUA Urban Water Management Plan Year 2005 Update
[4] ET is the loss of water to the atmosphere by the combined processes of evaporation (from soil and plant surfaces) and transpiration (from plant tissues). It is an indicator of how much water crops, lawn, garden, and trees need for healthy growth and productivity. ET from a standardized grass is commonly denoted at ETo.

Figure 1.1
Monte Vista Water District Retail/Wholesale Service Area

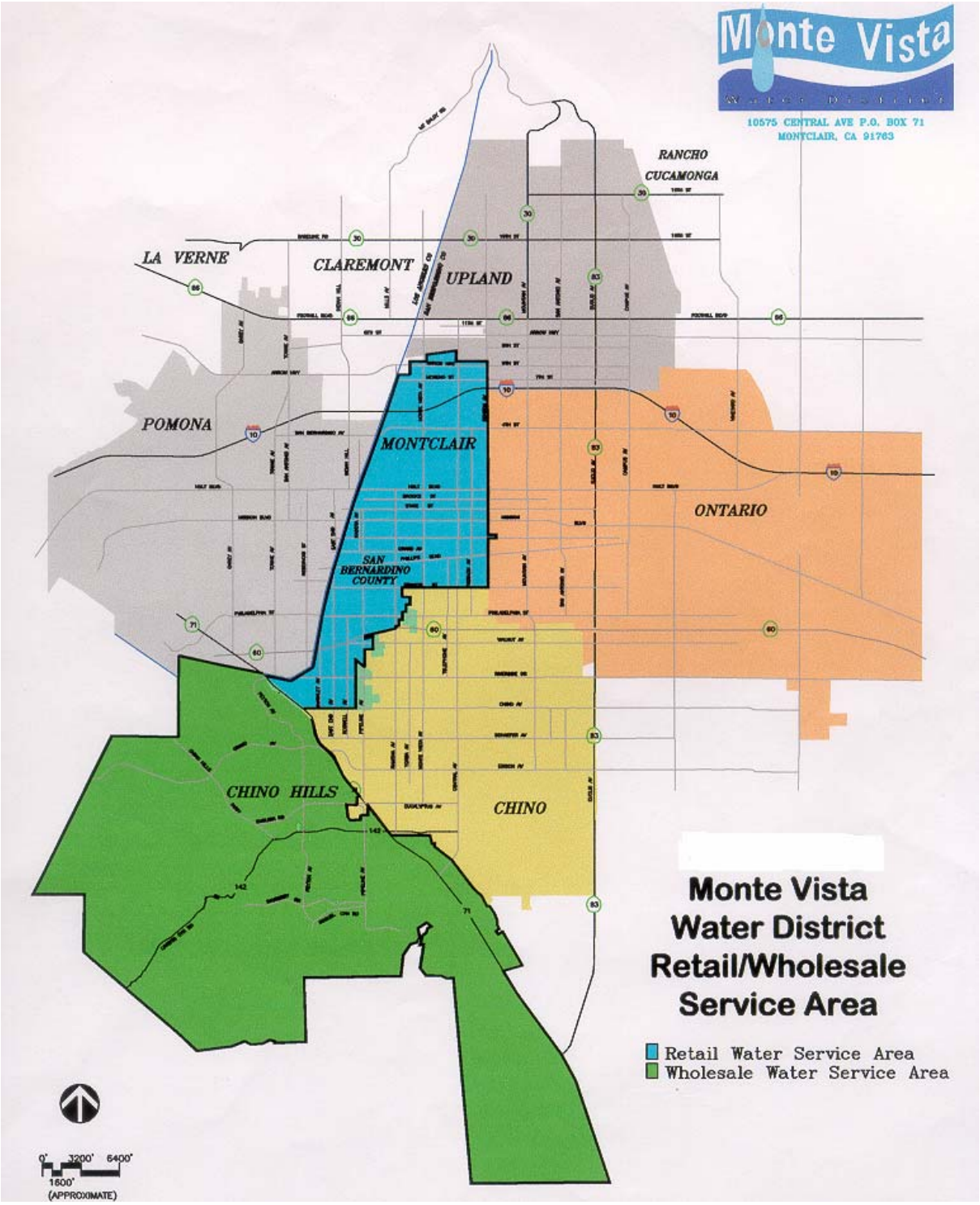

Table 1.3-1
Monte Vista Water District Service Area
ETo, Temperatures and Rainfall[5]

		Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Total or Average
Average ETo (inches)		1.86	2.24	3.41	4.80	5.58	6.30	6.51	6.20	4.80	3.72	2.40	1.86	49.7
Temperature (Fahrenheit)	Max	67	68	70	75	80	87	94	94	90	84	74	68	79
	Min	44	45	46	48	54	57	62	64	61	56	48	44	52
Rainfall (inches)		3.3	3.1	2.9	1.1	0.3	0.0	0.0	0.1	0.4	0.4	1.9	2.3	15.8

Demographics

The high cost of land in the Los Angeles area increased the attraction of the Chino Basin and other suburban areas where land was still plentiful during the "urban sprawl" era. Detailed information on the projected population is provided in Table 1.3-2. As noted in the table, the District's population over the next 25 years is projected to grow by approximately 56 percent (from 51,930 to 81,300).

Table 1.3-2
Monte Vista Water District Population Projections by Service Area

Area	2005	2010	2015	2020	2025	2030
City of Montclair[1]	35,530	42,400	48,700	52,300	56,100	60,400
City of Chino[2]	3,100	3,250	3,400	3,550	3,750	3,950
Unincorporated[2]	13,300	13,950	14,650	15,400	16,150	16,950
Total	**51,930**	**59,600**	**66,750**	**71,250**	**76,000**	**81,300**

[1] 2005 Montclair data obtained from City website http://www.ci.montclair.ca.us/depts/cd/planning/census_demodata.asp; 2010 estimate based on City's estimated 2008 population of 37,943 with an annual growth rate of 1% in 2009 and 2010. 2015 through 2030 population estimates based on assumed growth rate of 5% every five years. An additional 9,600 population is also included in the above totals (over and above the projected 5% increase every five years) for the North Montclair Specific Plan development as follows: 1,650 by 2010, 5,700 by 2015, 6,900 by 2020, 8,100 by 2025 and 9,600 by 2030.

[2] Population data for service areas within the City of Chino and Unincorporated areas obtained from the MWWD. Projections assume a 5% increase in population within these areas every five years.

[5] [on-line] http://countrystudies.us/united-states/weather/California/ontario.html

1.4 MONTE VISTA WATER DISTRICT WATER SYSTEM

The District's water system serves four separate pressure zones and includes over 122 miles of water distribution mains ranging in size from 4 inches to 20 inches in diameter, 14 wells (five are inactive either due to high nitrate concentrations or poor production capability) and eight reservoirs (two are currently not in use with a combined capacity of 16.6 MG (if all were operational). Table 1.4-1 lists the District's reservoirs; the District wells are discussed in Section 2.

The District has interconnections with three other agencies: Golden State Water Company (formerly Southern California Water Company), the City of Chino, and the City of Chino Hills. A supply connection with Golden State Water Company can be used for emergencies to serve the City of Claremont. The interconnections allow water to be supplied or received.

Additionally, the District purchased a 3-MGD reservoir in 2000, which is scheduled for re-activation in 2007-08. A water storage assessment study was conducted in 2001 to evaluate the condition of all reservoirs and to determine future storage needs identified in the District's Facilities Master Plan. The results of this study identified that an additional 5 MGD of storage capacity will be required to meet future storage needs. The study also identified several sites for locating a new reservoir. The District is currently evaluating the potential acquisition of property to house a new reservoir.

Table 1.4-1
Storage Reservoirs

Reservoir No.	Capacity (MG)	Description	Diameter & Height (feet)	Ringwall Elevation	Zone
R-2*	0.50	Steel	50 X 33	910.10	3
R-4	1.67	Steel	110 X 24	1184.17	2
R-5	2.56	Steel	110 X 36	1171.34	2
R-18-1	1.14	Steel	70 X 44	1311.73	1
R-18-2	1.26	Steel	70 X 40	1315.96	1
R-18-3	3.47	Steel	129 X 36	1319.78	1
R-16	3.00	Concrete	140 X 180 X 16	N/A	3
R-28	3.00	Steel	130 x 32	1085.00	3
Total	**14.1**				

* Currently inactive

As stated earlier, by 2010, four new wells will be constructed and two existing wells will be modified. Four of these wells will be operated as ASR wells for groundwater injection and extraction, one with well head treatment facilities for nitrate extraction. As a result, by 2010, the District will increase its ability to produce groundwater by 10 MGD for a total of over 30 MG of groundwater production capacity per day.

SECTION 2
WATER SOURCES AND SUPPLIES

2.1 WATER SOURCES

The District currently obtains water from the following primary water sources: 1) groundwater from the Chino Groundwater Basin managed by the Chino Basin Watermaster; 2) imported SWP water from the MWD through IEUA; and 3) recycled water supplied by IEUA.

Each of these sources (agency and type of water) are briefly described in the following sections, while the quantities and agreements with the agencies are described more fully in Section 2.2, Water Supplies.

2.1.1 Metropolitan Water District of Southern California (MWD) – Imported Water

MWD was formed in the late 1920's to bring imported water to the Southern California region. Collectively, the 13 charter members recognized the limited water supplies available within the region, and realized that continued prosperity and economic development of southern California depended on the acquisition and careful management of an adequate supplemental water supply. This foresight made the continued development of southern California possible. MWD acquires water from northern California via the State Water Project (SWP) and from the Colorado River to supply water to most of southern California. As a wholesaler, MWD has no retail customers, and distributes treated and/or untreated water directly to its 26 member agencies, including the IEUA.

MWD member agencies receive imported water at various delivery points on its system, and pay for it at uniform rates for each class of service established by the Board of Directors. Historically, MWD has been responsible for importing water into the region through its Colorado River Aqueduct and the SWP. Recently, MWD has increased its ability to supply water, particularly in dry years, through implementation of storage and transfer programs. Municipal and institutional use accounts for 92 percent of water use, while agricultural use is 8 percent and declining. MWD supplies approximately 50 percent of all water demands in its service area 100 percent of the time.

MWD’s ability to provide 100 percent reliability is expected to decline as existing imported water supplies from the Colorado River and SWP face increasing challenges unless new programs are implemented. Due to competing needs and uses for all of the water sources, and regional water operation issues, MWD undertook a number of planning processes: the Integrated Resources Planning (IRP) Process, the Water Surplus and Drought Management (WSDM) Plan, the Strategic Planning Process, and the

Regional Urban Water Management Plan to provide a framework and guideline for optimum water planning into the future.

Reliability of MWD's supply is further discussed in Section 4.0, Water Reliability Planning.

2.1.2 Inland Empire Utilities Agency (IEUA) and Water Facilities Authority (WFA) – Imported Water

IEUA was formed in 1950 to become a member of MWD for the purpose of importing supplemental water, augmenting local stream and groundwater supplies. Since its formation the agency has expanded its services to include production of recycled water, distribution of imported and recycled water supplies, sewage treatment, co-composting of manure and municipal biosolids, desalinization of groundwater supplies and disposal of non-reclaimable industrial wastewater and brine. IEUA serves a population of more than 700,000.

IEUA is the wholesaler of imported water for MWD. The District is a sub-agency of IEUA. Seven other agencies also receive MWD water through IEUA, which are the Cucamonga Valley Water District, and the cities of Chino, Chino Hills, Fontana, Montclair, Ontario, and Upland. Additional imported water supplies are also used for groundwater replenishment.

The majority of the water demand within IEUA's service area has historically been for urban (residential, commercial, and institutional) uses. The remaining water has been for agricultural purposes. In 2005, about 89 percent of the water demand was for urban use and 11 percent for agriculture. MWD supplies approximately 50 percent of all water demands in the IEUA service area 100 percent of the time.

IEUA wholesales the water to the District through the WFA. A joint powers agreement (JPA) between the IEUA, the Monte Vista County Water District, and the cities of Chino, Upland, Ontario, and Chino Hills was entered into in February 1989, creating the WFA. The Agreement provided authority to study, plan and provide facilities for the treatment of water and a distribution system to their members. Other public agencies may join the WFA, through an amendment to the JPA. The Agua de Lejos Water Treatment Plant, located in Upland serves the District through three pipeline connections.

2.1.3 Chino Groundwater Basin – Groundwater

The District receives groundwater from the Chino Groundwater Basin managed by Chino Basin Watermaster. The Watermaster is guided by the provision of the Chino Basin adjudication and subsequent agreements between the parties to the Judgment. These agreements provide for groundwater production rights and a physical solution to the condition of the Basin. The District's current water rights, based on assigned share of the safe yield, are 4,824 AFY from the Basin. Additional water rights are received from

reallocations of Early Transfers and Land Use Conversions, although they are subject to availability. Additionally, the District owns the Monte Vista Water Company, which has water rights, also based on the assigned share of safe yield, of 677 AFY from the Basin.

The Basin consists of about 235 square miles in the upper Santa Ana River Watershed. The Basin is a relatively flat alluvial valley from east to west and slopes from north to south at a one to two percent grade. Valley elevations range from about 2,000 feet in the foothills below the San Gabriel Mountain to about 500 feet near Prado Dam. The principal drainage course for the Basin is the Santa Ana River. Year-round flow occurs along the entire reach of the Santa Ana River due to surface inflows at Riverside Narrows, discharges from municipal water recycling plants to the Santa Ana River, and rising groundwater. While still considered to be a single basin, the Basin has been divided into five management zones, based upon similar hydrologic conditions, and three sub-basins as defined in the Optimum Basin Management Program, June 2000, and the 1995 Water Quality Control Plan for the Santa Ana Watershed (Region 8).

The Chino Groundwater Basin stores approximately 5 million acre-feet (MAF) of groundwater and has a capability of storing an additional 1 MAF. The legally designated safe yield from the basin is 140,000 AF, which is the amount of groundwater that can be pumped from the basin each year while maintaining adequate groundwater levels. Purchasing imported water from MWD through IEUA for basin recharge generally makes up any excess of pumping over the safe yield of the Basin, although supplemental water may be obtained from any available source including recycled water, SWP, local import, and Colorado River supplies.

2.1.4 Inland Empire Utilities Agency (IEUA) – Recycled Water

The District will receive recycled water from IEUA wastewater treatment plants. IEUA operates four regional wastewater treatment plants that produce disinfected and filtered tertiary treated recycled water in compliance with California's Title 22 regulations: Regional Plants (RP)-1, RP-4, RP-5 and the Carbon Canyon Water Reclamation Facility. A fifth treatment plant, RP-2, was decommissioned in 2004 because it is located in a potential flood zone.

IEUA facilities serve eight other contracting agencies, including the cities of Chino, Chino Hills, Fontana, Montclair, Ontario, and Upland, the Cucamonga Valley Water District and unincorporated areas of San Bernardino County within the IEUA service area.

Additional sources of recycled water that is received and used within IEUA's service area include the Upland Hills Water Reclamation Plant (operated by the City of Upland) and the CIM Water Reclamation Plant (operated by the California Institution for Men at Chino).

Water recycling is a critical component of the water resources management strategy for the region. Reuse of highly treated tertiary water is a source of water available to meet the growing water demands of the IEUA service area. Recycled water is a proven technology and will provide a more dependable local supply of water as well as reduce the likelihood of water rationing during droughts. In addition, the use of recycled water for groundwater recharge is an integral part of the Optimum Basin Management Program. The Chino Basin Recharge Master Plan identifies the benefits of blending high-quality stormwater and recycled water to protect and enhance the safe yield of the Chino Groundwater Basin.

The District and the other Chino Basin water purveyors recognize that a mix of water management strategies will be needed to enable the District and the region to continue to provide a high quality, reliable water supply at an affordable rate. The water supply mix will include implementing water conservation programs, increasing the safe storage capacity of the Basin, minimizing dependence on imported water supplies, and maximizing use of available storm water, and achieving a maximum reuse of all available recycled water.

2.2 WATER SUPPLY

During the past five water years (beginning in 2000/01) the District has received approximately 52 percent of its water supply from groundwater wells and 48 percent from MWD via the WFA through the IEUA. However, beginning in 2010 the District is projecting that approximately 75 percent of its supply will come from groundwater production. The District's current and projected water supplies under normal conditions are shown in Table 2.2-1 and described in subsequent sections. The Water Reliability Analysis of these supplies is presented in Section 4, Water Reliability Planning (refer to the footnotes to Table 4.2-4).

Table 2.2-1
Monte Vista Water District
Current and Projected Water Supplies
(AF)

Water Supply Sources	2005[1]	2010	2015	2020	2025	2030
Import – WFA/IEUA	12,752	6,830	6,840	7,560	7,540	7,490
Local - Groundwater	10,299	30,100	30,100	33,000	33,000	33,000
Recycled Water	0	370	540	670	670	670
Total Water Supply	**23,051**	**37,300**	**37,480**	**41,230**	**41,210**	**41,160**

[1] Actual production for 2004/05; all future years are based on projections from Table 4.2-4 (refer to footnotes in that table for further detailed information)

2.2.1 Water Facilities Authority (WFA) – Imported Water

The District receives its imported water through the WFA. The WFA Agua de Lejos Treatment Plant is located in Upland, and receives surface water from the SWP. The water is purchased from MWD through IEUA.

The WFA is permitted to treat 81 MGD of SWP water through a MWD import water connection located in the City of Upland. MWD's Rialto Branch of the Foothill Feeder delivers water to the Agua de Lejos Plant for treatment. The actual quantity of treated water has ranged from 12 MGD in the winter months to as high as 71 MGD during the summer. WFA water enters the District's potable water distribution system through two turnouts and provides WFA water to Chino Hills through another:

- Turnout Number 1 at Arrow Highway and Benson Avenue
- Turnout Number 2 at Benson Avenue and 17th Street
- City of Chino Hills turnout at Ramona Avenue, south of Philadelphia Street

Treated water is normally delivered into the District's distribution system at Plant 4 after recovering energy using three hydroelectric turbine generators. Water can also be diverted from the Ramona Feed to reservoirs or through pressure reducing valves.

The District is entitled to 24 percent of the WFA Agua de Lejos Plant capacity (21,776 AFY). The District can take delivery of more than its entitlement when other WFA members are not taking delivery of their full entitlements. Historically, there has always been unused capacity and the District has always had an opportunity to meet water quality standards and demands through additional WFA imported water. Many of the WFA members desire less dependence on imported water and greater reliability and control on local supplies. As a result, development of water supply programs has increased and the continued opportunity for purchase of unused capacity is anticipated.

Discussions on the opportunity to increase the capacity of the WFA treatment plant have occurred; however, analysis would need to be done to determine feasibility and economic benefits considering the climate of imported water reliability. The plant could be increased to 88 MGD through re-rating of the existing plant, and further capacity increases would need to be accomplished by plant expansion.

2.2.2 Chino Groundwater Basin – Groundwater

The Chino Basin Watermaster is guided by the provisions of the Chino Basin adjudication and subsequent agreements between the parties to the Judgment. These agreements provide for groundwater production rights that are not fully utilized by the Basin's agricultural interests to be transferred to municipal water purveyors via two methods; agricultural land use conversion and early transfer. Three primary documents govern the adjudication and management of the Chino Basin: 1) the 1978 Chino Basin Judgment, 2) the Peace Agreement, and 3) the Optimum Basin Management Program

(OBMP). A discussion of each of these documents can be found under Groundwater Management, beginning on Page 2-9.

The Chino Basin Watermaster prepares an Assessment Package each November to determine the assessments for each groundwater producer from the prior fiscal year. The most recent Assessment Package titled Fiscal Year 2004/2005 is for 2003/2004 production rights.

According to the current Assessment Package, the District's share of operating safe yield of the Chino Basin is 8.787 percent. The District's current assigned share of the safe yield (total water rights) is 4,824 AFY. Monte Vista Irrigation Company (Company), owned by Monte Vista Water District, has a share of operating safe yield of the Chino Basin of 1.234 percent, which equals a current assigned share of safe yield of 677 AFY. Additional groundwater supply ability is received from reallocations of Early Transfers and Land Use Conversions, although they are subject to availability.

As shown in Table 2.2.2-1, during Fiscal Year 2003/04, the District received their assigned Early Transfer[6] share of 2,885 AF and a Land Use Conversion[7] amount of 55 AF; however, these amounts are subject to a share between the amount required and amount available. The District was assigned a debit of 97 AF based on its share of operating safe yield and the amount available. As a result, total available to the District from the Agricultural Pool Safe Yield Reallocation in 2003/04 was 2,105 AF.[8] Further, the Watermaster provided a one-time Prior Year Adjustment to Storage Accounts (97 AF) to reflect past production reporting errors, and the District had Water Transaction activity of 4,598 AF. Together with assigned water rights (4,824 AF), the District had a Total Annual Production Right of 11,624 AF for 2003/04.

Table 2.2.2-1 also shows a net over-production of 5,257 AF for Fiscal Year 2003/04. The District will continue to overproduce if necessary and appropriate. The only consequence to the District, governed by the Judgment and managed by the Watermaster, when pumping above the production water right in any given year is to purchase additional replenishment water for the benefit of the Basin.

[6] Early Transfer is the reallocation of safe yield not produced by the Agricultural Pool to the Appropriative Pool on an annual basis rather than according to the five-year increment described in the Judgment (refer to Page 2-16).
[7] Land Use Conversion is the amount of water rights converted from agricultural land to urban use at 2.0 AF per acre of land with allocation between initial shares of safe yield and service provided, all of which is allocated upon conversion of the land to the Appropriative Pool member service provider (refer to Page 2-17).
[8] Chino Basin Watermaster, Fiscal Year 2004-2005, Assessment Package, November 2004

Table 2.2.2-1
Monte Vista Water District
2003/04 Total Annual Groundwater Production Right, Actual Production and Overproduction
(AF)

	2003/04
Early Transfer	2,885
Land Use Conversion[1]	55
2004/05 Debit[1]	<835>
Total Ag Pool Safe Yield Reallocation	**2,105**
One Time Prior Year Adjustment to Storage Accounts[1]	97
Assigned Share of Safe Yield	4,824
Water Transaction Activity[1,2]	4,598
Total 2003/04 Production Right	**11,624**
Total Actual 2003/04 Production	**12,666**
Overproduction	**1,042**
MWD Dry Year Yield Program[3]	4,215
Net Over-production	**5,257**

[1]Subject to change annually.

[2] Includes 4,190 AF of leased water rights, 2 AF of recycled water for recharge, 650 AF credited for water to storage, and 1,056 AF share of new yield.

[2] The District's DYY Program obligation is 3,963 afy; however, the actual amount varies.

As shown in Table 2.2.2-2, during Fiscal Year 2003/04, the District also received total production rights from the Company. The Company received its assigned Early Transfer[9] share of 405 AF; however, this amount is subject to a share between the amount required and amount available. The Company was assigned a debit of 117 AF based on its share of operating safe yield and the amount available. As a result, total available to the Company from the Agricultural Pool Safe Yield Reallocation in 2003/04 was 288 AF.[10] Further, the Watermaster provided Carry Over from 2002-03 production of 46 AF, a one-time Prior Year Adjustment to Storage Accounts (14 AF) to reflect past production reporting errors, and the Company had Water Transaction activity of <879> AF. Together with assigned water rights (677 AF), the Company had a Total Annual Production Right of 145 AF for 2003/04.

[9] Early Transfer is the reallocation of safe yield not produced by the Agricultural Pool to the Appropriative Pool on an annual basis rather than according to the five-year increment described in the Judgment (refer to Page 2-16).
[10] Chino Basin Watermaster, Fiscal Year 2004-2005, Assessment Package, November 2004

Table 2.2.2-2
Monte Vista Irrigation Company
2003/04 Total Annual Groundwater Production Right, Actual Production and Overproduction
(AF)

	2003/04
Early Transfer	405
Land Use Conversion[1]	0
2004/05 Debit[1]	<117>
Total Ag Pool Safe Yield Reallocation	**288**
Carry Over from 2002-03 Production	46
One Time Prior Year Adjustment to Storage Accounts[1]	14
Assigned Share of Safe Yield	677
Water Transaction Activity[1, 2]	<879>
Total 2003/04 Production Right	**145**
Total Actual 2003/04 Production	**0**

[1]Subject to change annually.

[2] Includes 1,040 AF transferred to the District, 13 AF transferred from storage, and 148 AF share of new yield.

The total amount of production rights from these tables was not shown in Table 2.2-1, Current and Project Water Supplies. Instead, groundwater production is based on the Water Reliability Analysis in Section 4 of this plan. The Water Reliability Analysis includes a total District and Company entitlement of 8,791 AFY in future years that is assumed as Assigned Share of Safe Yield (5,501 AFY) plus Early Transfer rights (3,290 AFY), plus additional leased rights.

The District currently maintains 14 wells, including five inactive wells due to high nitrate concentrations or poor production capability. Table 2.2.2-3 presents the District's existing wells and associated capacities.

Table 2.2.2-3
Monte Vista Water District
Existing Groundwater Wells
(GPM)

Well Number	HP	Capacity (GPM)	State Well No.	Recordation Number	Year Drilled	Static Level	Operational Status
1-W	150	685	1S8W26B01	36-01354	1936	356'	Inactive; Reactivate for Injection
2-W	200	1,040	1S8W34A01	36-01355	1951	292'	Inactive
4-W	150	800	1S8W14A03	36-01357	1931	555'	Active; To be modified for ASR
5-W	400	1,500	1S8W14D01	36-01358	1956	623'	Active
6-W	200	1,000	1S8W15H01	36-01359	1937	542'	Active
8-W	60	426	1S8W27H01	36-01361	1929	331'	Inactive
10-W	450	1,075	128W14N01	36-01363	1981	494'	Active
11-W	200	680	1S8W15J01	36-01367	1929	538'	Inactive
12-W	150	1,006	1S8W24E01	36-01368	1920	418'	Inactive; Scheduled for demolition
19-W	400	2,150	1S8W15R	36-00415	1977	506'	Active
20-W	250	1,150	1S6W15R1	36-00436	1979	505'	Active
26-W	500	2,000	01S08W15G001		2000		Active
27-W	500	2,000	01S08W13C0015		2000		Active
28-W	600	2,000			2001		Active
14 Wells: 9 Active 5 Inactive		**18,111: 13,675 from Active Wells**					

The District's Water System Master Plan includes recommendations for well improvements to provide for system reliability and continued groundwater pumping. The District's Capital Improvement Program calls for three new wells into the future, years 2022, 2026, and 2031 respectively.

Tables 2.2.2-4 and 2.2.2-5 provide the amount and location of groundwater pumped for the last five years and groundwater projections through the year 2030, respectively. Well production for the 25-year planning period is projected to increase slightly. It is assumed that the District will lease additional groundwater rights if adjudicated supply is exceeded (in keeping with historical precedent).

Table 2.2.2-4
Historic Amount of Groundwater Pumped from the Chino Basin
(AF)

Well Production	2001	2002	2003	2004	2005
Total	10,508	13,418	13,283	13,046	10,299
% of Total Supply	48.5	58.1	56.0	51.2	44.7

Note: Years are shown in fiscal years; July 1 through June 30.

Table 2.2.2-5
Projected Groundwater Pumping Capacity from the Chino Basin During Normal Year
(AF)

Well Production	25-Year Projections				
	2010	2015	2020	2025	2030
Total	30,100	30,100	33,000	33,000	33,000
% of Total Supply	80.7	83.0	80.0	80.1	80.2

Source: 2005 UWMP Water Reliability Analysis, Table 4.2-4

Groundwater Management

The Chino Basin Watermaster was established in 1978 by a judgment entered by the Superior Court of California. The Judgment, included in Appendix E, required that the Watermaster develop a management plan for the Chino Groundwater Basin that meets water quality and water quantity objectives for the region.

As mentioned earlier, the Watermaster is guided by the provisions of the Chino Basin adjudication and subsequent agreements between the parties to the Judgment. These agreements provide for groundwater production rights that are not fully utilized by the Basin's agricultural interests to be transferred to municipal water purveyors via two methods; agricultural land use conversion and early transfer. Three primary documents govern the adjudication and management of the Chino Basin: 1) the 1978 Chino Basin Judgment, 2) the Peace Agreement, and 3) the OBMP. The following discusses each of these documents as they pertain to basin management and the City of Chino water supply from groundwater.

The District's current assigned water production right, based on a share of safe yield, is 4,824 AFY, with the addition of 677 AFY from the Company, from the Chino Groundwater Basin. Additional production allocations are received from annual entitlements of Early Transfers and Land Use Conversions, although they are subject to

availability. Additional groundwater may also be available via a conjunctive use program for the Chino Basin in partnership with the Chino Basin Watermaster, IEUA, and MWD. The program is anticipated to reduce summertime peaking, deliver SWP supplies, minimize or eliminate MWD surface water deliveries during future droughts/ emergencies, and allow MWD to export stored water for other member agencies.

Adjudication – 1978 Judgment

In 1978, the Superior Court of the State of California entered a judgment that adjudicated the water rights of the Chino Basin, and imposed a physical solution, which is the heart of the Judgment (Appendix E).

According to the Judgment, there are significant imported water supplies available to supplement the native safe yield of the Basin. Therefore, the purpose of the physical solution was to establish a legal and practical means for making the maximum reasonable beneficial use of the waters of the Chino Basin by providing the optimum economic, long-term, conjunctive utilization of surface waters, ground waters and supplemental water, to meet the requirements of water users having rights in or dependence on the Chino Basin. A fundamental premise of the physical solution was that all water users dependent on the Chino Basin would be allowed to pump sufficient waters to meet their requirements. To the extent that a water producer's pumping exceeds its share of the Safe Yield, the water producer has the obligation to provide for replenishment of the Basin for the amount of production exceeding its rights.

The Watermaster, as an extension of the court, manages the Basin in accordance with the provisions of the Judgment. An Assessment Package is produced by the Watermaster on an annual basis, which describes the rights and abilities to which appropriators are entitled according to the provisions of the Judgment.

Water Rights – 1978 Judgment

Three operating pools were established by the Judgment for Watermaster administration: the Overlying Agricultural Pool, the Overlying Non-Agricultural Pool, and the Appropriative Pool. Rights to the safe yield of the Chino Basin were allocated to each operating pool.

Overlying right is defined as the appurtenant right of an owner of lands overlying the Chino Basin to produce water from the Basin for overlying beneficial use on such lands. Appropriative right is defined as the annual production right of a producer from the Chino Basin other than pursuant to an overlying right.

According to the 1978 Judgment, the safe yield of Chino Basin is 140,000 AFY. Safe Yield is defined as the long-term average annual quantity of groundwater (excluding replenishment water or stored water but including return flow to the Basin from use of

replenishment or storage water) which can be produced from the Basin under cultural conditions of a particular year without causing an undesirable result.

Aggregate preserved overlying rights in the safe yield for agricultural pool use, including the rights of the State of California, total 82,800 AFY, or 414,000 AF in any five consecutive years. Overlying rights for non-agricultural pool use total 7,366 AFY. In accordance with the provisions of the Chino Basin Watermaster process, when land converts from agricultural use to non-agricultural use, the purveyor that will supply water to the converted land may apply for additional groundwater production credit; i.e., Agricultural Land Use Conversion.

Appropriative rights allocated by the Judgment include rights by prescription and are entitled under the physical solution to share in the remaining safe yield, after satisfaction of overlying rights. Operating Safe Yield is defined as the amount of groundwater that the Watermaster shall determine can be produced from the Chino Basin by the Appropriative Pool parties free of replenishment obligation under the physical solution. Any subsequent change in the safe yield would debit or credit the Appropriative Pool. The District's current share of the Operating Safe Yield is 8.797 percent and the Company's current share is 1.234 percent.

Reallocation of Water Rights

According to the Judgment, in any five years that any portion of the share of safe yield allocated to the Overlying Agricultural Pool is not produced, that water is available for reallocation to the Appropriative Pool. Priority of that water is first to supplement water available from Operating Safe Yield to compensate for any reduction in the safe yield after the tenth year of operation (1988), conversion claims, and then for supplement to the Operating Safe Yield without regard to reductions in safe yield.

Appropriative rights and corresponding shares of Operating Safe Yield may be assigned or may be leased or licensed to another appropriator, as approved by the Watermaster.

Overdraft – 1978 Judgment

In adopting the Operating Safe Yield for any year, the Watermaster is limited to 200,000 acre-feet of accumulated overdraft, and in no event shall the Operating Safe Yield in any year be less than the Appropriative Pool's share of Safe Yield or exceed the Appropriative Pool's share of Safe Yield by more than 10,000 AF.

Groundwater Replenishment – 1978 Judgment

Overdraft is defined as a condition wherein the total annual production from the Basin exceeds the safe yield. The 1978 Judgment stated that the Chino Basin, since at least 1953, was in a condition of overdraft. The Watermaster reports in its State of the Basin Report, July 2005 that the safe yield of the Basin could be reduced unless certain actions are taken. The report also states that the Judgment allows a 5,000 AFY overdraft of Chino Basin through 2017.

The Watermaster levies an annual Replenishment Assessment (RA) in an amount sufficient to purchase replenishment water to replace production during the preceding year which exceeds the safe yield. Assessments are based on the Pooling Plan for each pool. The RA for the Appropriative Pool is recovered by a uniform assessment against all production during the proceeding year equaling 15 percent of replenishment cost of water, and a uniform assessment on each acre-foot of production by each party in excess of its allocated share of Operating Safe Yield during the preceding year equaling 85 percent of costs.

Supplemental water may be used to recharge the Basin either directly by spreading and percolating or injecting the water into the Basin, or indirectly by delivering the water for use in lieu of production and use of safe yield or operating safe yield. Supplemental water may be obtained from any available source including recycled water, State water, local import, and Colorado River supplies.

Much of the available natural surface water runoff in the Santa Ana River Watershed is captured and recharged to the groundwater aquifers. A system of flood control channels and percolation basins have been developed to increase the natural recharge capacity of the Basin. A limited quantity of excess storm water is captured for recharge; however, the groundwater recharge program is being expanded to include greater quantities of storm water, recycled water and lesser quantities of imported water.

Groundwater Replenishment – Recycled Water

IEUA also assumes responsibility for delivery of recycled water to Chino Basin for recharge. All future direct use of recycled water will be given priority service over recharge deliveries.

The Chino Basin Recycled Water Groundwater Project includes redevelopment and modification of the existing Chino Basin groundwater recharge facilities. These basins have been used primarily for flood control, and as part of the OBMP, the recharge basins will help “drought-proof” the Chino Basin. The basins will be enhanced to capture storm water and provide for the greater ability to import and store water in the Chino Basin. Redevelopment of the basins is in progress.

Recycled recharge water is credited to parties to the Regional Sewer Service Contract, based on relative contributions of wastewater flow delivered to the Regional Reclamation Plants by the respective agencies. This provides additional groundwater pumping rights calculated annually as stored water credits. In FY 2003-04, the District received 2.3 AF of additional production capability as a result of recycled water recharge activity.[11] The Company does not participate in the recharge activity.

[11] Chino Basin Watermaster, Fiscal Year 2004-2005, Assessment Package, November 2004

Carryover – 1978 Judgment

Any Appropriator who produces less than his assigned share of Operating Safe Yield may carry such unexercised right forward for use in subsequent years. The first water used in any such subsequent year is to be an exercise of that carryover right. If the aggregate carryover of any appropriator exceeds its share of Operating Safe Yield, a storage agreement is executed with the Watermaster as a condition of preserving the surplus carryover. For example, the District had no carryover to 2004-05, while the Company had 145.3 AF.[12] This amount was determined based on the amount of carryover from 2002-03, plus the assigned share of safe yield, plus a one-time prior year adjustment, plus water transaction activity, plus Ag Pool safe yield reallocation for a total 2004-05 production right, less 2003-04 actual production, and less MWD exchanges. For the Company, this amount equaled 145.3 AF, all of which is carried over to 2004-05 production. If not all was carried over, the excess carryover would be eligible for storage. Carry-over water has no limit at this time; however, limitations were anticipated to be reevaluated in the Fall of 2005.

Groundwater Storage Capacity – 1978 Judgment

The Judgment states that a substantial amount of available groundwater storage capacity exists in Chino Basin which is not utilized for storage or regulation of Basin waters. The Basin stores approximately 5 MAF of groundwater and has the capability of storing an additional 1 MAF. Reservoir capacity can appropriately be utilized for storage and conjunctive use of supplemental water with Basin waters. Any person or public entity may make reasonable beneficial use of the available groundwater storage capacity for storage of supplemental water, with allocation preference of storage capacity to the needs and requirements of the lands overlying the Basin and the owners of rights in the Basin.

Peace Agreement

In July 2000, the Watermaster's planning process culminated with the adoption of a "Peace Agreement" that ended over 15 years of litigation within the Chino Basin. The Peace Agreement, amended the 1978 Chino Basin Judgment, and has a term of 30 years. The Peace Agreement facilitates the implementation of the OBMP, and considers Orange County Water District's petition to change the fully appropriated status of the Santa Ana River and to appropriate up to the total amount of newly declared surplus water.

The Peace Agreement amended the judgment in three areas:

1) Members of the Overlying Non-Agricultural Pool have the right to transfer or lease their quantified production rights within the same pool or to the Watermaster in conformance with specified procedures.

[12] Chino Basin Watermaster, Fiscal Year 2004-2005, Assessment Package, November 2004

2) Any appropriator who provides water service to overlying lands may exercise overlying rights to the extent necessary to provide water service to overlying lands.
3) For the term of the Peace Agreement, in any year in which sufficient unallocated safe yield from Overlying Agricultural Pool is available for conversion claims, the Watermaster can allocate each appropriator with a conversion claim, 2.0 AF of unallocated safe yield water for each converted acre approved.

Overdraft – Peace Agreement

The Watermaster is responsible to conduct recharge and replenishment of the Basin. The Peace Agreement directs that during the five years from fiscal year 2000/2001, the Watermaster will conduct physical recharge of supplemental water of 6,500 AFY in one or more of the areas known as Montclair, Brooks, and Upland spreading facilities (Management Zone 1 – MZ1). If the cumulative total of 32,500 AF of recharge has not been accomplished at the end of the five years, then recharge will continue at the same annual rate until 32,500 AF has been reached.

Recharged supplemental water increases the Operating Safe Yield under the Judgment. Cost and allocation of supplemental water is apportioned pro-rata among members of the Appropriative Pool according to the producer's share of the Initial Safe Yield. At the conclusion of FY 2004/2005, the need to continue recharge activities was evaluated and based on the data the Appropriative Pool agreed that physical recharge should continue.

The Watermaster provides an annual accounting of the amount and location of recharge. Current recharge is being accomplished at 6,500 AFY, and the District is being assessed on 4,824 AFY, which is their share of safe yield at 8.797 percent.[13] Individual producers do not currently have a limit on how much they can over-produce; however, they are assessed an amount to replenish the Basin for all overproduction. Producers generally develop annual demand projections that assist in making arrangements with other appropriators for prepurchase of replenishment water through transfers and other agreements. This allows the Watermaster to optimize planning within the OBMP.

In-Lieu

Recharging the Basin may be accomplished either directly by spreading and percolating or injecting the water into the Basin, or indirectly by delivering the water for use in lieu of groundwater production and use of safe yield or operating safe yield.

In lieu areas are designated by the Watermaster, who has previously designated the entire Chino Basin as an in-lieu area. Any member of the Appropriative Pool who is willing to abstain for any reason from producing any portion of its share of operating safe yield in any year, may offer the unproduced water to the Watermaster. The Watermaster then may

[13] Chino Basin Watermaster, Fiscal Year 2004-2005, Assessment Package, November 2004

purchase water in place of spreading replenishment water for a calculated price to the appropriator as determined in the Peace Agreement. The price is the lesser of the cost of replenishment water plus the cost of spreading, or the cost of supplemental surface supplies less the appropriator's average cost of groundwater production and the applicable production assessment.

Storage and Recovery– Peace Agreement
Local Storage

Local storage is protected and each party has the right to store its un-produced carry-over water in the Basin. Local storage agreements are approved so long as the total quantity of supplemental water under local storage agreements does not exceed the cumulative total of 50,000 AF. Water held in storage is transferable, but storage capacity is not. In 2003-04, the District had a total of 5,996 AF in storage. The Company had approximately 7,300 AF in local storage.[14] Operationally, it is the District's goal to maintain enough water in storage to meet one year's production from the Basin.

Parties may continue to produce the actual quantity of carry-over water and supplemental water held in its storage account, subject only to the loss provisions. Rate of loss from local storage is zero percent until 2005, at which time it is recalculated based on the best available scientific information. Losses will be deducted annually from each storage account.

At the end of FY 2004-05, the Watermaster had the general discretion to place reasonable limits on the further accrual of carry-over and supplemental water in local storage. This is necessary to provide priority for the use of storage capacity for Storage and Recovery Programs that provide broad mutual benefits to all parties.

Storage and Recovery Program

The initial target for the cumulative quantity of water held in storage in the Basin is 500,000 AF. This program is still in development by the Watermaster.

Appropriative and Non-Agricultural Pool members are entitled to the compensation paid for a Storage and Recovery Program paid in any form, including money, revenues, credits, proceeds, programs, facilities, or other contributions. Compensation may also be used to offset the cost of operations, to reduce assessments on the members, and to defray the costs of capital projects at the request of the members.

The Watermaster is responsible to conduct best efforts to do the following: 1) complete the short-term conjunctive use project conducted by IEUA, Three Valleys Municipal Water District (TVMWD) and MWD; 2) develop a seasonal peaking program for in-Basin use and dry year yield to reduce the Basin's demand on MWD water; 3) develop a dry year export program; and 4) develop a seasonal peaking export program.

[14] Chino Basin Watermaster, Fiscal Year 2004-2005, Assessment Package, November 2004

The short-term conjunctive use project includes construction of facilities to store water and later withdraw it for conjunctive use. The program goals are to reduce summertime peaking on MWD, deliver SWP supplies to Chino Basin, minimize MWD surface water deliveries during future droughts/emergencies, and to allow MWD to export storage water for other member agencies. The program will create improved reliability by establishing an initial 150,000 AF storage account for MWD and providing a financial incentive for shifting demand on MWD surface deliveries to the winter months. This program is just one example of storage programs that are necessary to optimize Basin storage and supplies, reduce demand on imported water supplies, and make water available that may not have been otherwise.

Transfers – Peace Agreement

Transfers must have the approval of the Watermaster. Transfers include the assignment, lease, or sale of a right to produce water to another producer within the Chino Basin or to another person or entity for use outside the Basin whether the transfer is temporary or permanent. Lease of water rights are also permissible to allow producers to make up for the lessee's over-production.

According to the Watermaster Fiscal Year 2004/05 Assessment Package, the District had three transfers and one assignment. Transfers are recorded annually as arrangements are made. For 2003-04, the District received 4,190 AF of transferred water rights from the West Valley Water District (650 AF), the City of Pomona (2,500 AF), and the Monte Vista Irrigation Company (1,040 AF). The District received assigned rights to the Ag Pool Assignment of 390 AF. The District also receives a share of Early Transfers and Land Use Conversion rights as discussed in the following sections.

Non-Agricultural Pool members have the right to transfer or lease within the pool, and the right to transfer to the Watermaster for the purpose of replenishment for a desalter or for a storage and recovery program.

Early Transfer

An "early transfer" means the reallocation of safe yield not produced by the Agricultural Pool to the Appropriative Pool on an annual basis rather than according to the five-year increment described in the Judgment. The Early Transfer of not less than 32,800 AFY was the expected approximate amount of water not produced by the Agricultural Pool. Early transfer is to be the greater of 32,800 AF or 32,800 AF plus the actual quantity of water not produced in a given year after all the land use conversions are satisfied. Early transfer water is allocated among members of the Appropriative Pool in accordance with their pro-rata share of the initial safe yield. The District's share of the initial safe yield is 8.797 percent, yielding an Early Transfer of 2,885 AFY. The Company's share of the initial safe yield is 1.234 percent, yielding an Early Transfer of 450 AFY.

Land Use Conversion of Water Rights

With the effective date of the Peace Agreement (June 2000), the amount of water rights converted from agricultural land to urban use was changed from 2.6 AF per acre with allocation between initial shares of safe yield and service provider to 2.0 AF per acre, all of which is allocated upon conversion of the land to the Appropriative Pool member service provider. Upon conversion of water rights, the purveyor pledges the amount of water needed for the urban land use, and up to 2.0 AFY per acre of land will be made available.

An Agricultural Pool member has the right to a voluntary agreement with an appropriator, which has a service area contiguous to or inclusive of the agricultural land, to provide the required water to the overlying land on behalf of the Ag Pool member. The appropriator is then entitled to a credit to off-set production to the extent it is serving the overlying land up to the amount of the historical maximum annual quantity previously used on that property. The credit is debited to the Ag Pool's collective production right.
Total required reallocations from Early Transfers and Land Use Conversions are subject to availability. For example, in FY 2003/04, the District received an Early Transfer share of 2,885 AF and a Land Use Conversion amount of 55 AF; however, these amounts are subject to a share between the amount of acre feet required and the amount of acre feet available based on Agricultural Pool under (over) production. The District was assigned a debit for 2003/04 of 835 AF based on its share of operating safe yield and the amount of under production. Therefore, the total available to the District for reallocation in 2003/04 was 2,106 AF.[15]

Optimum Basin Management Program for the Chino Basin

In 1998, the Chino Basin Watermaster developed an integrated set of water management goals and actions for the Basin. Known as the Optimum Basin Management Program (OBMP), this document describes nine program elements to meet the water quality and local production objectives in the Basin. The OBMP encourages the increased use of local supplies to help "drought proof" the Basin.

The OBMP is intended to formulate and implement a groundwater management program that will preserve and enhance the safe yield and the water quality of the Chino Basin. The Watermaster's goal is to make it possible for all groundwater users to produce water from the basin for beneficial uses at an affordable cost. The OBMP is intended to allow continued reliance on groundwater for beneficial use within the basin while minimizing demand for imported water, and to encourage beneficial use of the large available storage space in the aquifer system. OBMP actions are intended to benefit both local and regional water supply programs.

The effort to complete the OBMP for the Chino Basin was divided into two phases. The first phase culminated in the September 1999 submittal of the draft Phase 1 Report to the

[15] Chino Basin Watermaster, Fiscal Year 2004-2005, Assessment Package, November 2004

Court with continuing jurisdiction over the Basin groundwater resources. The second phase, including a programmatic EIR, was completed and adopted in July 2000, as the Implementation Plan.

Phase 1 of the OBMP defined the state of the Chino Groundwater Basin, established the goals and objectives concerning major issues identified by stakeholders, and affirmed a management plan for the achievement of the stated goals and objectives. Phase 2 of the OBMP is the Implementation Plan for the installation and operation of OBMP facilities. The major OBMP facilities include pipelines, desalters, possibly an ion exchange facility, recharge basins, pump stations, production wells, and monitoring devices.

The four primary OBMP management goals are to enhance basin water supplies, to protect and enhance water quality, to enhance management of the basin, and to equitably finance the OBMP.

The OBMP includes nine program elements that were developed during the Phase 1 OBMP Report that collectively will meet the goals of the OBMP. The scope of implementation of some of the programs have been combined since they overlap and have synergies between them. The program elements include developing and implementing each of the following:

Element 1 – Comprehensive Monitoring Program
Element 2 – Comprehensive Recharge Program
Element 3 – Water Supply Plan for the Impaired Areas of the Basin
Element 4 – Comprehensive Groundwater Management Plan for Management Zone 1
Element 5 – Regional Supplemental Water Program
Element 6 – Cooperative Programs With the Regional Water Quality Control Board, Santa Ana Region, and Other Agencies to Improve Basin Management
Element 7 – Salt Management Program
Element 8 – Groundwater Storage Management Program
Element 9 – Storage and Recovery Programs

2.2.3 Inland Empire Utilities Agency – Recycled Water

The District currently does not serve recycled water within its service area. However, the District is projecting recycled water use with the development of IEUA's Regional Recycled Water Distribution System and expanded recycled water infrastructure within the District.

Recycled water use in the District's service area for 2010 is projected at 370 AF, increasing to 670 AFY by 2015 and remaining stable through 2030, as shown in Section 4.2, Demands and Supplies Comparison. Recycled water supply for the region, as shown in IEUA's 2005 Regional UWMP, October Review Draft, is 83,900 AF for 2010, 104,600 AF for 2015, and 107,400 by 2020. Recycled water demand is projected to reach 91,000 AF in 2015, with groundwater recharge reaching 70,000 AF by 2025. This

demonstrates that available recycled water supply is projected to meet and expected to exceed demand in all hydrologic conditions as discussed in Section 4 and Section 8. The Regional Recycled Water System Program and the District's recycled water program are more fully described in Section 8.

SECTION 3
WATER QUALITY

3.1 WATER QUALITY OF EXISTING SOURCES

Federal regulations require the U.S. Environmental Protection Agency (EPA) to safeguard drinking water by establishing standards that limit the amount of substances in drinking water. In California, the Department of Health Services (DHS) also safeguards drinking water by establishing standards that are as stringent as the EPA's. These standards, also known as maximum contaminant levels (MCL), are established in two categories: 1) primary standard: to protect the public health; and 2) secondary standard: to preserve water's aesthetic qualities such as taste, odor, clarity, and color.

The District safeguards its water supply by exceeding the monitoring requirements by the EPA and DHS. In addition to the 125 contaminants, the District safeguards the distribution system by monitoring for Coliform bacteria in the distribution system and at each active well. Coliform bacteria are not necessarily harmful, but indicate the possible presence of disease-causing organisms. The District samples 16 DHS-approved locations within the distribution system weekly, and samples each active well monthly.[16] As reported in the District's 2004 Annual Water Quality Report, two contaminants, Nitrate and Dibromochloropropane (DBCP) were detected in the District water supply that exceeds the MCL or Notification Level[17]. These are discussed below in Section 3.1.1.

The District also completed a Source Water Assessment (November 2002) for its 10 active wells to evaluate the vulnerability of water sources to contamination. The groundwater source is considered most vulnerable to contamination by high density housing, parks, office complexes/buildings, schools, apartments, condominiums, funeral services and graveyards, grazing and sewer collection systems, as well as automobile – gas stations, dry cleaners, mining operations (historic and active), known contaminate plumes, hospitals, parking lots/malls, fleet/truck/bus terminals, above ground storage tanks, transportation corridors/freeways/state highways, and National Pollution Discharge Elimination System/Waste Discharge Requirements permitted discharges.

3.1.1 Chino Groundwater Basin

Chino Basin groundwater is a critical resource to the District. From a regulatory perspective, the use of Chino Basin groundwater to serve potable demands will be limited by drinking water standards. In August 1999, Phase 1 of the OBMP established a necessity for conducting groundwater quality and water level monitoring in order to obtain current water quality and water level data in Chino Basin.[18]

[16] Monte Vista Water District 2004 Annual Water Quality Report.
[17] Notification levels are health-based advisory levels established by DHS for chemicals in drinking water that lack maximum contaminant levels (MCLs). The DHS changed "action level" to "notification level" in 2004.
[18] Optimum Basin Management Program; Phase I Report. Prepared for the Chino Basin, Watermaster, August 19, 1999.

The groundwater quality in Chino Basin is generally very good, with better groundwater quality found in the northern and central portions of Chino Basin where recharge occurs. Salinity (TDS) and nitrate concentrations tend to be greater in the southern portion of Chino Basin resulting from past and continuing agricultural uses. Other constituents that have the potential to impact groundwater quality from a regulatory or Basin Plan standpoint are certain VOCs, arsenic, and perchlorate. Arsenic at levels above the water quality standard appears to be limited to the deeper aquifer zone near the City of Chino Hills. Total chromium and hexavalent chromium, while currently not a groundwater issue for Chino Basin, may become so, depending on the promulgation of future standards.[19]

The principal groundwater quality issues facing the District involve nitrate, DBCP, total dissolved solids (TDS), volatile organic compounds (VOC), and perchlorate.

Nitrates

Nitrate concentrations in excess of 0.5 milligrams per liter (mg/L) or (parts per million-PPM) indicate degradation from overlying land use. Similar to TDS, areas with significant irrigated land use or dairy waste disposal histories overlie groundwater with elevated nitrate concentrations. The primary areas of nitrate degradation are the areas formerly or currently overlain by citrus in the northern parts of MZs 1, 2 and 3, and dairy areas in the southern parts of MZs 1, 2 and 3 and all of MZ 5.

Nitrate concentrations in groundwater have increased slightly or remained relatively constant in northern parts of the MZs 1, 2, and 3 from 1960 to present. These are areas formerly occupied by citrus and vineyard land uses and nitrate concentrations underlying these areas rarely exceed 20 mg/L (as nitrate). Over the same period, nitrate concentrations have increased significantly in the southern parts of MZs 1, 2, and 3, and all of MZ 5.

In 2004, average Nitrate concentration in the District wells was 36.9 mg/L, while the concentrations ranged from 16 to 70 ml/L, exceeding the State MCL of 45 mg/L.[20] In addition, average Nitrate plus Nitrite concentration in the District wells was 8.2 mg/L, while the concentrations ranged from 3.8 to 16 mg/L, exceeding the State MCL of 10 mg/L. Several District wells have been inactivated due to high levels of nitrates. Water from wells with high levels of nitrates is combined with water from wells with lower levels to create a blended supply that meets State drinking water standards. DHS requires the District to provide a finished product that has a MCL of 36 mg/L, which is 80 percent of the State MCL of 45 mg/L.

The District's ASR Program, which consists of recharging the groundwater basin through direct injection of treated imported water and subsequent extraction during summer months and dry years, is expected to enhance water quality over time. ASR wells inject higher quality water into an aquifer of lesser quality; the wells operate to create a zone or "bubble" of better quality water to be recovered at a later time. By 2008, four aquifer

[19] Chino Basin Optimum Basin Management Plan State of the Basin Report 2004, July 2005.
[20] Monte Vista Water District, 2004 Annual Water Quality Report.

storage and recovery wells and one injection well will be operational. Annual injection of imported water is anticipated to be approximately 4,000 AF. The need for the GW Treatment Program NO_3, which is scheduled for 2013/14[21] and consists of well head treatment facilities, will be evaluated according to the water quality outcomes from the operation of the ASR program. The District obtained a $3.7 million Groundwater Storage Construction Loan from DWR to assist with the financing of the program. The ASR Program was the recipient of the "2005 Integrated Project of the Year Award" from the Santa Ana Watershed Project Authority.

Dibromochloropropane (DBCP)

The OBMP Initial State of the Basin Report, October 2002, states that testing included for DBCP, although not findings were reported. However, DBCP concentrations were detected above the MCL (0.0002 mg/L or 200 parts per trillion (PPT)) in the groundwater supply at two District wells. The water supply from these wells is mixed with water from other District wells with no DBSP detection or imported water to create a blended supply. DHS requires the District to blend the water so that the concentration is 80 percent of the MCL.

This organic chemical is banned nematocide (pesticide) that may still be in the soils due to runoff or leaching from former use on soybeans, cotton, vineyards, tomatoes and tree fruit. In 1977, 831,000 pounds of DBCP was used in California, mainly on grapes and tomatoes. In 1979, all registrations of end use products were canceled except for use as a soil fumigant pineapple horticulture in Hawaii. The use was completely canceled in 1985.

EPA has found that DBCP to potentially cause kidney and liver damage when exposed for relatively short periods of time, and severe kidney damage, reproductive difficulties, and increased risk of developing cancer when exposed for long periods of time.

Total Dissolved Solids (TDS)

TDS concentrations in the northeast part of the Chino Basin range from about 170 to about 300 mg/L, with typical concentrations in the mid-to low-200s. TDS concentrations in excess of 200 mg/L indicate degradation from overlying land use. With few exceptions, areas with significant irrigated land use or dairy waste disposal histories overlie groundwater with elevated TDS concentrations. Most of these degraded areas are located south of the Pomona Freeway. The impact of agriculture on TDS in groundwater primarily is caused by fertilizer use on crops, consumptive use, and dairy waste disposal.

TDS concentrations in groundwater have increased slightly or remained relatively constant in northern parts of the Basin Management Zones (MZ) 1, 2, and 3. TDS concentrations are significantly higher in the southern parts of these zones and in all of MZ 5 where they typically exceed the 500 mg/L recommended secondary MCL and

[21] Monte Vista Water District, Capital Improvement Plan, April 2005.

frequently exceed the upper limit secondary MCL of 1,000 mg/L. In 2004, the District wells average TDS concentration was 293 mg/L.[22]

Volatile Organics (VOC)

Trichloroethylene (TCE) and related VOCs, including degradation by-products, have been discovered in several discrete areas of the Chino Basin; including the City of Pomona Water Service Area, General Electric Flatiron Site, Chino Airport, and Cucamonga Creek near the intersection of Archibald Avenue and Riverside Drive. Only two wells in the Basin had detectable levels of MTBE and neither of these wells exceeded the California DHS MCL of 0.005 mg/L.

The OBMP Phase I Report indicates there are local areas having high VOCs, principally TCE. These areas include the Chino Airport, the CIM, and an area southwesterly of Ontario Airport.

Perchlorate

DHS has indicated that perchlorate in groundwater in California likely reflects its use in the aerospace industry as a solid rocket propellant (in the form of ammonium perchlorate). Perchlorate is a contaminant of concern and is believed to inhibit the thyroid's ability to process iodide. Normal body metabolism requires thyroid hormones, as do normal prenatal and postnatal development and growth. To protect the public from the adverse health effects of perchlorate and, in the absence of drinking water standards for the contaminant, DHS established a notification level derived from available health risk assessments. Based on a recent EPA draft toxicity assessment for perchlorate, which suggests that the risks from exposure to perchlorate in drinking water may be greater than previously thought, DHS lowered the notification level from 18 µg/L to 4 µg/L in January 2002, and subsequently revised it to 6 µg/L in March 2004.

Historical maximum values of perchlorate exceeding the previous (18 µg/L) State notification levels have occurred in two areas of Chino Basin: MZ1, primarily in the vicinity of the City of Pomona well field; and downgradient of the Stringfellow Superfund Site. Concentrations have exceeded 600 mg/L in on-site observation wells and the plume has likely reached the Pedley Hills and many extend as far as Limonite Avenue. There have also been occurrences of perchlorate in the Fontana area.

As of 2004, Perchlorate had been detected in 152 wells in the Chino Basin. Historical values of perchlorate exceeding the State Notification Level have occurred in the following areas of Chino Basin:[23]

- There is a significant perchlorate plume in the Rialto-Colton Basin. The source of the plume is being investigated by the Regional Water Quality Control Board (RWQCB) and it appears to be located near the Mid-Valley Sanitary Landfill.

[22] Monte Vista Water District, 2004 Annual Water Quality Report.
[23] Chino Basin Optimum Basin Management Program, State of the Basin Report 2004. July 2005

According to the RWQCB, other four companies located on a 160-acre parcel, operated nearby and used or produced perchlorate. One of these companies also operated on a 10-acre lot nearby. The perchlorate in the Fontana area of Chino Basin may be a result of (i) the Rialto-Colton perchlorate plume migrating across the Rialto-Colton fault; (ii) other point sources in Chino Basin; and (iii) non-point application of Chilean nitrate fertilizer in citrus groves.

- Downgradient of the Stringfellow Superfund Site. Concentrations have exceeded 600,000 µg/L in on-site observation wells and the plume has likely reached Pedley Hills and may extend as far as Limonite Avenue.
- City of Pomona well field.
- Wells in the City of Ontario water service area, south of the Ontario Airport.
- Scattered wells in the City of Chino water service area.
- Scattered wells in the Monte Vista Water District service area. Testing for perchlorate produced results from non-detect to 4.4 parts per billion (ppb) with two wells affected. Average concentration was 4.3 ppb.[24] Follow up testing in 2004 produced results of non-detect from perchlorate in the affected wells.

3.1.2 Imported Water

WFA Treated Water

The District receives imported water through IEUA from MWD, which receives raw water from Northern California through the SWP. The SWP water is delivered to the WFA Agua de Lejos Water Treatment Plant through the MWD Rialto Reach of the Foothill Feeder. The WFA receives and treats SWP raw water.

At the time of its construction in 1988, the plant has an initial capacity of 68 MGD. The plant has been re-rated and has a current DHS-permitted capacity of 81 MGD. The plant is a conventional water treatment plant featuring coagulation, flocculation, sedimentation, filtration, and chloramine disinfection. The quality of water from the WFA is generally and consistently quite good, although it can vary depending on hydrologic conditions in both northern and southern California. Since 1972, the average annual TDS of SWP water from Lake Silverwood has ranged from 112 mg/L to 375 mg/L. In 2004, the District reported the following water quality concentrations for imported water from the WFA:

- TDS = 270 mg/L (less than the MCL)
- Nitrates = 4.4 mg/L
- VOCs = non detectable
- Perchlorate = non detectable

[24] Monte Vista Water District, 2004 Annual Water Quality Report.

The quality of SWP water is an occasional issue for wastewater discharge. The RWQCB, Santa Ana Region, established waste discharge limitations that take into account the source water TDS plus an increment for use in addition to a separate maximum limit. The more restrictive of the two limits applies to the discharges. During the 1989-92 drought, IEUA had difficulty meeting its waste discharge requirements because SWP water had high TDS levels.

MWD Treated Water

MWD tests and treats its water for microbial, organic, inorganic, and radioactive contaminants as well as pesticides and herbicides. MWD is committed to ongoing water quality through tighter security measures, persistent monitoring, community outreach for public awareness of safe drinking water, and fluoride treated water to prevent tooth decay.[25]

Protection of MWD's water system continues to be a top priority. In coordination with its 26 member public agencies, MWD added new security measures in 2001 and continues to upgrade and refine procedures. Changes have included an increase in the number of water quality tests conducted each year (more than 300,000) as well as contingency plans that coordinate with the Homeland Security Office's multicolored tiered risk alert system.[26] MWD also has one of the most advanced laboratories in the country where water quality staffs perform tests, collect data, review results, prepare reports, and research other treatment technologies. Although not required, MWD monitors and samples elements that are not regulated but have attracted scientific and/or public interest. MWD has tested for chemicals such as perchlorate, arsenic, methyl tertiary butyl ether (MTBE), and chromium VI among others.

In MWD's Integrated Resources Plan (IRP) Update, water quality was identified as a possible risk to MWD's future water supply reliability. Existing supplies could be threatened in the future because of contamination, more stringent water quality regulations, or the discovery of a previously undetected contaminant. Impairment of the quality of imported water could directly impact the amount of water supplies available to the District. MWD's 2005 UWMP Update identifies the following concerns:

- If a groundwater basin becomes contaminated and cannot be used, more water will be required from other sources.
- Imported water from the Colorado River must be blended (mixed) with lower salinity water from the SWP. Higher salinity levels in the Colorado River would increase the proportion of SWP supplies required.
- High TDS in water supplies leads to high TDS in wastewater, which increases the cost of recycled water.

[25] MWD Sources of your Drinking Water. Available: http: www.mwd.dst.ca.us/mwdh2o/pages/yourwater/ccr02/ccr05.html, August 27, 2003,
[26] MWD's website, www.mwdh2o.com/mwdh2o/pages/yourwater/2005_report/protect_02.html

- If diminished water quality causes a need for membrane treatment, the process typically results in losses of up to 15 percent of the water processed.
- Degradation of imported water supply quality could limit the use of local groundwater basins for storage.
- Changes in drinking water quality standards such as arsenic, radon, or perchlorate could increase demand on imported water supplies.

In consideration of the examples presented above, MWD has identified those water quality issues that are of concern and has identified necessary water management strategies to minimize the impact on water supplies. Water quality concerns associated with MWD's water supplies and the approaches taken to ensure acceptable water quality are discussed in the following sections.

Methyl Tertiary Butyl Ether (MTBE) in Local Surface Reservoirs

The California DHS has adopted a primary MCL of 13 ug/L for MTBE. MTBE is an oxygenate found in gasoline. MWD monitors MTBE levels at Diamond Valley Lake and Lake Skinner. The reservoirs also have boat requirements such as MTBE-free fuel to aid in the protection of imported water supplies. MTBE concentrations have been below the MCL.

Uranium

Uranium is a contaminant of concern in the water from the Colorado River. There are uranium mine tailings located approximately 600 feet from the river. Rainfall seeps through the tailings and contaminates the local groundwater which flows to the river. In 2003, an interim action system was implemented that intercepts some of the contaminated groundwater prior to reaching the river. The Department of Energy is preparing an Environmental Impact Statement that will evaluate the possibility of moving the pile, capping it in place, and other alternatives. Uranium levels at MWD's intake range from 1 to 5 picocuries per liter (pCi/L) whereas the California drinking water standard is 20 pCi/L.[27]

N-nitrosodimethylamine (NDMA)

NDMA is an emerging contaminant that may have an impact on the water supply. Although MWD's water supplies are non-detect for NDMA, there is a concern that chlorine and monochloramine can react with organic nitrogen precursors to form NDMA.

Hexavalent Chromium (Chromium VI)

Currently, the MCL for total chromium is 0.05 mg/L, which includes Chromium VI. California DHS is to establish a MCL for Chromium VI; however, the Office of Health Hazard Assessment must first establish a public health goal. MWD samples for Chromium VI and monitors levels within the Colorado River because of Chromium VI

[27] Metropolitan Water District of Southern California, Regional Urban Water Management Plan, September 2005 Draft

detection in groundwater near the river. MWD is involved in a Technical Work Group that reviews monitoring results and remediation plans for groundwater contaminated with Chromium VI at a site located adjacent to the Colorado River near Topock, Arizona.

Colorado River Water Quality

Although the District all its imported water from the SWP, MWD relies on Colorado River supplies to meet the regional water needs. The more reliable the entire mix of sources for MWD, the more reliable the sources to the District. Therefore, a brief discussion on the water quality of the Colorado River water is presented.

Salinity in the Colorado River

Water from the Colorado River Aqueduct has the highest level of salinity of all MWD's sources of supply, averaging 650 mg/L during normal water years.[28] Several actions have been taken on the state and federal level to control the salinity with the river such as the Colorado River Basin Salinity Control Act in 1974 and formation of the Colorado River Basin Salinity Control Forum. In 1975, water quality standards and a plan for controlling salinity were approved by the EPA.

In contrast, water from the SWP is significantly lower in TDS, averaging 250 mg/L. Because of the lower salinity, MWD blends SWP water with Colorado River water to reduce the salinity in the water delivered to its customers. The MWD's Board of Directors has adopted a salinity objective of 500 mg/L for blended imported water as defined in MWD's Salinity Management Action Plan. MWD estimates that the objective can be met in seven out of ten years. In the other three years, hydrologic conditions would result in increased salinity and reduced volume of SWP supplies.

In an effort to address the concerns over salinity, MWD secured Proposition 13 funding for two water quality programs: 1) Water Quality Exchange Partnership to develop new infrastructure to optimize water management capabilities between the agricultural users and urban users; and 2) The Desalination Research and Innovation Partnership to develop cost-effective advanced water treatment technologies for the desalination of Colorado River water, brackish groundwater, municipal wastewater, and agricultural drainage water.

Perchlorate in Colorado River

Perchlorate is a contaminant of concern and is known to have adverse effects on the thyroid. Perchlorate has been detected at low levels in the Colorado River water supply. Perchlorate is difficult to remove from water supplies with conventional water treatment. Successful treatment technologies include nanofiltration, reverse osmosis, ion exchange, biological treatment, and fluidized bed bioreactor treatment. MWD continues to monitor perchlorate contamination of the Colorado River as well as

[28] Metropolitan Water District of Southern California, Regional Urban Water Management Plan, September 2005 Draft

research various treatment options. In 2002, MWD adopted a Perchlorate Action Plan, which defined nine objectives that it continues to follow successfully.

SWP Blending with Colorado River Water

SWP water supplies contain levels of total organic carbon and bromide that are a concern to MWD to maintain safe drinking water supplies. When water is disinfected at treatment plants certain chemical reactions can occur with these impurities that can form Disinfection Byproducts (DBP). DBPs in turn can result in the formation of Trihalomethanes (THMs). THMs have been found to cause cancer in laboratory animals. Inherent in any through-Delta water movement is the high organic and bromide loading imposed on the water from agricultural runoff and salt water intrusion.

In order to control the total organic carbon and bromide concentrations in MWD's water supply, SWP water is blended with Colorado River water. The blending results in a reduction in disinfection byproducts and reduction in salinity. Because of the recent drought conditions on the Colorado River, water supplies have been reduced which impacts the blending operations at the various filtration plants. As a result, the use of ozone as the primary disinfectant will be used at all five MWD treatment plants by 2009. Previously, only the Henry J Mills and Jensen Filtration Plants had been approved for this treatment.

MWD Water Quality Programs

MWD supports and is involved in many programs that address water quality concerns related to both the SWP and Colorado River supplies. Some of the programs and activities include:

- CALFED (California Federal Bay-Delta Program) – This program coordinates several SWP water feasibility studies and projects. These include:
  1. A feasibility study on water quality improvement in the California Aqueduct.
  2. Feasibility studies and demonstration projects under the Southern California-San Joaquin Regional Water Quality Exchange Project.[29]
  3. DWR's Municipal Water Quality Investigations Program and the Sacramento River Watershed Program. Both programs address water quality problems in the Bay-Delta and Sacramento River watershed.
- Delta Improvement Package – MWD, in conjunction with DWR and US Geologic Survey, have completed modeling efforts of the Delta to determine if levee modifications at Franks Tract would reduce ocean salinity concentrations in water exported from the Delta. Currently, tidal flows trap high saline water in the track. By constructing levee breach openings and flow control structures, it is believed saline intrusion can be reduced. This would

[29] Metropolitan Water District of Southern California, Regional Urban Water Management Plan, September 2005 Draft

significantly reduce total dissolved solids and bromide concentrations in water from the Delta.

- Source Water Protection – In 2001, MWD completed a Watershed Sanitary Survey as required by DHS to examine possible sources of drinking water contamination and identify mitigation measures that can be taken to protect the water at the source. DHS requires the survey to be completed every five years. MWD also completed a Source Water Assessment (December 2002) to evaluate the vulnerability of water sources to contamination. Water from the Colorado River is considered to be most vulnerable to contamination by recreation, urban/storm water runoff, increasing urbanization in the watershed, wastewater and past industrial practices. Water supplies from SWP are most vulnerable to urban/storm-water runoff, wildlife, agriculture, recreation, and wastewater.[30]

3.1.3 Recycled Water

DHS has established regulations and guidelines for the use of recycled water under the California Code of Regulations, Title 22. In addition, IEUA sets requirements on recycled water retailers, including the District, that are incorporated in its agreements with retailers and in IEUA Ordinance No. 69, which regulates the availability and use of recycled water.

All of IEUA water recycling treatment plants produce recycled water suitable for full body contact recreation and generally meet the more stringent aquatic habitat criteria. The wastewater treatment process at RP-1 and the Carbon Canyon Water Reclamation Facility (CCWRF) are designed so that effluent water quality will meet Title 22 requirements for non-restricted recreational use. The effluent meets the stringent public health turbidity standard of 2 nephelometric turbidity units (NTU). The water quality from IEUA's RP-1, RP-4, and RP-5 wastewater treatment plants and the CCWRF is outstanding, with a typical level of TDS of 500 mg/L and a total nitrogen level of less than 10 mg/L. Since recycled water is regulated and monitored carefully, water quality is expected to remain high.[31]

3.1.4 Changes in the District's Water Supply Due to Water Quality

Imported treated and delivered through the WFA is consistently of good quality, resulting in a reliable supply of imported water. MWD has identified those water quality issues that are of concern and has implemented necessary water management strategies to minimize the impact on water supplies.

While the groundwater quality in Chino Basin is considered very good, especially where recharge occurs, the Watermaster is thoroughly implementing its water quality monitoring program as required by the OBMP. Since the principal groundwater quality

[30] Metropolitan Water District of Southern California, Regional Urban Water Management Plan, September 2005 Draft
[31] IEUA, 2005 Regional Urban Water Management Plan, October 2005 Public Review Draft

issues facing the Basin include TDS, nitrate, VOC, and perchlorate, early monitoring and implementation of programs have maintained the groundwater production ability in accordance with the Judgment. The District will continue with its blending program for groundwater high in nitrates and DBCP, and will implement its proposed Groundwater Treatment Program in coming years.

Recycled water meets water quality requirements and is continued delivery of high quality water is expected. The following section discusses water management strategies to offset water quality impacts on production.

If water quality does impact the water supply to the District in the future, the District will continue to implement its Water Master Plan and Capital Improvement Program, which provides for system redundancy and supply. For example, if groundwater becomes unusable due to water quality concerns, more imported water will be required. If imported water becomes limited due to diminished water quality, then more treatment is necessary, and more groundwater may be used.

3.2 WATER QUALITY EFFECT ON WATER MANAGEMENT STRATEGIES AND SUPPLY RELIABILITY

3.2.1 Monte Vista Water District

The District works collaboratively with the Chino Basin Watermaster, WFA, and IEUA to achieve the highest quality of water and to ensure reliability of water supplies. The identified water quality issues facing the District include TDS, nitrate, VOCs and perchlorate. A variety of water management strategies are implemented or planned for implementation by the District as discussed below.

Expanded Water Quality Monitoring

To comply with MCLs, the District safeguards its water supply by exceeding the monitoring requirements by the EPA and DHS. The District's distribution system is also monitored at various locations to ensure good quality water throughout the distribution system and at each active well. The District samples 16 DHS-approved locations within the distribution system weekly, and samples each active well monthly.[32]

Water Source Blending

The District blends its various sources of water to ensure that the quality of drinking water is in strict compliance with standards. For example, groundwater from wells with higher levels of nitrate is blended with other well water or imported water to create a blended supply that complies with state and federal standards.

[32] Monte Vista Water District 2004 Annual Water Quality Report.

Water Treatment

To address the concerns of nitrate, a new groundwater treatment system, GW Treatment Program NO_3, is proposed for 2013/14. As presented earlier, the District's ASR Program will recharge the groundwater basin through direct injection of treated imported water and follow with extraction during summer months and dry years. This program is expected to enhance water quality over time. By 2008, the three aquifer storage and recovery wells and one injection will inject higher quality water into an aquifer of lesser quality; the wells operate to create a zone or "bubble" of better quality water to be recovered at a later time. Annual injection of imported water is anticipated to be 4,000 AF. The need for the GW Treatment Program NO3, which consists of well head treatment and is proposed for 2013/14, will be evaluated according to the water quality outcomes from the operation of the ASR program. The ASR Program was the recipient of the "2005 Integrated Project of the Year Award" from the Santa Ana Watershed Project Authority.

Joint Water Supply Enhancement Project

As part of the Dry Year Yield Project,[33] the District has entered into a joint water supply enhancement project, which is expected to result in additional high-quality groundwater supplies. The project includes the development of a new well for the injection of WFA imported water into the Basin, and the recovery of groundwater from the well. High-quality water that is injected is anticipated to blend with lower quality groundwater to produce water of drinking water standards. To safeguard against the possibility of the quality of pumped water being worse than expected, wellhead treatment will be put in place. The well is currently being designed for injection at 1,500 gpm and extraction at 3,000 gpm. Project construction is scheduled to be completed by 2006 with surplus water deliveries beginning shortly after that. The DYY program is scheduled to become effective in 2008.[34]

Diversified Water Resource Mix

The District is seeking to maximize the use of alternative supplies resulting in a diversified water resource mix. The District will implement the use of recycled water, where appropriate and available, as part of the District's plan to ensure a reliable water supply for its service area.

Additionally, groundwater will continue to be a focus of water management for the District to optimize and ensure reliability of this valuable and significant local resource. The following section provides water quality program activities of the Watermaster that seek to ensure a reliable supply of groundwater.

[33] The Watermaster and IEUA entered into an agreement with MWD in 2003 for a groundwater conjunctive use storage program, which would include development of facilities to deliver and store imported water supplies in the Chino Basin.
[34] Inland Empire Utilities Agency, Regional UWMP, Review Draft October 2005

3.2.2 Chino Basin Groundwater: Chino Basin Watermaster Water Quality Activities[35]

The Chino Basin Watermaster is conducting water quality management activities in the Chino Groundwater Basin that help to safeguard the groundwater supply.

Groundwater Quality Monitoring

In response to the results of the RWQCB and the Watermaster's groundwater quality monitoring programs (OBMP Program Element 1), the Watermaster has refined its water quality monitoring to focus on the following key areas:

- Identify and characterize water quality anomalies, such as the VOC anomaly south of the Ontario International Airport. Status reports on each of the anomalies were developed.
- Participate in the process of development TMDLs for Reach 3 of the Santa Ana River and other water bodies in the lower Chino Basin.
- Assist the RWQCB with research, monitoring, and the crafting of investigative and cleanup and abatement orders for potential dischargers involved with the Ontario International Airport.

The Watermaster developed its streamlined, key-well water quality monitoring program in which approximately 114 private "key wells" are sampled bi-annually in the southern portion of the Basin. Approximately 57 wells will be sampled on an annual basis including the following water quality analyses:

- All groundwater samples are analyzed for general mineral and general physical parameters.
- Wells within or near the two VOC plumes south of Ontario and Chino Airports are being analyzed for VOCs, in addition to the general mineral and general physical parameters.
- All private wells in the key program are being analyzed for perchlorate because of its widespread occurrence in the recent sampling program, and the concerns expressed by appropriators faced with expensive treatment costs for perchlorate-contaminated wells.

The Watermaster's water quality program also includes the collection of water quality data from other sources, which is routinely checked and loaded into the Watermaster's database. Data sources include appropriators (groundwater pumpers), DHS, Department of Toxic Substance Control for Stringfellow Acid Pits, and the RWQCB for sites under Cleanup and Abatement Orders.

The Watermaster continues to update its understanding of contaminants of concern in various plumes, and the extent of their migration. Analysis of environmental records

[35] Chino Basin Watermaster, Status Report No. 11, June 2004

continues, including state and federal databases of known users and dischargers of potentially hazardous chemicals. The Watermaster is also analyzing the relationship of potential sources of perchlorate with downgradient impacted production wells. An analysis was also performed on current and emergent technologies for specific contaminants of concern in the Chino Basin, including nitrates, perchlorate, arsenic, and specific VOCs.

Construction of Monitoring Wells

The Watermaster and IEUA are planning to construct a number of monitoring wells at recharge basins to monitor the influence of recharge on groundwater levels in general, and to monitor the water quality resulting from the recharge of supplemental and storm waters. At least one monitoring well will be installed down-gradient from each recharge facility that receives recycled water.

TDS and Nitrogen Objectives for the Chino Basin

The Watermaster has been working with the TDS/Nitrogen Task Force to revise the subbasin boundaries and the TDS and Nitrogen objectives for the Chino Basin to promote maximum beneficial use of water in the Basin. The maximum beneficial use approach[36] will increase water supplies and lower costs over time while meeting water quality requirements. In December 2003, the Watermaster proposed specific water-quality management zone boundaries, and the recommendations were incorporated into the TDS/N Basin Plan Amendment in November 2003. The Basin Plan Amendment was favorably reviewed and approved by the State Water Resources Control Board (SWRCB) in 2004.

Watermaster staff developed surface water and groundwater monitoring programs that measure the progress of the Watermaster and IEUA in achieving the "maximum benefit" goal in the Basin. One such program is the development of the salt budget tool to estimate the current and future salt loads to the Basin and the salt benefit of the OBMP. The tool was used to establish a TDS objective for the northern part of the Basin based on maximum beneficial use of water available to the region. The salt load projections were based on the water supply plan in the OBMP Implementation Plan and include alternative recycled water and State Project water recharge scenarios. The Maximum Benefit Commitment requires the Watermaster and IEUA to take specific actions triggered by ambient water quality and other time-certain conditions, based on an established implementation schedule.

Further, the Watermaster conducts a surface water monitoring program to characterize the water quality of water in the recharge basins and the water levels in some of these basins. The purpose of this program is to estimate the volume and quality of recharge.

[36] The quality of water required for each beneficial use often differs. Drinking water is the beneficial use that usually requires the highest quality water to protect human health. The quality of groundwater is a function of natural influences and human activities. Several beneficial uses exist for the use of groundwater. Groundwater quality standards for the Chino Basin protect water supplies for the beneficial use that requires the highest quality – drinking water. The standards also ensure the propagation and protection of wildlife and flora.

This information is used for multiple management programs including estimating the safe yield of the Basin. Currently, the Watermaster monitors the water quality in 20 basins. Generally, the water quality samples are taken after storm events; however, monitoring of nuisance flows also occurs. Each basin has been sampled three to five times each year, and the frequency of sampling was increased in 2005 for basins that are scheduled to receive recycled water.

VOC Plume at Ontario International Airport

As discussed above, Groundwater Monitoring Programs include the identification and characterization of water quality anomalies, including the VOC anomaly south of the Ontario International Airport. Activities include assisting the RWQCB with research, monitoring and crafting of investigative and cleanup and abatement orders for potential dischargers. The Watermaster reports that data gathering is complete and RWQCB letters of Notification/Cleanup and Abatement Orders have been mailed to potential dischargers.

With regard to the Chino Airport VOC plume, the Watermaster obtained permission from private well owners to release well water quality data to the Watermaster's consultant performing quarterly groundwater monitoring of the VOC plume. The consultant is attempting to determine the source of the VOC plume.

The Watermaster's water level and water quality monitoring program over the last several years has resulted in a robust database that provides key information used by the Watermaster and other stakeholders in the Basin to continue the VOC Plume Abatement and Cleanup Program.

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SECTION 4
WATER RELIABILITY PLANNING

4.1 RELIABILITY OF WATER SUPPLIES FOR THE MONTE VISTA WATER DISTRCT

Reliability is a measure of a water service system's expected success in managing water shortages. In addition to climate, other factors that can cause water supply shortages are natural disaster, such as earthquakes, chemical spills, energy outages and water quality issues.

The Monte Vista Water District and all southern California communities and water agencies are facing increasing challenges and opportunities in their role as stewards of water resources in the region. The region faces a growing gap between its water requirements and its firm water supplies. Increased environmental regulations and the collaborative competition for water from outside the region have resulted in reduced supplies of imported water. Continued population and economic growth increase water demand within the region, putting an even larger burden on local supplies.

The reliability of the District's water supply is currently partially dependent on the reliability of its imported water supplies, which are managed and delivered by the IEUA, a direct member agency of MWD and the WFA. IEUA's boundaries lie almost entirely within the Chino Groundwater Basin. IEUA is working in cooperation with each of the water management agencies within the Chino Basin to achieve water supply reliability, water quality and watershed management goals for the Santa Ana River Watershed and Southern California region.

The following sections describe the roles of various agencies in water supply reliability, and the near and long-term efforts they are involved with to ensure future reliability of water supplies to the District and the region as a whole.

4.1.1 Monte Vista Water District

The District's Capital Improvement Plan addresses water system, supply and storage infrastructure needs over a 30-year period. The accompanying Financial Master Plan provides a mechanism for funding the identified capital projects at a cost of $65 million.

Since 1998, three new wells have been constructed and several pipeline rehabilitation and replacement projects have been completed. An existing 3 MGD reservoir was acquired and will be reactivated by 2007/08. Further, four new wells will be constructed and two existing wells will be modified by 2010.

The Groundwater Recharge Facility Feasibility Study (September 2003) was prepared to determined the feasibility of recharging the Basin through direct injection of treated imported water during the non-summer months and years when excess SWP water is available; and the subsequent extraction of groundwater during summer months and years

of SWP shortfalls. The Study recommended that the District move forward with the ASR program. Implementation of this program is consistent with the OBMP objectives, and further is consistent with the overall management of the Basin by increasing recharge of imported water in MZ 1. Therefore, four wells will be operated as ASR wells. One well will equipped with well head treatment facilities for nitrate extraction. As a result, by 2010, the District will increase its ability to produce groundwater by 10 MGD for a total of over 30 million gallons (MG) of groundwater production capacity per day.

A water storage assessment study was conducted in 2001 to evaluate the condition of all reservoirs and to determine future storage needs identified in the District's Facilities Master Plan. The results of this study identified that an additional 5 MGD of storage capacity will be required to meet future storage needs. The study also identified several sites for locating a new reservoir. The District is currently evaluating the potential acquisition of property to house a new reservoir.

4.1.2 Metropolitan Water District of Southern California (MWD)

MWD's primary goal is to provide reliable water supplies to meet the water needs of its service area at the lowest possible cost. The reliability of MWD's water supply has been threatened as existing imported water supplies from the Colorado River and SWP face increasing challenges. Despite these challenges, MWD continues to develop and encourage projects and programs to ensure reliability now and into the future. One such project is MWD's recently completed Diamond Valley Lake in Hemet, California; an 800,000 AF capacity reservoir for regional seasonal and emergency storage for SWP and Colorado River water. The reservoir began storing water in November 1999 and reached the sustained water level by early 2002.[37]

State Water Project (SWP)

The reliability of the SWP impacts MWD's member agencies' abilities to plan for future growth and supply. DWR's Bulletin 132-03, December 2004, provides certain SWP reliability information, and in 2002, the DWR Bay-Delta Office prepared a report specifically addressing the reliability of the SWP.[38] This report, *The State Water Project Delivery Reliability Report*, provides information on the reliability of the SWP to deliver water to its contractors assuming historical precipitation patterns. The following SWP reliability information is included in these reports.

On an annual basis, each of the 29 SWP contractors including MWD request an amount of SWP water based on their anticipated yearly demand. In most cases, MWD's requested supply is equivalent it's full Table A Amount;[39] currently at 1,911,500 AFY. After receiving the requests, DWR assesses the amount of water supply available based on precipitation, snow pack on northern California watersheds, volume of water in

[37] Metropolitan Water District of Southern California, Regional UWMP, 2005
[38] Department of Water Resources, State Water Project Delivery Reliability Report. 2002.
[39] Two types of deliveries are assumed for the SWP contractors: Table A and Article 21. Table A Amount is the contractual amount of allocated SWP supply; it is scheduled and uninterruptible. Article 21 allows SWP contractors to receive additional water deliveries only under specific conditions. [Department of Water Resources, State Water Project Delivery Reliability Report, 2002.]

storage, projected carry over storage, and Sacramento-San Joaquin Bay Delta regulatory requirements. For example, the SWP annual delivery of water to contractors has ranged from 552,600 AFY in 1991 to 3.5 MAF in 2000. Due to the uncertainty in water supply, contractors are not typically guaranteed their full Table A Amount, but instead a percentage of that amount based on the available supply.

Typically, around December of each year, DWR provides the contractors with their first estimate of allocation for the following year. For example, on November 23, 2005 DWR announced a 55 percent initial allocation of contractor's Table A Amounts for the year 2006. Due to the variability in water supply for any given year, it is important to understand the reliability of the SWP to supply a specific amount of water each year to the contractors. As hydrologic and water conditions develop throughout the year, DWR revises the allocations.

On January 14, 2005, SWP supplies were projected to meet 60 percent of most SWP contractor's Table A Amounts. This allocation was increased to 70 percent on April 1, 2005 and to 80 percent on April 21, 2005. The final allocation increase occurred on May 27, 2005 and the notice projected SWP would meet 90 percent of most contractor's Table A Amounts.

DWR is preparing an update to the SWP Reliability Report issued in 2003 and expects it to be complete by the end of 2005. In order to assist agencies to prepare their 2005 UWMP Updates, DWR provided relevant sections from the working draft of the 2005 Reliability Report and recommended the results of studies 4 and 5 since they contain the most current information for assumed demands. The results of studies 4 and 5 show average deliveries of 69 percent of full Table A under current conditions and 77 percent under future conditions. The more recent studies also show a minimum delivery of 4 and 5 percent, corresponding to current and future years respectively, compared to 20 percent described by the 2003 report. These amounts are shown in Table 4.1.2-1 on the following page compared to the earlier CALSIM modeling as discussed below.

DWR analyzed the SWP's reliability using the California Water Allocation and Reservoir Operations Model (CALSIM II model) in their Reliability Report. The CALSIM II model was developed by DWR and the U.S. Bureau of Reclamation (USBR) to simulate operations of the SWP and the Central Valley Project (CVP). The CALSIM II model is used to estimate water deliveries to both SWP and CVP users under various assumptions such as hydrologic conditions, land use, regulations, and facility configurations. Documentation for CALSIM II, including assumptions, can be found on the DWR Web site at http://modeling.water.ca.gov.

One of the key assumptions of the CALSIM II model is that past weather patterns will repeat themselves in the future. The model uses a monthly time step to calculate available water supply based on historical rainfall data from 73 years of records (1922 – 1994). The model scenarios used in the preparation of the Reliability Report also assumed that regulatory requirements and facilities would not change in the future. DWR considered this assumption conservative since additional facilities such as reservoirs may be implemented in the future to specifically increase the SWP's reliability.

The CALSIM II model was used to complete three benchmark studies dated May 17, 2002 for the Reliability Report. The benchmark studies evaluated the water supply and demand at the 2001 condition and at the 2021 condition. For 2001, SWP water demand was estimated to vary from 3.0 to 4.1 MAF per year depending on the weather conditions (wet or dry years). SWP water demands for 2021 were estimated to range from 3.3 to 4.1 MAF per year. DWR prepared two benchmark studies for the 2021 condition. The first study assumed that SWP water demands would depend on weather conditions, whereas the second study assumed the contractor's water demand would be their maximum Table A Amount (4.1 MAF per year) regardless of weather.

Table 4.1.2-1 presents the all five study results, which demonstrate that SWP deliveries, on average, can meet 77 percent of the maximum Table A Amount under study 5. The State Water Project Reliability Report 2005, Public Review Draft dated November 16, 2005, further discusses probability of reliability. According to the Report the average SWP Table A Deliveries of 77% under Study 5 can be met 50% of the time. However, Table A Deliveries remain relatively high a large percentage of the time: 60% of the maximum Table A amount can be met approximately 78% percent of the time, and 50% of the maximum Table A amount approximately 83% of the time.[40]

Table 4.1.2-1
SWP Table A Deliveries from the Delta
Percent of Total Table A Amount of 4.133 MAF
(MAF)

Study #	Study	Average (% of Max Table A)	Maximum Table A	Minimum (Single Dry Year)
SWP Delivery Reliability Report (2003)				
1	2001 Study	2.962 (72%)	3.845 (93%)	0.804 (19%)
2	2021 Study A[1]	3.083 (75%)	4.133 (100%)	0.830 (20%)
3	2021 Study B[2]	3.130 (76%)	4.133 (100%)	0.830 (20%)
Update Studies				
4	Revised-Demand Today[3] (2005 Study)	2.818 (69%)	3.848 (94%)	0.159 (4%)
5	Revised-Demand Future[4] (2025 Study)	3.178 (77%)	4.133 (100%)	0.187 (5%)

Source: Department of Water Resources, Excerpts from Working Draft of 2005 SWP Delivery Reliability Report – Attachment 1, May 25, 2005 and Public Review Draft dated November 16, 2005.

[40] The State Water Project Reliability Report 2005, Figure 5-1, Public Review Draft, November 16, 2005., Department of Water Resources

[1] Assumes demands depend on weather conditions.
[2] Assumes demands at maximum Table A amount.
[3] Revises demands to current conditions.
[4] Revises demands at levels of use projected to occur by 2025.

The Monterey Agreement states that contractors will be allocated part of the total available project supply in proportion to their Table A Amount. The Monterey Agreement changed SWP water allocation rules by specifying that, during drought years, project supplies be allocated proportionately based on the maximum contractual Table A Amount. Water is allocated to urban and agricultural purposes on a proportional basis, deleting a previous initial supply reduction to agricultural contractors. The agreement further defines and permits permanent sales of SWP Table A Amounts and provides for transfer of up to 130,000 AF of annual Table A Amounts from agricultural use to municipal use. The Agreement also allows SWP contractors to store water in another agency's reservoir or groundwater basin, resulting in flexibility for SWP contractors to use their share of storage in SWP reservoirs; facilitates the implementation of water transfers; and provides a mechanism for using SWP facilities to transport non-project water for SWP water contractors.

Colorado River Aqueduct (CRA)

Although the District's imported water supply is from the SWP, MWD depends on Colorado River water to meet its service area demands. A brief discussion of California's reliance on and reliability of the CRA follows.

Pursuant to the 1964 U.S. Supreme Court decree, MWD's dependable supply of Colorado River water was limited to 550,000 AFY assuming no surplus or unused Arizona and Nevada entitlement was available and California agricultural agencies use all of their contractual entitlement. Historically, MWD has also possessed a priority for an additional 662,000 AFY depending upon availability of surplus water. In addition, MWD maintains agreements for storage, exchanges and transfers within the service area of Imperial Irrigation District that provide water to MWD.[41]

Water supplies from the Colorado River have been and continue to be a topic of negotiation and intense debate. The 1964 Court Decree required the state of California to limit its annual use to 4.4 million acre-feet (MAF) basic annual apportionment of Colorado River water plus any available surplus. To keep California at 4.4 MAF, MWD reduces its level of diversions in years when no surplus is available.

In 1999, the Colorado River Board developed "California's Colorado River Water Use Plan," also known as the "California Plan" and the "4.4 Plan," which was endorsed by all seven Colorado River Basin states and the U.S. Department of the Interior. This plan developed the framework that specifies how California will transition and live within its basic apportionment of 4.4 MAF of Colorado River water.

[41] Metropolitan Water District of Southern California. Integrated Water Resources Plan. 2003 Update. May 2004.

The U.S. Bureau of Reclamation implemented Interim Surplus Guidelines to assist California's transition to the Plan. Seven priorities for use of the waters of the Colorado River within the State of California were established. MWD would only be able to exercise its fourth priority right to 550,000 AF annually, instead of the maximum aqueduct capacity of 1.3 MAF. Priorities 1 through 3 cannot exceed 3.85 MAF annually. Together, Priorities 1 through 4 total California's 4.4 MAF apportionment.

In October 2003, the Quantification Settlement Agreement (QSA), a critical component of the California's Colorado River Water Use Plan and for the Interim Surplus Guidelines, was authorized defining Colorado River water deliveries, commitments, and facilitating the transfer of water from agricultural agencies to urban uses. The QSA is a landmark agreement, signed by the four California Colorado River water use agencies and the U.S. Secretary of the Interior. The QSA will guide reasonable and fair use of the Colorado River by California through the year 2037.

MWD's Integrated Water Resources Plan 2003 Update, recognizes that the QSA supports MWD's development plans for CRA deliveries, and demonstrates the reliability benefits as a result of the QSA and existing supply enhancement programs.

Report on Metropolitan's Water Supplies: Blueprint for Water Reliability

MWD released a *Report on Metropolitan's Water Supplies, A Blueprint for Water Reliability* on March 25, 2003, to provide updated information on MWD's projected supply and demand for incorporation into Water Verification and Water Supply Assessments for compliance with SB 221 and SB 610, respectively. These bills implement requirements to connect land use to a sufficient water supply before a development can be approved. The MWD report addresses water supply reliability issues and states MWD's roles and responsibilities, which include the following: (1) implementing water management programs that support the development of cost-effective local resources; (2) securing additional imported supplies as necessary through programs that increase the availability of water delivered through the Colorado River Aqueduct and the SWP; (3) providing the infrastructure needed to integrate imported and local sources; (4) establishing a comprehensive management plan dealing with periodic surplus and shortage conditions; and (5) developing a rate structure that strengthens MWD's financial capabilities to implement water supply programs and make infrastructure improvements.

The report details that MWD's regional water demand projections are 6 percent to 16 percent *higher*, depending on what 5-year projection period and 11 percent for Year 2025, than the aggregated projections of MWD's member agencies. As stated in the Report, "this difference indicated that MWD's supplies would provide a level of 'margin of safety' or flexibility to accommodate delays in local resources development or adjustments in development plans."[42] Additionally, the report concludes that "current practices allow MWD to bring water supplies on-line at least ten years in advance of demand with a very high degree of reliability." More particularly, MWD documented

[42] Metropolitan Water District of Southern California. Report on Metropolitan Water Supplies, A Blueprint for Water Reliability, p. 9. March 25, 2003.

sufficient currently available supplies to meet 100 percent of member agencies' supplemental water demands for 20 years under Average and Wet Year conditions, for 15 years under Multiple Dry Year conditions (with 8 to 26 percent reserve capacity), and for 15 years under Single Dry Year conditions (with 8-25 percent reserve capacity). With the addition of supplies under development, MWD will be able to meet 100 percent of its agencies' supplemental water needs under all supply and demand conditions through 2030 with 20-25 percent reserve capacity.[43]

The Report also identifies the ways MWD is managing changes in Southern California's water supplies, including reduced Colorado River deliveries and water quality constraints. In addition, opportunities for additional supplies are currently being implemented in the following ways:

1) Full Diamond Valley Lake: The Lake is now fully operational with an increased conveyance capacity for refill system storage.
2) Re-Operation of Storage and Transfer Programs: In 2003, MWD developed additional storage and transfer capabilities and completed filling local resources to achieve full storage accounts in operational reservoirs and banking/transfer programs.
3) Enhanced Conservation Programs: A new campaign is designed to encourage more efficient outdoor water use and promote innovative conservation measures.
4) Development of Additional Local Resources: There are promising opportunities identified to develop seawater desalination and expand the Local Resources Program.

As demand forecasts are refined, supply goals are also refined. MWD has consistently supplied over 50 percent of water supplies to the Southern California region. To continue to accomplish this, MWD continues to approve new and innovative projects and programs to ensure reliability. For example, in August 2001, MWD took action to support seawater desalination projects, increase commercial conservation efforts, improve water quality by decreasing salinity in supplies from the State Water Project and the Colorado River, increase underground storage and retrieval facilities, adopt principles for establishing cooperative programs, and endorse legislation that would further water reliability. Some of these projects are further described in Section 4.4.

Integrated Water Resources Plan (IRP)

To address the MWD's reliability challenges, MWD and its member agencies developed an Integrated Water Resources Plan (IRP) in 1996. The overall objective of the IRP process is the selection and implementation of a Preferred Resource Mix (or strategy) consisting of complementary investments in local water resources, imported supplies and demand-side management that meet the region's desired reliability goal in a cost-effective and environmentally sound manner. The 1996 IRP was reviewed as part of MWD's strategic plan and rate refinement to guide the development and implementation of revised MWD water management programs through the year 2005.

[43] Metropolitan Water District of Southern California. Report on Metropolitan Water Supplies, A Blueprint for Water Reliability, p. 24-25. March 25, 2003.

The IRP 2003 Update was approved and released July 13, 2004, and includes various projects and programs that contribute to the reliability of MWD's imported water supplies. The IRP Update concluded that the resource targets from the 1996 IRP, factored in with changed conditions, will continue to provide for 100 percent reliability through 2025.

While the IRP 2003 Update includes goals for a variety of resource targets, it identified the most significant programs as conservation and local supply development among the Preferred Resource Mix. The IRP details the Local Resources Program (LRP) and the Seawater Desalination Program (further discussed in Section 4.6) as a means to increase reliability of local supplies. MWD initiated the LRP to promote the development of water recycling projects that reduced demand for imported water and improved regional water supply reliability in 1982. In 1991, the Groundwater Recovery Program was implemented to similarly promote the recovery of local degraded groundwater supplies. In 1995, both programs were combined into the LRP. Currently, the LRP, including both recycling and groundwater recovery, has invested over $121 million and partnered with member agencies on 53 recycled water projects and 22 groundwater recovery projects generating 251,000 acre feet of local supply in 2002.[44]

The IRP 2003 Update states that MWD's regional production target is 500,000 AF by 2020 for its LRP. MWD's current projection of regional implementation of recycling, groundwater recovery, and seawater desalination resource targets exceeds the 1996 IRP goals. Although in FY 2002, recycling and groundwater recovery programs narrowly missed their target, the region is expected to meet its 2010 and 2020 targets. Meeting the targets will require the region to produce 159,000 AF of additional local project and/or seawater desalination supply by 2010 and 249,000 AF by 2020. Overall, the region has developed about 50 percent of the 1996 IRP local resources target for 2020.

MWD continues to encourage development of local water resource process through offering financial incentives through the LRP to its member agencies. These anticipated water supply benefits are incorporated into the forecasts of demand on MWD.

In addition to the LRP, MWD also provides financial and technical assistance for implementing water conservation Best Management Practices, as well as a significant investment in regional and local water conservation programs. MWD was also responsible for distributing $45 million in funds from Proposition 13 funding for development of conjunctive management programs in Southern California.

4.1.3 Water Facilities Authority – Joint Powers Agency (WFA)

The WFA is permitted to treat 81 MGD of SWP water through a MWD imported water connection located in the City of Upland. MWD's Rialto Branch of the Foothill Feeder delivers water to the Agua de Lejos Plant for treatment. The actual quantity of treated water has ranged from 12 MGD in the winter months to as high as 71 MGD during the summer.

[44] Metropolitan Water District of Southern California. Integrated Water Resources Plan, 2003 Update. May 2004.

As discussed in Section 2, WFA treated water enters the District's potable water distribution system through two turnouts and provides WFA water to Chino Hills through another:

- Turnout Number 1 at Arrow Highway and Benson Avenue
- Turnout Number 2 at Benson Avenue and 17th Street
- City of Chino Hills turnout at Ramona Avenue, south of Philadelphia Street

The District is entitled to 24 percent of the WFA Agua de Lejos Plant capacity. Historically, there has always been unused capacity and the District has always had an opportunity to meet water quality standards and demands through additional WFA imported water. Many of the WFA members desire less dependence on imported water and greater reliability and control on local supplies. As a result, the development of local water supply programs has received increased attention and the continued opportunity for utilization of unused WFA treatment capacity is anticipated.

Discussions on the opportunity to increase the capacity of the WFA treatment plant have occurred; however, analysis would need to be done to determine feasibility and economic benefits considering the climate of imported water reliability. The plant could be increased to 88 MGD through re-rating of the existing plant, and further capacity increases would need to be accomplished by plant expansion.

4.1.4 Inland Empire Utilities Agency

As a water wholesaler, MWD supplies imported water to IEUA to meet the water needs of its service area. MWD diverse resources and aggressive conservation program protect the reliability of the region's water supply, as discussed above. MWD demonstrates that sufficient supplies can be reasonably relied upon to meet projected supplemental demands. As a result, during a single dry year or multiple dry years, MWD will have the resources to supply IEUA with 100 percent of their imported water demands, as presented in Section 4.2. However, with the Dry Year Yield Program in effect, several of IEUA's retail agencies will reduce their imported water demand by their DYY Program shift, thus reducing demands on MWD. During a dry year, imported water demands are expected to decrease to approximately 65 percent.[45]

Dry Year Yield Program[46]

In 2002, IEUA, the Watermaster, and MWD executed an agreement for the development of the Chino Basin Dry-Year Yield Program (DYY Program) to help reduce demands on imported water during dry years by pumping additional groundwater. Three Valleys Municipal Water District is also a signatory to the Program. The Dry Year Yield Program is an implementation element of the OBMP Program Element Nos. 8 and 9, which were to develop and implement a groundwater storage and conjunction use program.

[45] Inland Empire Utilities Agency, Regional UWMP, Review Draft October 2005
[46] Inland Empire Utilities Agency, Regional UWMP, Review Draft October 2005

The DYY Program is the first step in a phased plan to develop and implement a comprehensive conjunctive use program to allow maximum use of imported water available during wet years and stored groundwater in the Chino Basin during dry years. MWD will utilize the Chino Basin for dry year storage up to 100,000 AF of surplus imported water. Imported water deliveries to participants would increase during wet or normal (or "put") years, and purchase of imported water would decrease during dry (or "take") years.

Collectively, the eight DYY participants, six of which are local retail agencies of IEUA, including the District, would meet predetermined amounts to achieve a maximum 25,000 AFY "put" and a maximum 33,000 AFY "take". Each of the local retail agencies volunteered to produce excess groundwater during a dry year in-lieu of receiving normal imported water deliveries. In exchange, they received funding for new groundwater treatment and well facilities that would enable additional groundwater production during dry years. IEUA's overall imported water demands during dry years would decrease by 29,000 AFY, which equals the portion of the 33,000 AFY of the DYY shift obligation for IEUA's local retail agencies, as shown in Table 4.1.3-1. During dry years when the DYY Program is active, groundwater production will increase to approximately 116 percent of a normal year.

The District received $3.1 million to construct a groundwater production well and an ASR well with well head treatment facilities. The latter project, which is estimated to cost $4 million, will be a joint effort with the City of Chino.

Project construction is scheduled to be completed by 2008 with surplus water deliveries beginning shortly after that. The DYY program is scheduled to become effective in 2008.[47]

[47] Inland Empire Utilities Agency, Regional UWMP, Review Draft October 2005

Table 4.1.3-1
Participating Agencies DYY Shift Obligations

Local Retail Agency	DYY Program Shift Obligation (AFY)
City of Chino	1,159
City of Chino Hills	1,448
Cucamonga Valley Water District	11,353
Jurupa Community Services District(1)	2,000
Monte Vista Water District	3,963
City of Ontario	8,076
City of Pomona(1)	2,000
City of Upland	3,001
Total	**33,000**

(1) Agencies not within the IEUA service area.

Desalter Water

Although the District does not contract for desalted water from the Chino I Desalter, the District does benefit from the reliability that use of desalter water provides for the Chino Basin and the region. Therefore, the Chino Basin Desalter Authority and the use of desalted water for regional reliability are briefly discussed below.

The Chino Basin Desalter Authority (CDA) is currently contracted to provide a combined total of 9,200 AFY of product water from the Chino I Desalter to Jurupa Community Service District (JFSD) and the cites of Chino, Chino Hills, and Norco. The Chino I Desalter Expansion will result in an additional 5,000 AFY of potable water being made available for use. The resultant total of 14,200 AFY will be allocated between the cities of Chino, Chino Hills, Norco and Ontario, and the JCSD and the Santa Ana River Water Company.

Secondary Effect of Chino I Desalter Expansion and Chino II Desalter Project

The installation and operation of the Chino Basin Desalters is part of the overall OBMP program to enhance basin water supplies, enhance water quality and carry out management of the Chino Basin's groundwater aquifers for the long-term supply of the existing and future population of the areas. The key concept in the OBMP is that the whole program will be implemented to achieve these objectives. The OBMP evaluation of groundwater impacts concludes that implementation of the whole program would not cause significant changes in groundwater levels within the Basin's aquifers.

The OBMP program element that encompasses the desalters is to be offset by a program to recharge storm water, SWP water, and recycled water into the Basin. In fact, based on forecast demand, the net result of additional extraction by desalters will be less than one-half the estimated volume of recharge. One of the identified objectives of the OBMP is to

increase the amount of safe yield within the Chino Basin and implementation of the proposed desalter projects will contribute to this objective.

In ten years or the conversion of 20,000 acres of agricultural lands, the Watermaster will need to determine if future desalters are necessary to implement the OBMP. If it is determined they are necessary, then the CDA will have 36 months to secure sufficient funding from state or federal sources to pay for all the capital costs. If funding is unavailable, then there is no obligation to construct future desalters, and instead will attempt to negotiate new terms and conditions with the producers within 24 months to accomplish implementation efforts of the OBMP.

Recycled Water

Recycled water is becoming an increasingly important source of local water for the region. According to IEUA, during a single dry year, it has been assumed that recycled water will be 100 percent reliable. During multiple dry years, reliability remains constant and continues to help reduce potable water demands as new recycled water users are added to the regional recycled water system. It has been assumed that during multiple dry years, the production of recycled water will gradually increase from 100 percent during the first dry year to 105 and 110 percent, respectively, during the next two subsequent dry years as more customers become connected to the recycled water system. Recycled water is a reliable resource not subject to droughts or imported water availability.

Recycled Water Groundwater Project

The Chino Basin Recycled Water Groundwater Project (Recharge Project) is part of the comprehensive Water Supply Enhancement Program jointly sponsored by IEUA, Chino Basin Watermaster, Chino Basin Water Conservation District, and the San Bernardino County Flood Control District to improve the quality of local drinking water wells, enhance water supply reliability, and lower the cost of water to residents throughout the Chino Basin. Recycled water recharge for the year 2005 was approximately 1,000 AF.[48]

Need for Recharge Project: Reduce dependence on expensive imported water supplies and provide a local drought-proof supply of new water for the Chino Basin.

- Statewide water shortage will continue in California as result of northern California Bay-Delta issues, Colorado River cutbacks, and increased population. Imported water supplies from northern California are the most expensive source of water for the Chino Basin and are increasingly unreliable, especially during droughts.
- Additional reliable, local water supplies are needed in the Chino Basin to meet the future needs of our rapidly growing cities and to avoid future drought shortages.
- High quality recycled water, produced by IEUA's recycled water plants, is released to the Santa Ana River and has been used downstream for decades to recharge the Orange County Groundwater Basin.

[48] IEUA 2005 UWMP, Table 5-7, Review Draft, October 2005.

- Chino Basin community leaders, including the Chino Basin Watermaster, Cucamonga Valley Water District, Monte Vista Water District, Inland Empire Utilities Agency and the cities of Chino, Chino Hills, Fontana, Ontario, Rancho Cucamonga, and Upland, have developed an integrated water supply plan to meet the future needs of Chino Basin which includes use of high quality recycled water to recharge the Chino Groundwater Basin.
- The Chino Basin Recharge project is needed to meet the requirements of the court -approved OBMP and the Chino Basin Peace Agreement.
- The Governor's Water Recycling Task Force (2003) and the California Bay Delta Authority (2000) recommended that recycled water use be expanded to reduce reliance on imported water from the Delta and Colorado River.

Proposed Phase I Project: Recharge up to 44,000 AF annually of storm water, recycled water and imported water to implement the Chino Basin Recharge Master Plan and the OBMP:

- Improves seven existing recharge basins and stormwater diversion facilities located in Ontario, Rancho Cucamonga, and Fontana.
- Blends high quality storm water, recycled water and imported water in the recharge basins, and stores excess water in normal/wet years.
- Recharges up to 20 percent recycled water, or about 8,000 AFY.
- Uses outstanding source control, multiple barrier approach for protecting water quality.
- $40 million capital investment, 50 percent funded through state Proposition 13 grants (SAWPA/SWRCB).
- Phase I project was scheduled to start in 2004; with full use of all 20 recharge basins at build out in ten years.

Recharge Project Benefits:

- Blends high quality storm water and recycled water which allows for more local and less expensive water supplies to recharge the basin and reduces the need for more expensive imported water.
- Phase I project will offset need for about 16,000 AF of imported water, saving about $4 million per year in imported water purchases.
- Chino Basin integrated capital facilities plan over next ten years will provide for the development of 95,000 AF of new local supplies, 100,000 AF of new storage, 33,000 AF of new dry year yield.
- Provides reliable "drought-proof" water supplies to meet future growth.
- Enhances the capacity to recharge more imported water in wet years when this water is more plentiful and less expensive. Helps to offset losses from the Colorado River through conjunctive management of ground and surface water supplies.
- Is an essential element of the regional Chino Basin Optimum Basin Management Program, improving water quality and yield from the Chino Groundwater Basin.

Recharge Project is Consistent with the Following:

- Chino Basin Recharge Master Plan, Phase I Final Report (1998)
- Chino Basin Watermaster Optimum Basin Management Program (OBMP and Peace Agreement (2000)
- IEUA Urban Water Management Plan (2000) and MWD Urban Water Management Plan (2000)
- Chino Basin Recycled Water Groundwater Recharge Projects Facilities Plan (2000)
- California Bay Delta Authority Record of Decision (2000)
- Chino Basin Watermaster OBMP Groundwater Recharge Master Plan (2001)
- IEUA Recycled Water System Feasibility Study (2002)
- IEUA Comprehensive Wastewater Facilities Master Plan (2002)
- Santa Ana Watershed Project Authority's (SAWPA) Integrated Water Management Plan (2002)
- U.S. Bureau of Reclamation's Southern California Comprehensive Water Reclamation and Resource Plan (2003)
- California Recycled Water Task Force (2003)
- IEUA Title 22 Engineering Report for Phase I Recycled Water Groundwater Recharge Project (2003)
- IEUA and Orange County Water District Memorandum of Understanding for watershed protection and maximum use of recycled water for mutual benefit (2003)
- Approved by Chino Basin Watermaster Stake holders (2003)

4.1.5 Chino Basin Watermaster

Groundwater Level Monitoring[49]

The Watermaster has three active groundwater-level monitoring programs operating in the Basin – a semiannual basin-wide program; an intensive key well monitoring program associated with the Chino I/II Desalter well fields and the Hydraulic Control Monitoring Program; and an intensive peizometric monitoring program associated with land subsidence and ground fissuring in MZ 1. Water level monitoring is important to understand the impacts of pumping, availability of storage, changes in Basin hydrology, and the influence of recharge on groundwater levels.

For the semiannual program, the Watermaster staff manually measure water levels in approximately 340 agricultural wells twice per year. In conjunction with the semiannual program, Watermaster staff manually measure water levels at about 112 key wells in the south portion of the Basin and around the Chino I/II Desalter well fields once per month. For the MZ 1 program, groundwater level data is collected manually at 35 wells in the

[49] Chino Basin Watermaster, Status Report No. 11, March 2004 through May 2004. June 2004

southern portion of MZ 1 once every two months and automatically once every 15 minutes using pressure transducer/data loggers installed at each well.

During 2004/05, Watermaster staff expanded the use of pressure transducer/data loggers to include an additional 30 loggers at wells in the key well program and at selected wells in the northern portion of the Basin where highly-detailed groundwater level data is scarce.

The Watermaster, IEUA, Orange County Water District, and the Regional Water Quality Control Board (RWQCB) have agreed to construct nine new monitoring wells as part of the piezometric monitoring element. These monitoring wells are necessary because existing well locations and well construction are not sufficient to measure the extent of hydraulic control in the vicinity of the Desalter well fields and because of the loss of monitoring use of agricultural wells as these are destroyed in the conversion of land use from agriculture to urban uses. The objective of these new wells is to document the creation of a regional depression in the piezometric surface, for both the shallow and deep aquifer systems, as a result of Desalter pumping.

The Watermaster and IEUA are planning to construct a number of monitoring wells at recharge basins to monitor the influence of recharge on the groundwater levels in general, and to monitor water quality resulting from the recharge of supplemental and storm waters.

Dry Year Yield Program

Participants in the Dry Year Yield Program, as described in Table 4.1.3-1 above, are required to reduce (shift) their imported water usage by a predetermined amount during a dry year. Each participating agency has a specific shift obligation that, when added together, will provide MWD with 33,000 AF of dry year yield.[50] The eight participating agencies include the cities of Chino, Chino Hills, Ontario, Pomona and Upland, Cucamonga Valley Water District, Jurupa Community Services District, and Monte Vista Water District.[51] The Dry Year Yield Program is designed to supply local water in a consecutive three-year drought.

Voluntary Forbearance

Land subsidence is a current groundwater issue in the Chino Basin, although not specifically within the District service area. Land subsidence can occur in areas where underlying fine-grained sediment layers (silt and/or clay) are dewatered over a long period of time allowing these layers to compress. According to the Phase I OBMP Report, subsidence and ground fissuring has been documented in portions of the city of Chino and Chino Hills. The area underlying the cities has experienced ground fissuring as early as 1973, but an accelerated occurrence of ground fissuring ensued after 1991. A common cause of ground fissuring within alluvial basins is the removal of subsurface

[50] Chino Basin Watermaster, Dry Year Yield Project, Memorandum & Attachments, Agreement No. 49960, February 2003.
[51] Chino Basin Watermaster Status Report No. 11, June 2004

fluids resulting in compaction of poorly consolidated aquifer materials and land subsidence.

Remote sensing studies of subsidence were conducted for the City of Chino in 1999 to further analyze subsidence in MZ 1. These studies confirmed the location and relative magnitude of subsidence in MZ 1. It was concluded that the cause of this subsidence was localized groundwater overdraft and declining groundwater levels, and effects resulting from groundwater production from mostly deep wells in the area.[52]

The Watermaster has developed a groundwater level monitoring program that includes multiple tools to evaluate subsidence. To further reduce the risk of subsidence in the western portion of the Chino Basin, the cities of Chino and Chino Hills agreed to reduce their groundwater production, from certain wells, by 1,500 AFY each. Under this forbearance agreement, production from specified wells is reduced between October 1 and June 30.

4.1.6 Santa Ana Watershed Project Authority (SAWPA)

SAWPA was formed in 1968 as a planning agency and reformed in 1972 as a joint powers agency for the purpose of coordinating regional planning within the Santa Ana River Watershed to address water quality and supply improvements. SAWPA is comprised of five major water supply and wastewater management agencies within the Santa Ana Watershed; Inland Empire Utilities Agency, Eastern Municipal Water District, Orange County Water District, San Bernardino Valley Municipal Water District, and Western Municipal Water District.

Since the early 1970's, SAWPA has held a key role in the development and update of the Regional Basin Plan for the RWQCB. SAWPA conducts water-related investigations and planning studies, and builds facilities needed for regional water supply, wastewater treatment or water quality remediation. Current studies include the Chino Basin Water Resources Management Study, the Colton-Riverside Conjunctive Use Project, an investigation of water quality in Lake Elsinore and studies on the nitrogen and organic carbon levels in the Prado Basin.

To facilitate improvements to the local water supply system, SAWPA adopted an IRP in June 1998. SAWPA conducted a stakeholder process, which resulted in identifying potential projects with a total estimated cost of over $1 billion. Approved in March 2000, State Water Bond Act (Proposition 13) was approved including $235 million to the Southern California Integrated Watershed Program (SCIWP). On July 17, 2000 the SWRCB entered into a memorandum of understanding to set forth general procedures and criteria for selecting projects to be funded by SCIWP for the Santa Ana River Watershed. On August 1, 2000, SAWPA approved an Initial Project Priority List of 44 projects with an estimated cost of $689 million, and adopted a policy to ensure that the Project Priority List is reviewed and updated periodically to ensure timely and cost-effective use of funds.

[52] City of Chino Water System Master Plan Update, May 2003

The Chino Basin received $87 million for the construction of water desalters, groundwater recharge facilities and new wells, of which $48 million has been allocated by SAWPA and the SWRCB for the Chino I Desalter Expansion and construction of the new Chino II Desalter. This is part of the $235 million approved for the Santa Ana River Watershed, subject to administration by SAWPA.

The current funding potential is from Proposition 50, through the Integrated Regional Water Management Program jointly managed by the SWRCB and DWR. To access this funding of up to $50 million, SAWPA has recently updated the Project Priority List through the update of its Integrated Regional Water Management (IRWM) Plan (previously known as the IRP).

4.1.7 Regional Water Quality Control Board – Santa Ana Region 8

Background

The SWRCB and the nine Regional Water Quality Control Boards (Regional Boards) are responsible for the protection and, where possible, the enhancement of the quality of California's waters. The SWRCB sets statewide policy, and together with Regional Boards, implements state and federal laws and regulations. Each of the nine Regional Boards adopts a Water Quality Control Plan or Basin Plan, which recognizes and reflects regional differences in existing water quality, the beneficial uses of the region's ground and surface waters, and local water quality conditions and problems.[53]

In 1975, the Santa Ana Regional Water Quality Control Board (RWQCB) adopted the original Water Quality Control Plan (Basin Plan) for the Santa Ana River Basin. In 1995, the RWQCB updated the Basin Plan to address issues that had evolved over time due to increasing populations and changing water demands in the region. The scope of the document covers the Santa Ana River Basin, which includes the upper and lower Santa Ana River watersheds including northwestern Orange County. In 2002, a triennial review of the Basin Plan was performed. In July 2002, at a public hearing, the RWQCB adopted Resolution No. R8-2002-0070, approving the Triennial Review Priority List and Work Plan.

The Basin Plan is more than just a collection of water quality goals and policies, descriptions of conditions, and discussions of solutions. It is also the basis for the RWQCB's regulatory programs. The Basin Plan establishes water quality standards for all the ground and surface waters of the region. The RWQCB also regulates water discharges to minimize and control their effects on the quality of the region's ground and surface water. Permits are issued under a number of programs and authorities.

Water quality problems in the region are listed in the Basin Plan, along with the causes, where they are known. For water bodies with quality below the levels necessary to allow all the beneficial uses of the water to be met, plans for improving water quality are

[53] Santa Ana Regional Water Quality Control Board. Region 8 Water Quality Control Plan (Santa Ana River Basin). January 1995.

included. Legal basis and authority for the RWQCB reflects, incorporates, and implements applicable portions of a number of national and statewide water quality plans and policies, including the California Water Code (Porter-Cologne Water Quality Control Act) and the Clean Water Act.[54]

Key Regional Issues

Water quality degradation due to high concentrations of nitrogen and total dissolved solids (TDS) is the most significant regional water quality problem in the Santa Ana River Watershed (Watershed). Historically, the Santa Ana River likely flowed during most of the year, recharging deep alluvial groundwater basins in the inland valley and the coastal plain. However, irrigation projects eventually led to the diversion of all surface flow in the river, and the quantity of groundwater recharge diminished greatly. Water quality concerns in the Watershed focus on elevated concentrations of TDS and total inorganic nitrogen (TIN).

A Task Force was formed in 1995 to provide oversight, supervision, and approval of a study to evaluate the impact of TIN and TDS on water resources in the Watershed. The study is coordinated by the Santa Ana Watershed Project Authority (SAWPA), a joint powers agency of which OCWD and OCSD are member agencies, and is investigating questions related to TIN and TDS management in the Watershed, including groundwater subbasin water quality objectives, subbasin boundaries, and regulatory approaches to wastewater reclamation and recharge.[55]

Water Resources and Water Quality Management

Numerous water resource management studies and projects, focused on water quality and/or water supply, are in progress in the Region under the auspices of a variety of parties. As stated above, the RWQCB has been working with SAWPA concerning water supply and reliability issues. SAWPA has been studying TIN and TDS issues and is a valuable partner in water resource and water quality management. SAWPA, and its member agencies, conduct water related investigations and planning studies, and build physical facilities where needed for water supply, wastewater treatment or water quality remediation.

Some of these activities bear directly on the implementation of the Basin Plan, while others may lead to future Basin Plan amendments to incorporate appropriate changes, such as revised regulatory strategies for various dischargers. These investigations and the implementation of appropriate physical solutions are an essential and integral part of the effort to restore and maintain water quality in the Region.

[54] Santa Ana Regional Water Quality Control Board. Region 8 Water Quality Control Plan (Santa Ana River Basin). January 1995.
[55] Santa Ana Regional Water Quality Control Board. Watershed Management Initiative. Revised May 2004.

4.2 DEMAND AND SUPPLIES COMPARISON

Demand and supply information in this UWMP has been obtained from District staff and records, as well as pertinent data extracted from the IEUA 2005 Draft Regional UWMP.

MWD Supplies and Demands

As previously noted, the District is a sub-agency of the IEUA, which is a member agency of MWD. Although only a portion of the District's total water supply is imported from MWD, that portion does have some impact on the District and will therefore be discussed in this Section.

In its Draft 2005 UWMP, MWD has chosen the year 1977 as the single driest year since 1922 and the years 1990-1992 as the multiple driest years over that same period. These years have been chosen because they represent the timing of the least amount of available water resources from the SWP, a major source of MWD's supply.

Over the 20 year period beginning in 2010 and ending in 2030, MWD projects a 0.5 percent decrease in available supply during an average year, a 4.5 percent increase during a single dry year, and a 3.8 percent increase during the third year of the multiple dry year period.[56] The increased available supplies during drought year scenarios are primarily due to increased contract allotments of in-basin storage as well as a number of supplies under development.

In its September 2005 Draft Regional Urban Water Management Plan (RUWMP), MWD also projects an overall increase in member agency demands. Specifically, they project a 10.2 percent increase over the same 20-year period in the average demand, an 8.5 percent increase during the single dry year scenario, and an 8.9 percent increase during the multiple dry year scenario. However, in all cases, the projected regional increase in demands by member agencies are offset by available surpluses in the MWD supply.

Table 4.2-1 summarizes MWD's current imported supply availability projections for average and single dry years over the 20-year period beginning in 2010 and ending in 2030. Based on these projections, MWD will be able to meet all of its projected single dry year service area demands through the year 2030.

[56] Projections obtained from Metropolitan Water District of Southern California's September 2005 Draft RUWMP

Table 4.2-1
MWD Regional Imported Water Supply Reliability Projections for Average and Single Dry Years[57]
(AFY)

Row	Region Wide Projections	2010	2015	2020	2025	2030
Supply Information						
A	Projected Supply During an Average Year[1]	2,668,000	2,600,000	2,654,000	2,654,000	2,654,000
B	Projected Supply During a Single Dry Year[1]	2,842,000	3,033,000	3,002,000	2,970,000	2,970,000
C = B/A	Projected Supply During a Single Dry Year as a % of Average Supply	**106.5**	**116.7**	**113.1**	**111.9**	**111.9**
Demand Information						
D	Projected Demand During an Average Year	2,040,000	2,053,000	1,989,000	2,115,000	2,249,000
E	Projected Demand During a Single Dry Year	2,293,000	2,301,000	2,234,000	2,363,000	2,489,000
F = E/D	Projected Demand During a Single Dry Year as a % of Average Demand	**112.4**	**112.0**	**112.3**	**111.7**	**110.7**
Surplus Information						
G = A-D	Projected Surplus During an Average Year	628,000	547,000	665,000	539,000	405,000
H = B-E	Projected Surplus During a Single Dry Year	549,000	732,000	768,000	607,000	481,000
Additional Supply Information						
I = A/D	Projected Supply During an Average Year as a % of Demand During an Average Year	**130.8**	**126.6**	**133.4**	**125.5**	**118.0**
J = A/E	Projected Supply During an Average Year as a % of Demand During a Single Dry Year	**116.3**	**113.0**	**118.8**	**112.3**	**106.6**
K = B/E	Projected Supply During a Single Dry Year as a % of Single Dry Year Demand (including surplus)	**123.9**	**131.8**	**134.3**	**125.6**	**119.3**

[1] Projected supplies include current supplies and supplies under development, but are limited by MWD's 1.25 MAF allotment to Colorado River Water; data obtained from MWD September 2005 Draft RUWMP supply/demand projections.

[57] Metropolitan Water District of Southern California , Draft Regional UWMP, September 2005 Draft

Table 4.2-2 summarizes MWD's current imported supply availability projections over the 20-year period beginning in 2010 and ending in 2030 for average and multiple dry year scenarios. When reviewing Table 4.2-2, it is important to note that MWD is projecting a surplus of supply for all multiple dry year scenarios through 2030.

The findings in this UWMP were derived based upon MWD's September 2005 Draft RUWMP. The figures in Tables 4.2-1 and 4.2-2 can be interpolated to project MWD's ability to meet a specified demand expressed in terms of a percentage of average demand and supply availability. When viewed on a regional basis, some of MWD's member agencies (and their sub-agencies) will exceed the average demands shown in Row F of the two aforementioned tables, while other MWD member agencies (or sub-agencies) will have demands, which fall below the Row F averages. However, when viewed from the overall regional perspective, it is reasonable to assume that these averages will apply to all local water purveyors. Although a less conservative assumption might suggest surplus water supplies not used by agencies experiencing low or no growth may be freed up for use by those water purveyors experiencing more growth, this is not borne out by the overall MWD supply and demand picture.

MWD is projecting a 19.4 percent increase in total demand (including local supplies) over its entire service area between 2005 and 2030 (4,115,700 AFY to 4,914,000 AFY)[58] compared with a 20.9 percent increase in population over the same period of (18,233,700 to 22,053,200)[59]. In other words, MWD's projected increase in demand roughly parallels its projected increase in population. This means that when viewed from an overall MWD service area perspective, it is unlikely that MWD will be able to supply those agencies which are experiencing much greater growths in both population and water demand with additional supplies of imported water over and above their general supply capabilities as presented in Rows I and K of Tables 4.2-1 and 4.2-2. This is not expected to impact the District because the majority of the District's demands are met from groundwater and not from imported water (imported water only meets about 24 percent of the District's overall demand during normal years as noted in Table 4.2-3).

[58] Table A.1-5 from Metropolitan Water District of Southern California, Regional UWMP, September 2005 Draft
[59] Table A.1-2 from Metropolitan Water District of Southern California, Regional UWMP, September 2005 Draft

Table 4.2-2
MWD Regional Imported Water Supply Reliability Projections for Average and Multiple Dry Years[60]
(in AFY)

Row	Region Wide Projections	2010	2015	2020	2025	2030
Supply Information						
A	Projected Supply During an Average Year[1]	2,668,000	2,600,000	2,654,000	2,654,000	2,654,000
B	Projected Supply During Year 3 of a Multiple Dry Year Period[1]	2,619,000	2,776,600	2,741,000	2,719,000	2,719,000
C = B/A	Projected Supply During Year 3 of a Multiple Dry Year as a % of Average Supply	**98.2**	**106.8**	**103.3**	**102.4**	**102.4**
Demand Information						
D	Projected Demand During an Average Year	2,040,000	2,053,000	1,989,000	2,115,000	2,249,000
E	Projected Demand During Year 3 of a Multiple Dry Year Period[2]	2,376,000	2,389,000	2,317,000	2,454,000	2,587,000
F = E/D	Projected Demand During Year 3 of a Multiple Dry Year Period as a % of Average Demand	**116.5**	**116.4**	**116.5**	**116.0**	**115.0**
Surplus Information						
G = A-D	Projected Surplus During an Average Year	549,000	732,000	768,000	607,000	481,000
H = B-E	Projected Surplus During Year 3 of a Multiple Dry Year Period	243,000	377,000	424,000	265,000	132,000
Additional Supply Information						
I = A/D	Projected Supply During an Average Year as a % of Demand During an Average Year	**130.8**	**126.6**	**133.4**	**125.5**	**118.0**
J = A/E	Projected Supply During an Average Year as a % of Demand During Year 3 of a Multiple Dry Year	**112.3**	**108.8**	**114.5**	**108.1**	**102.6**
K = B/E	Projected Supply During a Multiple Dry Year as a % of Multiple Dry Year Demand (including surplus)	**110.2**	**116.2**	**118.3**	**110.7**	**105.1**

[1] Projected supplies include current supplies and supplies under development, but are limited by MWD's 1.25 MAF allotment to Colorado River Water; data obtained from MWD September 2005 final draft RUWMP.
[2] MWD only projects demands for year 3 of a multiple dry year period.

[60] Metropolitan Water District of Southern California, Regional UWMP, September 2005 Draft

To establish a reasonable foundation from which to project future MVWD demands, the IEUA Draft UWMP was reviewed to assess their methodology for determining single and multiple dry year demand factors. In that draft report IEUA determined that single and multiple dry year demands were exactly the same as normal year demands, except that they applied an arbitrary ten percent conservation factor during such dry years. These "zero increase" demand factors for single and multiple dry years are not consistent with actual demands experienced by most southern California water agencies and will therefore not be used in this analysis.

Table 4.2-3 summarizes production records for the past five full calendar years. The average potable water production over that period (including groundwater and imported water usage) was 13,983 AFY. Based on recorded rainfall, 2001 was the closest to a normal year (13.07 inches of rainfall at Ontario Fire Station No. 3 compared with a long term historical average of 13.60 inches). The calendar year 2002 is representative of a single dry year based on the recorded calendar year rainfall of only 4.67 inches, which is one of the lowest recorded years on record for the region.

Although 2003 was technically not a dry year in Ontario, it was a below normal year in much of Southern California based on rainfall data recorded at many other locations. With that in mind, the three years 2002 through 2004 have been assumed representative of a three year dry period in much of Southern California. MVWD's experience (105.4%, 104.1% and 107.4% of normal for years 1, 2 and 3, respectively, of a multiple three-year dry period) is representative of demand increases experienced in some of those other southern California locales[61] despite the fact that 2003 was an average rainfall year in Ontario. These factors can also be logically be explained as follows: In year one, rainfall decreases and demands increase as customers use more water for irrigating lawns and other foliage; in year two, customers conserve more water as they begin to realize drought conditions are beginning to take hold; and in year three, demands begin increasing again as customers try to keep their lawns and foliage from dying. With that in mind, this three year period will be assumed to represent a typical three year dry period in the District's service area.

Based on this information, the following factors will be used in developing MVWD's single and multiple year demands:

- Single Dry Year Factor 105.4 percent of normal
- Multiple Dry Year Factor for Year 1 105.4 percent of normal
- Multiple Dry Year Factor for Year 2 104.1 percent of normal
- Multiple Dry Year Factor for Year 3 107.4 percent of normal

It is important to note that the percentages reflected above for Multiple Dry Years 1, 2 and 3 are less than Metropolitan's projected available supplies during all multiple dry

[61] The Municipal Water District of Orange County (MWDOC) has conducted extensive analyses of water demand in Orange County based on hydrologic records for the period 1922-2004 and has concluded that during a multiple dry year period, demands in years 1, 2 and 3 are 106.7%, 103.7% and 105.5% of a normal year demand. MWDOC has also determined that single dry year demands in Orange County are 105.5% of normal year demands.

year periods through the year 2030 except for a slight minimal variation in 2030 (refer to Row K of Table 4.2-2), which means that the MVWD should not encounter any problems in meeting its demands over the next 25 years.

Based on the data included in Table 4.2-3, total per capita demand in MVWD's averages about 191 gallons per capita per day (gpcd) (based on 10,937 AF of potable water consumed in 2004 (2005 is not used because demand was much lower than normal due to the unusually wet year) and an estimated 2004 service area population of about 51,000).

Table 4.2-3
Monte Vista Water District
Retail System Water Production for 2000/01 – 2004/05
Including Comparison with Climatologic Data
(in AFY or inches of rainfall per year)

	2000/01	2001/02	2002/03	2003/04	2004/05	Average 2000/04	Average 2000/05	25-Year Average
Total Potable Water Retail Consumption in AF[62]	**10,188**	**10,743**	**10,604**	**10,937**	**9,859**	**10,618**	**10,466**	---
Water Year Rainfall[63]	13.07	4.67	17.10	10.85	33.55	11.56	15.8	13.60[64]
Climatologic Classification	Average	Very Dry	Average	Dry	Very Wet	---	---	---
Water Usage as a % of 2001 Assumed Average Year	**100.0**	**105.4**	**104.1**	**107.4**	**96.8**	---	---	---

Tables 4.2-4 through 4.2-10 compare current and projected water supplies and demands in normal, single dry year and multiple dry year scenarios for the MVWD.

Projections presented in Tables 4.2-4 through 4.2-10 indicate the District can expect its available supplies to significantly exceed anticipated demands over the 25 – year planning period. As a result of these surplus supplies, the District should not experience any problems in meetings its demands during normal, single or multiple dry year scenarios during the next 25 years.

[62] Consumption data provided by MWWD
[63] Data for years Water Years (July to June) obtained from San Bernardino County Water Resources Division website (http://www.co.san-bernardino.ca.us/trnsprtn/pwg/); rainfall data was recorded at Ontario Fire Station No. 3 located at 1408 East Francis Street in Ontario
[64] 25-year average rainfall recorded at Ontario Fire Station No. 3 for October-September period for the years 1979/80 through 2004/05 (excluding 1999/2000 when no data was available)

Table 4.2-4
Monte Vista Water District
Projected Water Supply and Demand
Normal Water Year
(AFY – All projections rounded to nearest 10 AF)

Water Sources	2010	2015	2020	2025	2030
Supply	Normal Years				
Projected MWD Imported Water Supply During an Average Year as a % of Demand During an Average Year[1]	130.8	126.6	133.4	125.5	118.0
Imported (WFA)[2]	6,830	6,840	7,560	7,540	7,490
Local (Groundwater)[3]	30,100	30,100	33,000	33,000	33,000
Recycled[4]	370	540	670	670	670
Total Supply	**37,300**	**37,480**	**41,230**	**41,210**	**41,160**
% of Normal Year	100.0	100.0	100.0	100.0	100.0
Demand					
Imported Demand (WFA)[2]	5,220	5,400	5,670	6,010	6,350
Local Demand (Groundwater)[3]	16,190	17,800	18,260	18,810	19,390
Recycled[4]	370	540	670	670	670
Total Demand	**21,780**	**23,740**	**24,600**	**25,490**	**26,410**
Retail Portion of Total Demand[5]	13,210	14,100	14,820	15,540	16,290
Wholesale Portion of Total Demand[5]	8,570	9,640	9,780	9,950	10,120
Total Demand	**21,780**	**23,740**	**24,600**	**25,490**	**26,410**
% of Year 2005 (22,027 AF)[6]	98.9	107.8	111.7	115.7	119.9
Supply/ Demand Difference	**15,520**	**13,740**	**16,630**	**15,720**	**14,750**
Difference as % of Supply	**41.6**	**36.7**	**40.3**	**38.1**	**35.8**
Difference as % of Demand	**71.3**	**57.9**	**67.6**	**61.7**	**55.9**

[1] From Table 4.2-1, Row I; these MWD projections indicate that they will be able to supply imported water significantly in excess of demands (i.e., 118% to 130.8% more than demand as noted)

[2] Imported water demand projections for 2010-2025 are based on projections presented in the IEUA October 2005 Draft UWMP as modified (1) to incorporate North Montclair Specific Plan projected net demand of 1,050 AF (spread as follows: 180 AF by 2010; 620 AF by 2015; 750 AF by 2020; 890 AF by 2025; and 1050 AF by 2030) and (2) to reflect recycled water demands from Table 5-8 in IEUA's October Draft UWMP. Overall projections for 2030 (which were not included in the IEUA Draft UWMP) are interpolated from prior year projections. Imported water supply projections = (imported water demands) x (projected MWD imported water supply during an average year as a percent of demand during and average year (Row 1 above))

[3] Groundwater supplies represent 90% of existing and planned MVWD groundwater production capacity. Groundwater demands for 2010-2025 are based on projections presented in the IEUA June 2005 Draft UWMP as modified to incorporate North Montclair Specific Plan demand (see Footnote No. 2); projections for 2030 (which were not included in the IEUA Draft UWMP) are interpolated from prior year projections.

[4] Recycled water demands for 2010-2025 are based on projections presented in the IEUA October 2005 Draft UWMP, Table 5-8; projections for 2030 (which were not included in the IEUA Draft UWMP) are interpolated from prior year projections.

[5] Retail and Wholesale portions of total demands for 2010-2025 are based on projections presented in the IEUA October 2005 Draft UWMP; Retail portion of total demand has been modified to account for North Montclair Specific Plan demand; projections for 2030 (which were not included in the IEUA Draft UWMP) are interpolated from prior year projections.

[6] 2005 demand = (2004/05 Retail consumption = 9,859 AF, which includes recycled water) + (2004/05 wholesale water production assumed to equal water sold to City of Chino Hills = 12,168 AF) = 22,027 AF.

Table 4.2-5
Monte Vista Water District
Projected Water Supply and Demand
Single Dry Water Year
(AFY– All projections rounded to nearest 10 AF)

Water Sources	2010	2015	2020	2025	2030
Supply	Single Dry Years				
Projected Supply During a Single Dry Year as a % of Average Supply[1]	106.5	116.7	113.1	111.9	111.9
Imported (WFA)[2]	7,270	7,980	8,550	8,440	8,380
Local (Groundwater)[3]	30,100	30,100	33,000	33,000	33,000
Recycled[4]	390	570	710	710	710
Total Supply	**37,760**	**38,650**	**42,260**	**42,150**	**42,090**
Normal Year Supply[5]	37,300	37,480	41,230	41,210	41,160
% of Normal Year	101.2	103.1	102.5	102.3	102.3
Demand					
Imported Demand (WFA)[2]	5,500	5,690	5,970	6,330	6,690
Local Demand (Groundwater)[3]	17,070	18,760	19,250	19,830	20,440
Recycled[4]	390	570	710	710	710
Total Demand	**22,960**	**25,020**	**25,930**	**26,870**	**27,840**
Retail Portion of Total Demand[6]	13,930	14,860	15,620	16,380	17,170
Wholesale Portion of Total Demand[6]	9,030	10,160	10,310	10,490	10,670
Total Demand	**22,960**	**25,020**	**25,930**	**26,870**	**27,840**
Normal Year Demand	21,780	23,740	24,600	25,490	26,410
% of Normal Year Demand	105.4	105.4	105.4	105.4	105.4
% of Year 2005 (22,027 AF)[7]	104.2	113.6	117.7	122.0	126.4
Supply/ Demand Difference	**14,800**	**13,630**	**16,330**	**15,280**	**14,250**
Difference as % of Supply	**39.2**	**35.3**	**38.6**	**36.3**	**33.9**
Difference as % of Demand	**64.5**	**54.5**	**63.0**	**56.9**	**51.2**

[1] From Table 4.2-1, Row C
[2] Available Imported supply is estimated to equal Metropolitan's September 2005 Final Draft RUWMP projected available supplies during a single dry year as a % of supplies during an average year = (normal year import supply) x (factor from the first row above); Imported demand = normal year demand x 105.4% single dry year demand factor.
[3] Groundwater supplies represent 90% of existing and planned MVWD groundwater production capacity per Table 4.2-4. Single Dry Year groundwater demands = 105.4% of normal year groundwater demand.
[4] Recycled water supplies are assumed to equal recycled water demands; recycled water demands for a single dry year are estimated to equal 105.4% of recycled water demands during a normal year.
[5] Normal Year supply and demand from Table 4.2-4
[6] Retail and Wholesale portions of total demand interpolated based on data from Table 4.2-4
[7] 2005 demand = (2004/05 Retail consumption = 9,859 AF, which includes recycled water) + (2004/05 wholesale water production assumed to equal water sold to City of Chino Hills = 12,168 AF) = 22,027 AF

Table 4.2-6
Monte Vista Water District
Projected Water Supply and Demand
Multiple Dry Water Years 2006-2010
(AFY– All projections rounded to nearest 10 AF)

Water Sources	2006	2007	2008	2009	2010
Supply	Normal Years		*Multiple* Dry Years		
MWD Projected Supply During a Multiple Dry Year as a % of Average Supply[1]			98.2	98.2	98.2
Imported (WFA)[2]	7,750	7,520	7,160	6,930	6,710
Local (Groundwater)[3]	19,870	22,800	30,100	30,100	30,100
Recycled[4]	0	0	110	210	400
Total Supply	**27,620**	**30,320**	**37,370**	**37,240**	**37,210**
Normal Year Supply[5]	27,620	30,320	37,230	37,260	37,300
% of Normal Year	100.0	100.0	100.4	99.9	99.8
Demand					
MWD Projected Multiple Dry Year Demand as a % of Normal Year[6]			116.5	116.5	116.5
Imported Demand (WFA)[2]	8,790	7,990	7,470	6,440	5,600
Local Demand (Groundwater)[3]	11,420	12,610	14,550	15,610	17,390
Recycled[4]	0	0	110	210	400
Total Demand	**20,210**	**20,600**	**22,130**	**22,260**	**23,390**
Retail Portion of Total Demand[7]	12,500	12,680	13,550	13,570	14,190
Wholesale Portion of Total Demand[7]	770	790	860	870	920
Total Demand	**20,210**	**20,600**	**22,130**	**22,260**	**23,390**
Normal Year Demand	20,210	20,600	21,000	21,390	21,780
% of Normal Year Demand	100.0	100.0	105.4	104.1	107.4
% of Year 2005 (22,027 AF)[8]	91.8	93.5	100.5	101.1	106.2
Supply/ Demand Difference	**7,410**	**9,720**	**15,240**	**14,980**	**13,820**
Difference as % of Supply	**26.8**	**32.1**	**40.8**	**40.2**	**37.1**
Difference as % of Demand	**36.7**	**47.2**	**68.9**	**67.3**	**59.1**

[1] From Table 4.2-2, Row C

[2] Imported supplies are estimated to equal Metropolitan's September 2005 Final Draft RUWMP projected available supplies including surplus supplies = (normal year import supply) x (Metropolitan projected supply during a multiple dry year as a % of average demand); Imported demands during normal years are interpolated from Table 4.2-4 using 2005 actual WFA import and projected 2010 import; imported demands during dry years = normal imported year demands multiplied by the multiple dry year factors of 105.4%, 104.1% and 107.4% for years 1, 2 and 3, respectively.

[3] Groundwater supplies represent 90% of existing and planned MVWD groundwater production capacity per Table 4.2-4. Groundwater demands for normal years are interpolated on a straight line basis between actual 2005 production records. Groundwater demands during multiple dry years 1, 2 and 3 are estimated to equal 105.4%, 104.1% and 107.4% of normal year demand.

[4] Recycled water supplies are estimated to equal recycled water demands; recycled water demands are anticipated to be zero until 2008; 2008 and 2009 demands are estimated to be 100 AF and 200 AF, respectively. Recycled water demands (and supplies) for multiple dry years 1, 2 and 3 are estimated to equal 105.4%, 104.1% and 107.4% of normal recycled water demands

[5] Normal year supplies for years 2006 through 2009 are interpolated using normal year supplies available in years 2005 and 2010.

[6] From Table 4.2-2, Row F; In its September 2005 Draft UWMP Multiple Dry Year Projections, MWD only projected demands for Year 3, therefore Years 1 and 2 are assumed to equal Year 3 demand; these percentages are presented only to reflect the fact that MVWD's demand is well below the factor presented in the table, i.e., the District's multiple year demands are 105.4%, 104.1% and 107.4% of normal for years 1, 2 and 3 as compared with MWD's demand capability of 116.5%

[7] Retail and Wholesale portions of total demand interpolated based on data from Table 4.2-4

[8] 2005 demand = (2004/05 Retail consumption = 9,859 AF, which includes recycled water) + (2004/05 wholesale water production assumed to equal water sold to City of Chino Hills = 12,168 AF) = 22,027 AF

Table 4.2-7
Monte Vista Water District
Projected Water Supply and Demand
Multiple Dry Water Years 2011-2015
(AFY– All projections rounded to nearest 10 AF)

Water Sources	2011	2012	2013	2014	2015
Supply	Normal Years		Multiple Dry Years		
MWD Projected Supply During a Multiple Dry Year as a % of Average Supply[1]			106.8	106.8	106.8
Imported (WFA)[2]	6,840	6,830	7,300	7,300	7,310
Local (Groundwater)[3]	30,100	30,100	30,100	30,100	30,100
Recycled[4]	400	440	500	530	580
Total Supply	**37,340**	**37,370**	**37,900**	**37,930**	**37,990**
Normal Year Supply[5]	37,340	37,370	37,410	37,440	37,480
% of Normal Year	100.0	100.0	101.3	101.3	101.4
Demand					
MWD Projected Multiple Dry Year Demand as a % of Normal Year[6]			116.4	116.4	116.4
Imported Demand (WFA)[2]	5,260	5,290	5,620	5,590	5,800
Local Demand (Groundwater)[3]	16,510	16,830	18,080	18,190	19,120
Recycled[4]	400	440	500	530	580
Total Demand	**22,170**	**22,560**	**24,200**	**24,310**	**25,500**
Retail Portion of Total Demand[7]	13,390	13,560	14,490	14,500	15,150
Wholesale Portion of Total Demand[7]	8,780	9,000	9,710	9,810	10,350
Total Demand	**22,170**	**22,560**	**24,200**	**24,310**	**25,500**
Normal Year Demand	22,170	22,560	22,960	23,350	23,740
% of Normal Year Demand	100.0	100.0	105.4	104.1	107.4
% of Year 2005 (22,027 AF)[8]	100.6	102.4	109.9	110.4	115.8
Supply/ Demand Difference	**15,170**	**14,810**	**13,700**	**13,620**	**12,490**
Difference as % of Supply	**40.6**	**39.6**	**36.1**	**35.9**	**32.9**
Difference as % of Demand	**68.4**	**65.6**	**56.6**	**56.0**	**49.0**

[1] From Table 4.2-2, Row C

[2] Imported supplies are estimated to equal Metropolitan's September 2005 Final Draft RUWMP projected available supplies including surplus supplies = (normal year import supply) x (Metropolitan projected supply during a multiple dry year as a % of average demand); Imported demands during normal years are interpolated from Table 4.2-4; imported demands during dry years = normal imported year demands multiplied by the multiple dry year factors of 105.4%, 104.1% and 107.4% for years 1, 2 and 3, respectively.

[3] Groundwater supplies represent 90% of existing and planned MVWD groundwater production capacity per Table 4.2-4. Groundwater demands for normal years are interpolated on a straight line basis between actual 2005 production records. Groundwater demands during multiple dry years 1, 2 and 3 are estimated to equal 105.4%, 104.1% and 107.4% of normal year demand.

[4] Recycled water supplies are estimated to equal recycled water demands; recycled water demands (and supplies) for normal years are interpolated on a straight line basis between normal year demands from Table 4.2-4; Recycled water demands (and supplies) for multiple dry years 1, 2 and 3 are estimated to equal 105.4%, 104.1% and 107.4% of normal recycled water demands

[5] Normal year supply corresponding to years 2006 through 2009 are interpolated using normal year supplies available in years 2005 and 2010.

[6] From Table 4.2-2, Row F; In its September 2005 Draft UWMP Multiple Dry Year Projections, MWD only projected demands for Year 3, therefore Years 1 and 2 are assumed to equal Year 3 demand; these percentages are presented only to reflect the fact that MVWD's demand is well below the factor presented in the table, i.e., the District's multiple year demands are 105.4%, 104.1% and 107.4% of normal for years 1, 2 and 3 as compared with MWD's demand capability of 116.5%

[7] Retail and Wholesale portions of total demand interpolated based on data from Table 4.2-4

[8] 2005 demand = (2004/05 Retail consumption = 9,859 AF, which includes recycled water) + (2004/05 wholesale water production assumed to equal water sold to City of Chino Hills = 12,168 AF) = 22,027 AF

Table 4.2-8
Monte Vista Water District
Projected Water Supply and Demand
Multiple Dry Water Years 2016-2020
(AFY– All projections rounded to nearest 10 AF)

Water Sources	2016	2017	2018	2019	2020
Supply	Normal Years		Multiple Dry Years		
MWD Projected Supply During a Multiple Dry Year as a % of Average Supply[1]			103.3	103.3	103.3
Imported (WFA)[2]	7,560	8,290	7,510	7,660	7,810
Local (Groundwater)[3]	30,100	30,100	33,000	33,000	33,000
Recycled[4]	570	590	650	670	720
Total Supply	**38,230**	**38,980**	**41,160**	**41,330**	**41,530**
Normal Year Supply[5]	38,230	38,980	39,730	40,480	41,230
% of Normal Year	100.0	100.0	103.6	102.1	100.7
Demand					
MWD Projected Multiple Dry Year Demand as a % of Normal Year[6]			116.5	116.5	116.5
Imported Demand (WFA)[2]	5,450	5,510	5,870	5,850	6,090
Local Demand (Groundwater)[3]	17,890	17,980	19,050	18,910	19,610
Recycled[4]	570	590	650	670	720
Total Demand	**23,910**	**24,080**	**25,570**	**25,430**	**26,420**
Retail Portion of Total Demand[7]	14,240	14,380	15,320	15,280	15,920
Wholesale Portion of Total Demand[7]	9,670	9,700	10,250	10,150	10,500
Total Demand	**23,910**	**24,080**	**25,570**	**25,430**	**26,420**
Normal Year Demand	23,910	24,080	24,260	24,430	24,600
% of Normal Year Demand	100.0	100.0	105.4	104.1	107.4
% of Year 2005 (22,027 AF)[8]	108.5	109.3	116.1	115.4	119.9
Supply/ Demand Difference	**14,320**	**14,900**	**15,590**	**15,900**	**15,110**
Difference as % of Supply	**37.5**	**38.2**	**37.9**	**38.5**	**36.4**
Difference as % of Demand	**59.9**	**61.9**	**61.0**	**62.5**	**57.2**

[1] From Table 4.2-2, Row C

[2] Imported supplies are estimated to equal Metropolitan's September 2005 Final Draft RUWMP projected available supplies including surplus supplies = (normal year import supply) x (Metropolitan projected supply during a multiple dry year as a % of average demand); Imported demands during normal years are interpolated from Table 4.2-4; imported demands during dry years = normal imported year demands multiplied by the multiple dry year factors of 105.4%, 104.1% and 107.4% for years 1, 2 and 3, respectively.

[3] Groundwater supplies represent 90% of existing and planned MVWD groundwater production capacity per Table 4.2-4. Groundwater demands for normal years are interpolated on a straight line basis between actual 2005 production records. Groundwater demands during multiple dry years 1, 2 and 3 are estimated to equal 105.4%, 104.1% and 107.4% of normal year demand.

[4] Recycled water supplies are estimated to equal recycled water demands; recycled water demands (and supplies) for normal years are interpolated on a straight line basis between normal year demands from Table 4.2-4; Recycled water demands (and supplies) for multiple dry years 1, 2 and 3 are estimated to equal 105.4%, 104.1% and 107.4% of normal recycled water demands

[5] Normal year supplies are interpolated from data in Table 4.2-4.

[6] From Table 4.2-2, Row F; In its September 2005 Draft UWMP Multiple Dry Year Projections, MWD only projected demands for Year 3, therefore Years 1 and 2 are assumed to equal Year 3 demand; these percentages are presented only to reflect the fact that MVWD's demand is well below the factor presented in the table, i.e., the District's multiple year demands are 105.4%, 104.1% and 107.4% of normal for years 1, 2 and 3 as compared with MWD's demand capability of 116.5%

[7] Retail and Wholesale portions of total demand interpolated based on data from Table 4.2-4

[8] 2005 demand = (2004/05 Retail consumption = 9,859 AF, which includes recycled water) + (2004/05 wholesale water production assumed to equal water sold to City of Chino Hills = 12,168 AF) = 22,027 AF

Table 4.2-9
Monte Vista Water District
Projected Water Supply and Demand
Multiple Dry Water Years 2021-2025
(AFY– All projections rounded to nearest 10 AF)

Water Sources	2021	2022	2023	2024	2025
Supply	Normal Years		Multiple Dry Years		
MWD Projected Supply During a Multiple Dry Year as a % of Average Supply[1]			102.4	102.4	102.4
Imported (WFA)[2]	7,560	7,550	7,730	7,730	7,720
Local (Groundwater)[3]	33,000	33,000	33,000	33,000	33,000
Recycled[4]	670	670	710	700	720
Total Supply	**41,230**	**41,220**	**41,440**	**41,430**	**41,440**
Normal Year Supply[5]	41,230	41,220	41,220	41,210	41,210
% of Normal Year	100.0	100.0	100.5	100.5	100.6
Demand					
MWD Projected Multiple Dry Year Demand as a % of Normal Year[6]			116.0	116.0	116.0
Imported Demand (WFA)[2]	5,740	5,810	6,190	6,180	6,460
Local Demand (Groundwater)[3]	18,370	18,480	19,590	19,470	20,200
Recycled[4]	670	670	710	700	720
Total Demand	**24,780**	**24,960**	**26,490**	**26,350**	**27,380**
Retail Portion of Total Demand[7]	14,970	15,110	16,070	16,030	16,690
Wholesale Portion of Total Demand[7]	9,810	9,850	10,420	10,320	10,690
Total Demand	**24,780**	**24,960**	**26,490**	**26,350**	**27,380**
Normal Year Demand	24,780	24,960	25,130	25,310	25,490
% of Normal Year Demand	100.0	100.0	105.4	104.1	107.4
% of Year 2005 (22,027 AF)[8]	112.5	113.3	120.3	119.6	124.3
Supply/ Demand Difference	**16,450**	**16,260**	**14,950**	**15,080**	**14,060**
Difference as % of Supply	**39.9**	**39.4**	**36.1**	**36.4**	**33.9**
Difference as % of Demand	**66.4**	**65.1**	**56.4**	**57.2**	**51.4**

[1] From Table 4.2-2, Row C

[2] Imported supplies are estimated to equal Metropolitan's September 2005 Final Draft RUWMP projected available supplies including surplus supplies = (normal year import supply) x (Metropolitan projected supply during a multiple dry year as a % of average demand); Imported demands during normal years are interpolated from Table 4.2-4; imported demands during dry years = normal imported year demands multiplied by the multiple dry year factors of 105.4%, 104.1% and 107.4% for years 1, 2 and 3, respectively.

[3] Groundwater supplies represent 90% of existing and planned MVWD groundwater production capacity per Table 4.2-4. Groundwater demands for normal years are interpolated on a straight line basis between actual 2005 production records. Groundwater demands during multiple dry years 1, 2 and 3 are estimated to equal 105.4%, 104.1% and 107.4% of normal year demand.

[4] Recycled water supplies are estimated to equal recycled water demands; recycled water demands (and supplies) for normal years are interpolated on a straight line basis between normal year demands from Table 4.2-4; Recycled water demands (and supplies) for multiple dry years 1, 2 and 3 are estimated to equal 105.4%, 104.1% and 107.4% of normal recycled water demands.

[5] Normal year supplies are interpolated from data in Table 4.2-4.

[6] From Table 4.2-2, Row F; In its September 2005 Draft UWMP Multiple Dry Year Projections, MWD only projected demands for Year 3, therefore Years 1 and 2 are assumed to equal Year 3 demand; these percentages are presented only to reflect the fact that MVWD's demand is well below the factor presented in the table, i.e., the District's multiple year demands are 105.4%, 104.1% and 107.4% of normal for years 1, 2 and 3 as compared with MWD's demand capability of 116.5%

[7] Retail and Wholesale portions of total demand interpolated based on data from Table 4.2-4

[8] 2005 demand = (2004/05 Retail consumption = 9,859 AF, which includes recycled water) + (2004/05 wholesale water production assumed to equal water sold to City of Chino Hills = 12,168 AF) = 22,027 AF

Table 4.2-10
Monte Vista Water District
Projected Water Supply and Demand
Multiple Dry Water Years 2026-2030
(AFY– All projections rounded to nearest 10 AF)

Water Sources	2026	2027	2028	2029	2030
Supply	Normal Years		Multiple Dry Years		
MWD Projected Supply During a Multiple Dry Year as a % of Average Supply[1]			102.4	102.4	102.4
Imported (WFA)[2]	7,530	7,520	7,690	7,680	7,670
Local (Groundwater)[3]	33,000	33,000	33,000	33,000	33,000
Recycled[4]	670	670	710	700	720
Total Supply	**41,200**	**41,190**	**41,400**	**41,380**	**41,390**
Normal Year Supply[5]	41,200	41,190	41,180	41,170	41,160
% of Normal Year	100.0	100.0	100.5	100.5	100.6
Demand					
MWD Projected Multiple Dry Year Demand as a % of Normal Year[6]			115.0	115.0	115.0
Imported Demand (WFA)[2]	6,070	6,150	6,550	6,540	6,820
Local Demand (Groundwater)[3]	18,930	19,040	20,190	20,060	20,820
Recycled[4]	670	670	710	700	720
Total Demand	**25,670**	**25,860**	**27,450**	**27,300**	**28,360**
Retail Portion of Total Demand[7]	15,690	15,840	16,860	16,800	17,490
Wholesale Portion of Total Demand[7]	9,980	10,020	10,590	10,500	10,870
Total Demand	**25,670**	**25,860**	**27,450**	**27,300**	**28,360**
Normal Year Demand	25,670	25,860	26,040	26,230	26,410
% of Normal Year Demand	100.0	100.0	105.4	104.1	107.4
% of Year 2005 (22,027 AF)[8]	116.5	117.4	124.6	123.9	128.8
Supply/ Demand Difference	**15,530**	**15,330**	**13,950**	**14,080**	**13,030**
Difference as % of Supply	**37.7**	**37.2**	**33.7**	**34.0**	**31.5**
Difference as % of Demand	**60.5**	**59.3**	**50.8**	**51.6**	**45.9**

[1] From Table 4.2-2, Row C

[2] Imported supplies are estimated to equal Metropolitan's September 2005 Final Draft RUWMP projected available supplies including surplus supplies = (normal year import supply) x (Metropolitan projected supply during a multiple dry year as a % of average demand); Imported demands during normal years are interpolated from Table 4.2-4; imported demands during dry years = normal imported year demands multiplied by the multiple dry year factors of 105.4%, 104.1% and 107.4% for years 1, 2 and 3, respectively..

[3] Groundwater supplies represent 90% of existing and planned MVWD groundwater production capacity per Table 4.2-4. Groundwater demands for normal years are interpolated on a straight line basis between actual 2005 production records. Groundwater demands during multiple dry years 1, 2 and 3 are estimated to equal 105.4%, 104.1% and 107.4% of normal year demand.

[4] Recycled water supplies are estimated to equal recycled water demands; recycled water demands (and supplies) for normal years are interpolated on a straight line basis between normal year demands from Table 4.2-4; Recycled water demands (and supplies) for multiple dry years 1, 2 and 3 are estimated to equal 105.4%, 104.1% and 107.4% of normal recycled water demands.

[5] Normal year supplies are interpolated from data in Table 4.2-4.

[6] From Table 4.2-2, Row F; In its September 2005 Draft UWMP Multiple Dry Year Projections, MWD only projected demands for Year 3, therefore Years 1 and 2 are assumed to equal Year 3 demand; these percentages are presented only to reflect the fact that MVWD's demand is well below the factor presented in the table, i.e., the District's multiple year demands are 105.4%, 104.1% and 107.4% of normal for years 1, 2 and 3 as compared with MWD's demand capability of 115.0%

[7] Retail and Wholesale portions of total demand interpolated based on data from Table 4.2-4

[8] 2005 demand = (2004/05 Retail consumption = 9,859 AF, which includes recycled water) + (2004/05 wholesale water production assumed to equal water sold to City of Chino Hills = 12,168 AF) = 22,027 AF

4.3 VULNERABILITY OF SUPPLY FOR SEASONAL OR CLIMATIC SHORTAGE

The District's climate is a semi-arid environment with mild winters, warm summers and moderate rainfall, consistent with coastal and inland Southern California. The general region lies in the semi-permanent high-pressure zone of the eastern Pacific. The usually mild to warm climatological pattern is interrupted infrequently by periods of extremely hot weather, winter storms, or Santa Ana winds.

Climatological data in California has been recorded since the year 1858. During the twentieth century, California has experienced three periods of severe drought: 1928-34, 1976-77, and 1987-91. The year 1977 is considered to be the driest year of record in the Four Rivers Basin by the Department of Water Resources (DWR). These rivers flow into the San Francisco Bay Delta and are the source of water for the SWP.

Southern California and, in particular, the Inland Empire area sustained few adverse impacts from the 1976-77 drought, due in large part to the availability of Colorado River water and groundwater stored in the Chino Groundwater Basin. In contrast, the 1987-91 drought created considerably more concern for Southern California.

While the data presented in Tables 4.2-3 through 4.2-9 indicate water availability during single and multiple dry year scenarios, response to a future drought would follow the water use efficiency mandates of MWD's Water Surplus and Drought Management (WSDM) Plan, along with implementation of the appropriate stage of the District's Water Shortage Contingency Plan. These programs are discussed more specifically in Section 7.

4.4 PLANNED WATER SUPPLY PROJECTS AND PROGRAMS TO MEET PROJECTED WATER USE

4.4.1 Monte Vista Water District Planned Projects

The District's Water Master Plan, June 1998, provides the analysis and foundation for improvement to the District's water system to improve reliability, to correct system deficiencies, to increase operational efficiency, to reduce long-term costs, and to meet regulatory requirements.

The current District Capital Improvement Plan includes a variety of potable water system improvements that are necessary to eliminate current deficiencies as well as improvements for the purpose of providing reliable water services through the year 2030. The accompanying Financial Master Plan provides a mechanism for funding the identified capital projects at a cost of $65 million. Projects include multiple pipeline improvements; seismic improvements; seven booster pumps; a new 3 MG reservoir for Zone 3; and new wells including those for the ASR Program, the Dry Year Yield Program, the GW Treatment Program NO_3, and the Well Disinfection Program.

Phasing of recommended improvements is planned to occur during three periods: 2003-2010, 2011-2020, and 2020-2032. Collectively, these are called the Capital Improvement Plan and will provide increased groundwater production capability for the District.

Discussed in Section 4.1.1, the District's Groundwater Recharge Facility Feasibility Study (September 2003) determined the feasibility of recharging the Basin through direct injection of treated imported water and the subsequent extraction of groundwater during summer months and years of SWP shortfalls to improve the condition of the Basin. As a result, four wells will be operated as ASR wells, one equipped with well head treatment facilities for nitrate extraction. By 2010, the District will increase its ability to produce groundwater by 10 MGD (11,200 AFY) for a total of over 30 MG of groundwater production capacity per day.

A water storage assessment study (2001) evaluated the condition of all District reservoirs and determined future storage needs as identified in the District's Facilities Master Plan. An additional 5 MGD of storage capacity will be required to meet future storage needs. The study also identified several sites for locating a new reservoir. The District is currently evaluating the potential acquisition of property to house a new reservoir.

4.4.2 Regional Agency Reliability Projects and Programs

As one of MWD's 26 member agencies, the IEUA receives supplemental imported water from northern California through the SWP and the Colorado River. As a water wholesaler, MWD has no retail customers, and distributes treated and untreated water directly to its member agencies. MWD provides an average of 60 percent of the municipal, industrial and agricultural water used within its service area. The remaining 40 percent comes from local supplies including groundwater, surface water, and recycled water. The projects implemented by MWD to secure their water supplies have a direct effect on the reliability of District water supplies. In addition, the IEUA planned projects for recycled water and the Chino Basin Watermaster planned projects and programs for groundwater also impact the District.

Metropolitan Water District of Southern California Reliability Projects

MWD's primary goal is to provide reliable water supplies to meet the water needs of its service area at the lowest possible cost. MWD continues to develop and encourage projects and programs to ensure 100 percent reliability now and into the future even though MWD faces increasing challenges with its supplies. One such project is MWD's recently completed Diamond Valley Lake in Hemet, California; an 800,000 AF capacity reservoir for regional seasonal and emergency storage for SWP and Colorado River water. The reservoir began storing water in November 1999[65] and reached the sustained water level by early 2002.

[65] The Regional Urban Water Management Plan for the Metropolitan Water District of Southern California. December 2000.

MWD is implementing alternative water supply strategies for the region and on behalf of their member agencies to ensure available water in the future. Some of the strategies identified in MWD's 2005 UWMP include:

- Conservation;
- Water recycling and groundwater recovery;
- Desalination;
- Storage and groundwater management programs within the southern California region;
- Storage programs related to the SWP and the Colorado River; and
- Other water supply management programs outside of the region.

MWD has made investments in conservation, water recycling, storage, and supply that are all part of MWD's long-term water management strategy. MWD's approach to a long-term water management strategy was to develop an IRP that depended on many sources of supply. MWD's implementation approach for achieving the goals of the IRP Update is summarized in Table 4.4.2-1. A comprehensive description of MWD's implementation approach is contained in their 2003 report on MWD water supplies "A Blueprint for Water Reliability" as well as their 2005 Regional Urban Water Management Plan.

Table 4.4.2-1
MWD Integrated Resource Plan Update Resources Status

Target	Programs and Status
• **Conservation**	**Current** - Conservation Credits Program - Residential; Non-residential Landscape Water Use Efficiency;, Commercial, Industrial, and Institutional Programs - Grant Programs **In Development or Identified** - Innovative Conservation Program
• **Recycling** • **GW Recovery** • **Desalination**	**Current** - LRP Program **In Development or Identified** - Additional LRP Requests for Proposals - Seawater Desalination Program - Innovative Supply Program
• **In Region Dry-Year Surface Water Storage**	**Current** - Diamond Valley Reservoir, Lake Mathews, Lake Skinner - SWP Terminal Reservoirs (Monterey Agreement)

Target	Programs and Status
• **In Region Groundwater Conjunctive Use**	**Current** - North Las Posas (Eastern Ventura County) - Cyclic Storage - Replenishment Deliveries - Proposition 13 Programs (short listed) **In Development or Identified** - Raymond Basin GSP - Chino Basin Dry Year Yield Program - Proposition 13 Programs (wait listed) - Expanding existing programs - New groundwater storage programs
• **SWP**	**Current** - SWP Deliveries - San Luis Carryover Storage (Monterey Agreement) - SWP Call Back with DWCV Table A transfer **In Development or Identified** - Sacramento Valley Water Management Agreement - CALFED Delta Improvement Program (Phase 8 Agreement)
• **Colorado River Aqueduct**	**Current** - Base Apportionment - IID/MWD Conservation Program - Coachella and All American Canal Lining Programs - PVID Land Management Program **In Development or Identified** - Lower Coachella Storage Program - Hayfield Storage Program - Chuckwalla Storage Program - Storage in Lake Mead
• **CVP/SWP Storage and Transfers** • **Spot Transfers and Options**	**Current** - Arvin Edison Program - Semitropic Program - San Bernardino Valley MWD Program - Kern Delta Program **In Development or Identified** - Mojave Storage Program - Other Central Valley Transfer Programs

Source: Metropolitan Water District of Southern California, *A Report on MWD's Water Supplies,* A Blueprint for Water Reliability, March 2003.

Conservation Target

MWD's conservation policies and practices are shaped by MWD's IRP and per their signatory responsibilities to the California Urban Water Conservation Council Memorandum of Understanding Regarding Water Conservation in California.

Recycled Water, Groundwater Recovery, and Desalination Target

MWD supports the use of alternative water supplies such as recycled water and degraded groundwater when there is a regional benefit to offset imported water supplies. Currently, 355,000 AF of recycled water is permitted for use within the MWD service area.[66] MWD estimates that an additional 480,000 AF per year of new recycled water could be developed and used by 2025 with an additional 130,000 AF per year by 2050. Approximately 30 percent of the recycled water use within MWD's service area is for groundwater replenishment and seawater barriers. In the future it is anticipated that up to 90 percent of all water used for seawater barriers will be recycled water.

MWD recognizes the importance of member agencies developing local supplies and has implemented several programs to provide financial assistance. MWD's incentive programs include:

- Competitive LRP: Supports the development of cost-effective water recycling and groundwater recovery projects that reduce demands for imported supplies
- Seawater Desalination Program: Supports the development of seawater desalination within MWD's service area
- Innovative Supply Program: Encourages investigations into alternative approaches to increasing the region's water supply.

According to MWD's 2005 UWMP, 13 projects were selected in 2004 for implementation under the Competitive LRP. Under the Innovative Supply Program, MWD selected 10 projects for grant funding. Proposals included harvesting storm runoff, onsite recycling, and desalination. The project findings will be presented to member agencies in 2006.

Regional Groundwater Conjunctive Use Target

Other programs within MWD to maximize water supplies include storage and groundwater management programs. The IRP Update identified the need for dry-year storage within surface water reservoirs in the amount of 620,000 AF and the need for groundwater storage in the amount of 300,000 AD. Approximately 400,000 AF in the Diamond Valley Lake is dedicated for dry-year storage; the reservoir holds 800,000 AF. MWD has developed a number of local programs to increase storage in the groundwater basins. The programs include:

- North Las Posas – In 1995, MWD and Calleguas Municipal Water District developed facilities for groundwater storage and extraction from the North Las Posas Basin. MWD has the right to store up to 210,000 AF of water. The well fields are expected to be fully operational in 2007 with Phases I and II already complete. It is expected the North Las Posas program will yield 47,000 AF of groundwater from the basin each year.

[66] Metropolitan Water District of Southern California, Regional UWMP, Draft September 2005

- Proposition 13 Projects – In 2000, DWR selected MWD to receive financial funding to help fund the Southern California Water Supply Reliability Projects Program. The program coordinates eight conjunctive use projects with a total storage capacity of 195,000 AF and a dry-year yield of 65,000 AF per year.
- Raymond Basin – In January 2000, MWD entered into agreements with the City of Pasadena and Foothill Municipal Water District to implement a groundwater storage program that is anticipated to yield 22,000 AF per year by 2010.
- Chino Basin – In 2002, MWD executed an agreement with IEUA and the Watermaster for the development of the Chino Basin Dry-Year Yield Program to help reduce demand on imported water during dry years by pumping additional groundwater. MWD will utilize the Chino Basin for dry year storage up to 100,000 AF of surplus imported water. Imported water deliveries to participants would increase during wet or normal (or "put") years, and purchase of imported water would decrease during dry (or "take") years.
- Other Programs – MWD intends to expand the conjunctive use programs to add another 80,000 AF to groundwater storage. Other basins in the area are being evaluated for possible conjunctive use projects.

State Water Project (SWP) Target

The major actions MWD is completing to improve SWP reliability include the following:

- Delta Improvements Package – The actions outlined in this package are related to water project operations in the Delta. The actions are designed to allow the SWP to operate the Banks Pumping Plant in the Delta at 8,500 CFS. Currently, Banks Pumping Plant operates at 6,680 CFS. MWD anticipates that increase diversion from the Delta will result in an increase of 130,000 AFY will be available for groundwater and surface water storage.
- Phase 8 Settlement – This agreement includes various recommended water supply projects that meet demand and water quality objectives within the Sacramento Valley. The various conjunctive use projects will yield approximately 185,000 AF per year in the Sacramento Valley of which approximately 55,000 AF would be available to MWD through its SWP allocation.
- Monterey Amendment – The Monterey Amendment enables MWD to use a portion of the San Luis Reservoir's capacity for carryover storage. This will increase SWP delivery to MWD by 93,000 to 285,000 AF depending on supply conditions.
- SWP Terminal Storage – MWD has water rights for storage at Lake Perris and Castaic Lake. The storage provides MWD with options for managing SWP deliveries and store up to 73,000 to 219,000 AF of carryover water.
- Desert Water Agency/Coachella Valley Water District (DWCV) SWP Table A Transfer – This transfer to DWCV includes 100,000 AF of MWD SWP Table A amount in exchange for other rights such as its full carryover amounts in San Luis and full use of flexible storage in Castaic and Perris Reservoirs. It is anticipated

that the call-back provision of the entitlement transfer can provide between 5,000 and 26,000 AF of water depending on the water year.

- DWCV Advance Delivery Program – Under this program MWD delivers Colorado River water to the DWCV in exchange for their SWP Contract Table A allocations. MWD can expect increases in SWP Table A deliveries of 6 to 18,000 AF depending on the water year.

Colorado River Aqueduct (CRA) Target

MWD also receives imported water from the CRA. MWD, IID, and Coachella Valley Water District executed the QSA in October 2003. The QSA established the baseline water use for each agency and facilitated the transfer agricultural water to urban uses. A number of programs have been identified to assist MWD meet their target goal of 1.2 MAF per year from the CRA. These programs include the following:

- Coachella and All-American Canal Lining Project – The Coachella Canal Lining Project is scheduled to be completed in January 2007 and is expected to conserve 26,000 AFY. The All-American Canal Lining Project is scheduled to be completed in 2008 and is expected to conserve 67,700 AFY. The conserved water will be made available in Lake Havasu for diversion from MWD. In exchange, MWD will supply a like amount to the San Luis Rey Settlement Parties and San Diego County Water Authority.
- IID/San Diego County Water Authority Transfer – IID has agreed to implement a conservation program and transfer water to San Diego County Water Authority. The transfer began in 2003 with 10,000 AF and will increase yearly until 2023 where the transfer will be 200,000 AF annually. Water will be conserved through land fallowing and irrigation efficiency measures. MWD will supply the water conserved to San Diego County Water Authority in exchange for a like amount out of Lake Havasu.
- IID/MWD Conservation Program – The program originally provided funding from MWD to implement water efficiency improvements within IID. MWD in tern would reserve the right to divert the water conserved by those investments. Execution of the QSA extended the term of the program to 2078 and guaranteed MWD at least 80,000 AF per year.
- Palo Verde Land Management and Crop Rotation Program – This program offers financial incentives to farmers with Palo Verde Irrigation District to not irrigate a portion of their land. A maximum of 29 percent of lands within Palo Verde Irrigation District can be fallowed in any year. The water conserved will be available to MWD with a maximum of 111,000 AF per year expected.

- Hayfield Groundwater Storage Program – MWD will divert Colorado River water and store it in the Hayfield Groundwater Basin in east Riverside County. Currently there is 73,000 AF of water in storage. MWD expects the program to eventually develop a storage capacity of approximately 500,000 AF.
- Chuckwalla Groundwater Storage Program – MWD proposes to store water when available in the Upper Chuckwalla Groundwater Basin for future delivery to MWD.
- Lower Coachella Valley Groundwater Storage Program – MWD, Coachella Valley Water District, and the Desert Water Agency are investigating the feasibility of a conjunctive use program in the Lower Coachella Groundwater Basin. The basin has the potential to store 500,000 AF of groundwater for MWD.
- Salton Sea Restoration Transfer – A transfer of up to 1.6 MAF would be conserved by IID and made available to MWD. The proceeds from the DWR transfer would be placed in the Salton Sea Restoration Fund.
- Lake Mead Storage – MWD is exploring options for storing water in Lake Mead.

CVP/SWP Storage and Transfers Target

MWD has focused on voluntary short and long-term transfer and storage programs with CVP and other SWP contractors. Currently, MWD has enough transfer and storage programs to meet their 2010 target goal of 300,000 AF. MWD has four CVP/SWP transfer and storage programs in place for a total of 317,000 AF of dry-year supply. MWD is also pursuing a new storage program with Mojave Water Agency and continues to pursue Central Valley water transfers on an as needed basis. The operational programs include:

- Semitropic – 107,000 AF dry-year supply
- Arvin-Edison – 90,000 AF dry-year supply
- San Bernardino Valley Municipal Water District – 70,000 AF dry-year supply
- Kern Delta Water District – 50,000 AF dry-year supply
- Mojave Storage Program – 35,000 AF dry-year supply
- Central Valley Transfer Program – 160,000 AF dry-year supply

Inland Empire Utilities Agency Reliability Projects

IEUA relies on MWD for imported water supply into the region. The region is vulnerable to shutdowns on the Rialto Feeder. Therefore, locations for installation of isolation valves have been identified and will be installed.

Further, sufficient water storage programs will help to ensure adequate water supplies into the future and in time of drought. The need for local storage intensifies with southern California's and the regional dependence on imported water to serve water demands. One of the most effective forms of storage in a highly dry and arid climate is conjunctive use wherein water is stored under ground during wet periods and pumped out during dry or

drought periods. IEUA will continue implementation of the Dry-Year Yield Program in partnership with MWD and the Watermaster.

Chino Basin Watermaster Reliability Projects

The Watermaster is dedicated to maintaining a reliable supply of water for its groundwater users through implementation of the OBMP, an integrated set of water management goals and actions that will preserve and enhance the safe yield and the water quality of the Chino Basin. The OBMP is intended to allow continued reliance on groundwater for beneficial use within the basin while minimizing demand for imported water, and to encourage beneficial use of the large available storage space in the aquifer system. OBMP actions are intended to benefit both local and regional water supply programs. The OBMP encourages the increased use of local supplies to help "drought proof" the Basin.

The OBMP includes nine program elements that collectively will meet the goals of the OBMP. The scope of implementation of some of the programs have been combined since they overlap and have synergies between them. The program elements include developing and implementing each of the following, which are currently in varying phases of implementation:

Element 1 – Comprehensive Monitoring Program
Element 2 – Comprehensive Recharge Program
Element 3 – Water Supply Plan for the Impaired Areas of the Basin
Element 4 – Comprehensive Groundwater Management Plan for Management Zone 1
Element 5 – Regional Supplemental Water Program
Element 6 – Cooperative Programs With the Regional Water Quality Control Board, Santa Ana Region, and Other Agencies to Improve Basin Management
Element 7 – Salt Management Program
Element 8 – Groundwater Storage Management Program
Element 9 – Storage and Recovery Programs

4.5 TRANSFER AND EXCHANGE OPPORTUNITIES

Water transfers are a water management concept with great potential for helping to alleviate water shortages in the region and Santa Ana River Basin. The concept is that two agencies, one willing seller of water and one willing buyer, can enter into an exchange agreement that is mutually beneficial from a water management point of view. Water transfers allow an agency to "move" water from one service area to another, even when the two agencies are not connected by any pipelines.

As a water management tool, water transfers can be effective during periods of severe drought or emergencies. Water transfers, as shown below, can take multiple forms to increase water supply reliability among agencies.

Chino Groundwater Basin Conjunctive Use. The Chino Basin is expected to prove a valuable resource for water transfers because of its ability to be a storage facility for multiple sources of water. The Chino Basin has storage capability of up to 6 MAF. Because of the tremendous capability of the Chino Basin to store water, outside agencies are encouraged to enter into agreements with agencies to store water in the Chino Basin. For example, another agency who is a contractor to the SWP may wish to store their surplus SWP water in the Chino Basin for future droughts or emergencies. When they need their stored water, the outside agency simply asks the Chino Basin agency to pump and utilize the stored water while the outside agency takes direct delivery through the SWP.

Funding was allocated for conjunctive use programs through Proposition 13, the Water Bond passed by California voters in March 2000. The District is participating in the groundwater recovery program by converting inactive wells to injections/recovery wells that utilize imported water during period of low demand to recharge the Basin. Water stored under this program could be utilized to meet demand during periods of drought.

Chino Groundwater Basin Transfers. The District's ability and right to use a portion of the vast storage capacity of the underlying Chino Groundwater Basin, and ability to spread significant quantities, gives additional flexibility, particularly if transfer water is available. According to the Peace Agreement, transfers include the assignment, lease, or sale of a right to produce water to another producer within the Chino Basin or to another person or entity for use outside the Basin whether the transfer is temporary or permanent. Lease of water rights are also permissible to allow producers to make up for the lessee's over-production.

Interconnections. Local water agencies have the ability to enter into contracts between each other to provide water on an annual basis or on an as needed basis. The District currently has three emergency connection to receive water from the Golden State Water Company (formerly Southern California Water Company), the City of Chino, and the City of Chino Hills. A supply connection with Golden State Water Company can be used for emergencies to serve the City of Claremont. The interconnections allow water to be supplied or received. The District has utilized the emergency connection when the WFA treated deliveries were interrupted.

4.6 DESALINATED WATER OPPORTUNITIES

Desalination is viewed as a way to develop a local, reliable source of water that assists agencies reduce their demand on imported water and make unusable groundwater available for municipal uses. The District currently does not use desalted water from the Basin in its water resources mix through the CDA facilities. However, from a regional perspective, the CDA and other desalination projects within the region indirectly benefit the District.

Desalted Groundwater – Chino Groundwater Basin

Consistent with the OBMP and the Maximum Benefit Program (approved by the SWRCB in 2005), desalting facilities must be constructed in the lower portion of the Chino Basin to remove salt and nitrates as well as to prevent poor quality water from the Chino Basin from moving down the watershed into Orange County groundwater basins.

Significant increased future groundwater production from the Chino Basin is directly linked to construction and operation of additional desalting capacity in the southern portion of the Basin. These desalter facilities will provide hydraulic control in the lower portion of the Chino Basin, ensuring that poor quality groundwater from this area does not migrate out of the Chino Basin and enter groundwater basins in Orange County. In addition, the desalters produce new reliable, high quality water supplies of 14,200 AFY (Desalter I) to meet the water demands within IEUA's service area as well as 10,400 AFY (Desalter II) in the adjacent communities served by the City of Norco, Santa Ana River Water Company, and the Jurupa Community Services District.

Under the OBMP, approximately 40,000 AF of groundwater production desalter-related facilities is proposed to be constructed. The desalters will use a combination of reverse osmosis and ion exchange technology to treat the pumped groundwater. The concentrated brine from the desalter operations will be delivered to the SARI brine line and conveyed to the Orange County Sanitation District for treatment and ultimate disposal in the Pacific Ocean.

Department of Water Resources Desalination Task Force

Assembly Bill 2717 called for DWR to establish a Desalination Task Force to evaluate the following: 1) Potential opportunities for desalination of seawater and brackish water in California, 2) Impediments to using desalination technology, and 3) The role of the State in furthering the use of desalination.[67] The task force comprised of 27 organizations and in October 2003 provided a list of recommendations related to the following issues: general, energy, environment, planning, and permitting.

MWD's Seawater Desalination Program

In August 2001, MWD launched its Seawater Desalination Program. The program objectives were to provide financial and technical support for the development of cost-effective seawater desalination projects that will contribute to greater water supply reliability. MWD's IRP 2004 Update includes a target of 150,000 AFY for seawater desalination projects to meet future demands. A call for proposals, under the Seawater Desalination Program, produced five projects by member agencies including the Los Angeles Department of Water and Power, Long Beach Water Department, Municipal Water District of Orange County, San Diego County Water Authority, and West Basin Municipal Water District. Collectively, the projects could produce approximately

[67] DWR, California Water Plan Update 2005, Volume 2 – Resource Management Strategies

126,000 AFY. [68] The program is in its early stages and projects are subject to approval by MWD's board; however, the enthusiastic response to the proposals caused MWD to revise the seawater desalination target goal from 50,000 AF to 150,000 AF in its IRP 2004 Update. This additional source of water supply would provide greater water reliability for Southern California residents.

MWD has also provided funding to five member agencies to research specific aspects of seawater desalination. The agencies are reviewing and assessing treatment technologies, pretreatment alternatives, and brine disposal, permitting, and regulatory approvals associated with delivery of desalinated sweater to the local distribution system.[69] MWD continues to work with its member agencies to develop local projects, inform decision makers about the role of desalinated sea water on future supplies, and secure funding from various state and federal programs.

Department of Water Resources Proposition 50 Funding

In January 2005, DWR received 42 eligible applications requesting $71.3 million from funds available through Proposition 50. Proposition 50, the Water Quality, Supply and Safe Drinking Water Projects, Coastal Wetlands Purchase and Protection Act was passed by voters in 2002. Projects eligible for the program include construction projects, research and development, feasibility studies, pilot projects, and demonstration programs. Local agencies, water districts, academic and research institution will be able to use the funds in the development of new water supplies through brackish water and seawater desalination.

DWR is recommending funding for 25 of the 42 projects with the available $25 million under the current desalination grant cycle. With this funding recommendation, 54 percent of the fund will support brackish water desalination related projects and 46 percent will support ocean desalination related projects. The projects recommended for funding include facilities in Marin, Alameda, and San Bernardino counties. Pilot projects in Long Beach, Santa Cruz, San Diego and Los Angeles are among those that will receive grants under the proposed funding plan. Research and development activities at the Lawrence Livermore National Laboratory and the University of California, Los Angeles are included in the recommendations, as are feasibility studies by agencies in the Bay Area, Monterey, and Riverside County.

As regional and local brackish water and seawater desalination projects are developed, reliability of water supplies will be enhanced through the development of new water supplies, benefiting the Monte Vista Water District.

[68] Metropolitan Water District of Southern California. Report on Metropolitan Water Supplies, A Blueprint for Water Reliability. March 25, 2003.
[69] Metropolitan Water District of Southern California, Regional Urban Water Management Plan, September 2005 Draft

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SECTION 5
WATER USE PROVISIONS

5.1 PAST, CURRENT AND PROJECTED WATER USE AMONG SECTORS

Table 5.1-1 quantifies the water use per classification (sector) for the District. The projected future water use by sector presented in the rows entitled "subtotal" reflects the water demand projections shown in Table 4.2-4 in Section 4.2, which do not include unaccounted-for water losses. The total water use presented in Table 5.2-1 takes unaccounted-for losses into consideration.

Table 5.1-1
Past, Current and Projected Water Use by Sector[1]
(AF – all future projections rounded to nearest 10 AF)

Sector	2001	2004	2010	2015	2020	2025	2030
Single Family Residential	5,201	5,062	6,270	6,760	7,060	7,460	7,860
Multi Family Residential	2,175	2,114	2,600	2,800	2,940	3,090	3,250
Commercial, Industrial and Institutional	2,277	2,335	2,960	3,190	3,340	3,510	3,700
Dedicated Irrigation	1,064	795	1,000	800	800	800	800
Recycled Water	0	0	370	540	670	670	670
Other [2]	0	2	10	10	10	10	10
Retail Water Demand – Subtotal	**10,717**	**10,308**	**13,210**	**14,100**	**14,820**	**15,540**	**16,290**
Wholesale Demand	9,834	13,004	8,570	9,640	9,780	9,950	10,120
Total Water Usage Subtotal	**20,551**	**23,312**	**21,780**	**23,740**	**24,600**	**25,490**	**26,410**
Unaccounted-for Water [3]	1,440	1,630	1,520	1,660	1,720	1,780	1,850
Total Water Use	**21,991**	**24,942**	**23,300**	**25,400**	**26,320**	**27,270**	**28,260**

[1] 2001 and 2004 demands obtained from MVWD June 19, 2003 and February 28, 2005 submittals to the California Urban Water Conservation Council; Other total potable and recycled water demands projections obtained from Table 4.2-4; future demands for Other are estimated to remain relatively constant; future demand for potable water landscape is anticipated to decline as recycled water use increases; future demands for single, multi family and commercial and institutional are estimated to increase in the same proportions as reflected in the 2004 data (i.e., total single family residential + multi-family residential + commercial usage in 2004 was 9,511 AF, with approximately 53% of that total representing single family residential usage, 22% representing multi-family usage and 25% representing commercial, industrial and institutional usage. These same percentages are applied to the future year breakdowns for these three sectors).
[2] Includes internal uses – flushing, cleaning, etc.
[3] Estimated at 7% for all years.

The difference between the water production and the total billed water is defined as unaccounted-for water, or the water losses within a system. Unaccounted-for water may be attributed to leaking pipes, unmetered water use, or other events causing water to be withdrawn from the system and not measured, such as hydrant flushing, street cleaning, new construction line draining and/or filling and draining and flushing, and fire fighting.

Table 5.1-2 quantifies the past and current number of water service customers by sector for the years 2000 and 2005, respectively, and projections of customers through 2030.

Table 5.1-2
Number of Retail Water Service Connections by Sector

Sector	2001	2004	2010	2015	2020	2025	2030
Single Family Residential	6,481	7,966	10,260	10,680	11,240	11,730	12,210
Multi Family Residential	3,381	1,749	2,220	2,310	2,430	2,540	2,640
Commercial, Industrial and Institutional	1,215	1,139	1,390	1,440	1,520	1,580	1,650
Dedicated Irrigation	24	223	160	120	120	120	120
Recycled Water	0	0	60	100	100	100	100
Other [2]	3	24	20	20	20	20	20
Total Connections	**11,104**	**11,101**	**14,110**	**14,670**	**15,430**	**16,090**	**16,740**

Source: 2001 and 2004 demands obtained from MVWD June 19, 2003 and February 28, 2005 submittals to the California Urban Water Conservation Council.

Note: Reduction in number of dedicated irrigation connections is based on assumed increase in the number of recycled water connections replacing domestic irrigation connections. future demands for single, multi family and commercial and institutional are estimated to increase in the same proportions as reflected in the 2004 data (i.e., total single family residential + multi-family residential + commercial connections =10,854, with approximately 74% of that total representing single family residential, 16% representing multi-family usage and 10% representing commercial connections. These same percentages are applied to the future year breakdowns for these three sectors).

SECTION 6
WATER DEMAND MANAGEMENT MEASURES

6.1 INTRODUCTION

The District recognizes water use efficiency as an integral component of current and future water strategy for the service area. Through the California Urban Water Conservation Council's (CUWCC) Memorandum of Understanding Regarding Urban Water Conservation in California (MOU), 14 Best Management Practice's (BMP) have been established. These BMPs are equivalent to demand management measures (DMM) and refer to policies, programs, rules, regulation and ordinances, and the use of devices, equipment and facilities that, over the long term; have been generally justified and accepted by the industry as providing a "reliable" reduction in water demand. The BMPs are technically and economically reasonable and not environmentally or socially unacceptable, and are not otherwise unreasonable for most water suppliers to carry out.

The District is a signatory to the MOU and has made state-mandated BMPs the cornerstone of its conservation programs and a key element in the overall regional water resource management strategy.

6.2 DETERMINATION OF DMM IMPLEMENTATION

As signatory to the MOU, the District has committed to a good faith effort in implementing the 14 cost-effective BMPs. "Implementation" means achieving and maintaining the staffing, funding, and in general, the priority levels necessary to achieve the level of activity called for in each BMP's definition, and to satisfy the commitment by the signatories to use good faith efforts to optimize savings from implementing BMPs as described in the MOU.

A BMP as defined in the MOU is a "practice for which sufficient data are available from existing water conservation practices to indicate that significant conservation or conservation related benefits can be achieved; that the practice is technically and economically reasonable and not environmentally or socially unacceptable; and that the practice is not otherwise unreasonable for most water agencies to carry out." BMPs are to be implemented at a level of effort projected to achieve at least the coverages specified in each BMP's definition, and in accordance with each BMP's implementation schedule.

The 14 BMPs include technologies and methodologies that have been sufficiently documented in multiple demonstration projects that result in more efficient water use and conservation. Many of the BMPs are implemented by the District in coordination with MWD and their regional conservation programs.

As signatory to the MOU, the District is also responsible for completing and submitting BMP Activity Reports to the CUWCC every two years for each year prior. The District's BMP Activity Report is a comprehensive document that shows implementation of each BMP and provides a determination of implementation from the District's 2000 UWMP. The District has maintained complete compliance with all the BMPs to date. Appendix F includes the Annual Reports for 2001-2002, Activity Reports for 2003-2004, and the Coverage Reports. The Coverage Reports indicate that the District is on track for meeting BMP coverage in its service area according to the MOU.

6.3 Demand Management Measures

The District has committed to use good-faith efforts to implement the 14 cost-effective BMPs established by the CUWCC. The 14 BMPs include:

1. Water survey programs for single-family residential and multifamily residential customers
2. Residential plumbing retrofit
3. System water audits, leak detection, and repair
4. Metering with commodity rates for all new connections and retrofit of existing connections
5. Large landscape conservation programs and incentives
6. High-efficiency washing machine rebate programs
7. Public information programs
8. School education programs
9. Conservation programs for commercial, industrial, and institutional accounts
10. Wholesale agency programs
11. Conservation pricing
12. Water conservation coordinator
13. Water waste prohibition
14. Residential ultra-low-flush toilet replacement programs

The District continues to implement the 14 BMPs, as demonstrated by the BMP Activity Reports, Coverage Reports, and Annual Reports (Appendix F). However, the District has not yet completed a 2004 BMP Activity Report for BMP #11. Therefore, the following provides complete detail of the District's activity in fully implementing BMP #11.

BMP 11 – Conservation Pricing. The District's water service rates consist of two charges, a fixed charge and a commodity charge, that are billed to customers on a bi-monthly basis.

The Readiness-to-Serve (RTS) charge is a fixed amount dependent on the meter size and does not vary with water consumption. The RTS revenues are used for funding District operating costs, including maintenance of the water system, customer service and administrative operations.

The variable commodity charge is the amount charged per unit of water (100 cubic feet or 748 gallons). The revenue obtained from the commodity charge varies according to customer consumption and is used to cover the cost of the water supply, treatment, pumping and direct costs relating to the amount of water used. If customers wish to reduce their water charges, they have the opportunity to reduce their water use through conservation. All customer types – residential, commercial/industrial/institutional and agricultural – are charged the same commodity rate.

The District's current five-year rate schedule was adopted by the Board of Directors in June 2003 following a comprehensive financial analysis and review of the District's 30-year capital improvement plan. A public hearing on the proposed rates was also held to obtain customer input. The annual rate adjustments, which generally range from two to four percent, provide revenues to offset inflation-related cost increases and funding for capital improvements to ensure access to reliable water supply sources, enhancement of water quality and updated water storage and distribution systems. The current five-year rate schedule is the second in a series of five year schedules adopted by the District's Board of Directors. The first was adopted by the Board in 1998 and was adjusted upward in 2001 in response to the higher cost of electricity during California's energy crisis.

State law requires a public agency to set rates and levy charges that are sufficient to cover operating expenses, including interest on debts, and to provide funding for replacement or construction of facilities.

Much of the District's infrastructure is over 70 years of age and in need of replacement or rehabilitation. The District's 1998 Water Master Plan outlined needed projects over a 30-year time frame. Over the past seven years, the District has begun implementation of those projects that have included pipeline relining and replacement projects, three new groundwater production wells with four additional wells undergoing construction, water quality enhancements, reservoir rehabilitation and replacement and water delivery system improvements. The cost of the capital improvements is estimated at $63 million, based on the current capital improvement plan.

Tables 6.3-1 and 6.3-2 show the current Monthly Readiness-to-Serve Charges and Commodity Charge through 2008 and 2009, respectively.

Table 6.3-1
Monthly Readiness-to-Serve (RTS) Charges
January 2004 through December 2008

Meter Size	1/1/04	1/1/05	1/1/06	1/1/07	1/1/08
¾ inch	$ 6.20	$ 6.70	$ 7.24	$ 7.82	$ 8.45
1 inch	9.92	10.72	11.58	12.51	13.52
1 ½ inch	24.80	26.80	36.20	31.28	33.80
2 inch	31.00	33.80	36.20	39.10	42.25
3 inch	86.80	93.80	101.36	109.48	118.30
4 inch	161.20	174.20	188.24	203.32	219.70
6 inch	372.00	402.00	434.40	469.20	507.00
8 inch	496.00	536.00	579.20	625.60	676.00
10 inch	$868.00	$ 938.00	$1,013.60	$1094.80	$1,183.00

Table 6.3-2
Commodity Charge per 100 Cubic Feet of Water (748 gallons)
June 2003 through December 2009

Year	1/1/04	1/1/05	1/1/06	1/1/08	1/1/09
Rate	$1.140	$1.168	$1.198	$1.227	$1.258

The District offers a Lifeline Rate to customers who provide confirmation that they are retired and 55 years of age or older or disabled, with an annual income, per household, of $21,250 or less. The Lifeline Rate includes 900 cubic feet of water in the bi-monthly RTS charge. The District's water services rates are among the lowest in the region.

Sewer service in the District's service area is provided by the cities of Montclair and Chino. The City of Montclair levies a flat rate for residential sewer customers and charges according to volume of discharge for commercial and industrial customers.

SECTION 7
WATER SHORTAGE CONTINGENCY PLAN

7.1 INTRODUCTION

The District has proposed a Water Shortage Contingency Plan. This Plan includes catastrophic interruption, mandatory prohibition, penalties, consumption reduction methods, rationing allocation method, reduction measuring mechanism, and an emergency fund.

The District's stages of action present the measures by which customers will assist in voluntary and/or mandatory water conservation practices during a water shortage. IEUA will follow the guidance of the Water Surplus and Drought Management (WSDM) Plan, while considering the needs and water shortage actions of each sub-agency. As a sub-agency of the IEUA, the District will also respond to MWD's WSDM Plan. However, the District will focus on implementing its own stages of action with consideration of IEUA's response to a declared water shortage throughout its service area.

7.2 STAGES OF ACTION

To prepare for a water supply shortage, a water shortage contingency ordinance has been prepared by the District as a part of this plan (Appendix G). This ordinance allows for a worst-case shortage. The proposed District ordinance combines voluntary and mandatory conservation measures to be implemented during a water shortage.

In a Phase I shortage (5-10%), the required cutback in usage is planned to be achieved on a voluntary basis. However, during a Phase II shortage (10-25%), voluntary measures would not be sufficient and rationing measures would need to be enacted. This has generally been shown to be the case in southern California during the droughts of the mid-1970's and late 1980's. A summary of expected reduction in usage is shown in Table 7.2-1.

Table 7.2-1
Water Shortage Stages and Demand Reductions

Phase	Shortage (%)	Voluntary Goal (%)	Rationing Goal (%)	Total Reduction Goal (%)
I	5-10	10	0	10
II	10-25	10	10	20
III	25-40	10	20	30
IV	40-50	10	As required	As required

The Water Conservation Ordinance established water use restrictions based on four (4) phases or shortage conditions with an increasing level of severity as the phase number

increases. Table 7.2-2 shows the proposed measures to overcome a water shortage, as identified in Ordinance No. 25.

Table 7.2-2
Water Shortage Phase Demand Reduction Measures

Phase	Water Shortage (%)	Demand Reduction Measures
I	5-10	1) Unlawful to hose wash any sidewalk, walkway, driveway, parking area, except as required for sanitary purposes. 2) Prompt leak repair is mandatory. 3) All water used to maintain decorative ponds, fountains and lakes must be part of a recycling system. 4) Restrictions on water served in restaurants. 5) Landscaping shall be irrigated between 6 P.M. and 9 a.m. with certain exceptions. 6) Restriction on water run-off from irrigation.
II	10-25	1) Any non-enforced Phase I measures will be enforced. 2) Restriction on residential irrigation on odd/even calendar days based on odd/even addresses. 3) Commercial irrigation limited to 65% of the amount used during the base period. 4) No customer shall use more than 90% of the average daily amount. 5) Grading and pool/spa permits processed but not issued. 6) Pools drained for repair or cleaning may not be refilled. 7) New landscaping materials to be drought tolerant (beyond what is now covered by existing state law for all new developments).
III	25-40	1) Phase II measures will be enforced. 2) No customer shall use more than 70% of their average daily amount. 3) Construction water reviewed. 4) Use of water from fire hydrants will be limited to fire fighting and activities necessary to maintain public health, safety and welfare.
IV	40-50	1) Phase III measures will be enforced. 2) No customer shall use more than 50% of their average daily amount. 3) Water from hydrants shall be used exclusively for fire fighting and for promoting public health, safety and welfare. 4) No new landscaping. 5) No new residential building permits issued.

The implementation of the water shortage stages above will result in a significant reduction in water consumption. In the most severe water shortage, the collective implementation of residential and commercial landscape irrigation may achieve a reduction of up to 50 percent in irrigation water use. Combined with a total customer percentage curtailment of 20 percent may result in an overall water consumption reduction of 50 percent for all water use sectors within the District's service area. Further, as a sub-agency of IEUA, the District will respond to IEUA's actions as they respond to implementation of various stages of MWD's WSDM Plan during water shortages.

7.3 MWD WATER SURPLUS AND DROUGHT MANAGEMENT (WSDM) PLAN

In 1999, MWD, in conjunction with its member agencies, developed the WSDM Plan. This plan addresses both surplus and shortage contingencies.

The WSDM Plan will guide management of regional water supplies to achieve the reliability goals of Southern California's IRP. The IRP sought to meet long-term supply and reliability goals for future water supply planning. The WSDM Plan guiding principle is to minimize adverse impacts of water shortage and ensure regional reliability. From this guiding principle come the following supporting principles:

- Encourage efficient water use and economical local resource programs.
- Coordinate operations with member agencies to make as much surplus water as possible available for use in dry years.
- Pursue innovative transfers and banking programs to secure more replacement water for use in dry years.
- Increase public awareness about water supply issues.

The WSDM Plan guides the operations of water resources (local resources, Colorado River, SWP, and regional storage) to ensure regional reliability. It identifies the expected sequence of resource management actions MWD will take during surpluses and shortages of water to minimize the probability of severe shortages that require curtailment of full-service demands. Mandatory allocations are avoided to the extent practicable, however, in the event of an extreme shortage an allocation plan will be adopted in accordance with the principles of the WSDM Plan.

The WSDM Plan distinguishes between *Surpluses*, *Shortages*, *Severe Shortages*, and *Extreme Shortages*. Within the WSDM Plan, these terms have specific meaning relating to MWD's capability to deliver water to the IEUA and the District.

Surplus: MWD can meet full-service and interruptible program demands, and it can deliver water to local and regional storage.

Shortage: MWD can meet full-service demands and partially meet or fully meet interruptible demands, using stored water or water transfers as necessary.

Severe Shortage: MWD can meet full-service demands only by using stored water, transfers, and possibly calling for extraordinary conservation. In a Severe Shortage, MWD may have to curtail Interim Agricultural Water Program (IAWP) deliveries in accordance with IAWP.

Extreme Shortage: MWD must allocate available supply to full-service customers.

The WSDM Plan also defines five surplus management stages and seven shortage management stages to guide resource management activities. Each year, MWD will consider the level of supplies available and the existing levels of water in storage to determine the appropriate management stage for that year. Each stage is associated with specific resource management actions designed to: 1) avoid an Extreme Shortage to the maximum extent possible; and 2) minimize adverse impacts to retail customers should an "Extreme Shortage" occur. The current sequencing outline in the WSDM Plan reflects anticipated responses based on detailed modeling of MWD's existing and expected resource mix. This sequencing may change as the resource mix evolves.

WSDM Plan Shortage Actions by Shortage Stage

When MWD must make net withdrawals from storage, it is considered to be in a shortage condition. However, under most of these stages, it is still able to meet all end-use demands for water. The following summaries describe water management actions to be taken under each of the seven shortage stages.

Shortage Stage 1. MWD may make withdrawals from Diamond Valley Lake.

Shortage Stage 2. MWD will continue Shortage Stage 1 actions and may draw from out-of-region groundwater storage.

Shortage Stage 3. MWD will continue Shortage Stage 2 actions and may curtail or temporarily suspend deliveries to Long Term Seasonal and Replenishment Programs in accordance with their discounted rates.

Shortage Stage 4. MWD will continue Shortage Stage 3 actions and may draw from conjunctive use groundwater storage (such as the North Las Posas program) and the SWP terminal reservoirs.

Shortage Stage 5. MWD will continue Shortage Stage 4 actions. MWD's Board of Directors may call for extraordinary conservation through a coordinated outreach effort and may curtail Interim Agricultural Water Program deliveries in accordance with their discounted rates. In the event of a call for extraordinary conservation, MWD's Drought Program Officer will coordinate public information activities with member agencies and monitor the effectiveness of ongoing conservation programs. The Drought Program Officer will implement monthly reporting on conservation program activities and progress and will provide quarterly estimates of conservation water savings.

Shortage Stage 6. MWD will continue Shortage Stage 5 actions and may exercise any and all water supply option contracts and/or buy water on the open market either for consumptive use or for delivery to regional storage facilities for use during the shortage.

Shortage Stage 7. MWD will discontinue deliveries to regional storage facilities, except on a regulatory or seasonal basis, continue extraordinary conservation efforts, and develop a plan to allocate available supply fairly and efficiently to full-service customers. The allocation plan will be based on the Board-adopted principles for allocation listed previously. MWD intends to enforce these allocations using rate surcharges. Under the current WSDM Plan, the surcharges will be set at a minimum of $175 per AF for any deliveries exceeding a sub-agency's allotment. *Any deliveries exceeding 102% of the allotment will be assessed a surcharge equal to three times MWD's full-service rate.*

The overriding goal of the WSDM Plan is to never reach Shortage Stage 7, an Extreme Shortage. Given present resources, MWD fully expects to achieve this goal over the next ten years.

Reliability Modeling of the WSDM Plan

Using a technique known as "sequentially indexed Monte Carlo simulation," MWD undertook an extensive analysis of system reservoirs, forecasted demands, and probable hydrologic conditions to estimate the likelihood of reaching each Shortage Stage through 2010. The results of this analysis demonstrated the benefits of coordinated management of regional supply and storage resources. Expected occurrence of a Severe Shortage is four percent or less in most years and never exceeds six percent; equating to an expected shortage occurring once every 17 to 25 years. An Extreme Shortage was avoided in every simulation run.

MWD also tested the WSDM Plan by analyzing its ability to meet forecasted demands given a repeat of the two most severe California droughts in recent history. Hydrologic conditions for the years 1923–34 and 1980–91 were used in combination with demographic projections to generate two hypothetical supply and demand forecasts for the period 1999–2010. MWD then simulated operation to determine the extent of regional shortage, if any. The results again indicate 100 percent reliability for full-service demands through the forecast period.

Allocation of Supply for Municipal & Industrial Demands

The equitable allocation of supplies is addressed by the Implementation Goals for the WSDM Plan, with the first goal being to "avoid mandatory import water allocations to the extent practicable." The reliability modeling for the WSDM Plan discussed above results in 100 percent reliability for full-service demands through the year 2010. However, the second fundamental goal of the WSDM Plan is to "equitably allocate imported water on the basis of agencies' needs." Factors for consideration in establishing

the equitable allocation include retail and economic impacts, recycled water production, conservation levels, growth, local supply production, and participation and investment in MWD's system and programs. In the event of an extreme shortage, an allocation plan will be adopted in accordance with the principles of the WSDM Plan.

In an effort to avoid allocation, import water reliability is planned through the Southern California IRP and the WSDM Plan. The IRP presents a comprehensive water resource strategy to provide the region with a reliable and affordable water supply for the next 25 years. The WSDM Plan will guide management of regional water supplies to achieve the reliability goals of the IRP.

7.4 ESTIMATE OF MINIMUM SUPPLY FOR NEXT THREE YEARS

Through the groundwater management programs described in Section 2, local supplies are projected to exceed demand through the next three years based (as determined from Table 4.2-6) on the driest historic three-years as shown in Table 7.4-1. Additionally, MWD has projected 100 percent reliability for full-service demands, which include WFA water, through the year 2030.[70]

Table 7.4-1
Total Estimated Minimum Water Supply Based on Driest 3-Year History
(AF)

Source	2006 Base Year	2007 Base Year	2008 Base Year	2006 Dry Year	2007 Dry Year	2008 Dry Year
Imported	7,750	7,520	7,290	7,610	7,380	7,160
Local (Groundwater)	19,870	22,800	30,100	19,870	22,800	30,100
Recycled	0	0	100	0	0	110
Total	**27,620**	**30,320**	**37,490**	**27,480**	**30,180**	**37,370**

Data extracted from Table 4.2-6; MWD supply of imported water assumed to equal only 98.2% of average supply as is the case in 2008-2010; Given that groundwater supplies represent 90% of existing and planned MVWD groundwater production capacity per Table 4.2-4, base year and dry year estimates are assumed to be the same.

7.5 CATASTROPHIC SUPPLY INTERRUPTION PLAN

Water Shortage Emergency Response

A water shortage emergency could be the result of a catastrophic event such as result of drought, failures of transmission facilities, a regional power outage, earthquake, flooding, supply contamination from chemical spills, or other adverse conditions. In response to such an emergency, the District Board shall be responsible for authorizing and directing

[70] Metropolitan Water District of Southern California, Regional UWMP, September 2005 Draft

implementation of the water conservation stages described in the Water Shortage Contingency Plan, as appropriate, to address emergencies.

The District will also activate its disaster response operations plan. The current plan calls for the creation of an Emergency Response Coordinator and Team, emergency conditions staffing plan, a public information and inter-agency communications plan, listing of District facilities, maps and other pertinent information. In addition, the Vulnerability Assessment and Local Hazards Mitigation Plan will assist in meeting emergency needs through operational and facility adjustments.

Some of the District's steel reservoirs are particularly vulnerable to structural damage from earthquakes. Retrofitting with tie-down anchorages and modification of drain piping and overflow piping will continue to take place during the next five years as part of the District's Water Master Plan. Thus far, Reservoirs 4 and 5 have been retrofitted with flex-joint connections and air gap drainage/overflow connections through 2004 and 2005. In addition, Reservoirs 1 and 17 have been demolished. Reservoirs 18 and 28 will be modified during the 2005/2006 design and modification projects. Reservoir 16 is a below grade concrete reservoir.

The District also provides wholesale water supply to the City of Chino Hills through a long-term contractual arrangement. The agreement between the two agencies contains provisions regarding water delivery limitations during emergency situations such as natural or other disasters.

The District will consider such actions as stretching existing water storage and obtaining additional water supplies from neighboring agencies if appropriate. The District has interconnections with three other agencies: Golden State Water Company, the City of Chino, and the City of Chino Hills. A supply connection with Golden State can be used for emergencies to serve the City of Claremont. The interconnections with the two cities will allow water to be supplied or received.

The City of Montclair Fire Department houses an emergency command center for Zone 1 of the San Bernardino County and State Office of Emergency Services. The District is currently a member of the Montclair Disaster Group to coordinate disaster preparedness planning for the entire community. Members include the local hospital, the high school, the elementary/middle school district, the major retail mall in the city, police and fire departments, and the Red Cross and related groups. The group assists each other in updating disaster plans and keeps abreast of new information in the area of disaster planning.

Construction equipment owned by IEUA is available to the District to use in disaster recovery for the initial emergency period when danger to life and to property exists.

Public health notifications conforming to state laws will be distributed if District management determines that any damage to the water supply distribution system has compromised water quality, i.e., some level of contamination to the drinking water

supply has occurred. Public advisories include directives to use bottled water or to boil tap water prior to consumption. In the case of the absence of natural gas or electricity, instructions on the use of household bleach to disinfect tap water will be provided.

If the imported water supplies are reduced dramatically and power supply is not available for extended periods of time, the District will rely on the implementation of MWD's regional emergency water supply plan in coordination with IEUA.

Vulnerability Assessment

In compliance with federal regulations, the District conducted a Vulnerability Assessment to identify areas for security enhancement and to develop a prioritized plan for the mitigation of risks to critical assets. The plan was completed and submitted to the EPA in March 2003, followed by the development of the required revised Emergency Response Plan in September 2003, which complies with Section 1433 (b) of the Safe Drinking Water Act as amended by the Public Health Security and Bioterrorism Preparedness and Response Act of 2002 (Public Law 107-188, Title IV -- Drinking Water Safety and Security).

Local Hazard Mitigation Plan

The District prepared a Local Hazard Mitigation Plan (LHMP) in August 2004 to comply with the federal Disaster Mitigation Act of 2000, Section 322, Mitigation Planning, which requires all local jurisdictions (counties, cities, towns and special districts) to prepare a Local Hazard Mitigation Plan approved by the Federal Emergency Management Agency (FEMA) by November 1, 2004. The District was a participant in the County of San Bernardino's Multi-jurisdictional Local Hazard Mitigation Plan along with 56 other partners. Each local agency's plan became an "annex" of the county's overall plan and was developed through special computer software.

The purpose of mitigation planning is to recognize hazards, analyze risks and identify actions, measures and projects to implement during the pre-disaster period. The District provided an opportunity for the public to comment on the plan during its development and prior to plan approval. The District also participated in planning meetings with local agencies, including the City of Montclair and the Chino Basin Water Conservation District.

Four natural hazards that may impact the District were identified as earthquake, drought, flooding and dam failure. Critical structures were identified and costs to replace those structures were determined. The following outlines the mitigation goals and project goals of the District's LHMP:

> **Goal 1.** To seek alternatives to enhance reliability and to provide ample water supply during emergency situations. Mitigation Project: Develop permanent water system interconnections to link District's system with adjacent water systems.

Goal 2. To increase storage capacity by 8 million gallons to increase system reliability. Mitigation Project: Rehabilitate existing Reservoir 28; construct additional reservoir capacity in the northern portion of the District's service area and/or at Plant 28.

Goal 3. To provide backup, temporary power sources in the event of a prolonged electrical service disruption. Mitigation Project: Obtain portable trailer-mounted diesel engine generators.

Goal 4. To increase the ability of District reservoirs to withstand seismic events. Mitigation Project: Install tie-down anchorages at Reservoirs at Plant 18. Modification of drain piping and overflow piping at existing reservoirs.

Goal 5. To rehabilitate or replace aging water distribution pipelines to minimize damage or failure during earthquake. Mitigation Project: Complete pipeline improvement projects as recommended in the Water Master Plan.

Goal 6. To augment District water supplies by providing recycled water. Mitigation Project: Work with IEUA to develop recycled water system to provide recycled water to identified customers within the District's service area who are major users of water for large landscape irrigation.

Goal 7. To increase access to groundwater supply. Mitigation Projects: Construct new groundwater production wells; construct Aquifer Storage and Recovery wells; construct ion exchange facilities at District wells impacted by high nitrate concentrations; increase water storage capacity through new reservoirs.

Goal 8. To conduct conservation programs to reduce demand, particularly during drought conditions. Mitigation Project: Promote water efficient landscapes and irrigation practices; rebates on water-saving appliances; education programs.

Goal 9. To increase water system redundancy and flexibility. Mitigation Project: Upsizing and rehabilitation of Benson Feeder and construction of State Street Feeder; construct new water production facilities in the eastern portion of the District.

The District's LHMP was submitted to the County of San Bernardino for review on August 13, 2005, and was added to the multi-jurisdictional plan that was submitted to the state Office of Emergency Services and ultimately to FEMA. The County's plan review was completed in February 2005, and local jurisdictions were notified of recommended changes. The District's plan was accepted, as submitted, with no changes recommended. The County directed local agencies' governing boards to adopt resolutions approving their plans by March 15, 2005, along with submission of revised Annexes. The plan will be reviewed on an annual basis and revised to reflect progress in meeting mitigation goals. Prior to the resubmission of the plan in 2009 for re-approval, opportunities for public review and comment will be offered. Mitigation goals will be incorporated into other planning processes, such as the District's Capital Improvement Plan and facilities development plans.

The District will also coordinate emergency response and operations measures with MWD.

MWD Catastrophic Loss Planning Measures

To safeguard the region from a catastrophic loss of water supply, MWD and its member agencies have made and are continuing to make substantial investments in emergency storage and interconnections with adjacent water purveyors. MWD's emergency plan assumes that demands are reduced 25 percent from the 2020 baseline demand forecast through extraordinary conservation, while the local supplies are largely undisrupted. With few exceptions, MWD asserts it can deliver emergency supply from its Diamond Valley Lake Reservoir throughout its service area via gravity, thereby eliminating dependence on power sources that could also be disrupted by a major earthquake. MWD's WSDM Plan will guide management of available supplies and resources during an emergency.

IEUA recently completed its emergency response plan for its service area. IEUA expects to meet emergency demands within the region through extraordinary conservation and groundwater pumping measures. Multiple sources of power exist within the service area making any electrical shortages a temporary disruption. In addition, IEUA is pursuing additional mutual aid agreements between local retail agencies.[71]

Health and Safety Requirements

The primary goal of the District's water system is to preserve the health and safety of its personnel and the public. Meeting this goal is a continuous function of the water system – before, during and after a disaster or water shortage. Fire suppression capabilities will continue to be maintained during any water shortage contingency stage. Some water needs are more immediate than others. The following list of public health needs and the allowable time without potable water is a guideline and will depend on the magnitude of the water shortage:

- Hospitals – continuous need
- Emergency shelters – immediate need
- Kidney dialysis – 24 hours
- Drinking water – 72 hours
- Personal hygiene, waste disposal – 72 hours

Based on commonly accepted estimates of interior residential water use in the United States, Table 7.5-1 indicates per capita health and safety water requirements. During the initial stage of a shortage, customers may adjust either interior and/or outdoor water use in order to meet the voluntary water reduction goal.

[71] Agreement between City of Fontana and the Cucamonga Valley Water District was developed in 1999.

Table 7.5-1
Per Capita Health and Safety Water Quantity Calculations

	Non-Conserving Fixtures		Habit Changes[1]		Conserving Fixtures[2]	
Toilet	5 flushes x 5.5 gpf	27.5	3 flushes x 5.5 gpf	16.5	5 flushes x 1.6 gpf	8.0
Shower	5 min. x 4.0 gpm	20.0	4 min. x 3.0 gpm	12.0	4 min. x 2.5 gpm	10.0
Washer	12.5 gpcd	12.5	11.5 gpcd	11.5	11.5 gpcd	11.5
Kitchen	4 gpcd	4.0	4 gpcd	4.0	4 gpcd	4.0
Other	4 gpcd	4.0	4 gpcd	4.0	4 gpcd	4.0
Total		68.0		48.0		37.5
CCF per capita per year		33.0		23.0		18.0

Source: Municipal Water District of Orange County, 2000 UWMP.

gpcd = gallons per capita per day
gpf = gallons per flush
gpm = gallons per minute
ccf = hundred cubic feet
[1] Reduced shower use results from shorter and reduced flow. Reduced washer use results from fuller loads.
[2] Fixtures include ULF 1.6 gpf toilets, 2.5 gpm showerheads, and efficient clothes washers.

Priority by Use

Conditions prevailing in the District area require that the water resources available be put to maximum beneficial use to the extent to which they are capable. The waste of water should be prevented and water conservation, along with water use efficiency, will be encouraged to the maximum reasonable and beneficial use of the District customers and the public welfare. Preservation of health and safety will be a top priority for the District.

7.6 PROHIBITIONS, PENALTIES, AND CONSUMPTION REDUCTION METHODS

During emergency situations, the District may be required to activate its water conservation ordinance. Customers will be notified to decrease their nonessential water use that range from Stage 1, voluntary water conservation measures, to Stage VI, special provision water conservation measures with prohibited uses of water. The objective of the ordinance is that customers, knowing what is required in each drought phase, will manage their water use to be in compliance. However, should individual customers not be in compliance, then penalties are specified. The penalties are divided into those for violation of prohibited activities and those for violation of water use restrictions. The Draft Contingency Plan Ordinance outlines the various prohibitions per each Phase/Stage of action that will be enforced during a water shortage. Some of the prohibitions include the following, depending on the stage enacted: failure to repair leaks, mobile equipment washing, hosing or washing sidewalks, using water to clean decorative structures, landscape irrigation, construction water use, fire hydrants, etc. Table 7.2-2 shown above summarizes the prohibitions.

It is unlawful for any water customer to fail to comply with any of the provisions of this chapter. The penalties for failure to comply are shown below:

1st Violation –	Written notice
2nd Violation –	Written notice of the fact of such a violation.
3rd Violation –	$50 Fine
4th Violation –	$100 Fine
5th Violation –	$150 Fine
6th Violation –	Possible flow restricting device for domestic meters and termination of landscape meters

Any such restricted or terminated service may be restored upon application of the customer made not less than forty-eight (48) hours after the implementation of the action restricting or terminating service and only upon a showing by the customer that the customer is ready, willing and able to comply with the provision of this chapter's rules regarding the conservation of water. Prior to any restoration of the service, the customer shall pay all District charges for any restriction or termination of service and its restoration, as follows:

1. For the first violation by any customer of any of the provision a drought surcharge in an amount equal to fifteen (15%) percent of the water bill plus an additional three dollars ($3.00) for each billing unit in excess of the usage of water permitted by the particular conservation phase in which the violation occurred shall be added to the customer's water bill.
2. For a second violation within the preceding twelve calendar months, a drought surcharge in an amount equal to twenty-five (25%) of the water bill, plus an additional three dollars ($3.00) for each billing unit in excess of the usage of water permitted by the particular conservation phase in which the violation occurred shall be added to the customer's water bill.
3. For a third violation and any subsequent violation within the preceding twelve calendar months, a drought surcharge in an amount equal to seventy-five (75%) of the water bill, plus an additional four dollars ($4.00) for each billing unit in excess of the usage of water permitted by the particular conservation phase in which the violation occurred shall be added to the customer's water bill.
4. After a fourth violation by a customer of any of the provision of subsections within the preceding twelve calendar months, in addition to the surcharges established herein, the review board may impose the penalties provided for in the subsection that covers flow restriction.

7.7 REVENUE AND EXPENDITURE IMPACTS AND MEASURES TO OVERCOME THOSE IMPACTS

The District has two types of charges. 1) The base charge, called the Readiness-to-Serve (RTS) charge, is a fixed charge per month, dependent on the meter size, with the larger

meters having a higher charge. The revenue from the RTS charge is considered as fixed revenue since it does not vary with water usage. 2) The commodity or variable charge: the amount charged per unit of water used (a unit is 100 cubic feet or 748 gallons). The revenue from the commodity charge is variable since it fluctuates with water usage.

For the District, the water RTS charges amount to about 22.3 percent of water revenue sales. The District's RTS charge is currently $5.20 per month for a typical 5/8" residential meter, effective January 1, 2001. The variable or commodity charges account for about 77.7 percent of the water revenue. The commodity charge is currently $1.019 per billing unit (100 cubic feet).

During droughts and emergencies, District water sales revenue would be substantially impacted due to the fact that the impact of the loss of revenue would only be partially mitigated by a reduction in costs. The difficulty lies in the fact that only variable costs can be proportionally reduced, thus limiting the District's ability to reduce expenditures to a level commensurate with the anticipated decrease in revenues.

Strategies used to avoid financial problems during droughts include the following:

- **Use accumulated reserves.** A water purveyor needs a reserve for cash flow and system emergencies. The District has allocated $3 million for annual operating reserves and $1.9 million in annual emergency reserves. In a severe drought or water emergency the District may be required to utilize emergency reserves.

- **Have a greater portion of revenue come from the fixed component, making it less vulnerable to changes in water sales.** The District's Readiness to Serve (RTS) charges will be $7.24 per month for a typical ¾ inch meter; effective January 1, 2006.

- **Defer programs and costs.** It is assumed that any kind of emergency may cause the District to decrease or suspend certain programs to minimize operating costs.

- **Increase water rates if required to generate revenue.** This should be done during the winter when the impact on water use is lessened. Summer rate increases, when water usage is naturally greater, only exaggerate the impact of the increase, and should be avoided.

Table 7.7-1 shows the impact on District revenues where District consumption is reduced between 10 and 50 percent.

To summarize the scenarios, the District's revenue sources would remain sufficient to cover operating expenditures in the event of a minor reduction condition (10-20% reduction in consumption), as would be anticipated in a mild drought condition as might be expected in a Phase I or II drought. Due to the fact that the rate of reduction in variable expenditures would be generally proportionate to the reduction in revenue, revenues would remain sufficient to cover operating expenditures.

However, in the event of a severe drought (40-50% reduction in consumption) as might be expected in a Phase III or IV drought condition, the District's current rate structure would not be sufficient to cover operation expenditures for an extended period of time. As a result, the District would be required to utilize reserve funds. If the drought condition continued for an extended period, the District may have to consider a revision of its current rate structure.

Table 7.7-1
Revenue and Expense Scenario
Potential Effects of Identified Reduction in Consumption

	Percent Reduction in Consumption				
	Normal	**10%**	**20%**	**40%**	**50%**
Revenues					
Base	$1,150,020	$1,150,020	$1,150,020	$1,150,020	$1,150,020
Commodity	4,772,596	4,295,336	3,818,077	2,863,558	2,386,298
Other	1,685,150	1,685,150	1,685,150	1,685,150	1,685,150
Total	$7,607,766	$7,130,506	$6,653,247	$5,698,728	$5,221,468
Expenditures					
Variable	2,333,580	2,100,222	1,866,864	1,400,148	1,166,790
Fixed	1,695,355	1,695,355	1,695,355	1,695,355	1,695,355
G&A	1,365,382	1,365,382	1,297,113	1,232,257	1,232,257
Capital	1,980,000	1,782,000	1,584,000	1,267,200	1,267,200
Total	$7,374,317	$6,942,959	$6,443,332	$5,594,960	$5,361,602

7.8 WATER SHORTAGE CONTINGENCY ORDINANCE AND DRAFT WATER SHORTAGE STAGE RESOLUTION

In response to drought conditions, the District's Board of Directors adopted Ordinance #25 in 1991, "establishing rules and regulations to insure the maximum beneficial use of available water supplies." The District's Draft Contingency Plan Ordinance is included in Appendix G. The Ordinance identifies actions to be taken by water consumers within the District's service area during periods of adequate water supply, during moderate water shortages, and during high water shortages. Each shortage stage includes such actions as limiting outside irrigation, leak repair, avoiding water use during peak demand hours, and reduced overall water usage. A Water Shortage Resolution would be approved to implement a specified water shortage stage. A Draft Water Shortage Stage Resolution is included in Appendix H.

7.9 MECHANISMS TO DETERMINE ACTUAL REDUCTIONS IN WATER USE

The District tracks water production through use of the real-time SCADA system. Production is monitored through use of the blending station (Plant 17), real time trend screens indicating reservoir storage and monitoring of WFA supply flows. Operations personnel conduct daily rounds and maintenance checks on the groundwater wells. Production reports are prepared monthly and quarterly.

Historically, during a water supply shortage, operations personnel have conducted production facility inspections twice a day with increased monitoring of the SCADA system screens. Reservoir storage trend screens are the key indicators of overall system demand. In addition, field staff has monitored the District service area for signs of system or individual service leaks or excessive landscape watering.

The District will also follow implementation of stages of water shortage declared by IEUA and continue to monitor water demand levels. IEUA is likely to respond directly to MWD's implementation of the WSDM Plan consumption reduction stages. During Shortage Stage 5, MWD may call for extraordinary conservation. During this stage, the District will coordinate emergency activities with IEUA staff and MWD's Drought Program Officer, and monitor the effectiveness of ongoing conservation programs. Monthly or more frequent reporting on estimated conservation water savings will be provided and reviewed. Water consumption reports, water facility condition, watershed hydrology information, and Basin conditions, will all be considered for further appropriate action in response to the water shortage.

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SECTION 8
WATER RECYCLING

8.1 RECYCLED WATER

The southern California region, from Ventura to San Diego, discharges over 1 billion gallons of treated wastewater to the ocean each day. This is considered a reliable and drought-proof water source and, if recycled, could greatly reduce the area and District's reliance on imported water. As technological improvements continue to reduce treatment cost, and as public perception and acceptance continue to improve, numerous reuse opportunities should develop.

In August 2000, the District instituted an initial feasibility study for the development of a recycled water distribution system. The proposed project would provide recycled water supplies to landscape irrigation users within the District's service area in the cities of Montclair and Chino and a portion of the County of San Bernardino. Recycled water use within the District's service area provides increased supply diversification benefits, a reduction in regional imported water demand and puts available recycled water supplies to beneficial use.

The District does not currently serve recycled water within its service area. However, the District anticipates utilizing recycled water with the development of the Regional Recycled Water Distribution System as discussed in the following sections. The District also supports efforts of IEUA and the Watermaster to utilize recycled water as a primary resource for groundwater recharge in the Chino Groundwater Basin.

8.2 COORDINATION OF RECYCLED WATER IN SERVICE AREA

Water recycling involves the treatment of wastewater to create a high quality, safe source of water for outdoor irrigation, industrial and groundwater recovery/recharge uses. Recycled water is also a critical component of the OBMP to address water quality issues in the Chino Groundwater Basin.

The District will rely on the Regional Recycled Water Distribution System operated by IEUA for its recycled water supply. Development and expansion of the regional system is critical to meeting the District's anticipated demands for recycled water. Development of the local recycled water distribution lines within the District is a partnership between the District, IEUA, and developers. Developers must consider and incorporate recycled water infrastructure into new land development projects.

IEUA operates four regional wastewater treatment plants: Regional Plant No.1 (RP-1), RP-4, RP-5, and the CCWRF. A fifth treatment plant, RP-2, was decommissioned in 2004 because it is located in a potential flood zone. Each treatment plant produces disinfected and filtered tertiary treated recycled water in compliance with California's

Title 22 regulations. The water quality from these plants is good, with an average level of TDS well below 500 mg/L and a total nitrogen level of less than 10 mg/L.[72]

The IEUA Regional Sewerage Service Contract defines the manner for a Contracting Agency to claim its respective percentage of the recycled water from the treatment plants.

Under the current contract, the District may take delivery of more than its entitlement when other contracting agencies are not taking delivery of their full entitlements. However, on completion of the Regional Recycled Water System, phased through 2010, which merges all the recycled water plants together, there will be sufficient system flexibility and supply to satisfy all anticipated future demands.

IEUA facilities serve seven other contracting agencies, including: the cities of Chino, Chino Hills, Fontana, Montclair, Ontario, and Upland, and the Cucamonga Valley Water District. Additional sources of recycled water accessed and used within IEUA's service area include the Upland Hills Water Reclamation Plant (operated by the City of Upland) and the CIM Water Reclamation Plant (operated by the California Institution for Men at Chino).

Regional Recycled Water Program

In 2004, IEUA initiated development of a Regional Recycled Water Program implementation plan and further defined the required infrastructure to deliver recycled water. This major planning effort resulted in the completion of the 2005 Recycled Water Implementation Plan (RWIP). The RWIP identified a projected ultimate recycled water demand of approximately 94,000 AFY, and the projects required to pump, store, and distribute the recycled water.

Implementation of the regional program will serve to reduce and thereby conserve imported water to the Basin, and will also conserve natural or storm water, in compliance with the existing Santa Ana River Basin Water Quality Control Plan, the OBMP, and the RWIP. The California State Legislature has made it mandatory for major water users to use recycled water, if the resource is readily available and meeting specific regulations.

The RWIP identified a phased implementation over the next ten years with provisions for additional expansion beyond the ten year planning horizon. The estimated cost of the facilities planned for the next ten years is $80 to $200 million. The projects will be funded through a combination of state and federal grants, state low-interest loans, MWD LRP rebates and Regional Program funds. The actual schedule of implementation will depend on the availability of grant funding.

The existing regional recycled water distribution system is comprised of two separate pipelines that have been constructed to serve IEUA's wastewater treatment plants. The continued operation of separate systems (separate pumping stations, independent pressure

[72] IEUA Recycled Water System Feasibility Study, Page 4-2. October 2001

zones, and multiple control interfaces) would lead to inefficient and costly operations. Therefore, the concept of a fully integrated regional distribution system was developed. The master-planned regional facilities will provide the ability to serve recycled water to major industrial and municipal users and for blending with storm water and imported water with recycled water for groundwater recharge in the Basin.

The Regional Recycled Water Facilities will consist of a looped pipeline system that connects all four regional water recycling plants. Future satellite plants, identified in the Wastewater Master Plan, will also be connected to the regional facilities. The regional facilities include over 50 separate pipeline, pump station and reservoir projects. These projects have been grouped into five implementation phases scheduled every two years. The priority of each phase was determined based on the amount of recycled water each phase could serve and the proximity of each phase to one of the regional water recycling plants or existing recycled water transmission mains. Phases I and II of the program will deliver recycled water to most of the groundwater recharge sites since the recharge sites represent a significant recycled water use.

The recycled water used in 2000 came from RP-1/RP-4 and the CCWRF. A transmission line connects RP-1 and RP-4 and serves as part of the backbone system for recycled water use in the northern portion of IEUA's service area. This system provides water for irrigating parks and golf courses. CCWRF's distribution system delivers water through 21,400 feet of pipe, to the cities of Chino and Chino Hills. Currently, there are 125 recycled water connections to the recycled water distribution system.

Currently, IEUA produces about 86,000 AF (77 MGD) of tertiary treated recycled water annually. In 2004, recycled water use totaled about 7,000 AF, of which 5,900 AF was used for outdoor irrigation and 500 AF for groundwater recharge (Ely Basin Project). The remaining supply of recycled water, about 79,000 AF, was discharged to the Santa Ana River.

By the year 2020, over 107,000 AFY of recycled water is expected to be available within the IEUA service area from the Regional Plants, reaching nearly 200,000 AFY at ultimate system build out. IEUA's goal is to fully utilize the recycled water supply for local beneficial uses. IEUA initiated a recycled water marketing program in 1999, which has been successful in additional recycled water sales. Table 8.2-1 shows the combined production of the current wastewater treatment plants is estimated at approximately 68,000 AFY. By 2020, the plants are expected to produce 107,400 AF of water.

Table 8.2-1
Potential Recycled Water Supply in IEUA Service Area
(AFY)

Regional Plants	2005	2010	2015	2020
CCWRF	9,850	11,800	12,100	12,100
RP-1	43,900	43,500	47,400	50,200
RP-4	6,940	13,800	21,200	21,200
RP-5	7,390	14,800	23,900	23,900
Total	**68,080**	**83,900**	**104,600**	**107,400**

Source: IEUA, Regional UWMP, Review Draft October 2005

The 2002 Feasibility Study and 2004 Implementation Plan included an assessment of the potential recycled water customers within the IEUA service area. Working with other regional agencies, over 2,300 potential customers were identified. This information was used to plan the regional and local recycled water distribution pipelines. Pipeline locations were selected to provide recycled water to the largest customers or groups of customers.

IEUA has determined in their October 2005 Review Draft UWMP, that by 2015 the regional distribution system will serve over 1,900 of the largest customers and supply approximately 91,000 AFY, which includes 25,000 AFY of groundwater recharge and required releases the Santa Ana River. Table 8.2-2 describes the schedule of expected 2015 regional recycled water deliveries.

Table 8.2-2
Projected Regional Recycled Water Program Deliveries in 2015
(AFY)

Category	Total Recycled Water Use
Groundwater Recharge	25,000
Industrial	6,000
Landscape	36,000
Agricultural	7000
Santa Ana River Judgment 1969[1]	17,000
Total	**91,000**

Source: IEUA, Regional UWMP, Review Draft October 2005

[1] Santa Ana River Judgment 1969 annual required release to river.

Recycled Water for Groundwater Recharge

Recycled water used for groundwater recharge will be blended with MWD's imported SWP supplies and local storm water, consistent with the water quality requirements of the Chino Basin Watermaster's OBMP, Santa Ana Regional Water Quality Control Board's Basin Plan, and the DHS.

Aquifer retention time, the distance to the nearest well, and groundwater migration will be considered in the calculation of the blending ration necessary to achieve the 20 percent target set by DHS. Current estimates are that 33,800 AFY of recycled water could be recharged at spreading grounds throughout the Chino Basin by 2010. Additional facilities, including the construction of new transmission lines for imported water from the MWD Rialto Pipeline, development of new groundwater recharge basins, and installation of additional pumping capacity, will be needed to achieve the long term water recycling goals for the region.

As the region continues to develop beyond 2015, significant new development will include dual plumbing systems. In addition, future expansion of recycled water facilities through retrofits to additional existing developments will continue. By 2025 direct recycling will supply 80,000 AFY. Also, by 2025, recycled water recharge will increase to 70,000 AFY due to increased demand for recharge water and advanced treatment of recycled water for recharge.

8.3 WASTEWATER COLLECTION AND TREATMENT

The District's wastewater treatment and disposal is accomplished by IEUA on behalf of the cities within the District's service area. While the cities may own and operate their local sewer systems, IEUA manages the Regional Sewage Service System within its 242-square mile service area in southwestern San Bernardino County. The regional system collects, treats and disposes of wastewater delivered by contracting local agencies.

District Wastewater

The District's service area provides a significant amount of wastewater to IEUA's regional plants. The quantities of wastewater generated are generally proportional to the population and the water use in the service area. Estimates of the wastewater flows in the District are included in Table 8.3-1. The wastewater flows were calculated using the population projections included in Section 1 based on gallons per capita per day (gpcd) of wastewater flow.

Table 8.3-1
Wastewater Collection and Treatment Within the Monte Vista Water District Service Area

	2005	2010	2015	2020	2025	2030
Population[1]	**51,930**	**59,600**	**66,750**	**71,250**	**76,000**	**81,300**
Coefficient Wastewater Flow (gpcd)[2]	111	123	124	125	125	125
Wastewater Flow (gpd)	5,764,230	7,330,800	8,277,000	8,906250	9,500,000	10,162,500
Wastewater Flow (afy)	6,457	8,212	9,271	9,976	10,641	11,383

[1] From Section 1, Table 1.3-2.

[2] Source: IEUA Recycled Water System Feasibility Study, October 2001, projected Regional Plant flows (Table 4-2) and regional population projections (Table 3-6).

IEUA Wastewater System and Regional Treatment Plants

IEUA owns and operates an extensive wastewater system, consisting of trunk sewers, subtrunk sewers, and regional treatment plants. The system of regional trunk and interceptor sewers convey sewage to regional wastewater treatment plants. The IEUA regional sewerage system is constructed in a manner that wastewater can be diverted from one regional wastewater treatment plant to another, thereby avoiding overloading any one facility.

IEUA's facilities currently serve seven contracting agencies with a total population of approximately 790,000 including the cities of Chino, Chino Hills, Fontana, Montclair, Ontario, and Upland, and the Cucamonga Valley Water District. A system of regional trunk and interceptor sewers convey sewage to regional wastewater treatment plants which are all owned and operated by IEUA.

IEUA operates four regional wastewater treatment plants that produce disinfected and filtered tertiary treated recycled water in compliance with California's Title 22 regulations: Regional Plant No. 1 (RP-1), RP-4, RP-5, and the CCWRF. A fifth treatment plant, RP-2, was decommissioned in 2004 because it is located in a potential flood zone.

RP-1

RP-1 began operation in 1948 through a joint powers agreement between the cities of Ontario and Upland. IEUA, then known as Chino Basin Municipal Water District, purchased RP-1 in January 1973. Several major expansions have been completed bringing the facility to its current capacity of 44 MGD. RP-1 is projected for expansion in 2010 increasing the plant's capacity to 58 MGD. RP-1 serves all or part of the cities of Chino, Ontario, Rancho Cucamonga, Upland, Montclair, Fontana, and an unincorporated area of San Bernardino County.

RP-2

RP-2 began operation in 1960 to serve the City of Chino and the Chino Hills area. It was expanded to 5 MGD to increase capacity and to meet stringent water quality requirements. Because RP-2 is located in a flood prone area, much of the facility has been shut down and all liquid wastes diverted to the new RP-5 facility. RP-2 continues to handle wastewater solids generated by RP-5 and CCWRF. The facility will remain in operation until the useful life of its anaerobic digesters ends in about 20 years.

CCWRF

The Carbon Canyon Wastewater Reclamation Facility (CCWRF) has been in operation since 1992 and is located in the City of Chino. Liquids are treated at CCWRF, while solids removed from the waste flow are pumped to and treated at RP-2. CCWRF treats an annual average of 8 MGD. No expansion of the CCWRF is planned in the next 20 years. CCWRF serves the cities of Chino, Chino Hills, Montclair and Upland.

RP-4

Regional Treatment Plant No. 4 was completed in 1997. RP-4 tertiary effluent is combined with the RP-1 effluent and is used for irrigation of the El Prado Golf Course. Water is also supplied to the Prado Regional Park, with excess being discharged to the Cucamonga Creek Flood Control Channel and the Santa Ana River. RP-4 has a capacity of 7 MGD, although it currently operates at 3.5 MGD. RP-4 serves Rancho Cucamonga, Fontana and unincorporated areas of San Bernardino County.

RP-5

Construction of Regional Treatment Plant No. 5 (RP-5) was completed in March 2004. The 15 MGD plant replaces RP-2 liquid waste processing. RP-5 serves existing development and the planned development occurring in the cities of Chino, Chino Hills and Ontario. RP-5 is projected for expansion to 22.5 MGD in 2015, and ultimate expansion in the future to treat 48 MGD of wastewater.

Wastewater Treatment

All of IEUA's wastewater treatment plants produce recycled water that meets or exceeds the requirements of the DHS Title 22 for recycled water. All wastewater goes through a treatment process before being discharged or reused.

The treatment process begins with raw sewage that is collected from the local cities. The raw sewerage is passed through screening and grit removal units, primary clarifiers, aeration basins, secondary clarifiers, chemical addition, tertiary filters, chlorination, and finally dechlorination facilities prior to discharge. Most of the effluent flow is placed into the nearby creeks and allowed to flow ultimately into the Santa Ana River where it is recharged into Orange County's groundwater basin.

Solids removed from the liquid treatment processes are thickened and stabilized in anaerobic digesters before being dewatered and transported to the IEUA's co-composting facility in Chino.

IEUA maintains an EPA/State of California approved industrial pre-treatment program for industrial discharges to the sewage system that requires dischargers to comply with water quality objectives and to submit periodic monitoring reports to IEUA. IEUA produces a supply of highly polished tertiary-treated water suitable for irrigation, industrial water supply, groundwater recharge, environmental enhancement and unrestricted recreation use such as boating and fishing.

8.4 CURRENT AND PROJECTED RECYCLED WATER USE IN THE MONTE VISTA WATER DISTRICT SERVICE AREA

The District does not currently provide recycled water within its service area. Projected recycled water use is anticipated with the development of IEUA's Regional Recycled Water Distribution System and expanded recycled water infrastructure within the District.

According to the IEUA Regional Recycled Water System Program, local recycled water facilities are those which serve the customers of only one contracting agency. Each local agency is responsible for the planning, design, construction and operation of local laterals within their service area. IEUA staff is working closely with each agency, including the District, to coordinate their recycled water planning efforts. In order to assist the local agencies with the implementation of their recycled water systems, IEUA is providing technical assistance and, if requested, financing of the local agency's facilities. Funds for this financing are in IEUA's budget and Ten Year Capital Improvement Plan; however, the amount of funding will depend on the agencies' needs.

Table 8.4-1 compares the 2000 projection of recycled water use by 2005 to the actual recycled water use in 2005. The recycled water use projections to 2030 are consistent with IEUA projections included in the Regional UWMP Year 2005 Update, as discussed in Section 4.2.

Table 8.4-1
Current and Projected Uses of
Recycled Water in the Monte Vista Water District Service Area
(AF)

	2000 Projection for 2005	2005	2010	2015	2020	2025	2030
Landscape Irrigation	0	0	370	540	670	670	670

Source: IEUA 2005 Regional UWMP, October 2005 Review Draft

8.5 ENCOURAGING RECYCLED WATER USE

The District is encouraging recycled water use by potential recycled water users through a variety of measures. The District is confident that, when performed collectively, these measures have and will continue to result in an increase in recycled water use through 2030. The District's measures include participation with IEUA's Regional Recycled Water Program to encourage water reuse within its service area.

Financial Incentives

Recycled Water Rates. The District will benefit from the IEUA modified wholesale rate for recycled water, once introduced, to provide a financial incentive to potential users that convert their systems to recycled water. The previous recycled rate was set at 80 percent of the cost of imported water. The new rate is set at 20 percent of the cost of imported water, or $60 per AF. The new rate is highly supported and has generated significant interest by potential customers in using recycled water.

Alternative Capital Funding. The implementation of recycled water projects involves a substantial upfront capital investment for planning studies, environmental impact reports, engineering design and construction before there is any recycled water to market. For some water agencies, these capital costs exceed the short-term expense of purchasing additional imported water supplies. IEUA is pursuing new supplemental funding sources through federal, state and regional programs to assist the District and other local agencies to develop and make use of recycled water. These funding opportunities may be sought by the District or possibly more appropriately by regional agencies. This helps to remove the financial obstacle to the implementation of recycling water projects and programs.

Regional Meetings

The District is working closely with IEUA and its sub-agencies to expand and enhance the regional recycled water distribution program to maximize water reuse for the entire IEUA service area. District staff meets monthly with all IEUA agencies to coordinate the master planning of the recycled water system to ensure that optimal capital investments are prioritized and that all potential customers are contacted regarding connection to the recycled water system.

Plumbing Codes

The District requires all new residential, commercial, and industrial developments have dual plumbing so that recycled water (when available) can be used for outdoor irrigation and other non-potable water uses. The District works closely with the cities and county in which is serves regarding plumbing codes.

Proposed Incentives

In addition, the District is working collaboratively with IEUA on the following proposed incentives to encourage the use of recycled water:

- A discount for Non-Reclaimable Water service users (to promote removal of salts from the groundwater basin);
- Shared costs for service connections, water meters, and signage;
- Loans to help finance local (non-regional) infrastructure and retrofit projects that contribute to use of recycled water;
- Technical assistance with engineering, regulatory and institutional issues and with preparation of funding applications; and
- Guarantee of recycled water supply reliability, especially during droughts.

Marketing Database

IEUA is now working with local retail agencies to develop a marketing program for recycled water. A customer database is being developed to identify current and prospective recycled water users. This database will also track monthly recycled water use as well as the construction, over time, of the component parts of the Regional Recycled Water System.

Public and School Education

Recent studies of water recycling opportunities within southern California provide a context for promoting the development of water recycling plans. It is recognized that broad public acceptance of recycled water requires education and public involvement.

The District's school education program, in partnership with IEUA, includes activities within the District's Public Information Program and expands with activities of the Water Education Water Awareness Committee (WEWAC). The WEWAC works with the school districts to promote water conservation, acquaints children and adult consumers with the critical importance of water and provides them with information on water use efficiency and recycled water use. The District is an active member in this committee and co-sponsors educational programs for students at all grade levels. WEWAC also maintains a website that includes information on recycled water. The District also participates in the IEUA school education programs, which have reached thousands of students with grade-specific programs that include information on the importance of recycled water to the region. The District incorporates water education at the National Theatre for Children, through its "Garden in Every School" program, and through its annual School Poster Contest.

The District's public education program includes a variety of means to convey the importance of recycled water use. Water use efficiency and conservation literature is available at the District's office; the District co-sponsors environmental and water conservation activities; and participates in multiple water efficient device rebate and exchange programs.

8.6 OPTIMIZING RECYCLED WATER USE

In the region, as will be in the District, the majority of recycled water is used for irrigating parks, schools, landscaping, and golf courses. However, future recycled water use can increase by requiring dual piping in new developments, retrofitting existing landscaped areas and constructing recycled water pumping stations and transmission mains to reach areas far from the treatment plants. Gains in implementing some of these projects have been made throughout the region; however, the additional costs, large energy requirements, and the type and complexity of facilities create such projects very expensive to pursue.

To optimize the use of recycled water, cost/benefit analysis must be conducted comparison to alternative water supply options. The technical and economic feasibility of serving recycled water depends upon the identification of end users in conjunction with the construction of additional distribution facilities, recharge basins, groundwater pump stations and desalters to provide water deliveries.

Capital funding needs for the Regional Recycled Water Distribution System, based on the RWIP, are estimated at $80 to $100 million over the next ten years. This capital improvement budget will be included in IEUA's Ten Year Capital Improvement Plan. Regional Connection Fees are the primary source for capital funding. However, supplemental funding has been obtained through local, state and federal sources, while new sources are continuing to be pursued by IEUA.

The District will continue to conduct cost/benefit analysis for recycled water projects, and seek creative solutions and a balance to recycled water use, in coordination with IEUA. These include solutions for funding, regulatory requirements, institutional arrangements, and public acceptance.

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APPENDIX A

CALIFORNIA URBAN WATER MANAGEMENT PLANNING ACT OF 1983 AS AMENDED TO 2005

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.

Article 3. Adoption and Implementation of Plans

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

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

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

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

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

10644.

(a) An urban water supplier shall 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.

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APPENDIX B

2005 URBAN WATER MANAGEMENT PLAN "REVIEW FOR COMPLETENESS" FORM

2005 Urban Water Management Plan "Review for Completeness" Form

For DWR Review Staff Use

Coordination with Appropriate Agencies **(Water Code § 10620 (d)(1)(2))**

Yes

[X] Participated in area, regional, watershed or basin wide plan — Sec 1, p.1-2 Reference & Page Number

Name of plan 2005 UWMP Lead Agency Monte Vista Water District — Sec 1, p.1-2 Reference & Page Number

[X] Describe the coordination of the plan preparation and anticipated benefits. — Sec 1, p.1-2 Reference & Page Number

Table 1
Coordination with Appropriate Agencies

Check at least one box on each row	Participated in developing the plan	Commented on the draft	Attended public meetings	Was contacted for assistance	Was sent a copy of the draft plan	Was sent a notice of intention to adopt	Not Involved / No Information
MVWD Staff	X	X	X	X	X	X	
IEUA				X	X	X	
WFA				X	X	X	
MWD				X		X	
Chino Basin Watermaster				X	X	X	
City of Montclair				X	X	X	
City of Chino Hills				X	X	X	
City of Chino				X	X	X	
County of San Bernardino						X	

Describe resource maximization / import minimization plan **(Water Code §10620 (f))**

[X] Describe how water management tools / options maximize resources & minimize need to import water — Sec 2, p.2-4 Reference & Page Number

Plan Updated in Years Ending in Five and Zero **(Water Code § 10621(a))**

[X] Date updated and adopted plan received To be entered (enter date) — Sec 1, p.1-2 Reference & Page Number

City and County Notification and Participation **(Water Code § 10621(b))**

[X] Notify any city or county within service area of UWMP of plan review & revision — Sec 1, p.1-2 Reference & Page Number

[X] Consult and obtain comments from cities and counties within service area — Sec 1, p.1-2 Reference & Page Number

Service Area Information		Water Code § 10631 (a))	
X	Include current and projected population	Sec 1, p.1-7	Reference & Page Number
X	Population projections were based on data from state, regional or local agency	Sec 1, p.1-7	Reference & Page Number

Table 2 Population - Current and Projected						
	2005	2010	2015	2020	2025	2030 - opt
Service Area Population						
City of Montclair	35,530	42,400	48,700	52,300	56,100	60,400
City of Chino	3,100	3,250	3,400	3,550	3,750	3,950
Unincorporated	13,300	13,950	14,650	15,400	16,150	16,950
Total	51,930	59,600	66,750	71,250	76,000	81,300

X	Describe climate characteristics that affect water management	Sec 1, p.1-5	Reference & Page Number
X	Describe other demographic factors affecting water management	Sec 1, p.1-7	Reference & Page Number

Table 3 Climate						
	January	February	March	April	May	June
Standard Average ETo	1.86	2.24	3.41	4.80	5.58	6.30
Average Rainfall	3.30	3.10	2.90	1.10	0.30	0.00
Average Temperature	67	68	70	75	80	87

Table 3 (continued) Climate							
	July	August	September	October	November	December	Annual
Average ETo	6.51	6.20	4.80	3.72	2.40	1.86	**49.7**
Average Rainfall	0.00	0.10	0.40	0.40	1.90	2.30	**15.8**
Average Temperature	94	94	90	84	74	68	**79**

Water Sources		(Water Code § 10631 (b))	
X	Identify existing and planned water supply sour	Sec 2, p.2-4	Reference & Page Number
X	Provide current water supply quantities	Sec 2, p.2-4	Reference & Page Number
X	Provide planned water supply quantities	Sec 2, p.2-4	Reference & Page Number

Table 4 Current and Planned Water Supplies - AFY						
Water Supply Sources	**2005**	**2010**	**2015**	**2020**	**2025**	**2030 - opt**
Water purchased from:						
Water Facilities Agency/ Inland Empire Utilities Agency - Imported	12,752	6,830	6,840	7,560	7,540	7,490
Chino Basin Watermaster - Groundwater	10,299	30,100	30,100	33,000	33,000	33,000
Inland Empire Utilities Agency - Recycled	0	370	540	670	670	670
Total	**23,051**	**37,300**	**37,480**	**41,230**	**41,210**	**41,160**

If Groundwater identified as existing or planned source		**(Water Code §10631 (b)(1-4))**	
	Has management plan		Reference & Page Number
	Attached management plan (b)(1)		Reference & Page Number
X	Description of basin(s) (b)(2)	Sec 2, p.2-6	Reference & Page Number
X	Basin is adjudicated	Sec 2, p.2-6	Reference & Page Number
X	If adjudicated, attached order or decree (b)(2)	Appendix E	Reference & Page Number
X	Quantified amount of legal pumping right (b)(2)	Sec 2, p.2-6	Reference & Page Number

Table 5 Groundwater Pumping Rights - AF Year	
Basin Name	**Pumping Right - AFY**
Chino Groundwater Basin - MVWD	4,824
Chino Groundwater Basin - Company	677
Total	5,501

X	DWR identified, or projected to be, in overdraft (b)(2)	Sec 2, p.2-12	Reference & Page Number
X	Plan to eliminate overdraft (b)(2)	Sec 2, p.2-15,19	Reference & Page Number
X	Analysis of location, amount & sufficiency, last five years (b)(3)	Sec 2, p.2-10	Reference & Page Number
X	Analysis of location & amount projected, 20 years (b)(4)	Sec 2, p.2-10	Reference & Page Number

Table 6 Amount of Groundwater pumped - AFY					
Basin Name (s)	**2001**	**2002**	**2003**	**2004**	**2005**
Chino Groundwater Basin	10,508	13,418	13,283	13,046	10,299
% of Total Water Supply	48.50%	58.10%	56.00%	51.20%	44.70%

Table 7 Amount of Groundwater projected to be pumped - AFY					
Basin Name(s)	**2010**	**2015**	**2020**	**2025**	**2030**
Chino Groundwater Supply	30,100	30,100	33,000	33,000	33,000
% of Total Water Supply	80.7%	80.3%	80.0%	80.1%	80.2%

Reliability of Supply **(Water Code §10631 (c) (1-3)**

X Describes the reliability of the water supply and vulnerability to seasonal or climatic shortage Sec 4,4-1,32 Reference & Page Number

Table 8 Supply Reliability - AF Year					
		Multiple Dry Water Years			
Average / Normal Water Year	**Single Dry Water Year (2010)**	**Year 1 (2007)**	**Year 2 (2008)**	**Year 3 (2009)**	**Year 4 (2010)**
	37,760	30,320	37,370	37,240	37,210
Normal	37,300	30,320	37,230	37,260	37,300
% of Normal	101.2%	100.0%	100.4%	99.9%	99.8%

Table 9 Basis of Water Year Data				
Water Year Type	Year	Source name	Source name	
Average Water Year	2001	MVWD	Rainfall Data	Sec 4, p.4-23,24 Reference & Page Number
Single-Dry Water Year	1977	MWD of SC		Sec 4, p.4-19 Reference & Page Number
Multiple-Dry Water Years	1990-1992	MWD of SC		Sec 4, p.4-19 Reference & Page Number

Water Sources Not Available on a Consistent Basis			(Water Code §10631 (c))	
X		Describe the reliability of the water supply due to seasonal or climatic shortages	Sec 4, p.4-32	Reference & Page Number
X		Describe the vulnerability of the water supply to seasonal or climatic shortages	Sec 4, p.4-32	Reference & Page Number
	X	No unreliable sources	Sec 4, p.4-32	Reference & Page Number

Table 10
Factors resulting in inconsistency of supply

Name of supply	Legal	Environ-mental	Water Quality	Climatic

		Describe plans to supplement or replace inconsistent sources with alternative sources or DMMs		Reference & Page Number
	X	No inconsistent sources	Sec 4, p.4-1	Reference & Page Number

Transfer or Exchange Opportunities			(Water Code §10631 (d))	
X		Describe short term and long term exchange or transfer opportunities	Sec 4, p.4-40	Reference & Page Number
		No transfer opportunities		Reference & Page Number

Table11
Transfer and Exchange Opportunities - AF Year

Transfer Agency	Transfer or Exchange	Short term	Proposed Quantities	Long term	Proposed Quantities
Chino Groundwater Basin	Transfer	X	Determined annuually per agreement		
Total			0		0

Water Use Provisions		(Water Code §10631 (e)(1)(2))	
X	Quantify past water use by sector	Sec 5, p.5-1	Reference & Page Number
X	Quantify current water use by sector	Sec 5, p.5-1	Reference & Page Number
X	Project future water use by sector	Sec 5, p.5-1	Reference & Page Number

TABLE 12 - Past, Current and Projected Water Deliveries						
	2000		2005		2010	
	metered		metered		metered	
Water Use Sectors	# of accounts	Deliveries AFY	# of accounts	Deliveries AFY	# of accounts	Deliveries AFY
Single family Residential	6,481	5,201	7,966	5,062	10,260	6,270
Multi-family Residential	3,381	2,175	1,749	2,114	2,220	2,600
Comm, Industrl, Institutl	1,215	2,277	1,139	2,335	1,390	2,960
Dedicated Irrigation	24	1,064	223	795	160	1,000
Recycled Water	0	0	0	0	60	370
Other	3	0	24	2	20	10
Total	11,104	10,717	11,101	10,308	14,110	13,210

TABLE12 (continued) - Past, Current and Projected Water Deliveries								
	2015		2020		2025		2030 - opt	
	metered		metered		metered		metered	
Water Use Sectors	# of accounts	Deliveries AFY	# of accounts	Deliveries AFY	# of accounts	Deliveries AFY	# of accounts	Deliveries AFY
Single family	10,680	6,760	11,240	7,060	11,730	7,460	12,210	7,860
Multi-family	2,310	2,800	2,430	2,940	2,540	3,090	2,640	3,250
Comm, Industrl, Institutl	1,440	3,190	1,520	3,340	1,580	3,510	1,650	3,700
Dedicated Irrigation	120	800	120	800	120	800	120	800
Recycled Water	100	540	100	670	100	670	100	670
Other	20	10	20	10	20	10	20	10
Total	14,670	14,100	15,430	14,820	16,090	15,540	16,740	16,290

	Identify and quantify sales to other agencies		Reference & Page Number
X	No sales to other agencies	Sec 5, p.5-1,2	Reference & Page Number

Table 13 Sales to Other Agencies - AF Year							
Water Distributed	**2000**	**2005**	**2010**	**2015**	**2020**	**2025**	**2030 - opt**
Wholesale - City of Chino Hills	9,834	13,004	8,570	9,640	9,780	9,950	10,120
Total	9,834	13,004	8,570	9,640	9,780	9,950	10,120

	Identify and quantify additional water uses		Reference & Page Number

Table 14 Additional Water Uses and Losses - AF Year							
Water Use	**2000**	**2005**	**2010**	**2015**	**2020**	**2025**	**2030 - opt**
Total	0	0	0	0	0	0	0

Any recycled water was included in table 12 should not be included in table 14.

Table 15 Total Water Use - AF Year							
Water Use	**2000**	**2005**	**2010**	**2015**	**2020**	**2025**	**2030 - opt**
Total of Tables 12, 13, 14	20,551	23,312	21,780	23,740	24,600	25,490	26,410

2005 Urban Water Management Plan "Review of DMMs for Completeness" Form **(Water Code §10631 (f)**

(Water Code §10631 (f) & (g), the 2005 Urban Water Management Plan "Review of DMMs for Completeness" Form is found on Sheet 2

Planned Water Supply Projects and Programs, including non-implemented DMMs **(Water Code §10631 (g))**

X	No non-implemented / not scheduled DMMs	Sec 6, p.6-1	Reference & Page Number
	Cost-Benefit includes economic and non-economic factors (environmental, social, health, customer impact, and technological factors)		Reference & Page Number
	Cost-Benefit analysis includes total benefits and total costs		Reference & Page Number
	Identifies funding available for Projects with higher per-unit-cost than DMMs		Reference & Page Number
X	Identifies Suppliers' legal authority to implement DMMs, efforts to implement the measures and efforts to identify cost share partners	Sec 6, p.6-1	Reference & Page Number

Table 16 Evaluation of unit cost of water resulting from non-implemented / non-scheduled DMMs and planned water supply project and programs	
Non-implemented & Not Scheduled DMM / Planned Water Supply Projects (Name)	**Per-AF Cost ($)**

Planned Water Supply Projects and Programs		**(Water Code §10631 (h))**
	No future water supply projects or programs	
X	Detailed description of expected future supply projects & programs	Sec 4, p.4-32+ Reference & Page Number
X	Timeline for each proposed project	Sec 4, p.4-32+ Reference & Page Number
X	Quantification of each projects normal yield (AFY)	Sec 4, p.4-32+ Reference & Page Number
	Quantification of each projects single dry-year yield (AFY)	Reference & Page Number
	Quantification of each projects multiple dry-year yield (AFY)	Reference & Page Number

Table 17 Future Water Supply Projects							
Project Name	**Projected Start Date**	**Projected Completion Date**	**Normal-year AF to agency**	**Single-dry year yield AF**	**Multiple-Dry-Year 1 AF**	**Multiple-Dry-Year 2 AF**	**Multiple-Dry-Year 3 AF**
ASR / Dry Year Yield Wells	**2005**	**2010**	**11,200**				

Opportunities for development of desalinated water (Water Code §10631 (i))

X Describes opportunities for development of desalinated water, including, but not limited to, ocean water, brackish water, and groundwater, as a long-term supply — Sec 4, p.4-41 Reference & Page Number

X No opportunities for development of desalinated water — Sec 4, p.4-41 Reference & Page Number

Table 18
Opportunities for desalinated water

Sources of Water	Check if yes
Ocean Water (by Metropolitan)	X
Brackish ocean water	
Brackish groundwater	X

District is a CUWCC signatory (Water Code § 10631 (j))

Urban suppliers that are California Urban Water Conservation Council members 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). The supplier's CUWCC Best Management Practices Report should be attached to the UWMP.

X Agency is a CUWCC member — Sec 6, p.6-1 Reference & Page Number

X 2003-04 annual updates are attached to plan — Sec 6, p.6-1 Reference & Page Number

X Both annual updates are considered completed by CUWCC website — Sec 6, p.6-1 Reference & Page Number

If Supplier receives or projects receiving water from a wholesale supplier (Water Code §10631 (k))

Yes

X Agency receives, or projects receiving, wholesale water — Sec 4, p.4-25 Reference & Page Number

X Agency provided written demand projections to wholesaler, 20 years — Sec 4, p.4-25 Reference & Page Number

Table 19
Agency demand projections provided to wholesale suppliers - AFY

Wholesaler	2010	2015	2020	2025	2030 - opt
IEUA / WFA	5,220	5,400	5,670	6,010	6,350

X	Wholesaler provided written water availability projections, by source, to agency, 20 years	Sec 4, p.4-25	Reference & Page Number

(if agency served by more than one wholesaler, duplicate this table and provide the source availability for each wholesaler)

Table 20 Wholesaler identified & quantified the existing and planned sources of water- AFY					
Wholesaler sources	**2010**	**2015**	**2020**	**2025**	**2030 - opt**
IEUA / WFA	6,830	6,840	7,560	7,540	7,490

X	Reliability of wholesale supply provided in writing by wholesale agency		Reference & Page Number

(if agency served by more than one wholesaler, duplicate this table and provide the source availability for each wholesaler)

Table 21 Wholesale Supply Reliability - % of normal AFY					
	Multiple Dry Water Years				
Wholesaler sources	**Single Dry (2010)**	**Year 1**	**Year 2**	**Year 3**	**Year 4**
IEUA / WFA (from MWD; only projected year 3 of multiple dry years	106.5%	100.0%	98.2%	98.2%	

Table 22 Factors resulting in inconsistency of wholesaler's supply				
Name of supply	**Legal**	**Environment**	**Water Quality**	**Climatic**

Water Shortage Contingency Plan Section		**(Water Code § 10632)**	
Stages of Action		**(Water Code § 10632 (a))**	
X	Provide stages of action	Sec 7, p.7-1	Reference & Page Number
X	Provide the water supply conditions for each stage	Sec 7, p.7-1	Reference & Page Number
X	Includes plan for 50 percent supply shortage	Sec 7, p.7-1	Reference & Page Number

Table 23 Water Supply Shortage Stages and Conditions RATIONING STAGES		
Stage No.	**Water Supply Conditions**	**% Shortage**
Phase I	Minimal shortage; voluntary conservation	5-10%
Phase II	Shortage of imported water; partial delivery of interruptible supply	10-25%
Phase III	Imported water limited; groundwater use increased; high conservation	25-40%
Phase IV	Allocation of supplies; extraodinary conservation	40-50%

Three-Year Minimum Water Supply **(Water Code §10632 (b))**

X	Identifies driest 3-year period	Sec 7, p.7-6	Reference & Page Number
X	Minimum water supply available by source for the next three years	Sec 7, p.7-6	Reference & Page Number

Table 24 Three-Year Estimated Minimum Water Supply - AF Year						
source**	**2006 Base Year**	**2007 Base Year**	**2008 Base Year**	**2006 Dry Year**	**2007 Dry Year**	**2008 Dry Year**
IEUA / WFA - Imported	7,750	7,520	7,290	7,610	7,380	7,160
Chino Basin - Groundwater	19,870	22,800	30,100	19,870	22,800	30,100
IEUA - Recycled	0	0	100	0	0	110
Total	27,620	30,320	37,490	27,480	30,180	37,370

Preparation for catastrophic water supply interruption **(Water Code §10632 (c))**

X	Provided catastrophic supply interruption plan	Sec 7, p.7-6	Reference & Page Number

Table 25 Preparation Actions for a Catastrophe	
Possible Catastrophe	**Check if Discussed**
Regional power outage	X
Earthquake	X

Prohibitions **(Water Code § 10632 (d))**

X List the mandatory prohibitions against specific water use practices during water shortages

Sec 7, p.7-11 Reference & Page Number
Appendix G

Table 26
Mandatory Prohibitions

Examples of Prohibitions	Stage When Prohibition Becomes Mandatory
Unlawful to hose wash any sidewalk, walkway, driveway, parking area	Phase I
Promopt leak repair is manatory	Phase I
All water used to maintain decorative ponds, fountain and lakes must be part of a recycling sytem	Phase I
Restrictions on water served in restaurants	Phase I
Landscaping shall be irrigated between 6 pm and 9 am	Phase I
Restriction on water run-off from irrigatin	Phase I
Restriction on residentail irrigation on odd/even calendar	Phase II
Commercial irrigation limited to 65% of the amount used during the base period	Phase II
No customer shall use more than 90% of the aver daily amount	Phase II
Grading and pool/spa permits proceessed but issued	Phase II
Pools drained for repair or cleaning may not be refilled	Phase II
New landscaping material to be drought tolerant	Phase II
No cutomer shall use more than 70% of their average dialy amount	Phase III
Constructino water reviewed	Phase III
Use of water from fire hydrants limited to fire fighting and specific activities	Phase III/ Phase IV
No customer shall use more than 50% of their average daily amount	Phase IV
No new landscaping	Phase IV
No new residentail building permits issued	Phase IV

Consumption Reduction Methods (Water Code § 10632 (e))

X List the consumption reduction methods the water supplier will use to reduce water use in the most restrictive stages with up to a 50% reduction. Sec 7, p.7-2 Reference & Page Number

Table 27 Consumption Reduction Methods		
Consumption Reduction Methods	**Stage When Method Takes Effect**	**Projected Reduction (%)**
Voluntary Consevation; Public Outreach	1	5-10
Public Outreach; request reduction in overall use in all areas; possible mandatory reduction using allotments	2	5-10
Public Outreach; allotments and mandatory conservation	3	25-40
Public Outreach; allotments and mandatory conservation	4	35-50

Penalties (Water Code § 10632 (f))

X List excessive use penalties or charges for excessive use Sec 7, p.7-12 Reference & Page Number

Table 28 Penalties and Charges	
Penalties or Charges	**Stage When Penalty Takes Effect**
Written Notice	1st Violation
Written Notice of the fact of such a violation	2nd Violation
$50 Fine	3rd Violation
$100 Fine	4th Violation
$150 Fine	5th Violation
Possible flow restricting device for domestic meters and termination of landscape meters	6th Violation

Revenue and Expenditure Impacts		(Water Code § 10632 (g))
X	Describe how actions and conditions impact revenues	Sec 7, p.7-13 Reference & Page Number
X	Describe how actions and conditions impact expenditures	Sec 7, p.7-13 Reference & Page Number
X	Describe measures to overcome the revenue and expenditure impacts	Sec 7, p.7-13 Reference & Page Number

Table 29
Proposed measures to overcome revenue impacts

Names of measures	Check if Discussed
Readiness to Serve (RTS) - Fixed charge per month	X
Emergency Reserves	X

Table 30
Proposed measures to overcome expenditure impacts

Names of measures	Check if Discussed
Use accumulated reserves	X
Increased RTS	X
Defer programs and costs	X
Increase water rates	X

Water Shortage Contingency Ordinance/Resolution		(Water Code § 10632 (h))
X	Attach a copy of the draft water shortage contingency resolution or ordinance.	Sec 7, p.7-14 Reference & Page Number

Reduction Measuring Mechanism		(Water Code § 10632 (i))
X	Provided mechanisms for determining actual reductions	Sec 7, p.7-15 Reference & Page Number

Table 31
Water Use Monitoring Mechanisms

Mechanisms for determining actual reductions	Type data expected (pop-up?)
District's Supervisory Control And Data Acquisition (SCADA) System	Warnings of critical conditions
Dailiy/Weekly/Monthly Reports	Estimated water savings

Recycling Plan Agency Coordination — Water Code § 10633

X Describe the coordination of the recycling plan preparation information to the extent available — Sec 8, p.8-1 Reference & Page Number

Table 32 Participating agencies	
	participated
Water agencies	
Wastewater agencies	
Groundwater agencies	
Planning Agencies	

Wastewater System Description — (Water Code § 10633 (a))

X Describe the wastewater collection and treatment systems in the supplier's service area — Sec 8, p.8-5 Reference & Page Number

X Quantify the volume of wastewater collected and treated — Sec 8, p.8-5 Reference & Page Number

Table 33
Wastewater Collection and Treatment - AF Year

Type of Wastewater	2005	2010	2015	2020	2025	2030
Coefficient Wastewater Flow (gpcd)	111	123	124	125	125	125
Wastewater Flow (gpd)	5,764,230	7,330,800	8,277,000	8,906,250	9,500,000	10,162,500
Wastewater Flow (afy)	6,457	8,212	9,271	9,976	10,641	11,383

Wastewater Disposal and Recycled Water Uses			(Water Code § 10633 (a - d))	
X		Describes methods of wastewater disposal	Sec 8, p.8-7	Reference & Page Number
		Describe the current type, place and use of recycled water		Reference & Page Number
	X	None	Sec 8, p.8-8	Reference & Page Number
X		Describe and quantify potential uses of recycled water	Sec 8, p.8-8	Reference & Page Number

Table 34
Disposal of wastewater (non-recycled) AF Year

Method of disposal	Treatment Level	2010	2015	2020	2025
Discharge to Creeks/River	Secondary and Tertiary				
Co-Composting of Solids	Digesters/dewatering				

Table 35
Recycled Water Uses - Actual and Potential (AFY)

User type	Treatment Level	2005	2010	2015	2020	2025	2030 - opt
Agriculture							
Landscape							
Wildlife Habitat							
Wetlands							
Industrial							
Groundwater Recharge							
Other (user type)							
Other (user type)							
	Total	0	0	0	0	0	0

X	Determination of technical and economic feasibility of serving the potential uses	Sec 8, p.8-4	Reference & Page Number

Projected Uses of Recycled Water (Water Code § 10633 (e))

[X] Projected use of recycled water, 20 years — Sec 8, p.8-8 Reference & Page Number

Table 36 Projected Future Use of Recycled Water in Service Area - AF Year				
Projected use of Recycled Water				
Regional Plants	**2005**	**2010**	**2015**	**2020**
Landscape Irrigation	0	370	540	670
Total	**0**	**370**	**540**	**670**

[ ] Compare UWMP 2000 projections with UWMP 2005 actual (§ 10633 (e)) — Reference & Page Number

[ ] None — Reference & Page Number

Table 37 Recycled Water Uses - 2000 Projection compared with 2005 actual - AFY		
User type	**2000 Projection for 2005**	**2005 actual use**
Agriculture	0	0
Landscape	0	0
Wildlife Habitat	0	0
Wetlands	0	0
Industrial	0	0
Groundwater Recharge	0	0
Other (user type)		
Other (user type)		
Total	0	0

Plan to Optimize Use of Recycled Water		(Water Code § 10633 (f))
X	Describe actions that might be taken to encourage recycled water uses	Sec 8, p.8-9 Reference & Page Number
X	Describe projected results of these actions in terms of acre-feet of recycled water used per year	Reference & Page Number

Table 38
Methods to Encourage Recycled Water Use

Actions	AF of use projected to result from this action				
	2010	2015	2020	2025	2030 - opt
Financial incentives					
Regional Meetings					
Plumging Codes					
Proposed Insentives					
Marketing Database					
Public and School Education					
Total	0	0	0	0	0

X	Provide a recycled water use optimization plan which includes actions to facilitate the use of recycled water (dual distribution systems, promote recirculating uses)	Sec 8, p.8-11 Reference & Page Number

Water quality impacts on availability of supply		(Water Code §10634)
X	Discusses water quality impacts (by source) upon water management strategies and supply reliability	Sec 3, p.3-11 Reference & Page Number
	No water quality impacts projected	Reference & Page Number

Table 39
Current & projected water supply changes due to water quality - percentage

water source	2005	2010	2015	2020	2025	2030 - opt

Supply and Demand Comparison to 20 Years (Water Code § 10635 (a))

X Compare the projected normal water supply to projected normal water use over the next 20 years, in 5-year increments.

Sec 4, p.4-26 Reference & Page Number

Table 40 Projected Normal Water Supply - AF Year					
(from table 4)	**2010**	**2015**	**2020**	**2025**	**2030 - opt**
Supply	37,760	38,650	42,260	42,150	42,090
% of year 2005	100%	100%	100%	100%	100%

Table 41 Projected Normal Water Demand - AF Year					
(from table 15)	**2010**	**2015**	**2020**	**2025**	**2030 - opt**
Demand	22,960	25,020	25,930	26,870	27,840
% of year 2005	98.9%	107.8%	1111.7%	115.7%	119.9%

Table 42 Projected Supply and Demand Comparison - AF Year					
	2010	**2015**	**2020**	**2025**	**2030 - opt**
Supply totals	37,760	38,650	42,260	42,150	42,090
Demand totals	22,960	25,020	25,930	26,870	27,840
Difference	14,800	13,630	16,330	15,280	14,250
Difference as % of Supply	39.2%	35.3%	38.6%	36.3%	33.9%
Difference as % of Demand	64.5%	54.5%	63.0%	56.9%	51.2%

Supply and Demand Comparison: Single-dry Year Scenario (Water Code § 10635 (a))

X Compare the projected single-dry year water supply to projected single-dry year water use over the next 20 years, in 5-year increments. Sec 4, p.4-26 Reference & Page Number

Table 43 Projected single dry year Water Supply - AF Year					
	2010	2015	2020	2025	2030 - opt
Supply	37,760	38,650	42,260	42,510	42,090
% of projected normal	101.2%	103.1%	102.5%	102.3%	102.3%

Table 44 Projected single dry year Water Demand - AF Year					
	2010	2015	2020	2025	2030 - opt
Demand	22,960	25,020	25,930	26,870	27,840
% of projected normal	105.4%	105.4%	105.4%	105.4%	105.4%

Table 45 Projected single dry year Supply and Demand Comparison - AF Year					
	2010	2015	2020	2025	2030 - opt
Supply totals	37,760	38,650	42,260	42,510	42,090
Demand totals	22,960	25,020	25,930	26,870	27,840
Difference	14,800	13,630	16,330	15,640	14,250
Difference as % of Supply	39.2%	35.3%	38.6%	36.8%	33.9%
Difference as % of Demand	64.5%	54.5%	63.0%	58.2%	51.2%

Supply and Demand Comparison: Multiple-dry Year Scenario (Water Code § 10635 (a))

X Project a multiple-dry year period (as identified in Table 9) occurring between 2006-2010 and compare projected supply and demand during those years Sec 4, p.4-27 Reference & Page Number

Table 46 Projected supply during multiple dry year period ending in 2010 - AF Year					
	2006	2007	2008	2009	2010
Supply	27,620	30,320	37,370	37,240	37,210
% of projected normal	100.0%	100.0%	100.4%	99.9%	99.8%

Table 47 Projected demand multiple dry year period ending in 2010 - AFY					
	2006	2007	2008	2009	2010
Demand	20,210	20,600	22,130	22,260	23,390
% of projected normal	100.0%	100.0%	105.4%	104.1%	107.4%

Table 48 Projected Supply and Demand Comparison during multiple dry year period ending in 2010- AF Year					
	2006	2007	2008	2009	2010
Supply totals	27,620	30,320	37,370	37,240	37,210
Demand totals	20,210	20,600	22,130	22,260	23,390
Difference	7,410	9,720	15,240	14,980	13,820
Difference as % of Supply	26.8%	32.1%	40.8%	40.2%	37.1%
Difference as % of Demand	36.7%	47.2%	68.9%	67.3%	59.1%

[X] Project a multiple-dry year period (as identified in Table 9) occurring between 2011-2015 and compare projected supply and demand during those years Sec 4, p.4-28 Reference & Page Number

Table 49 Projected supply during multiple dry year period ending in 2015 - AF Year					
	2011	2012	2013	2014	2015
Supply	37,340	37,370	37,900	37,930	37,990
% of projected normal	100.0%	100.0%	101.3%	101.3%	101.4%

Table 50 Projected demand multiple dry year period ending in 2015 - AFY					
	2011	2012	2013	2014	2015
Demand	22,170	22,560	24,200	24,310	25,500
% of projected normal	100.0%	100.0%	105.4%	104.1%	107.4%

Table 51 Projected Supply and Demand Comparison during multiple dry year period ending in 2015- AF Year					
	2011	**2012**	**2013**	**2014**	**2015**
Supply totals	37,340	37,370	37,900	37,930	37,990
Demand totals	22,170	22,560	24,200	24,310	25,500
Difference	15,170	14,810	13,700	13,620	12,490
Difference as % of Supply	40.6%	39.6%	36.1%	35.9%	32.9%
Difference as % of Demand	68.4%	65.6%	56.6%	56.0%	49.0%

[X] Project a multiple-dry year period (as identified in Table 9) occurring between 2016-2020 and compare projected supply and demand during those years

Sec 4, p.4-29 Reference & Page Number

Table 52 Projected supply during multiple dry year period ending in 2020 - AF Year					
	2016	**2017**	**2018**	**2019**	**2020**
Supply	38,230	38,980	41,160	41,330	41,530
% of projected normal	100.0%	100.0%	103.6%	102.1%	100.7%

Table 53 Projected demand multiple dry year period ending in 2020 - AFY					
	2016	**2017**	**2018**	**2019**	**2020**
Demand	23,910	24,080	25,570	25,430	26,420
% of projected normal	100.0%	100.0%	105.4%	104.1%	107.4%

Table 54 Projected Supply and Demand Comparison during multiple dry year period ending in 2020- AF Year					
	2016	**2017**	**2018**	**2019**	**2020**
Supply totals	38,230	38,980	41,160	41,330	41,530
Demand totals	23,910	24,080	25,570	25,430	26,420
Difference	14,320	14,900	15,590	15,900	15,110
Difference as % of Supply	37.5%	38.2%	37.9%	38.5%	36.4%
Difference as % of Demand	59.9%	61.9%	61.0%	62.5%	57.2%

X Project a multiple-dry year period (as identified in Table 9) occurring between 2021-2025 and compare projected supply and demand during those years Sec 4, p.4-30 Reference & Page Number

Table 55 Projected supply during multiple dry year period ending in 2025 - AF Year					
	2021	2022	2023	2024	2025
Supply	41,230	41,220	41,440	41,430	41,440
% of projected normal	100.0%	100.0%	100.5%	100.5%	100.6%

Table 56 Projected demand multiple dry year period ending in 2025 - AFY					
	2021	2022	2023	2024	2025
Demand	24,780	24,960	26,490	26,350	27,380
% of projected normal	100.0%	100.0%	105.4%	104.1%	107.4%

Table 57 Projected Supply and Demand Comparison during multiple dry year period ending in 2025- AF Year					
	2021	2022	2023	2024	2025
Supply totals	41,230	41,220	41,440	41,430	41,440
Demand totals	24,780	24,960	26,490	26,350	27,380
Difference	16,450	16,260	14,950	15,080	14,060
Difference as % of Supply	39.9%	39.4%	36.1%	36.4%	33.9%
Difference as % of Demand	66.4%	65.1%	56.4%	57.2%	51.4%

Provision of Water Service Reliability section to cities/counties within service area		(Water Code § 10635(b))
X	Provided Water Service Reliability section of UWMP to cities and counties within which it provides water supplies within 60 days of UWMP submission to DWR	Sec 1, p.1-2 Reference & Page Number

Does the Plan Include Public Participation and Plan Adoption		(Water Code § 10642)
X	Attach a copy of adoption resolution	Sec 1, p.1-2, Appendix C Reference & Page Number
X	Encourage involvement of social, cultural & economic community groups	Sec 1, p.1-2 Reference & Page Number
X	Plan available for public inspection	Sec 1, p.1-2 Reference & Page Number
X	Provide proof of public hearing	Sec 1, p.1-2, Appendix C Reference & Page Number
X	Provided meeting notice to local governments	Sec 1, p.1-2 Reference & Page Number

Review of implementation of 2000 UWMP		(Water Code § 10643)
X	Reviewed implementation plan and schedule of 2000 UWMP	Secs 4,6,7,8 Reference & Page Number
X	Implemented in accordance with the schedule set forth in plan	Secs 4,6,7,8 Reference & Page Number
	2000 UWMP not required	Reference & Page Number

Provision of 2005 UWMP to local governments		(Water Code § 10644 (a))
X	Provide 2005 UWMP to DWR, and cities and counties within 30 days of adoption	Sec 1, p.1-2 Reference & Page Number

Does the plan or correspondence accompanying it show where it is available for public review		(Water Code § 10645)
X	Does UWMP or correspondence accompanying it show where it is available for public review	Back Cover Reference & Page Number

APPENDIX C

NOTICE OF PUBLIC HEARING AND RESOLUTION FOR PLAN ADOPTION

(Space below for use of County Clerk only)

INLAND VALLEY
DAILY BULLETIN
(formerly The Daily Report)

2041 E. 4th Street
Ontario, CA 91764

PROOF OF PUBLICATION
(2015.5 C.C.P.)

STATE OF CALIFORNIA

County of San Bernardino

I am a citizen of the United States, I am over the age of eighteen years, and not a party to or interested in the above-entitled matter. I am the principal clerk of the printer of INLAND VALLEY DAILY BULLETIN, a newspaper of general circulation printed and published daily in the City of Ontario, County of San Bernardino, and which newspaper has been adjudged a newspaper of general circulation by the Superior Court of the County of San Bernardino, State of California, on the date of August 24, 1951, Case Number 70663. The notice, of which the annexed is a true printed copy, has been published in each regular and entire issue of said newspaper and not in any supplement thereof on the following dates, to wit:

12/1,8/05

I declare under penalty of perjury that the foregoing is true and correct.

Executed at Ontario, San Bernardino Co. California
this 8 day of DECEMBER, 20 05

signature

3

Proof of Publication of

Paste Clipping of Notice
SECURELY in this space.

NOTICE OF PUBLIC HEARING BY THE BOARD OF DIRECTORS OF THE MONTE VISTA WATER DISTRICT TO RECEIVE PUBLIC INPUT ON THE DRAFT YEAR 2005 URBAN WATER MANAGEMENT PLAN

NOTICE IS HEREBY GIVEN that the Board of Directors of Monte Vista Water District will conduct a public hearing to receive input on the draft year 2005 Urban Water Management Plan at its regularly scheduled Board meeting on Wednesday, December 14, 2005, at 7:00 p.m. at the District's offices located at 10575 Central Avenue, Montclair.

NOTICE IS FURTHER GIVEN that all interested persons are invited to attend the public hearing and provide comments regarding the Urban Water Management Plan. Verbal statements will be heard, but for the accuracy of the record, all important testimony should be submitted in writing.

NOTICE IS FURTHER GIVEN that a copy of the draft year 2005 Urban Water Management Plan can be reviewed Monday through Friday from 8:00 a.m. to 5:00 p.m. at the District's offices located at 10575 Central Avenue, Montclair. For additional information, questions, or comments regarding the Urban Water Management Plan, please contact Mary Ann Harvey-Melleby at (909) 624-0035, extension 165.

Published December 1; December 8, 2005
#170675

RESOLUTION 596-06

RESOLUTION OF THE BOARD OF DIRECTORS OF THE MONTE VISTA WATER DISTRICT, COUNTY OF SAN BERNARDINO, STATE OF CALIFORNIA, ADOPTING THE MONTE VISTA WATER DISTRICT'S 2005 URBAN WATER MANAGEMENT PLAN

WHEREAS, the California Legislature enacted Assembly Bill 797 (Water Code Section 10610 et seq., known as the Urban Water Management Planning Act) during the 1983-84 Regular Session, and as amended subsequently, mandating that every supplier providing water for municipal purposes to more than 3,000 customers or supplying more than 3,000 acre-feet of water annually, prepare an Urban Water Management Plan, the primary objective of which is to plan for the conservation and efficient use of water; and

WHEREAS, Monte Vista Water District is an urban supplier of retail and wholesale water services, to a population of over 113,000; and

WHEREAS, the Plan shall be periodically reviewed at least once every five years, and that the District shall make any amendments or changes to its Plan which are indicated in the review; and

WHEREAS, the Plan must be adopted by December 31, 2005, after public review and hearing, and filed with the California Department of Water Resources within thirty days of adoption; and

WHEREAS, the District has therefore prepared and circulated for public review a draft Urban Water Management Plan, and a properly noticed public hearing regarding said Plan was held by the Board of Directors on December 14, 2005; and

WHEREAS, the District did prepare and shall file the said Plan with the California Department of Resources.

NOW, THEREFORE BE IT RESOLVED, the Board of Directors of the Monte Vista Water District does hereby, by this Resolution, authorize the adoption of its updated Urban Water Management Plan Update and orders the filing of the Plan with the California Department of Water Resources.

The Board of Directors is further authorized to implement the Water Conservation Programs as set forth in the 2005 Urban Water Management Plan, which includes water shortage contingency analysis and recommendations regarding necessary procedures, rules, and regulations to carry out effective and equitable water conservation and water recycling programs.

The Board of Directors is further authorized to declare a Water Shortage Emergency according to the Water Shortage Stages and Triggers indicated in the Plan, implement necessary elements of the Plan, and recommend additional regulations to carry out effective and equitable allocation of water resources.

ADOPTED this 14th day of December 2005.

Robb D. Quincey
President of the Board of Directors
MONTE VISTA WATER DISTRICT

ATTEST:

Mark N. Kinsey
Secretary to the Board of Directors
MONTE VISTA WATER DISTRICT

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APPENDIX D

REFERENCES

Monte Vista Water District

2005 Urban Water Management Plan

REFERENCES

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APPENDIX E

CHINO BASIN ADJUDICATION – 1978 JUDGMENT

Recd 8:50 am Jan 27, 1978 td

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Carrie Jennings

Louise Cortese

SUPERIOR COURT OF THE STATE OF CALIFORNIA

FOR THE COUNTY OF SAN BERNARDINO

MICROFILMED

CHINO BASIN MUNICIPAL WATER DISTRICT,

Plaintiff,

v.

CITY OF CHINO, et al.

Defendants.

No. 164327

RCN 51010

JUDGMENT

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Judge ..... Exhibits
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SUPERIOR COURT OF THE STATE OF CALIFORNIA

FOR THE COUNTY OF SAN BERNARDINO

CHINO BASIN MUNICIPAL WATER DISTRICT, Plaintiff, v. CITY OF CHINO, et al. Defendants.	No. 164327 JUDGMENT

I. INTRODUCTION

1. Pleadings, Parties and Jurisdiction. The complaint herein was filed on January 2, 1975, seeking an adjudication of water rights, injunctive relief and the imposition of a physical solution. A first amended complaint was filed on July 16, 1976. The defaults of certain defendants have been entered, and certain other defendants dismissed. Other than defendants who have been dismissed or whose defaults have been entered, all defendants have appeared herein. By answers and order of this Court, the issues have been made those of a full inter se adjudication between the

parties. This Court has jurisdiction of the subject matter of this action and of the parties herein.

2. Stipulation For Judgment. Stipulation for entry of judgment has been filed by and on behalf of a majority of the parties, representing a majority of the quantitative rights herein adjudicated.

3. Trial; Findings and Conclusions. Trial was commenced on December 16, 1977, as to the non-stipulating parties, and findings of fact and conclusions of law have been entered disposing of the issues in the case.

4. Definitions. As used in this Judgment, the following terms shall have the meanings herein set forth:

(a) Active Parties. All parties other than those who have filed with Watermaster a written waiver of service of notices, pursuant to Paragraph 58.

(b) Annual or Year -- A fiscal year, July 1 through June 30, following, unless the context shall clearly indicate a contrary meaning.

(c) Appropriative Right -- The annual production right of a producer from the Chino Basin other than pursuant to an overlying right.

(d) Basin Water -- Ground water within Chino Basin which is part of the Safe Yield, Operating Safe Yield, or replenishment water in the Basin as a result of operations under the Physical Solution decreed herein. Said term does not include Stored Water.

(e) CBMWD -- Plaintiff Chino Basin Municipal Water District.

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(f) Chino Basin or Basin -- The ground water basin underlying the area shown as such on Exhibit "B" and within the boundaries described in Exhibit "K".

(g) Chino Basin Watershed -- The surface drainage area tributary to and overlying Chino Basin.

(h) Ground Water -- Water beneath the surface of the ground and within the zone of saturation, i.e., below the existing water table.

(i) Ground Water Basin -- An area underlain by one or more permeable formations capable of furnishing substantial water storage.

(j) Minimal Producer -- Any producer whose production does not exceed five acre-feet per year.

(k) MWD -- The Metropolitan Water District of Southern California.

(l) Operating Safe Yield -- The annual amount of ground water which Watermaster shall determine, pursuant to criteria specified in Exhibit "I", can be produced from Chino Basin by the Appropriative Pool parties free of replenishment obligation under the Physical Solution herein.

(m) Overdraft -- A condition wherein the total annual production from the Basin exceeds the Safe Yield thereof.

(n) Overlying Right -- The appurtenant right of an owner of lands overlying Chino Basin to produce water from the Basin for overlying beneficial use on such lands.

(o) Person. Any individual, partnership, association, corporation, governmental entity or agency, or other organization.

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(p) PVMWD -- Defendant Pomona Valley Municipal Water District.

(q) Produce or Produced -- To pump or extract ground water from Chino Basin.

(r) Producer -- Any person who produces water from Chino Basin.

(s) Production -- Annual quantity, stated in acre feet, of water produced.

(t) Public Hearing -- A hearing after notice to all parties and to any other person legally entitled to notice.

(u) Reclaimed Water -- Water which, as a result of processing of waste water, is suitable for a controlled use.

(v) Replenishment Water -- Supplemental water used to recharge the Basin pursuant to the Physical Solution, either directly by percolating the water into the Basin or indirectly by delivering the water for use in lieu of production and use of safe yield or Operating Safe Yield.

(w) Responsible Party -- The owner, co-owner, lessee or other person designated by multiple parties interested in a well as the person responsible for purposes of filing reports hereunder.

(x) Safe Yield -- The long-term average annual quantity of ground water (excluding replenishment or stored water but including return flow to the Basin from use of replenishment or stored water) which can be produced from the Basin under cultural conditions of a particular year without causing an undesirable result.

(y) SBVMWD -- San Bernardino Valley Municipal Water

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District.

(z) State Water -- Supplemental Water imported through the State Water Resources Development System, pursuant to Chapter 8, Division 6, Part 6 of the Water Code.

(aa) Stored Water -- Supplemental water held in storage, as a result of direct spreading, in lieu delivery, or otherwise, for subsequent withdrawal and use pursuant to agreement with Watermaster.

(bb) Supplemental Water -- Includes both water imported to Chino Basin from outside Chino Basin Watershed, and reclaimed water.

(cc) WMWD -- Defendant Western Municipal Water District of Riverside County.

5. List of Exhibits. The following exhibits are attached to this Judgment and made a part hereof:

"A" -- "Location Map of Chino Basin" showing boundaries of Chino Basin Municipal Water District, and other geographic and political features.

"B" -- "Hydrologic Map of Chino Basin" showing hydrologic features of Chino Basin.

"C" -- Table Showing Parties in Overlying (Agricultural) Pool.

"D" -- Table Showing Parties in Overlying (Non-agricultural Pool and Their Rights.

"E" -- Table Showing Appropriators and Their Rights.

"F" -- Overlying (Agricultural) Pool Pooling Plan.

"G" -- Overlying (Non-agricultural) Pool Pooling Plan.

"H" -- Appropriative Pool Pooling Plan.

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"I" -- Engineering Appendix.

"J" -- Map of In Lieu Area No. 1.

"K" -- Legal Description of Chino Basin.

II. DECLARATION OF RIGHTS

A. HYDROLOGY

6. Safe Yield. The Safe Yield of Chino Basin is 140,000 acre feet per year.

7. Overdraft and Prescriptive Circumstances. In each year for a period in excess of five years prior to filing of the First Amended Complaint herein, the Safe Yield of the Basin has been exceeded by the annual production therefrom, and Chino Basin is and has been for more than five years in a continuous state of overdraft. The production constituting said overdraft has been open, notorious, continuous, adverse, hostile and under claim of right. The circumstances of said overdraft have given notice to all parties of the adverse nature of such aggregate over-production.

B. WATER RIGHTS IN SAFE YIELD

8. Overlying Rights. The parties listed in Exhibits "C" and "D" are the owners or in possession of lands which overlie Chino Basin. As such, said parties have exercised overlying water rights in Chino Basin. All overlying rights owned or exercised by parties listed in Exhibits "C" and "D" have, in the aggregate, been limited by prescription except to the extent such rights have been preserved by self-help by said parties. Aggregate preserved overlying rights in the Safe Yield for agricultural pool use, including the rights of the State of California, total 82,800 acre feet per year. Overlying rights for non-agricultural pool use

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total 7,366 acre feet per year and are individually decreed for each affected party in Exhibit "D". No portion of the Safe Yield of Chino Basin exists to satisfy unexercised overlying rights, and such rights have all been lost by prescription. However, uses may be made of Basin Water on overlying lands which have no preserved overlying rights pursuant to the Physical Solution herein. All overlying rights are appurtenant to the land and cannot be assigned or conveyed separate or apart therefrom.

9. Appropriative Rights. The parties listed in Exhibit "E" are the owners of appropriative rights, including rights by prescription, in the unadjusted amounts therein set forth, and by reason thereof are entitled under the Physical Solution to share in the remaining Safe Yield, after satisfaction of overlying rights and rights of the State of California, and in the Operating Safe Yield in Chino Basin, in the annual shares set forth in Exhibit "E".

(a) Loss of Priorities. By reason of the long continued overdraft in Chino Basin, and in light of the complexity of determining appropriative priorities and the need for conserving and making maximum beneficial use of the water resources of the State, each and all of the parties listed in Exhibit "E" are estopped and barred from asserting special priorities or preferences, inter se. All of said appropriative rights are accordingly deemed and considered of equal priority.

(b) Nature and Quantity. All rights listed in Exhibit "E" are appropriative and prescriptive in nature. By reason of the status of the parties, and the provisions of Section

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1007 of the Civil Code, said rights are immune from reduction or limitation by prescription.

10. Rights of the State of California. The State of California, by and through its Department of Corrections, Youth Authority and Department of Fish and Game, is a significant producer of ground water from and the State is the largest owner of land overlying Chino Basin. The precise nature and scope of the claims and rights of the State need not be, and are not, defined herein. The State, through said departments, has accepted the Physical Solution herein decreed, in the interests of implementing the mandate of Section 2 of Article X of the California Constitution. For all purposes of this Judgment, all future production by the State or its departments or agencies for overlying use on State-owned lands shall be considered as agricultural pool use.

C. RIGHTS TO AVAILABLE GROUND WATER STORAGE CAPACITY

11. Available Ground Water Storage Capacity. There exists in Chino Basin a substantial amount of available ground water storage capacity which is not utilized for storage or regulation of Basin Waters. Said reservoir capacity can appropriately be utilized for storage and conjunctive use of supplemental water with Basin Waters. It is essential that said reservoir capacity utilization for storage and conjunctive use of supplemental water be undertaken only under Watermaster control and regulation, in order to protect the integrity of both such Stored Water and Basin Water in storage and the Safe Yield of Chino Basin.

12. Utilization of Available Ground Water Capacity. Any person or public entity, whether a party to this action or not, may make reasonable beneficial use of the available ground water

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storage capacity of Chino Basin for storage of supplemental water; provided that no such use shall be made except pursuant to written agreement with Watermaster, as authorized by Paragraph 28. In the allocation of such storage capacity, the needs and requirements of lands overlying Chino Basin and the owners of rights in the Safe Yield or Operating Safe Yield of the Basin shall have priority and preference over storage for export.

III. INJUNCTION

13. Injunction Against Unauthorized Production of Basin Water. Each party in each of the respective pools is enjoined, as follows:

(a) Overlying (Agricultural) Pool. Each party in the Overlying (Agricultural) Pool, its officers, agents, employees, successors and assigns, is and they each are ENJOINED AND RESTRAINED from producing ground water from Chino Basin in any year hereafter in excess of such party's correlative share of the aggregate of 82,800 acre feet allocated to said Pool, except pursuant to the Physical Solution or a storage water agreement.

(b) Overlying (Non-Agricultural) Pool. Each party in the Overlying (Non-agricultural) Pool, its officers, agents, employees, successors and assigns, is and they each are ENJOINED AND RESTRAINED from producing ground water of Chino Basin in any year hereafter in excess of such party's decreed rights in the Safe Yield, except pursuant to the provisions of the Physical Solution or a storage water agreement.

(c) Appropriative Pool. Each party in the

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Appropriative Pool, its officers, agents, employees, successors and assigns, is and they are each ENJOINED AND RESTRAINED from producing ground water of Chino Basin in any year hereafter in excess of such party's decreed share of Operating Safe Yield, except pursuant to the provisions of the Physical Solution or a storage water agreement.

14. Injunction Against Unauthorized Storage or Withdrawal of Stored Water. Each party, its officers, agents, employees, successors and assigns is and they each are ENJOINED AND RESTRAINED from storing supplemental water in Chino Basin for withdrawal, or causing withdrawal of, water stored by that party, except pursuant to the terms of a written agreement with Watermaster and in accordance with Watermaster regulations. Any supplemental water stored or recharged in the Basin, except pursuant to such a Watermaster agreement, shall be deemed abandoned and not classified as Stored Water. This paragraph has no application, as such, to supplemental water spread or provided in lieu by Watermaster pursuant to the Physical Solution.

IV. CONTINUING JURISDICTION

15. Continuing Jurisdiction. Full jurisdiction, power and authority are retained and reserved to the Court as to all matters contained in this judgment, except:

(a) The redetermination of Safe Yield, as set forth in Paragraph 6, during the first ten (10) years of operation of the Physical Solution;

(b) The allocation of Safe Yield as between the several pools as set forth in Paragraph 44 of the Physical Solution;

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(c) The determination of specific quantitative rights and shares in the declared Safe Yield or Operating Safe Yield herein declared in Exhibits "D" and "E"; and

(d) The amendment or modification of Paragraphs 7(a) and (b) of Exhibit "H", during the first ten (10) years of operation of the Physical Solution, and thereafter only upon affirmative recommendation of at least 67% of the voting power (determined pursuant to the formula described in Paragraph 3 of Exhibit "H"), but not less than one-third of the members of the Appropriative Pool Committee representatives of parties who produce water within CBMWD or WMWD; after said tenth year the formula set forth in said Paragraph 7(a) and 7(b) of Exhibit "H" for payment of the costs of replenishment water may be changed to 100% gross or net, or any percentage split thereof, but only in response to recommendation to the Court by affirmative vote of at least 67% of said voting power of the Appropriative Pool representatives of parties who produce ground water within CBMWD or WMWD, but not less than one-third of their number. In such event, the Court shall act in conformance with such recommendation unless there are compelling reasons to the contrary; and provided, further, that the fact that the allocation of Safe Yield or Operating Safe Yield shares may be rendered moot by a recommended change in the formula for replenishment assessments shall not be deemed to be such a "compelling reason."

Said continuing jurisdiction is provided for the purpose of enabling the Court, upon application of any party, the Watermaster, the Advisory Committee or any Pool Committee, by motion and, upon

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at least 30 days' notice thereof, and after hearing thereon, to make such further or supplemental orders or directions as may be necessary or appropriate for interpretation, enforcement or carrying out of this Judgment, and to modify, amend or amplify any of the provisions of this Judgment.

V. WATERMASTER

A. APPOINTMENT

16. Watermaster Appointment. CBMWD, acting by and through a majority of its board of directors, is hereby appointed Watermaster, to administer and enforce the provisions of this Judgment and any subsequent instructions or orders of the Court hereunder. The term of appointment of Watermaster shall be for five (5) years. The Court will by subsequent orders provide for successive terms or for a successor Watermaster. Watermaster may be changed at any time by subsequent order of the Court, on its own motion, or on the motion of any party after notice and hearing. Unless there are compelling reasons to the contrary, the Court shall act in conformance with a motion requesting the Watermaster be changed if such motion is supported by a majority of the voting power of the Advisory Committee.

B. POWERS AND DUTIES

17. Powers and Duties. Subject to the continuing supervision and control of the Court, Watermaster shall have and may exercise the express powers, and shall perform the duties, as provided in this Judgment or hereafter ordered or authorized by the Court in the exercise of the Court's continuing jurisdiction.

18. Rules and Regulations. Upon recommendation by the

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Advisory Committee, Watermaster shall make and adopt, after public hearing, appropriate rules and regulations for conduct of Watermaster affairs, including meeting schedules and procedures, and compensation of members of Watermaster at not to exceed $25 per member per meeting, or $300 per member per year, whichever is less, plus reasonable expenses related to activities within the Basin. Thereafter, Watermaster may amend said rules from time to time upon recommendation, or with approval of the Advisory Committee after hearing noticed to all active parties. A copy of said rules and regulations, and of any amendments thereof, shall be mailed to each active party.

19. Acquisition of Facilities. Watermaster may purchase, lease, acquire and hold all necessary facilities and equipment; provided, that it is not the intent of the Court that Watermaster acquire any interest in real property or substantial capital assets.

20. Employment of Experts and Agents. Watermaster may employ or retain such administrative, engineering, geologic, accounting, legal or other specialized personnel and consultants as may be deemed appropriate in the carrying out of its powers and shall require appropriate bonds from all officers and employees handling Watermaster funds. Watermaster shall maintain records for purposes of allocation of costs of such services as well as of all other expenses of Watermaster administration as between the several pools established by the Physical Solution.

21. Measuring Devices. Watermaster shall cause parties, pursuant to uniform rules, to install and maintain in good operating condition, at the cost of each party, such necessary measuring

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devices or meters as Watermaster may deem appropriate. Such measuring devices shall be inspected and tested as deemed necessary by Watermaster, and the cost thereof shall constitute an expense of Watermaster.

22. Assessments. Watermaster is empowered to levy and collect all assessments provided for in the pooling plans and Physical Solution.

23. Investment of Funds. Watermaster may hold and invest any and all Watermaster funds in investments authorized from time to time for public agencies of the State of California.

24. Borrowing. Watermaster may borrow from time to time amounts not exceeding the annual anticipated receipts of Watermaster during such year.

25. Contracts. Watermaster may enter into contracts for the performance of any powers herein granted; provided, however, that Watermaster may not contract with or purchase materials, supplies or services from CBMWD, except upon the prior recommendation and approval of the Advisory Committee and pursuant to written order of the Court.

26. Cooperation With Other Agencies. Subject to prior recommendation or approval of the Advisory Committee, Watermaster may act jointly or cooperate with agencies of the United States and the State of California or any political subdivisions, municipalities or districts or any person to the end that the purpose of the Physical Solution may be fully and economically carried out.

27. Studies. Watermaster may, with concurrence of the Advisory Committee or affected Pool Committee and in accordance with Paragraph 54(b), undertake relevant studies of hydrologic

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conditions, both quantitative and qualitative, and operating aspects of implementation of the management program for Chino Basin.

28. Ground Water Storage Agreements. Watermaster shall adopt, with the approval of the Advisory Committee, uniformly applicable rules and a standard form of agreement for storage of supplemental water, pursuant to criteria therefor set forth in Exhibit "I". Upon appropriate application by any person, Watermaster shall enter into such a storage agreement; provided that all such storage agreements shall first be approved by written order of the Court, and shall by their terms preclude operations which will have a substantial adverse impact on other producers.

29. Accounting for Stored Water. Watermaster shall calculate additions, extractions and losses and maintain an annual account of all Stored Water in Chino Basin, and any losses of water supplies or Safe Yield of Chino Basin resulting from such Stored Water.

30. Annual Administrative Budget. Watermaster shall submit to Advisory Committee an administrative budget and recommendation for each fiscal year on or before March 1. The Advisory Committee shall review and submit said budget and their recommendations to Watermaster on or before April 1, following. Watermaster shall hold a public hearing on said budget at its April quarterly meeting and adopt the annual administrative budget which shall include the administrative items for each pool committee. The administrative budget shall set forth budgeted items in sufficient detail as necessary to make a proper allocation of the expense among the several pools, together with Watermaster's proposed allocation. The budget shall contain such additional comparative information

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or explanation as the Advisory Committee may recommend from time to time. Expenditures within budgeted items may thereafter be made by Watermaster in the exercise of powers herein granted, as a matter of course. Any budget transfer in excess of 20% of a budget category during any budget year or modification of such administrative budget during any year shall be first submitted to the Advisory Committee for review and recommendation.

31. Review Procedures. All actions, decisions or rules of Watermaster shall be subject to review by the Court on its own motion or on timely motion by any party, the Watermaster (in the case of a mandated action), the Advisory Committee, or any Pool Committee, as follows:

(a) Effective Date of Watermaster Action. Any action, decision or rule of Watermaster shall be deemed to have occurred or been enacted on the date on which written notice thereof is mailed. Mailing of copies of approved Watermaster minutes to the active parties shall constitute such notice to all parties.

(b) Noticed Motion. Any party, the Watermaster (as to any mandated action), the Advisory Committee, or any Pool Committee may, by a regularly noticed motion, apply to the Court for review of any Watermaster's action, decision or rule. Notice of such motion shall be served personally or mailed to Watermaster and to all active parties. Unless otherwise ordered by the Court, such motion shall not operate to stay the effect of such Watermaster action, decision or rule.

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(c) Time for Motion. Notice of motion to review any Watermaster action, decision or rule shall be served and filed within ninety (90) days after such Watermaster action, decision or rule, except for budget actions, in which event said notice period shall be sixty (60) days.

(d) De Novo Nature of Proceedings. Upon the filing of any such motion, the Court shall require the moving party to notify the active parties, the Watermaster, the Advisory Committee and each Pool Committee, of a date for taking evidence and argument, and on the date so designated shall review de novo the question at issue. Watermaster's findings or decision, if any, may be received in evidence at said hearing, but shall not constitute presumptive or prima facie proof of any fact in issue.

(e) Decision. The decision of the Court in such proceeding shall be an appealable supplemental order in this case. When the same is final, it shall be binding upon the Watermaster and all parties.

C. ADVISORY AND POOL COMMITTEES

32. Authorization. Watermaster is authorized and directed to cause committees of producer representatives to be organized to act as Pool Committees for each of the several pools created under the Physical Solution. Said Pool Committees shall, in turn, jointly form an Advisory Committee to assist Watermaster in performance of its functions under this judgment. Pool Committees shall be composed as specified in the respective pooling plans, and the Advisory Committee shall be composed of not to exceed ten (10) voting representatives from each pool, as designated by the

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respective Pool Committee. WMWD, PVMWD and SBVMWD shall each be entitled to one non-voting representative on said Advisory Committee.

33. Term and Vacancies. Members of any Pool Committee, shall serve for the term, and vacancies shall be filled, as specified in the respective pooling plan. Members of the Advisory Committee shall serve at the will of their respective Pool Committee.

34. Voting Power. The voting power on each Pool Committee shall be allocated as provided in the respective pooling plan. The voting power on the Advisory Committee shall be one hundred (100) votes allocated among the three pools in proportion to the total assessments paid to Watermaster during the preceding year; provided, that the minimum voting power of each pool shall be

(a) Overlying (Agricultural) Pool 20,

(b) Overlying (Non-agricultural) Pool 5, and

(c) Appropriative Pool 20.

In the event any pool is reduced to its said minimum vote, the remaining votes shall be allocated between the remaining pools on said basis of assessments paid to Watermaster by each such remaining pool during the preceding year. The method of exercise of each pool's voting power on the Advisory Committee shall be as determined by the respective pool committees.

35. Quorum. A majority of the voting power of the Advisory Committee or any Pool Committee shall constitute a quorum for the transaction of affairs of such Advisory or Pool Committee; provided, that at least one representative of each Pool Committee shall be required to constitute a quorum of the Advisory Committee. No Pool Committee representative may purposely absent himself or

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herself, without good cause, from an Advisory Committee meeting to deprive it of a quorum. Action by affirmative vote of a majority of the entire voting power of any Pool Committee or the Advisory Committee shall constitute action by such committee. Any action or recommendation of a Pool Committee or the Advisory Committee shall be transmitted to Watermaster in writing, together with a report of any dissenting vote or opinion.

36. Compensation. Pool or Advisory Committee members may receive compensation, to be established by the respective pooling plan, but not to exceed twenty-five dollars ($25.00) for each meeting of such Pool or Advisory Committee attended, and provided that no member of a Pool or Advisory Committee shall receive compensation of more than three hundred ($300.00) dollars for service on any such committee during any one year. All such compensation shall be a part of Watermaster administrative expense. No member of any Pool or Advisory Committee shall be employed by Watermaster or compensated by Watermaster for professional or other services rendered to such Pool or Advisory Committee or to Watermaster, other than the fee for attendance at meetings herein provided, plus reimbursement of reasonable expenses related to activities within the Basin.

37. Organization.

(a) Organizational Meeting. At its first meeting in each year, each Pool Committee and the Advisory Committee shall elect a chairperson and a vice chairperson from its membership. It shall also select a secretary, a treasurer and such assistant secretaries and treasurers as may be appropriate, any of whom may, but need not, be members of

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such Pool or Advisory Committee.

(b) Regular Meetings. All Pool Committees and the Advisory Committee shall hold regular meetings at a place and time to be specified in the rules to be adopted by each Pool and Advisory Committee. Notice of regular meetings of any Pool or Advisory Committee, and of any change in time or place thereof, shall be mailed to all active parties in said pool or pools.

(c) Special Meetings. Special meetings of any Pool or Advisory Committee may be called at any time by the Chairperson or by any three (3) members of such Pool or Advisory Committee by delivering notice personally or by mail to each member of such Pool or Advisory Committee and to each active party at least 24 hours before the time of each such meeting in the case of personal delivery, and 96 hours in the case of mail. The calling notice shall specify the time and place of the special meeting and the business to be transacted. No other business shall be considered at such meeting.

(d) Minutes. Minutes of all Pool Committee, Advisory Committee and Watermaster meetings shall be kept at Watermaster's offices. Copies thereof shall be mailed or otherwise furnished to all active parties in the pool or pools concerned. Said copies of minutes shall constitute notice of any Pool or Advisory Committee action therein reported, and shall be available for inspection by any party.

(e) Adjournments. Any meeting of any Pool or Advisory Committee may be adjourned to a time and place specified in the order of adjournment. Less than a quorum may so adjourn

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from time to time. A copy of the order or notice of adjournment shall be conspicuously posted forthwith on or near the door of the place where the meeting was held.

38. Powers and Functions. The powers and functions of the respective Pool Committees and the Advisory Committee shall be as follows:

(a) Pool Committees. Each Pool Committee shall have the power and responsibility for developing policy recommendations for administration of its particular pool, as created under the Physical Solution. All actions and recommendations of any Pool Committee which require Watermaster implementation shall first be noticed to the other two pools. If no objection is received in writing within thirty (30) days, such action or recommendation shall be transmitted directly to Watermaster for action. If any such objection is received, such action or recommendation shall be reported to the Advisory Committee before being transmitted to Watermaster.

(b) Advisory Committee. The Advisory Committee shall have the duty to study, and the power to recommend, review and act upon all discretionary determinations made or to be made hereunder by Watermaster.

[1] Committee Initiative. When any recommendation or advice of the Advisory Committee is received by Watermaster, action consistent therewith may be taken by Watermaster; provided, that any recommendation approved by 80 votes or more in the Advisory Committee shall constitute a mandate for action by Watermaster consistent therewith. If Watermaster is unwilling or unable to act

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pursuant to recommendation or advice from the Advisory Committee (other than such mandatory recommendations), Watermaster shall hold a public hearing, which shall be followed by written findings and decision. Thereafter, Watermaster may act in accordance with said decision, whether consistent with or contrary to said Advisory Committee recommendation. Such action shall be subject to review by the Court, as in the case of all other Watermaster determinations.

[2] Committee Review. In the event Watermaster proposes to take any discretionary action, other than approval or disapproval of a Pool Committee action or recommendation properly transmitted, or execute any agreement not theretofore within the scope of an Advisory Committee recommendation, notice of such intended action shall be served on the Advisory Committee and its members at least thirty (30) days before the Watermaster meeting at which such action is finally authorized.

(c) Review of Watermaster Actions. Watermaster (as to mandated action), the Advisory Committee or any Pool Committee shall be entitled to employ counsel and expert assistance in the event Watermaster or such Pool or Advisory Committee seeks Court review of any Watermaster action or failure to act. The cost of such counsel and expert assistance shall be Watermaster expense to be allocated to the affected pool or pools.

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VI. PHYSICAL SOLUTION

A. GENERAL

39. Purpose and Objective. Pursuant to the mandate of Section 2 of Article X of the California Constitution, the Court hereby adopts and orders the parties to comply with a Physical Solution. The purpose of these provisions is to establish a legal and practical means for making the maximum reasonable beneficial use of the waters of Chino Basin by providing the optimum economic, long-term, conjunctive utilization of surface waters, ground waters and supplemental water, to meet the requirements of water users having rights in or dependent upon Chino Basin.

40. Need for Flexibility. It is essential that this Physical Solution provide maximum flexibility and adaptability in order that Watermaster and the Court may be free to use existing and future technological, social, institutional and economic options, in order to maximize beneficial use of the waters of Chino Basin. To that end, the Court's retained jurisdiction will be utilized, where appropriate, to supplement the discretion herein granted to the Wastermaster.

41. Watermaster Control. Watermaster, with the advice of the Advisory and Pool Committees, is granted discretionary powers in order to develop an optimum basin management program for Chino Basin, including both water quantity and quality considerations. Withdrawals and supplemental water replenishment of Basin Water, and the full utilization of the water resources of Chino Basin, must be subject to procedures established by and administered through Watermaster with the advice and assistance of the Advisory and Pool Committees composed of the affected producers. Both the

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quantity and quality of said water resources may thereby be preserved and the beneficial utilization of the Basin maximized.

42. General Pattern of Operations. It is contemplated that the rights herein decreed will be divided into three (3) operating pools for purposes of Watermaster administration. A fundamental premise of the Physical Solution is that all water users dependent upon Chino Basin will be allowed to pump sufficient waters from the Basin to meet their requirements. To the extent that pumping exceeds the share of the Safe Yield assigned to the Overlying Pools, or the Operating Safe Yield in the case of the Appropriative Pool, each pool will provide funds to enable Watermaster to replace such overproduction. The method of assessment in each pool shall be as set forth in the applicable pooling plan.

B. POOLING

43. Multiple Pools Established. There are hereby established three (3) pools for Watermaster administration of, and for the allocation of responsibility for, and payment of, costs of replenishment water and other aspects of this Physical Solution.

(a) Overlying (Agricultural) Pool. The first pool shall consist of the State of California and all overlying producers who produce water for other than industrial or commercial purposes. The initial members of the pool are listed in Exhibit "C".

(b) Overlying (Non-agricultural) Pool. The second pool shall consist of overlying producers who produce water for industrial or commercial purposes. The initial members of this pool are listed in Exhibit "D".

(c) Appropriative Pool. A third and separate pool shall

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consist of owners of appropriative rights. The initial members of the pool are listed in Exhibit "E".

Any party who changes the character of his use may, by subsequent order of the Court, be reassigned to the proper pool; but the allocation of Safe Yield under Paragraph 44 hereof shall not be changed. Any non-party producer or any person who may hereafter commence production of water from Chino Basin, and who may become a party to this physical solution by intervention, shall be assigned to the proper pool by the order of the Court authorizing such intervention.

44. Determination and Allocation of Rights to Safe Yield of Chino Basin. The declared Safe Yield of Chino Basin is hereby allocated as follows:

Pool	Allocation
Overlying (Agricultural) Pool	414,000 acre feet in any five (5) consecutive years.
Overlying (Non-agricultural) Pool.	7,366 acre feet per year.
Appropriative Pool	49,834 acre feet per year.

The foregoing acre foot allocations to the overlying pools are fixed. Any subsequent change in the Safe Yield shall be debited or credited to the Appropriative Pool. Basin Water available to the Appropriative Pool without replenishment obligation may vary from year to year as the Operating Safe Yield is determined by Watermaster pursuant to the criteria set forth in Exhibit "I".

45. Annual Replenishment. Watermaster shall levy and collect assessments in each year, pursuant to the respective pooling plans, in amounts sufficient to purchase replenishment water to replace production by any pool during the preceding year which exceeds that

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pool's allocated share of Safe Yield in the case of the overlying pools, or Operating Safe Yield in the case of the Appropriative Pool. It is anticipated that supplemental water for replenishment of Chino Basin may be available at different rates to the various pools to meet their replenishment obligations. If such is the case, each pool will be assessed only that amount necessary for the cost of replenishment water to that pool, at the rate available to the pool, to meet its replenishment obligation.

46. Initial Pooling Plans. The initial pooling plans, which are hereby adopted, are set forth in Exhibits "F", "G" and "H", respectively. Unless and until modified by amendment of the judgment pursuant to the Court's continuing jurisdiction, each such plan shall control operation of the subject pool.

C. REPORTS AND ACCOUNTING

47. Production Reports. Each party or responsible party shall file periodically with Watermaster, pursuant to Watermaster rules, a report on a form to be prescribed by Watermaster showing the total production of such party during the preceding reportage period, and such additional information as Watermaster may require, including any information specified by the affected Pool Committee.

48. Watermaster Reports and Accounting. Watermaster's annual report, which shall be filed on or before November 15 of each year and shall apply to the preceding year's operation, shall contain details as to operation of each of the pools and a certified audit of all assessments and expenditures pursuant to this Physical Solution and a review of Watermaster activities.

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D. REPLENISHMENT

49. Sources of Supplemental Water. Supplemental water may be obtained by Watermaster from any available source. Watermaster shall seek to obtain the best available quality of supplemental water at the most reasonable cost for recharge in the Basin. To the extent that costs of replenishment water may vary between pools, each pool shall be liable only for the costs attributable to its required replenishment. Available sources may include, but are not limited to:

(a) Reclaimed Water. There exist a series of agreements generally denominated the Regional Waste Water Agreements between CBMWD and owners of the major municipal sewer systems within the basin. Under those agreements, which are recognized hereby but shall be unaffected and unimpaired by this judgment, substantial quantities of reclaimed water may be made available for replenishment purposes. There are additional sources of reclaimed water which are, or may become, available to Watermaster for said purposes. Maximum beneficial use of reclaimed water shall be given high priority by Watermaster.

(b) State Water. State water constitutes a major available supply of supplemental water. In the case of State Water, Watermaster purchases shall comply with the water service provisions of the State's water service contracts. More specifically, Watermaster shall purchase State Water from MWD for replenishment of excess production within CBMWD, WMWD and PVMWD, and from SBVMWD to replenish excess production within SBVMWD's boundaries in Chino Basin, except to the

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extent that MWD and SBVMWD give their consent as required by such State water service contracts.

(c) Local Import. There exist facilities and methods for importation of surface and ground water supplies from adjacent basins and watersheds.

(d) Colorado River Supplies. MWD has water supplies available from its Colorado River Aqueduct.

50. Methods of Replenishment. Watermaster may accomplish replenishment of overproduction from the Basin by any reasonable method, including:

(a) Spreading and percolation or Injection of water in existing or new facilities, subject to the provisions of Paragraphs 19, 25 and 26 hereof.

(b) In Lieu Procedures. Watermaster may make, or cause to be made, deliveries of water for direct surface use, in lieu of ground water production.

E. REVENUES

51. Production Assessment. Production assessments, on whatever basis, may be levied by Watermaster pursuant to the pooling plan adopted for the applicable pool.

52. Minimal Producers. Minimal Producers shall be exempted from payment of production assessments, upon filing of production reports as provided in Paragraph 47 of this Judgment, and payment of an annual five dollar ($5.00) administrative fee as specified by Watermaster rules.

53. Assessment Proceeds -- Purposes. Watermaster shall have the power to levy assessments against the parties (other than minimal pumpers) based upon production during the preceding period

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of assessable production, whether quarterly, semi-annually or annually, as may be determined most practical by Watermaster or the affected Pool Committee.

54. Administrative Expenses. The expenses of administration of this Physical Solution shall be categorized as either (a) general Watermaster administrative expense, or (b) special project expense.

(a) General Watermaster Administrative Expense shall include office rental, general personnel expense, supplies and office equipment, and related incidental expense and general overhead.

(b) Special Project Expense shall consist of special engineering, economic or other studies, litigation expense, meter testing or other major operating expenses. Each such project shall be assigned a Task Order number and shall be separately budgeted and accounted for.

General Watermaster administrative expense shall be allocated and assessed against the respective pools based upon allocations made by the Watermaster, who shall make such allocations based upon generally accepted cost accounting methods. Special Project Expense shall be allocated to a specific pool, or any portion thereof, only upon the basis of prior express assent and finding of benefit by the Pool Committee, or pursuant to written order of the Court.

55. Assessments -- Procedure. Assessments herein provided for shall be levied and collected as follows:

(a) Notice of Assessment. Watermaster shall give written notice of all applicable assessments to each party on

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or before ninety (90) days after the end of the production period to which such assessment is applicable.

(b) Payment. Each assessment shall be payable on or before thirty (30) days after notice, and shall be the obligation of the party or successor owning the water production facility at the time written notice of assessment is given, unless prior arrangement for payment by others has been made in writing and filed with Watermaster.

(c) Delinquency. Any delinquent assessment shall bear interest at 10% per annum (or such greater rate as shall equal the average current cost of borrowed funds to the Watermaster) from the due date thereof. Such delinquent assessment and interest may be collected in a show-cause proceeding herein instituted by the Watermaster, in which case the Court may allow Watermaster its reasonable costs of collection, including attorney's fees.

56. Accumulation of Replenishment Water Assessment Proceeds. In order to minimize fluctuation in assessment and to give Watermaster flexibility in purchase and spreading of replenishment water, Watermaster may make reasonable accumulations of replenishment water assessment proceeds. Interest earned on such retained funds shall be added to the account of the pool from which the funds were collected and shall be applied only to the purchase of replenishment water.

57. Effective Date. The effective date for accounting and operation under this Physical Solution shall be July 1, 1977, and the first production assessments hereunder shall be due after July 1, 1978. Watermaster shall, however, require installation of

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meters or measuring devices and establish operating procedures immediately, and the costs of such Watermaster activity (not including the cost of such meters and measuring devices) may be recovered in the first administrative assessment in 1978.

VII. MISCELLANEOUS PROVISIONS

58. Designation of Address for Notice and Service. Each party shall designate the name and address to be used for purposes of all subsequent notices and service herein, either by its endorsement on the Stipulation for Judgment or by a separate designation to be filed within thirty (30) days after Judgment has been served. Said designation may be changed from time to time by filing a written notice of such change with the Watermaster. Any party desiring to be relieved of receiving notices of Watermaster or committee activity may file a waiver of notice on a form to be provided by Watermaster. Thereafter such party shall be removed from the Active Party list. Watermaster shall maintain at all times a current list of active parties and their addresses for purposes of service. Watermaster shall also maintain a full current list of names and addresses of all parties or their successors, as filed herein. Copies of such lists shall be available, without cost, to any party, the Advisory Committee or any Pool Committee upon written request therefor.

59. Service of Documents. Delivery to or service upon any party or active party by the Watermaster, by any other party, or by the Court, of any item required to be served upon or delivered to such party or active party under or pursuant to the Judgment shall be made personally or by deposit in the United States mail, first

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class, postage prepaid, addressed to the designee and at the address in the latest designation filed by such party or active party.

60. Intervention After Judgment. Any non-party assignee of the adjudicated appropriative rights of any appropriator, or any other person newly proposing to produce water from Chino Basin, may become a party to this judgment upon filing a petition in intervention. Said intervention must be confirmed by order of this Court. Such intervenor shall thereafter be a party bound by this judgment and entitled to the rights and privileges accorded under the Physical Solution herein, through the pool to which the Court shall assign such intervenor.

61. Loss of Rights. Loss, whether by abandonment, forfeiture or otherwise, of any right herein adjudicated shall be accomplished only (1) by a written election by the owner of the right filed with Watermaster, or (2) by order of the Court upon noticed motion and after hearing.

62. Scope of Judgment. Nothing in this Judgment shall be deemed to preclude or limit any party in the assertion against a neighboring party of any cause of action now existing or hereafter arising based upon injury, damage or depletion of water supply available to such party, proximately caused by nearby pumping which constitutes an unreasonable interference with such complaining party's ability to extract ground water.

63. Judgment Binding on Successors. This Judgment and all provisions thereof are applicable to and binding upon not only the parties to this action, but also upon their respective heirs, executors, administrators, successors, assigns, lessees and

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licensees and upon the agents, employees and attorneys in fact of all such persons.

64. Costs. No party shall recover any costs in this proceeding from any other party.

Dated: JAN 27 1978.

Arnold B. Weiss
Judge

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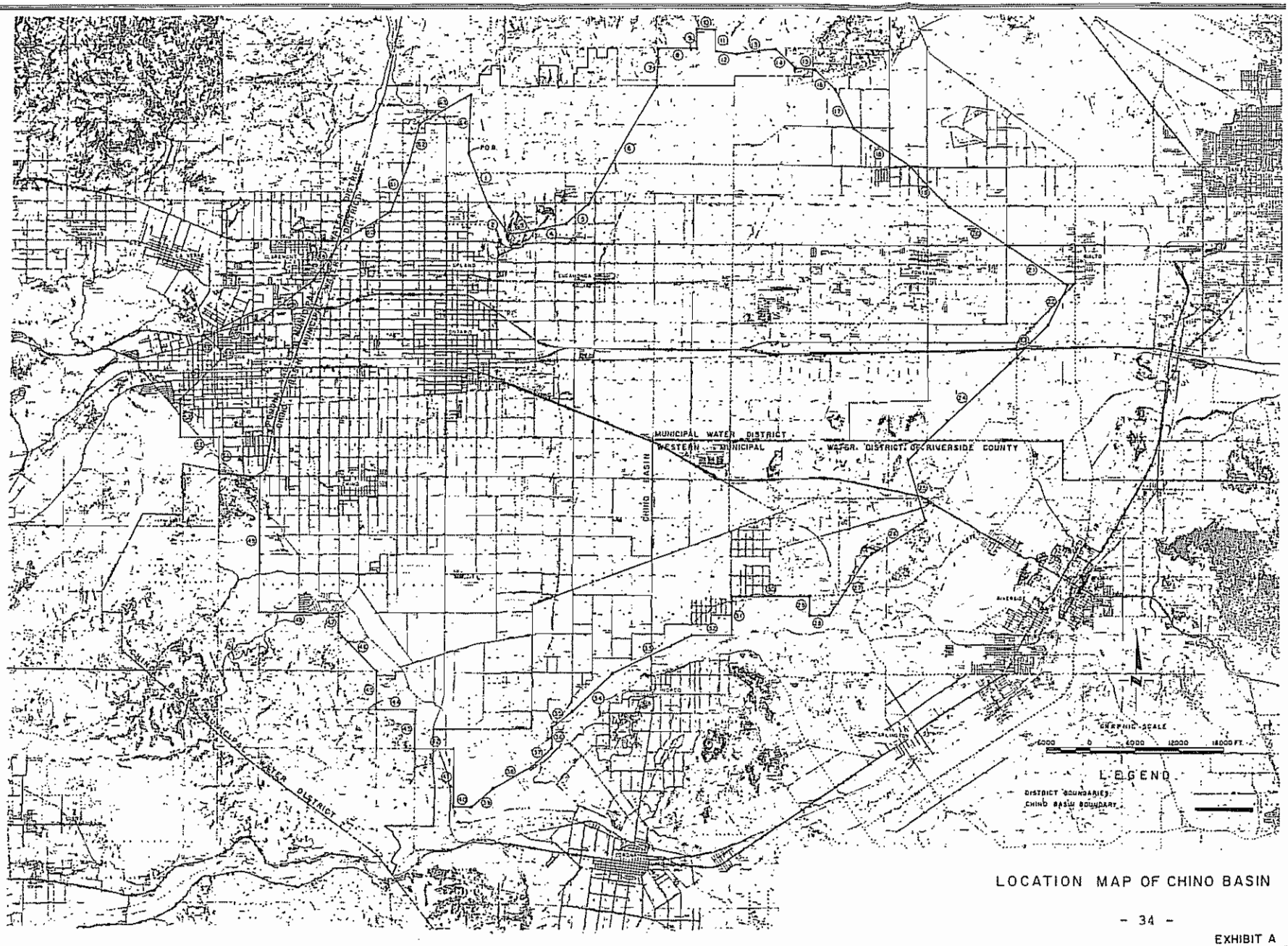
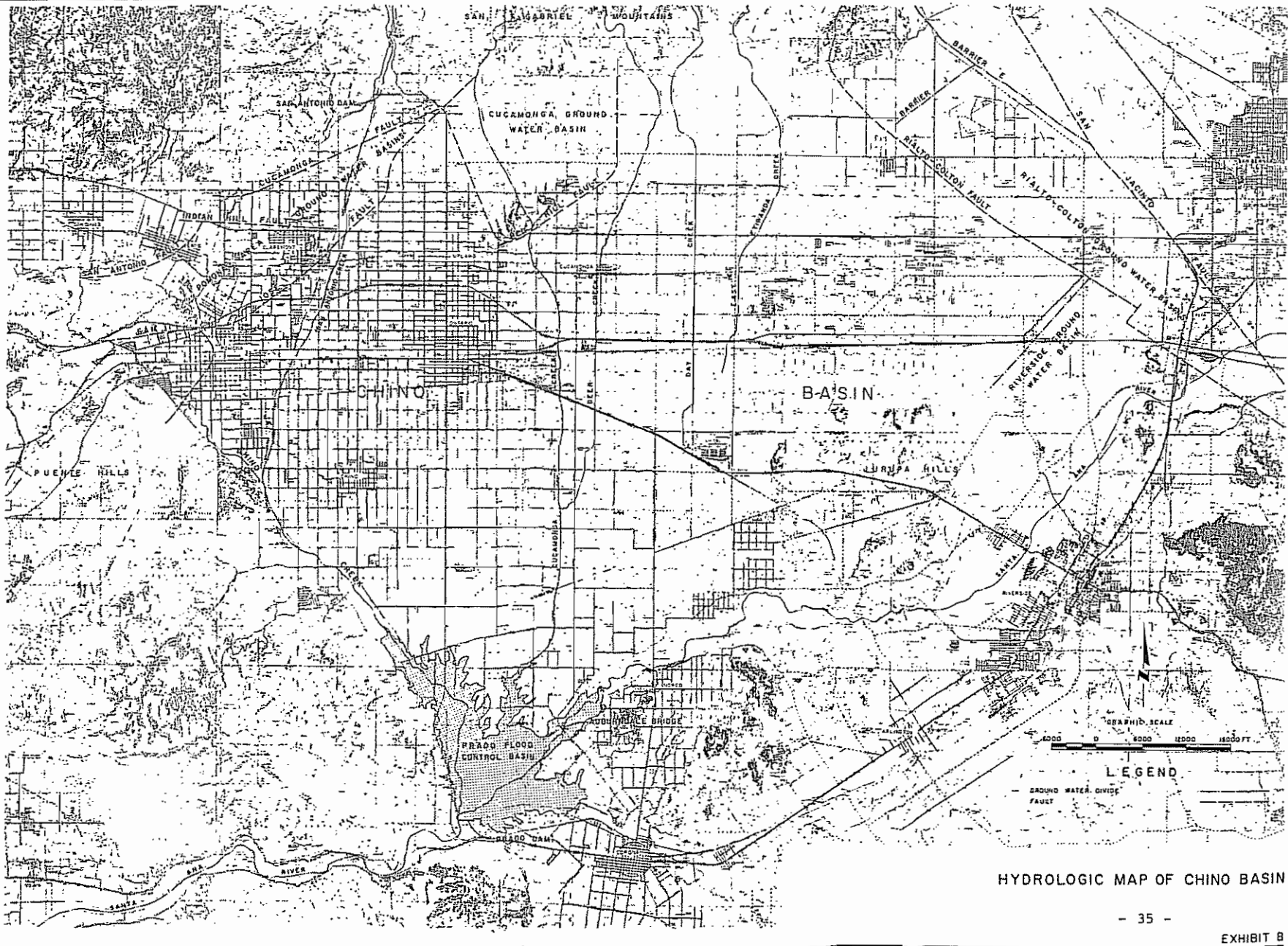


LOCATION MAP OF CHINO BASIN

EXHIBIT A



HYDROLOGIC MAP OF CHINO BASIN

EXHIBIT B

STIPULATING OVERLYING AGRICULTURAL PRODUCERS

STATE OF CALIFORNIA
COUNTY OF SAN BERNARDINO
Abacherli Dairy, Inc.
Abacherli, Frank
Abacherli, Shirley
Abbona, Anna
Abbona, James
Abbona, Jim
Abbona, Mary
Agliani, Amelia H.
Agman, Inc.
Aguerre, Louis B.
Ahmanson Trust Co.
Akiyama, Shizuye
Akiyama, Tomoo
Akkerman, Dave
Albers, J. N.
Albers, Nellie
Alewyn, Jake J.
Alewyn, Normalee
Alger, Mary D.
Alger, Raymond
Allen, Ben F.
Allen, Jane F.
Alta-Dena Dairy
Anderson Farms
Anguiano, Sarah L. S.
Anker, Gus
Aphessetche, Xavier
Arena Mutual Water Assn.
Armstrong Nurseries, Inc.
Arretche, Frank
Arretche, Jean Pierre
Arvidson, Clarence F.
Arvidson, Florence
Ashley, George W.
Ashley, Pearl E.
Atlas Farms
Atlas Ornamental Iron Works, Inc.
Aukeman, Carol
Aukeman, Lewis
Ayers, Kenneth C., aka Kelley Ayers
Bachoc, Raymond
Baldwin, Edgar A.
Baldwin, Lester
Banbury, Carolyn
Bangma Dairy
Bangma, Arthur
Bangma, Ida
Bangma, Martin
Bangma, Sam
Barba, Anthony B.
Barba, Frank
Barcellos, Joseph
Barnhill, Maurine W.

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1 Barnhill, Paul
2 Bartel, Dale
3 Bartel, Ursula
4 Bartel, Willard
5 Barthelemy, Henry
6 Barthelemy, Roland
7 Bassler, Donald V., M.D.
8 Bates, Lowell R.
9 Bates, Mildred L.
10 Beahm, James W.
11 Beahm, Joan M.
12 Bekendam, Hank
13 Bekendam, Pete
14 Bello, Eugene
15 Bello, Olga
16 Beltman, Evelyn
17 Beltman, Tony
18 Bergquist Properties, Inc.
19 Bevacqua, Joel A.
20 Bevacqua, Marie B.
21 Bidart, Bernard
22 Bidart, Michael J.
23 Binnell, Wesley
24 Black, Patricia E.
25 Black, Victor
26 Bodger, John & Sons Co.
27 Boer, Adrian
28 Boersma and Wind Dairy

Boersma, Angie
Boersma, Berdina
Boersma, Frank
Boersma, Harry
Boersma, Paul
Boersma, Sam
Boersma, William L.
Bohlander & Holmes, Inc.
Bokma, Peter
Bollema, Jacob
Boonstoo, Edward
Bootsma, Jim
Borba, Dolene
Borba, Dolores
Borba, Emily
Borba, George
Borba, John
Borba, John & Sons
Borba, John Jr.
Borba, Joseph A.
Borba, Karen E.
Borba, Karen M.
Borba, Pete, Estate of
Borba, Ricci
Borba, Steve
Borba, Tom
Bordisso, Alleck
Borges, Angelica M.

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Borges, Bernadette
Borges, John O.
Borges, Linda L.
Borges, Manual Jr.
Borges, Tony
Bos, Aleid
Bos, Gerrit
Bos, John
Bos, John
Bos, Margaret
Bos, Mary
Bos, Mary Beth
Bos, Tony
Bosch, Henrietta
Bosch, Peter T.
Boschma, Betty
Boschma, Frank
Boschma, Greta
Boschma, Henry
Bosma, Dick
Bosma, Florence G.
Bosma, Gerrit
Bosma, Jacob J.
Bosma, Jeanette Thea
Bosman, Frank
Bosman, Nellie
Bosnyak, Goldie M.
Bosnyak, Martin
Bothof, Roger W.
Bouma, Cornie
Bouma, Emma
Bouma, Henry P.
Bouma, Martin
Bouma, Peter G. & Sons Dairy
Bouma, Ted
Bouman, Helen
Bouman, Sam
Bower, Mabel E.
Boys Republic
Breedyk, Arie
Breedyk, Jessie
Briano Brothers
Briano, Albert
Briano, Albert Trustee for
Briano, Albert Frank
Briano, Lena
Brink, Russell N.
Brinkerhoff, Margaret
Brinkerhoff, Robert L.
Britschgi, Florence
Britschgi, Magdalena Garetto
Britschgi, Walter P.
Brommer, Marvin
Brookside Enterprizes, dba
Brookside Vineyard Co.
Brothers Three Dairy

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1 Brown, Eugene
2 Brun, Martha M.
3 Brun, Peter Robert
4 Buma, Duke
5 Buma, Martha
6 Bunse, Nancy
7 Bunse, Ronnie L.
8 Caballero, Bonnie L.
9 Caballero, Richard F.
10 Cable Airport Inc.
11 Cadlini, Donald
12 Cadlini, Jesse R.
13 Cadlini, Marie Edna
14 Cambio, Anna
15 Cambio, Charles, Estate of
16 Cambio, William V.
17 Cardoza, Florence
18 Cardoza, Olivi
19 Cardoza, Tony
20 Carnesi, Tom
21 Carver, Robt M., Trustee
22 Cauffman, John R.
23 Chacon Bros.
24 Chacon, Elvera P.
25 Chacon, Joe M.
26 Chacon, Robert M.
27 Chacon, Virginia L.
28 Chez, Joseph C.

Chino Corona Investment
Chino Water Co.
Christensen, Leslie
Christensen, Richard G.
Christian, Ada R.
Christian, Harold F.
Christy, Ella J.
Christy, Ronald S.
Cihigoyenetche, Jean
Cihigoyenetche, Leona
Cihigoyenetche, Martin
Clarke, Arthur B.
Clarke, Nancy L.
Clarke, Phyllis J.
Coelho, Isabel
Coelho, Joe A. Jr.
Collins, Howard E.
Collins, Judith F.
Collinsworth, Ester L.
Collinsworth, John E.
Collinsworth, Shelby
Cone Estate (05-2-00648/649)
Consolidated Freightways Corp.
of Delaware
Corona Farms Co.
Corra, Rose
Costa, Dimas S.
Costa, Laura

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Costa, Myrtle
Costamagna, Antonio
Costamagna, Joseph
Cousyn, Claus B.
Cramer, Carole F.
Cramer, William R.
Crossroads Auto Dismantlers, Inc.
Crouse, Beatrice I.
Crouse, Roger
Crowley, Juanita C.
Crowley, Ralph
Cucamonga Vintners
D'Astici, Teresa
Da Costa, Cecilia B.
Da Costa, Joaquim F.
Daloisio, Norman
De Berard Bros.
De Berard, Arthur, Trustee
De Berard, Charles
De Berard, Chas., Trustee
De Berard, Helan J.
De Berard, Robert
De Berard, Robert, Trustee
De Bie, Adrian
De Bie, Henry
De Bie, Margaret M.
De Bie, Marvin
De Boer, Fred
De Boer, L. H.
De Boer, Sidney
De Bos, Andrew
De Graaf, Anna Mae
De Graaf, Gerrit
De Groot, Dick
De Groot, Dorothy
De Groot, Ernest
De Groot, Henrietta
De Groot, Jake
De Groot, Pete Jr.
De Haan, Bernadena
De Haan, Henry
De Hoog, Adriana
De Hoog, Joe
De Hoog, Martin
De Hoog, Martin L.
De Hoog, Mitch
De Hoog, Tryntje
De Jager, Cobi
De Jager, Edward D.
De Jong Brothers Dairy
De Jong, Cornelis
De Jong, Cornelius
De Jong, Grace
De Jong, Jake
De Jong, Lena
De Leeuw, Alice

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1 De Leeuw, Sam
2 De Soete, Agnes
3 De Soete, Andre
4 De Vries, Abraham
5 De Vries, Case
6 De Vries, Dick
7 De Vries, Evelyn
8 De Vries, Henry, Estate of
9 De Vries, Hermina
10 De Vries, Jack H.
11 De Vries, Jane
12 De Vries, Janice
13 De Vries, John
14 De Vries, John J.
15 De Vries, Neil
16 De Vries, Ruth
17 De Vries, Theresa
18 De Wit, Gladys
19 De Wit, Peter S.
20 De Wyn, Evert
21 De Zoete, Hattie V.
22 De Zoete, Leo A.
23 Decker, Hallie
24 Decker, Henry A.
25 Demmer, Ernest
26 Di Carlo, Marie
27 Di Carlo, Victor
28 Di Tommaso, Frank

Dirkse, Catherine
Dirkse, Charles C.
Dixon, Charles E.
Dixon, Geraldine A.
Doesberg, Hendrica
Doesburg, Theodorus P.
Dolan, Marion
Dolan, Michael H.
Dominguez, Helen
Dominguez, Manual
Donkers, Henry A.
Donkers, Nellie G.
Dotta Bros.
Douma Brothers Dairy
Douma, Betty A.
Douma, Fred A.
Douma, Hendrika
Douma, Herman G.
Douma, Narleen J.
Douma, Phillip M.
Dow Chemical Co.
Dragt, Rheta
Dragt, William
Driftwood Dairy Farm
Droogh, Case
Duhalde, Marian
Duhalde, Lauren
Duits, Henrietta

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1 Duits, John
2 Dunlap, Edna Kraemer,
3 Estate of
4 Durrington, Glen
5 Durrington, William F.
6 Dusi, John, Sr.
7 Dykstra, Dick
8 Dykstra, John
9 Dykstra, John & Sons
10 Dykstra, Wilma
11 Dyt, Cor
12 Dyt, Johanna
13 E and S Grape Growers
14 Eaton, Thomas, Estate of
15 Echeverria, Juan
16 Echeverria, Carlos
17 Echeverria, Pablo
18 Eilers, E. Myrle
19 Eilers, Henry W.
20 El Prado Golf Course
21 Ellsworth, Rex C.
22 Engelsma, Jake
23 Engelsma, Susan
24 Escojeda, Henry
25 Etiwanda Grape Products Co.
26 Euclid Ave. Investment One
27 Euclid Ave. Investment Four
28 Euclid Ave. Three Investment

Excelsior Farms
F.D.I.C.
Fagundes, Frank M.
Fagundes, Mary
Fernandes, Joseph Jr.
Fernandes, Velma C.
Ferraro, Ann
Ferreira, Frank J.
Ferreira, Joe C. Jr.
Ferreira, Narcie
Filippi, J. Vintage Co.
Filippi, Joseph
Filippi, Joseph A.
Filippi, Mary E.
Fitzgerald, John R.
Flameling Dairy Inc.
Flamingo Dairy
Foss, Douglas E.
Foss, Gerald R.
Foss, Russel
Fred & John Troost No. 1 Inc.
Fred & Maynard Troost No. 2 Inc.
Freitas, Beatriz
Freitas, Tony T.
Gakle, Louis L.
Galleano Winery, Inc.
Galleano, Bernard D.
Galleano, D.
Galleano, Mary M.

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1 Garcia, Pete
2 Gardner, Leland V.
3 Gardner, Lola M.
4 Garrett, Leonard E.
5 Garrett, Patricia T.
6 Gastelluberry, Catherine
7 Gastelluberry, Jean
8 Gilstrap, Glen E.
9 Gilstrap, Marjorie J.
10 Godinho, John
11 Godinho, June
12 Gonsalves, Evelyn
13 Gonsalves, John
14 Gorzeman, Geraldine
15 Gorzeman, Henry A.
16 Gorzeman, Joe
17 Govea, Julia
18 Goyenetche, Albert
19 Grace, Caroline E.
20 Grace, David J.
21 Gravatt, Glenn W.
22 Gravatt, Sally Mae
23 Greydanus Dairy, Inc.
24 Greydanus, Rena
25 Griffin Development Co.
26 Haagsma, Dave
27 Haagsma, John
28 Hansen, Mary D.

Hansen, Raymond F.
Hanson, Ardeth W.
Harada, James T.
Harada, Violet A.
Haringa, Earl and Sons
Haringa, Herman
Haringa, Rudy
Haringa, William
Harper, Cecilia de Mille
Harrington, Winona
Harrison, Jacqueline A.
Hatanaka, Kenichi
Heida, Annie
Heida, Don
Heida, Jim
Heida, Sam
Helms, Addison D.
Helms, Irma A.
Hermans, Alma I.
Hermans, Harry
Hettinga, Arthur
Hettinga, Ida
Hettinga, Judy
Hettinga, Mary
Hettinga, Wilbur
Heublein, Inc., Grocery Products Group
Hibma, Catherine M.

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Hibma, Sidney
Hicks, Kenneth I.
Hicks, Minnie M.
Higgins Brick Co.
Highstreet, Alfred V.
Highstreet, Evada V.
Hilarides, Bertha as Trustee
Hilarides, Frank
Hilarides, John as Trustee
Hindelang, Tillie
Hindelang, William
Hobbs, Bonnie C.
Hobbs, Charles W.
Hobbs, Hazel I.
Hobbs, Orlo M.
Hoekstra, Edward
Hoekstra, George
Hoekstra, Grace
Hoekstra, Louie
Hofer, Paul B.
Hofer, Phillip F.
Hofstra, Marie
Hogeboom, Jo Ann M.
Hogeboom, Maurice D.
Hogg, David V.
Hogg, Gene P.
Hogg, Warren G.
Hohberg, Edith J.
Hohberg, Harold C.
Hohberg, Harold W.
Holder, Arthur B.
Holder, Dorothy F.
Holmes, A. Lee
Holmes, Frances P.
Hoogeboom, Gertrude
Hoogeboom, Pete
Hoogendam, John
Hoogendam, Tena
Houssels, J. K. Thoroughbred Farm
Hunt Industries
Idsinga, Ann
Idsinga, William W.
Imbach Ranch, Inc.
Imbach, Kenneth E.
Imbach, Leonard K.
Imbach, Oscar K.
Imbach, Ruth M.
Indaburu, Jean
Indaburu, Marceline
Iseli, Kurt H.
Ito, Kow
J & B Dairy Inc.
Jaques, Johnny C. Jr.
Jaques, Mary
Jaques, Mary Lou

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1 Jay Em Bee Farms
2 Johnson Bro's Egg Ranches, Inc.
3 Johnston, Ellwood W.
4 Johnston, George F. Co.
5 Johnston, Judith H.
6 Jones, Leonard P.
7 Jongsma & Sons Dairy
8 Jongsma, Diana A.
9 Jongsma, Dorothy
10 Jongsma, George
11 Jongsma, Harold
12 Jongsma, Henry
13 Jongsma, John
14 Jongsma, Nadine
15 Jongsma, Tillie
16 Jordan, Marjorie G.
17 Jordan, Troy O.
18 Jorritsma, Dorothy
19 Juliano, Albert
20 Kamper, Cornelis
21 Kamstra, Wilbert
22 Kaplan, Lawrence J.
23 Kasbergen, Martha
24 Kasbergen, Neil
25 Kazian, Angelen Estate of
26 Kingsway Const. Corp.
27 Klapps Market
28 Kline, James K.

Knevelbaard, John
Knudsen, Ejnar
Knudsen, Karen M.
Knudsen, Kenneth
Knudson, Robert
Knudson, Darlene
Koel, Helen S.
Koetsier, Gerard
Koetsier, Gerrit J.
Koetsier, Jake
Koning, Fred W.
Koning, Gloria
Koning, J. W. Estate
Koning, James A.
Koning, Jane
Koning, Jane C.
Koning, Jennie
Koning, John
Koning, Victor A.
Kooi Holstein Corporation
Koolhaas, Kenneth E.
Koolhaas, Simon
Koolhaas, Sophie Grace
Koopal, Grace
Koopal, Silas
Koopman, Eka
Koopman, Gene T.
Koopman, Henry G.

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1 Koopman, Ted
2 Koopman, Tena
3 Koot, Nick
4 Koster, Aart
5 Koster, Frances
6 Koster, Henry B.
7 Koster, Nellie
8 Kroes, Jake R.
9 Kroeze, Bros
10 Kroeze, Calvin E.
11 Kroeze, John
12 Kroeze, Wesley
13 Kruckenberg, Naomi
14 Kruckenberg, Perry
15 L. D. S. Welfare Ranch
16 Labrucherie, Mary Jane
17 Labrucherie, Raymond F.
18 Lako, Samuel
19 Landman Corp.
20 Lanting, Broer
21 Lanting, Myer
22 Lass, Jack
23 Lass, Sandra L.
24 Lawrence, Cecelia, Estate of
25 Lawrence, Joe H., Estate of
26 Leal, Bradley W.
27 Leal, John C.
28 Leal, John Craig

Leck, Arthur A.
Leck, Evelyn M.
Lee, Harold E.
Lee, Helen J.
Lee, Henrietta C.
Lee, R. T. Construction Co.
Lekkerkerk, Adriana
Lekkerkerk, L. M.
Lekkerkerker, Nellie
Lekkerkerker, Walt
Lewis Homes of California
Livingston, Dorothy M.
Livingston, Rex E.
Lokey, Rosemary Kraemer
Lopes, Candida A.
Lopes, Antonio S.
Lopez, Joe D.
Lourenco, Carlos, Jr.
Lourenco, Carmelina P.
Lourenco, Jack C.
Lourenco, Manual H.
Lourenco, Mary
Lourenco, Mary
Luiten, Jack
Luiz, John M.
Luna, Christine I.
Luna, Ruben T.
Lusk, John D. and Son
a California corporation

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Lyon, Gregory E.
Lyon, Paula E.
M & W Co. #2
Madole, Betty M.
Madole, Larry B.
Marquez, Arthur
Marquine, Jean
Martin, Lelon O.
Martin, Leon O.
Martin, Maria D.
Martin, Tony J.
Martins, Frank
Mathias, Antonio
Mc Cune, Robert M.
Mc Masters, Gertrude
Mc Neill, J. A.
Mc Neill, May F.
Mees, Leon
Mello and Silva Dairy
Mello and Sousa Dairy
Mello, Emilia
Mello, Enos C.
Mello, Mercedes
Mendiondo, Catherine
Mendiondo, Dominique
Meth. Hosp. - Sacramento
Metzger, R. S.
Metzger, Winifred
Mickel, Louise
Miersma, Dorothy
Meirsma, Harry C.
Minaberry, Arnaud
Minaberry, Marie
Mistretta, Frank J.
Mocho and Plaa Inc.
Mocho, Jean
Mocho, Noeline
Modica, Josephine
Montes, Elizabeth
Montes, Joe
Moons, Beatrice
Moons, Jack
Moramarco, John A. Enterprises
Moreno, Louis W.
Moss, John R.
Motion Pictures Associates, Inc.
Moynier, Joe
Murphy, Frances V.
Murphy, Myrl L.
Murphy, Naomi
Nanne, Martin Estate of
Nederend, Betty
Nederend, Hans
Norfolk, James
Norfolk, Martha
Notrica, Louis

EXHIBIT "C"

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1 Nyberg, Lillian M.
2 Nyenhuis, Annie
3 Nyenhuis, Jim
4 Occidental Land Research
5 Okumura, Marion
6 Okumura, Yuiche
7 Oldengarm, Effie
8 Oldengarm, Egbert
9 Oldengarm, Henry
10 Oliviera, Manuel L.
11 Oliviera, Mary M.
12 Olson, Albert
13 Oltmans Construction Co.
14 Omlin, Anton
15 Omlin, Elsie L.
16 Ontario Christian School Assn.
17 Oord, John
18 Oostdam, Jacoba
19 Oostdam, Pete
20 Oosten, Agnes
21 Oosten, Anthonia
22 Oosten, Caroline
23 Oosten, John
24 Oosten, Marinus
25 Oosten, Ralph
26 Orange County Water District
27 Ormonde, Manuel
28 Ormonde, Pete, Jr.

Ormonde, Viva
Ortega, Adeline B.
Ortega, Bernard Dino
Osterkamp, Joseph S.
Osterkamp, Margaret A.
P I E Water Co.
Palmer, Eva E.
Palmer, Walter E.
Parente, Luis S.
Parente, Mary Borba
Parks, Jack B.
Parks, Laura M.
Patterson, Lawrence E. Estate of
Payne, Clyde H.
Payne, Margo
Pearson, Athelia K.
Pearson, William C.
Pearson, William G.
Pene, Robert
Perian, Miller
Perian, Ona E.
Petrissans, Deanna
Petrissans, George
Petrissans, Jean P.
Petrissans, Marie T.
Pickering, Dora M.
(Mrs. A. L. Pickering)
Pierce, John

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1 Pierce, Sadie
2 Pietszak, Sally
3 Pine, Joe
4 Pine, Virginia
5 Pires, Frank
6 Pires, Marie
7 Plaa, Jeanne
8 Plaa, Michel
9 Plantenga, Agnes
10 Plantenga, George
11 Poe, Arlo D.
12 Pomona Cemetery Assn.
13 Porte, Cecelia, Estate of
14 Porte, Garritt, Estate of
15 Portsmouth, Vera McCarty
16 Ramella, Mary M.
17 Ramirez, Concha
18 Rearick, Hildegard H.
19 Rearick, Richard R.
20 Reinalda, Clarence
21 Reitsma, Greta
22 Reitsma, Louis
23 Rice, Bernice
24 Rice, Charlie E.
25 Richards, Karin
26 (Mrs. Ronnie Richards)
27 Richards, Ronald L.
28 Ridder, Jennie Wassenaar

Righetti, A. T.
Riley, George A.
Riley, Helen C.
Robbins, Jack K.
Rocha, John M.
Rocha, Jose C.
Rodrigues, John
Rodrigues, Manuel
Rodrigues, Manuel, Jr.
Rodrigues, Mary L.
Rodriquez, Daniel
Rogers, Jack D.
Rohrer, John A.
Rohrer, Theresa D.
Rohrs, Elizabeth H.
Rossetti, M. S.
Roukema, Angeline
Roukema, Ed.
Roukema, Nancy
Roukema, Siebren
Ruderian, Max J.
Russell, Fred J.
Rusticus, Ann
Rusticus, Charles
Rynsburger, Arie
Rynsburger, Berdena, Trust
Rynsburger, Joan Adele
Rynsburger, Thomas

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1 S. P. Annex, Inc.
2 Salisbury, Elinor J.
3 Sanchez, Edmundo
4 Sanchez, Margarita O.
5 Santana, Joe Sr.
6 Santana, Palmira
7 Satragni, John B. Jr.
8 Scaramella, George P.
9 Schaafsma Bros.
10 Schaafsma, Jennie
11 Schaafsma, Peter
12 Schaafsma, Tom
13 Schaap, Andy
14 Schaap, Ids
15 Schaap, Maria
16 Schacht, Sharon C.
17 Schakel, Audrey
18 Schakel, Fred
19 Schmid, Olga
20 Schmidt, Madeleine
21 Schoneveld, Evert
22 Schoneveld, Henrietta
23 Schoneveld, John
24 Schoneveld, John Allen
25 Schug, Donald E.
26 Schug, Shirley A.
27 Schuh, Bernatta M.
28 Schuh, Harold H.

Scott, Frances M.
Scott, Linda F.
Scott, Stanley A.
Scritsmier, Lester J.
Serl, Charles A.
Serl, Rosalie P.
Shady Grove Dairy, Inc.
Shamel, Burt A.
Shelby, Harold E.
Shelby, John A.
Shelby, Velma M.
Shelton, Alice A.
Sherwood, Robert W.
Sherwood, Sheila J.
Shue, Eva
Shue, Gilbert
Sieperda, Anne
Sieperda, James
Sigrist, Hans
Sigrist, Rita
Silveira, Arline L.
Silveira, Frank
Silveira, Jack
Silveira, Jack P. Jr.
Simas, Dolores
Simas, Joe
Singleton, Dean
Singleton, Elsie R.

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Sinnott, Jim
Sinnott, Mildred B.
Slegers, Dorothy
Slegers, Hubert J.
Slegers, Jake
Slegers, Jim
Slegers, Lenwood M.
Slegers, Martha
Slegers, Tesse J.
Smith, Edward S.
Smith, Helen D.
Smith, James E.
Smith, Keith J.
Smith, Lester W.
Smith, Lois Maxine
Smith, Marjorie W.
Soares, Eva
Sogioka, Mitsuyoshi
Sogioka, Yoshimato
Sousa, Sam
Southern Pacific Land Co.
Southfield, Eddie
Souza, Frank M.
Souza, Mary T.
Spickerman, Alberta
Spickerman, Florence
Spickerman, Rudolph
Spyksma, John
Staal, John
Stahl, Zippora P.
Stampfl, Berta
Stampfl, William
Stanley, Robert E.
Stark, Everett
Stellingwerf, Andrew
Stellingwerf, Henry
Stellingwerf, Jenette
Stellingwerf, Shana
Stellingwerf, Stan
Stelzer, Mike C.
Sterk, Henry
Stiefel, Winifred
Stiefel, Jack D.
Stigall, Richard L.
Stigall, Vita
Stockman's Inn
Stouder, Charlotte A.
Stouder, William C.
Struikmans, Barbara
Struikmans, Gertie
Struikmans, Henry Jr.
Struikmans, Henry Sr.
Struikmans, Nellie
Swager, Edward
Swager, Gerben
Swager, Johanna

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1 Swager, Marion
2 Swierstra, Donald
3 Swierstra, Fanny
4 Sybrandy, Ida
5 Sybrandy, Simon
6 Sytsma, Albert
7 Sytsma, Edith
8 Sytsma, Jennie
9 Sytsma, Louie
10 Te Velde, Agnes
11 Te Velde, Bay
12 Te Velde, Bernard A.
13 Te Velde, Bonnie
14 Te Velde, Bonnie G.
15 Te Velde, George
16 Te Velde, George, Jr.
17 Te Velde, Harm
18 Te Velde, Harriet
19 Te Velde, Henry J.
20 Te Velde, Jay
21 Te Velde, Johanna
22 Te Velde, John H.
23 Te Velde, Ralph A.
24 Te Velde, Zwaantina, Trustee
25 Ter Maaten, Case
26 Ter Maaten, Cleone
27 Ter Maaten, Steve
28 Terpstra, Carol

Terpstra, Theodore G.
Teune, Tony
Teunissen, Bernard
Teunissen, Jane
Thomas, Ethel M.
Thommen, Alice
Thommen, Fritz
Tillema, Allie
Tillema, Harold
Tillema, Klaas D.
Timmons, William R.
Tollerup, Barbara
Tollerup, Harold
Trapani, Louis A.
Trimlett, Arlene R.
Trimlett, George E.
Tristant, Pierre
Tuinhout, Ale
Tuinhout, Harry
Tuinhout, Hilda
Tuls, Elizabeth
Tuls, Jack S.
Tuls, Jake
Union Oil Company of California
United Dairyman's Co-op.
Urquhart, James G.
Usle, Cathryn
Usle, Faustino

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1 V & Y Properties
2 Vaile, Beryl M.
3 Valley Hay Co.
4 Van Beek Dairy Inc.
5 Van Canneyt Dairy
6 Van Canneyt, Maurice
7 Van Canneyt, Wilmer
8 Van Dam, Bas
9 Van Dam, Isabelle
10 Van Dam, Nellie
11 Van Den Berg, Gertrude
12 Van Den Berg, Joyce
13 Van Den Berg, Marinus
14 Van Den Berg, Marvin
15 Van Der Linden, Ardith
16 Van Der Linden, John
17 Van Der Linden, Stanley
18 Van Der Veen, Kenneth
19 Van Diest, Anna T.
20 Van Diest, Cornelius
21 Van Diest, Ernest
22 Van Diest, Rena
23 Van Dyk, Bart
24 Van Dyk, Jeanette
25 Van Foeken, Martha
26 Van Foeken, William
27 Van Hofwegan, Steve
28 Van Hofwegen, Adrian A.

Van Hofwegen, Clara
Van Hofwegen, Jessie
Van Klaveren, A.
Van Klaveren, Arie
Van Klaveren, Wilhelmina
Van Klaveren, William
Van Leeuwen, Arie C.
Van Leeuwen, Arie C.
Van Leeuwen, Arlan
Van Leeuwen, Clara G.
Van Leeuwen, Cornelia L.
Van Leeuwen, Harriet
Van Leeuwen, Jack
Van Leeuwen, John
Van Leeuwen, Letie
Van Leeuwen, Margie
Van Leeuwen, Paul
Van Leeuwen, William A.
Van Ravenswaay, Donald
Van Ryn Dairy
Van Ryn, Dick
Van Surksum, Anthonetta
Van Surksum, John
Van Veen, John
Van Vliet, Effie
Van Vliet, Hendrika
Van Vliet, Hugo
Van Vliet, Klaas

EXHIBIT "C"

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Vande Witte, George	Vander Laan, Katie
Vanden Berge, Gertie	Vander Laan, Martin Jr.
Vanden Berge, Gertie	Vander Laan, Tillie
Vanden Berge, Jack	Vander Leest, Anna
Vanden Berge, Jake	Vander Leest, Ann
Vanden Brink, Stanley	Vander Meer, Alice
Vander Dussen, Agnes	Vander Meer, Dick
Vander Dussen, Cor	Vander Poel, Hank
Vander Dussen, Cornelius	Vander Poel, Pete
Vander Dussen, Edward	Vander Pol, Irene
Vander Dussen, Geraldine Marie	Vander Pol, Margie
Vander Dussen, James	Vander Pol, Marines
Vander Dussen, John	Vander Pol, William P.
Vander Dussen, Nelvina	Vander Schaaf, Earl
Vander Dussen, Rene	Vander Schaaf, Elizabeth
Vander Dussen, Sybrand Jr.	Vander Schaaf, Henrietta
Vander Dussen, Sybrand Sr.	Vander Schaaf, John
Vander Dussen Trustees	Vander Schaaf, Ted
Vander Eyk, Case Jr.	Vander Stelt, Catherine
Vander Eyk, Case Sr.	Vander Stelt, Clarence
Vander Feer, Peter	Vander Tuig, Arlene
Vander Feer, Rieka	Vander Tuig, Sylvester
Vander Laan, Ann	Vander Veen, Joe A.
Vander Laan, Ben	Vandervlag, Robert
Vander Laan, Bill	Vander Zwan, Peter
Vander Laan, Corrie	Vanderford, Betty W.
Vander Laan, Henry	Vanderford, Claud R.
Vander Laan, James	Vanderham, Adrian

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1 Vanderham, Cornelius
2 Vanderham, Cornelius P.
3 Vanderham, Cory
4 Vanderham, E. Jane
5 Vanderham, Marian
6 Vanderham, Martin
7 Vanderham, Pete C.
8 Vanderham, Wilma
9 Vasquez, Eleanor
10 Veenendaal, Evert
11 Veenendaal, John H.
12 Veiga, Dominick Sr.
13 Verbree, Jack
14 Verbree, Tillie
15 Verger, Bert
16 Verger, Betty
17 Verhoeven, Leona
18 Verhoeven, Martin
19 Verhoeven, Wesley
20 Vermeer, Dick
21 Vermeer, Jantina
22 Vernola Ranch
23 Vernola, Anthonietta
24 Vernola, Anthony
25 Vernola, Frank
26 Vernola, Mary Ann
27 Vernola, Pat F.
28 Vestal, Frances Lorraine

Vestal, J. Howard
Visser, Gerrit
Visser, Grace
Visser, Henry
Visser, Jess
Visser, Louie
Visser, Neil
Visser, Sam
Visser, Stanley
Visser, Tony D.
Visser, Walter G.
Von Der Ahe, Fredric T.
Von Euw, George
Von Euw, Marjorie
Von Lusk, a limited partnership
Voortman, Anna Marie
Voortman, Edward
Voortman, Edwin J.
Voortman, Gertrude Dena
Wagner, Richard H.
Walker, Carole R.
Walker, Donald E.
Walker, Wallace W.
Wardle, Donald M.
Warner, Dillon B.
Warner, Minnie
Wassenaar, Peter W.
Waters, Michael

EXHIBIT "C"

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Weeda, Adriana
Weeda, Daniel
Weeks, O. L.
Weeks, Verona E.
Weidman, Maurice
Weidman, Virginia
Weiland, Adaline I.
Weiland, Peter J.
Wesselink, Jules
West, Katharine R.
West, Russel
West, Sharon Ann
Western Horse Property
Westra, Alice
Westra, Henry
Westra, Hilda
Westra, Jake J.
Weststeyn, Freida
Weststeyn, Pete
Whitehurst, Louis G.
Whitehurst, Pearl L.
Whitmore, David L.
Whitmore, Mary A.
Whitney, Adolph M.
Wiersema, Harm
Wiersema, Harry
Wiersma, Ellen H.
Wiersma, Gladys J.
Wiersma, Jake
Wiersma, Otto
Wiersma, Pete
Winchell, Verne H., Trustee
Wind, Frank
Wind, Fred
Wind, Hilda
Wind, Johanna
Woo, Frank
Woo, Sem Gee
Wybenga, Clarence
Wybenga, Gus
Wybenga, Gus K.
Wybenga, Sylvia
Wynja, Andy
Wynja, Iona F.
Yellis, Mildred
Yellis, Thomas E.
Ykema-Harmsen Dairy
Ykema, Floris
Ykema, Harriet
Yokley, Betty Jo
Yokley, Darrell A.
Zak, Zan
Zivelonghi, George
Zivelonghi, Margaret
Zwaagstra, Jake
Zwaagstra, Jessie M.
Zwart, Case

EXHIBIT "C"

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NON-PRODUCER WATER DISTRICTS

Chino Basin Municipal Water District

Chino Basin Water Conservation District

Pomona Valley Municipal Water District

Western Municipal Water District of Riverside County

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DEFAULTING OVERLYING AGRICULTURAL PRODUCERS

Cheryl L. Bain
Warren Bain
John M. Barcelona
Letty Bassler
John Brazil
John S. Briano
Lupe Briano
Paul A. Briano
Tillie Briano
Arnie B. Carlson
John Henry Fikse
Phyllis S. Fikse
Lewellyn Flory
Mary I. Flory
L. H. Glazer
Dorothy Goodman
Sidney D. Goodman
Frank Grossi
Harada Brothers
Ellen Hettinga
Hein Hettinga
Dick Hofstra, Jr.
Benjamin M. Hughey
Frieda L. Hughey
Guillaume Indart
Ellwood B. Johnston, Trustee
Perry Kruckenberg, Jr.
Roy W. Lantis
Sharon I. Lantis
Frank Lorenz
Dagney H. MacDonald
Frank E. Martin
Ruth C. Martin
Connie S. Mello
Naldiro J. Mello
Felice Miller
Ted Miller
Masao Nerio
Tom K. Nerio
Toyo Nerio
Yuriko Nerio
Harold L. Rees
Alden G. Rose
Claude Rouleau, Jr.
Patricia M. Rouleau
Schultz Enterprises
Albert Shaw
Lila Shaw
Cathy M. Stewart
Marvin C. Stewart
Betty Ann Stone
John B. Stone
Vantoll Cattle Co., Inc.
Catherene Verburg

EXHIBIT "C"

Martin Verburg

Donna Vincent

Larry Vincent

Cliff Wolfe & Associates

Ada M. Woll

Zarubica Co.

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EXHIBIT "D"

OVERLYING NON-AGRICULTURAL RIGHTS

Party	Total Overlying Non-Agricultural Rights (Acre Feet)	Share of Safe Yield (Acre Feet)
Ameron Steel Producers, Inc.	125	97.858
County of San Bernardino	171	133.870
Conrock Company	406	317.844
Kaiser Steel Corporation	3,743	2,930.274
Red Star Fertilizer	20	15.657
Southern California Edison Co.	1,255	982.499
Space Center, Mira Loma	133	104.121
Southern Service Co., dba Blue Seal Linen	24	18.789
Sunkist, Orange Products Division	2,393	1,873.402
Carlsberg Mobile Home Properties, Ltd. '73	593	464.240
Union Carbide Corporation	546	427.446
Quaker Chemical Co.	0	0
Totals	9,409	7,366.000

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EXHIBIT "E"
APPROPRIATIVE RIGHTS

Party	Appropriative Right (Acre Feet)	Share of Initial Operating Safe Yield (Acre Feet)	Share of Operating Safe Yield (Percent)
City of Chino	5,271.7	3,670.067	6.693
City of Norco	289.5	201.545	0.368
City of Ontario	16,337.4	11,373.816	20.742
City of Pomona	16,110.5	11,215.852	20.454
City of Upland	4,097.2	2,852.401	5.202
Cucamonga County Water District	4,431.0	3,084.786	5.626
Jurupa Community Services District	1,104.1	768.655	1.402
Monte Vista County Water District	5,958.7	4,148.344	7.565
West San Bernardino County Water District	925.5	644.317	1.175
Etiwanda Water Company	768.0	534.668	0.975
Felspar Gardens Mutual Water Company	68.3	47.549	0.087
Fontana Union Water Co.	9,188.3	6,396.736	11.666
Marygold Mutual Water Co.	941.3	655.317	1.195
Mira Loma Water Co.	1,116.0	776.940	1.417
Monta Vista Irr. Co.	972.1	676.759	1.234
Mutual Water Company of Glen Avon Heights	672.2	467.974	0.853
Park Water Company	236.1	164.369	0.300
Pomona Valley Water Co.	3,106.3	2,162.553	3.944
San Antonio Water Co.	2,164.5	1,506.888	2.748
Santa Ana River Water Company	1,869.3	1,301.374	2.373
Southern California Water Company	1,774.5	1,235.376	2.253
West End Consolidated Water Company	1,361.3	947.714	1.728
TOTAL	78,763.8	54,834.000	100.000

EXHIBIT "F"
OVERLYING (AGRICULTURAL) POOL
POOLING PLAN

1. Membership in Pool. The State of California and all producers listed in Exhibit "C" shall be the initial members of this pool, which shall include all producers of water for overlying uses other than industrial or commercial purposes.

2. Pool Meetings. The members of the pool shall meet annually, in person or by proxy, at a place and time to be designated by Watermaster for purposes of electing members of the Pool Committee and conducting any other business of the pool. Special meetings of the membership of the pool may be called and held as provided in the rules of the pool.

3. Voting. All voting at meetings of pool members shall be on the basis of one vote for each 100 acre feet or any portion thereof of production from Chino Basin during the preceding year, as shown by the records of Watermaster.

4. Pool Committee. The Pool Committee for this pool shall consist of not less than nine (9) representatives selected at large by members of the pool. The exact number of members of the Pool Committee in any year shall be as determined by majority vote of the voting power of members of the pool in attendance at the annual pool meeting. Each member of the Pool Committee shall have one vote and shall serve for a two-year term. The members first elected shall classify themselves by lot so that approximately one-half serve an initial one-year term. Vacancies during any term shall be filled by a majority of the remaining members of the Pool Committee.

5. Advisory Committee Representatives. The number of

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representatives of the Pool Committee on the Advisory Committee shall be as provided in the rules of the pool from time to time but not exceeding ten (10). The voting power of the pool on the Advisory Committee shall be apportioned and exercised as determined from time to time by the Pool Committee.

6. Replenishment Obligation. The pool shall provide funds for replenishment of any production by persons other than members of the Overlying (Non-agricultural) Pool or Appropriator Pool, in excess of the pool's share of Safe Yield. During the first five (5) years of operations of the Physical Solution, reasonable efforts shall be made by the Pool Committee to equalize annual assessments.

7. Assessments. All assessments in this pool (whether for replenishment water cost or for pool administration or the allocated share of Watermaster administration) shall be in an amount uniformly applicable to all production in the pool during the preceding year or calendar quarter. Provided, however, that the Agricultural Pool Committee, may recommend to the Court modification of the method of assessing pool members, inter se, if the same is necessary to attain legitimate basin management objectives, including water conservation and avoidance of undesirable socio-economic consequences. Any such modification shall be initiated and ratified by one of the following methods:

(a) Excess Production. In the event total pool production exceeds 100,000 acre feet in any year, the Pool Committee shall call and hold a meeting, after notice to all pool members, to consider remedial modification of the assessment formula.

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(b) Producer Petition. At any time after the fifth full year of operation under the Physical Solution, a petition by ten percent (10%) of the voting power or membership of the Pool shall compel the holding of a noticed meeting to consider revision of said formula of assessment for replenishment water.

In either event, a majority action of the voting power in attendance at such pool members' meeting shall be binding on the Pool Committee.

8. Rules. The Pool Committee shall adopt rules for conducting meetings and affairs of the committee and for administering its program and in amplification of the provisions, but not inconsistent with, this pooling plan.

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EXHIBIT "G"
OVERLYING (NON-AGRICULTURAL) POOL
POOLING PLAN

1. Membership in Pool. The initial members of the pool, together with the decreed share of the Safe Yield of each, are listed in Exhibit "D". Said pool includes producers of water for overlying industrial or commercial (non-agricultural) purposes, or such producers within the Pool who may hereafter take water pursuant to Paragraph 8 hereof.

2. Pool Committee. The Pool Committee for this pool shall consist of one representative designated by each member of the pool. Voting on the committee shall be on the basis of one vote for each member, unless a volume vote is demanded, in which case votes shall be allocated as follows:

> The volume voting power on the Pool Committee shall be 1,484 votes. Of these, 742 votes shall be allocated on the basis of one vote for each ten (10) acre feet or fraction thereof of decreed shares in Safe Yield. (See Exhibit "D".) The remaining 742 votes shall be allocated proportionally on the basis of assessments paid to Watermaster during the preceding year.*

3. Advisory Committee Representatives. At least three (3) members of the Pool Committee shall be designated by said committee to serve on the Advisory Committee. The exact number of such representatives at any time shall be as determined by the Pool Committee. The voting power of the pool shall be exercised in the

*Or production assessments paid under Water Code Section 72140 et seq., as to years prior to the second year of operation under the Physical Solution hereunder.

Advisory Committee as a unit, based upon the vote of a majority of said representatives.

4. Replenishment Obligation. The pool shall provide funds for replenishment of any production in excess of the pool's share of Safe Yield in the preceding year.

5. Assessment. Each member of this pool shall pay an assessment equal to the cost of replenishment water times the number of acre feet of production by such producer during the preceding year in excess of (a) his decreed share of the Safe Yield, plus (b) any carry-over credit under Paragraph 7 hereof. In addition, the cost of the allocated share of Watermaster administration expense shall be recovered on an equal assessment against each acre foot of production in the pool during such preceding fiscal year or calendar quarter; and in the case of Pool members who take substitute ground water as set forth in Paragraph 8 hereof, such producer shall be liable for its share of administration assessment, as if the water so taken were produced, up to the limit of its decreed share of Safe Yield.

6. Assignment. Rights herein decreed are appurtenant to the land and are only assignable with the land for overlying use thereon; provided, however, that any appropriator who may, directly or indirectly, undertake to provide water service to such overlying lands may, by an appropriate agency agreement on a form approved by Watermaster, exercise said overlying right to the extent, but only to the extent necessary to provide water service to said overlying lands.

7. Carry-over. Any member of the pool who produces less than its assigned water share of Safe Yield may carry such unexercised

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right forward for exercise in subsequent years. The first water produced during any such subsequent year shall be deemed to be an exercise of such carry-over right. In the event the aggregate carry-over by any pool member exceeds its share of Safe Yield, such member shall, as a condition of preserving such surplus carry-over, execute a storage agreement with Watermaster.

8. Substitute Supplies. To the extent that any Pool member, at the request of Watermaster and with the consent of the Advisory Committee, takes substitute surface water in lieu of producing ground water otherwise subject to production as an allocated share of Safe Yield, said party shall nonetheless remain a member of this Pool.

9. Rules. The Pool Committee shall adopt rules for administering its program and in amplification of the provisions, but not inconsistent with, this pooling plan.

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EXHIBIT "H"
APPROPRIATIVE POOL
POOLING PLAN

1. Qualification for Pool. Any city, district or other public entity and public utility -- either regulated under Public Utilities Commission jurisdiction, or exempt therefrom as a non-profit mutual water company (other than those assigned to the Overlying [Agricultural] Pool) -- shall be a member of this pool. All initial members of the pool are listed in Exhibit "E", together with their respective appropriative rights and acre foot allocation and percentage shares of the initial and subsequent Operating Safe Yield.

2. Pool Committee. The Pool Committee shall consist of one (1) representative appointed by each member of the Pool.

3. Voting. The total voting power on the Pool Committee shall be 1,000 votes. Of these, 500 votes shall be allocated in proportion to decreed percentage shares in Operating Safe Yield. The remaining 500 votes shall be allocated proportionally on the basis of assessments paid to Watermaster during the preceding year.* Routine business of the Pool Committee may be conducted on the basis of one vote per member, but upon demand of any member a weighted vote shall be taken. Affirmative action of the Committee shall require a majority of the voting power of members in attendance, provided that it includes concurrence by at least one-third of its total members.

4. Advisory Committee Representatives. Ten (10) members of

*Or production assessments paid under Water Code Section 72140 et seq., as to years prior to the second year of operation under the Physical Solution hereunder.

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the Pool Committee shall be designated to represent this pool on the Advisory Committee. Each major appropriator, i.e., the owner of an adjudicated appropriative right in excess of 3,000 acre feet, shall be entitled to one representative. The remaining members representing the Appropriative Pool on the Advisory Committee shall be elected at large by the remaining members of the pool. The voting power of the Appropriative Pool on the Advisory Committee shall be apportioned between the major appropriator representatives in proportion to their respective voting power in the Pool Committee. The remaining two representatives shall exercise equally the voting power proportional to the Pool Committee voting power of all remaining appropriators; provided, however, that if any representative fails to attend an Advisory Committee meeting, the voting power of that representative shall be allocated among the representatives of the Appropriator Pool in attendance in the same proportion as their own respective voting powers.

5. Replenishment Obligation. The pool shall provide funds for purchase of replenishment water to replace any production by the pool in excess of Operating Safe Yield during the preceding year.

6. Administrative Assessment. Costs of administration of this pool and its share of general Watermaster expense shall be recovered by a uniform assessment applicable to all production during the preceding year.

7. Replenishment Assessment. The cost of replenishment water required to replace production from Chino Basin in excess of Operating Safe Yield in the preceding year shall be allocated and recovered as follows:

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(a) For production, other than for increased export, within CBMWD or WMWD:

(1) Gross Assessment. 15% of such replenishment water costs shall be recovered by a uniform assessment against all production of each appropriator producing in said area during the preceding year.

(2) Net Assessment. The remaining 85% of said costs shall be recovered by a uniform assessment on each acre foot of production from said area by each such appropriator in excess of his allocated share of Operating Safe Yield during said preceding year.

(b) For production which is exported for use outside Chino Basin in excess of maximum export in any year through 1976, such increased export production shall be assessed against the exporting appropriator in an amount sufficient to purchase replenishment water from CBMWD or WMWD in the amount of such excess.

(c) For production within SBVMWD or PVMWD:

By an assessment on all production in excess of an appropriator's share of Operating Safe Yield in an amount sufficient to purchase replenishment water through SBVMWD or MWD in the amount of such excess.

8. Socio-Economic Impact Review. The parties have conducted certain preliminary socio-economic impact studies. Further and more detailed socio-economic impact studies of the assessment formula and its possible modification shall be undertaken for the Appropriator Pool by Watermaster no later than ten (10) years from the effective date of this Physical Solution, or whenever total

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production by this pool has increased by 30% or more over the decreed appropriative rights, whichever is first.

9. Facilities Equity Assessment. Watermaster may, upon recommendation of the Pool Committee, institute proceedings for levy and collection of a Facilities Equity Assessment for the purposes and in accordance with the procedures which follow:

(a) Implementing Circumstances. There exist several sources of supplemental water available to Chino Basin, each of which has a differential cost and quantity available. The optimum management of the entire Chino Basin water resource favors the maximum use of the lowest cost supplemental water to balance the supplies of the Basin, in accordance with the Physical Solution. The varying sources of supplemental water include importations from MWD and SBVMWD, importation of surface and ground water supplies from other basins in the immediate vicinity of Chino Basin, and utilization of reclaimed water. In order to fully utilize any of such alternate sources of supply, it will be essential for particular appropriators having access to one or more of such supplies to have invested, or in the future to invest, directly or indirectly, substantial funds in facilities to obtain and deliver such water to an appropriate point of use. To the extent that the use of less expensive alternate sources of supplemental water can be maximized by the inducement of a Facilities Equity Assessment, as herein provided, it is to the long-term benefit of the entire basin that such assessment be authorized and levied by Watermaster.

(b) Study and Report. At the request of the Pool

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Committee, Watermaster shall undertake a survey study of the utilization of alternate supplemental supplies by members of the Appropriative Pool which would not otherwise be utilized and shall prepare a report setting forth the amount of such alternative supplies being currently utilized, the amount of such supplies which could be generated by activity within the pool, and the level of cost required to increase such uses and to optimize the total supplies available to the basin. Said report shall contain an analysis and recommendation for the levy of a necessary Facilities Equity Assessment to accomplish said purpose.

(c) Hearing. If the said report by Watermaster contains a recommendation for imposition of a Facilities Equity Assessment, and the Pool Committee so requests, Watermaster shall notice and hold a hearing not less than 60 days after distribution of a copy of said report to each member of the pool, together with a notice of the hearing date. At such hearing, evidence shall be taken with regard to the necessity and propriety of the levy of a Facilities Equity Assessment and full findings and decision shall be issued by Watermaster.

(d) Operation of Assessment. If Watermaster determines that it is appropriate that a Facilities Equity Assessment be levied in a particular year, the amount of additional supplemental supplies which should be generated by such assessment shall be estimated. The cost of obtaining such supplies, taking into consideration the investment in necessary facilities shall then be determined and spread equitably among the producers within the pool in a manner so that those

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producers not providing such additional lower cost supplemental water, and to whom a financial benefit will result, may bear a proportionate share of said costs, not exceeding said benefit; provided that any producer furnishing such supplemental water shall not thereby have its average cost of water in such year reduced below such producer's average cost of pumping from the Basin. In so doing, Watermaster shall establish a percentage of the total production by each party which may be produced without imposition of a Facilities Equity Assessment. Any member of the pool producing more water than said percentage shall pay such Facilities Equity Assessment on any such excess production. Watermaster is authorized to transmit and pay the proceeds of such Facilities Equity Assessment to those producers who take less than their share of Basin water by reason of furnishing a higher percentage of their requirements through use of supplemental water.

10. Unallocated Safe Yield Water. To the extent that, in any five years, any portion of the share of Safe Yield allocated to the Overlying (Agricultural) Pool is not produced, such water shall be available for reallocation to members of the Appropriative Pool, as follows:

(a) Priorities. Such allocation shall be made in the following sequence:

(1) to supplement, in the particular year, water available from Operating Safe Yield to compensate for any reduction in the Safe Yield by reason of recalculation thereof after the tenth year of operation hereunder.

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(2) pursuant to conversion claims as defined in Subparagraph (b) hereof.

(3) as a supplement to Operating Safe Yield, without regard to reductions in Safe Yield.

(b) Conversion Claims. The following procedures may be utilized by any appropriator:

(1) Record of Land Use Conversion. Any appropriator who undertakes, directly or indirectly, during any year, to permanently provide water service to lands which during the immediate preceding five (5) consecutive years was devoted to irrigated agriculture may report such change in land use or water service to Watermaster. Watermaster shall thereupon verify such change in water service and shall maintain a record and account for each appropriator of the total acreage involved and the average annual water use during said five-year period.

(2) Establishment of Allocation Percentage. In any year in which unallocated Safe Yield water from the Overlying (Agricultural) Pool is available for such conversion claims, Watermaster shall establish allocable percentages for each appropriator based upon the total of such converted acreage recorded to each such appropriator's account.

(3) Allocation and Notice. Watermaster shall thereafter apply the allocated percentage to the total unallocated Safe Yield water available for special allocation to derive the amount thereof allocable to

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each appropriator; provided that in no event shall the allocation to any appropriator as a result of such conversion claim exceed 50% of the average annual amount of water actually applied to the areas converted by such appropriator prior to such conversion. Any excess water by reason of such limitation on any appropriator's right shall be added to Operating Safe Yield. Notice of such special allocation shall be given to each appropriator and shall be treated for purposes of this Physical Solution as an addition to such appropriator's share of the Operating Safe Yield for the particular year only.

(4) Administrative Costs. Any costs of Watermaster attributable to administration of such special allocations and conversion claims shall be assessed against appropriators participating in such reporting.

11. In Lieu Procedures. There are, or may develop, certain areas within Chino Basin where good management practices dictate that recharge of the basin be accomplished, to the extent practical, by taking surface supplies of supplemental water in lieu of ground water otherwise subject to production as an allocated share of Operating Safe Yield.

(a) Method of Operation. Any appropriator producing water within such designated in lieu area who is willing to abstain for any reason from producing any portion of such producer's share of Operating Safe Yield in any year may offer such unpumped water to Watermaster. In such event, Watermaster shall purchase said water in place, in lieu of spreading replenishment water, which is otherwise required to

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make up for over production. The purchase price for in lieu water shall be the lesser of:

(1) Watermaster's current cost of replenishment water, whether or not replenishment water is currently then obtainable, plus the cost of spreading; or

(2) The cost of supplemental surface supplies to the appropriator, less

a. said appropriator's average cost of ground water production, and

b. the applicable production assessment were the water produced.

Where supplemental surface supplies consist of MWD or SBVMWD supplies, the cost of treated, filtered State water from such source shall be deemed the cost of supplemental surface supplies to the appropriator for purposes of such calculation.

In any given year in which payments may be made pursuant to a Facilities Equity Assessment, as to any given quantity of water the party will be entitled to payment under this section or pursuant to the Facilities Equity Assessment, as the party elects, but not under both.

(b) Designation of In Lieu Areas. The first in lieu area is designated as the "In Lieu Area No. 1" and consists of an area wherein nitrate levels in the ground water generally exceed 45 mg/l, and is shown on Exhibit "J" hereto. Other in lieu areas may be designated by subsequent order of Watermaster upon recommendation or approval by Advisory Committee. Said in lieu areas may be enlarged, reduced or

eliminated by subsequent orders; provided, however, that designation of In Lieu Areas shall be for a minimum fixed term sufficient to justify necessary capital investment. In Lieu Area No. 1 may be enlarged, reduced or eliminated in the same manner, except that any reduction of its original size or elimination thereof shall require the prior order of Court.

12. Carry-over. Any appropriator who produces less than his assigned share of Operating Safe Yield may carry such unexercised right forward for exercise in subsequent years. The first water produced during any such subsequent year shall be deemed to be an exercise of such carry-over right. In the event the aggregate carry-over by any appropriator exceeds its share of Operating Safe Yield, such appropriator shall, as a condition of preserving such surplus carry-over, execute a storage agreement with Watermaster. Such appropriator shall have the option to pay the gross assessment applicable to such carry-over in the year in which it accrued.

13. Assignment, Transfer and Lease. Appropriative rights, and corresponding shares of Operating Safe Yield, may be assigned or may be leased or licensed to another appropriator for exercise in a given year. Any transfer, lease or license shall be ineffective until written notice thereof is furnished to and approved as to form by Watermaster, in compliance with applicable Watermaster rules. Watermaster shall not approve transfer, lease or license of a right for exercise in an area or under conditions where such production would be contrary to sound basin management or detrimental to the rights or operations of other producers.

14. Rules. The Pool Committee shall adopt rules for

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administering its program and in amplification of the provisions, but not inconsistent with, this pooling plan.

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EXHIBIT "I"

ENGINEERING APPENDIX

1. Basin Management Parameters. In the process of implementing the physical solution for Chino Basin, Watermaster shall consider the following parameters:

(a) Pumping Patterns. Chino Basin is a common supply for all persons and agencies utilizing its waters. It is an objective in management of the Basin's waters that no producer be deprived of access to said waters by reason of unreasonable pumping patterns, nor by regional or localized recharge of replenishment water, insofar as such result may be practically avoided.

(b) Water Quality. Maintenance and improvement of water quality is a prime consideration and function of management decisions by Watermaster.

(c) Economic Considerations. Financial feasibility, ecnomic impact and the cost and optimum utilization of the Basin's resources and the physical facilities of the parties are objectives and concerns equal in importance to water quantity and quality parameters.

2. Operating Safe Yield. Operating Safe Yield in any year shall consist of the Appropriative Pool's share of Safe Yield of the Basin, plus any controlled overdraft of the Basin which Watermaster may authorize. In adopting the Operating Safe Yield for any year, Watermaster shall be limited as follows:

(a) Accumulated Overdraft. During the operation of this Judgment and Physical Solution, the overdraft accumulated from and after the effective date of the Physical

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Solution and resulting from an excess of Operating Safe Yield over Safe Yield shall not exceed 200,000 acre feet.

(b) Quantitative Limits. In no event shall Operating Safe Yield in any year be less than the Appropriative Pool's share of Safe Yield, nor shall it exceed such share of Safe Yield by more than 10,000 acre feet. The initial Operating Safe Yield is hereby set at 54,834 acre feet per year. Operating Safe Yield shall not be changed upon less than five (5) years' notice by Watermaster.

Nothing contained in this paragraph shall be deemed to authorize, directly or indirectly, any modification of the allocation of shares in Safe Yield to the overlying pools, as set forth in Paragraph 44 of the Judgment.

3. Ground Water Storage Agreements. Any agreements authorized by Watermaster for storage of supplemental water in the available ground water storage capacity of Chino Basin shall include, but not be limited to:

(a) The quantities and term of the storage right.

(b) A statement of the priority or relation of said right, as against overlying or Safe Yield uses, and other storage rights.

(c) The procedure for establishing delivery rates, schedules and procedures which may include

[1] spreading or injection, or

[2] in lieu deliveries of supplemental water for direct use.

(d) The procedures for calculation of losses and annual accounting for water in storage by Watermaster.

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(e) The procedures for establishment and administration of withdrawal schedules, locations and methods.

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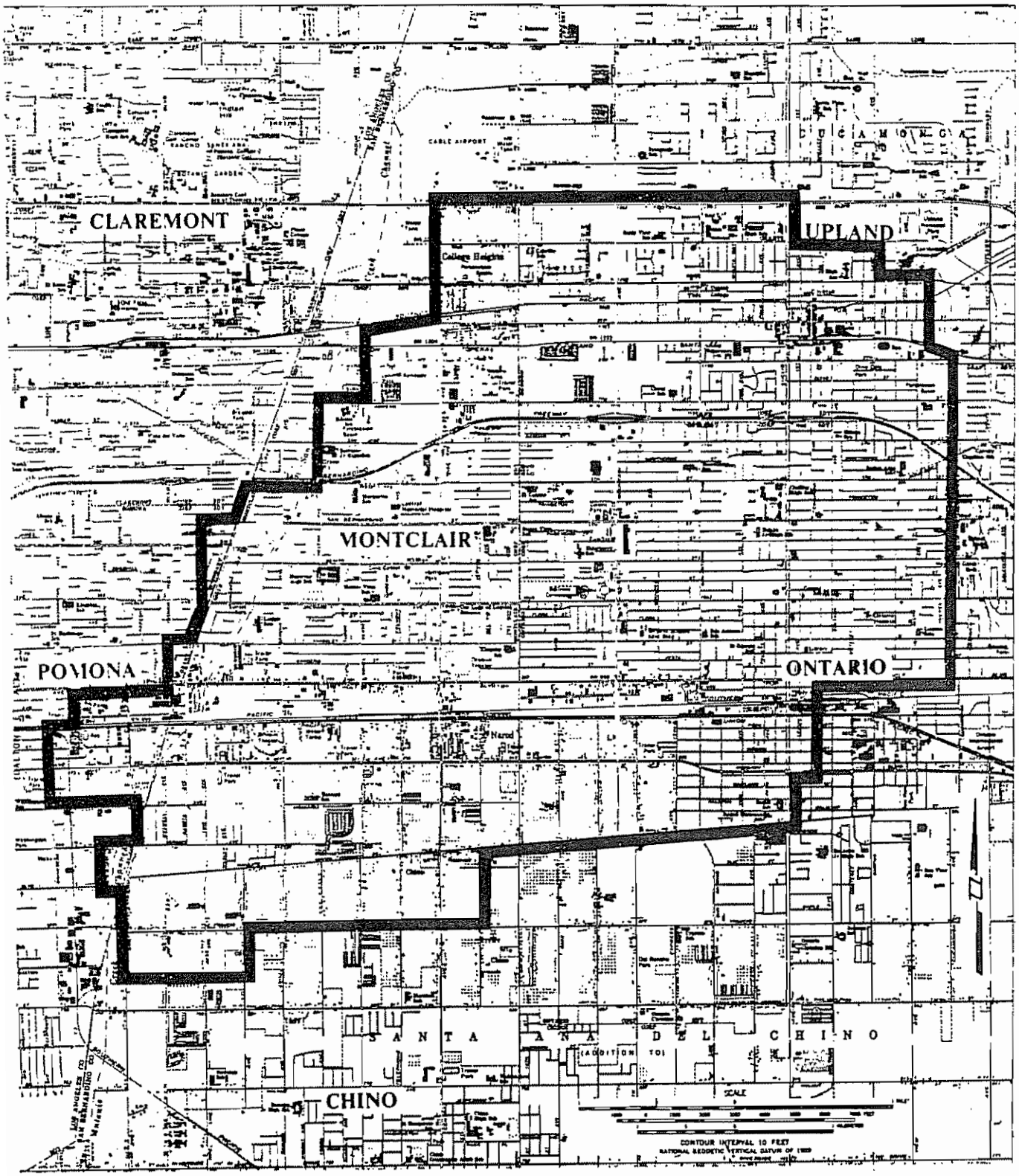

CHINO BASIN

IN LIEU AREA NO. 1

EXHIBIT "J"

LEGAL DESCRIPTION

OF CHINO BASIN

Preamble

All of the townships and ranges referred to in the following legal description are the San Bernardino Base and Meridian. Certain designated sections are implied as the System of Government Surveys may be extended where not established. Said sections are identified as follows:

Section 20, T1N, R8W is extended across Rancho Cucamonga;

Section 36, T1N, R8W is extended across the City of Upland;

Sections 2, 3, and 4, T1S, R7W are extended across Rancho Cucamonga;

Section 10, T1S, R8W is extended across the City of Claremont;

Sections 19, 20, 21, 30, 31 and 32, T1S, R8W are extended across the City of Pomona;

Sections 4, 5, and 28, T2S, R8W are extended across Rancho Santa Ana Del Chino;

Sections 15 and 16, T3S, R7W are extended across Rancho La Sierra; and

Sections 17 and 20, T3S, R7W are extended across Rancho El Rincon.

Description

Chino Basin is included within portions of the Counties of San Bernardino, Riverside and Los Angeles, State of California, bounded by a continuous line described as follows:

BEGINNING at the Southwest corner of Lot 241 as shown on Map of Ontario Colony Lands, recorded in Map Book 11, page 6, Office of the County Recorder of San Bernardino County, said corner being the Point of Beginning;

1. Thence Southeasterly to the Southeast corner

of Lot 419 of said Ontario Colony Lands;

2. Thence Southeasterly to a point 1300 feet North of the South line and 1300 feet East of the West line of Section 4, T1S, R7W;

3. Thence Easterly to a point on the East line of Section 4, 1800 feet North of the Southeast corner of said Section 4;

4. Thence Easterly to the Southeast corner of the Southwest quarter of the Northeast quarter of Section 3, T1S, R7W;

5. Thence Northeasterly to a point on the North line of Section 2, T1S, R7W, 1400 feet East of the West line of said Section 2;

6. Thence Northeasterly to the Southwest corner of Section 18, T1N, R6W;

7. Thence Northerly to the Northwest corner of said Section 18;

8. Thence Easterly to the Northeast corner of said Section 18;

9. Thence Northerly to the Northwest corner of the Southwest quarter of Section 8, T1N, R6W;

10. Thence Easterly to the Northeast corner of said Southwest quarter of said Section 8;

11. Thence Southerly to the Southeast corner of said Southwest quarter of said Section 8;

12. Thence Easterly to the Northeast corner of Section 17, T1N, R6W;

13. Thence Easterly to the Northeast corner of Section 16, T1N, R6W;

14. Thence Southeasterly to the Northwest corner of the Southeast quarter of Section 15, T1N, R6W;

15. Thence Easterly to the Northeast corner of said Southeast quarter of said Section 15;

16. Thence Southeasterly to the Northwest corner of the Northeast quarter of Section 23, T1N, R6W;

17. Thence Southeasterly to the Northwest corner

of Section 25, T1N, R6W;

18. Thence Southeasterly to the Northwest corner of the Northeast quarter of Section 31, T1N, R5W;

19. Thence Southeasterly to the Northeast corner of the Northwest quarter of Section 5, T1S, R5W;

20. Thence Southeasterly to the Southeast corner of Section 4, T1S, R5W;

21. Thence Southeasterly to the Southeast corner of the Southwest quarter of Section 11, T1S, R5W;

22. Thence Southwesterly to the Southwest corner of Section 14, T1S, R5W;

23. Thence Southwest to the Southwest corner of Section 22, T1S, R5W;

24. Thence Southwesterly to the Southwest corner of the Northeast quarter of Section 6, T2S, R5W;

25. Thence Southeasterly to the Northeast corner of Section 18 T2S, R5W;

26. Thence Southwesterly to the Southwest corner of the Southeast quarter of Section 13, T2S, R6W;

27. Thence Southwesterly to the Southwest corner of the Northeast quarter of Section 26, T2S, R6W;

28. Thence Westerly to the Southwest corner of the Northwest quarter of said Section 26;

29. Thence Northerly to the Northwest corner of said Section 26;

30. Thence Westerly to the Southwest corner of Section 21, T2S, R6w:

31. Thence Southerly to the Southeast corner of Section 29, T2S, R6W;

32. Thence Westerly to the Southeast corner of Section 30, T2S, R6W;

33. Thence Southwesterly to the Southwest corner of Section 36, T 2 S, R 7 W;

34. Thence Southwesterly to the Southeast corner

of Section 3, T3S, R7W;

35. Thence Southwesterly to the Southwest corner of the Northeast quarter of Section 10, T3S, R7W;

36. Thence Southerly to the Northeast corner of the Northwest quarter of Section 15, T3S, R7W;

37. Thence Southwesterly to the Southeast corner of the Northeast quarter of Section 16, T3S, R7W;

38. Thence Southwesterly to the Southwest corner of said Section 16;

39. Thence Southwesterly to the Southwest corner of the Northeast quarter of Section 20, T3S, R7W;

40. Thence Westerly to the Southwest corner of the Northwest quarter of said Section 20;

41. Thence Northerly to the Northwest corner of Section 17, T3S, R7W;

42. Thence Westerly to the Southwest corner of Section 7, T3S, R7W;

43. Thence Northerly to the Southwest corner of Section 6, T3S, R7W;

44. Thence Westerly to the Southwest corner of Section 1, T3S, R8W;

45. Thence Northerly to the Southeast corner of Section 35, T2S, R8W;

46. Thence Northwesterly to the Northwest corner of said Section 35;

47. Thence Northerly to the Southeast corner of Lot 33, as shown on Map of Tract 3193, recorded in Map Book 43, pages 46 and 47, Office of the County Recorder of San Bernardino County;

48. Thence Westerly to the Northwest corner of the Southwest quarter of Section 28, T2S, R8W;

49. Thence Northerly to the Southwest corner of Section 4, T2S, R8W;

50. Thence Westerly to the Southwest corner of Section 5, T2S, R8W;

51. Thence Northerly to the Southwest corner of Section 32, T1S, R8W;

52. Thence Westerly to the Southwest corner of Section 31, T1S, R8W;

53. Thence Northerly to the Southwest corner of Section 30, T1S, R8W;

54. Thence Northeasterly to the Southwest corner of Section 20, T1S, R8W;

55. Thence Northerly to the Northwest corner of the Southwest quarter of the Southwest quarter of said Section 20;

56. Thence Northwesterly to the Northeast corner of the Southeast quarter of the Southeast quarter of the Northwest quarter of Section 19, T1S, R8W;

57. Thence Easterly to the Northwest corner of Section 21, T1S, R8W;

58. Thence Northeasterly to the Southeast corner of the Southwest quarter of the Southwest quarter of Section 10, T1S, R8W;

59. Thence Northeasterly to the Southwest corner of Section 2, T1S, R8W;

60. Thence Northeasterly to the Southeast corner of the Northwest quarter of the Northwest quarter of Section 1, T1S, R8W;

61. Thence Northerly to the Northeast corner of the Northwest quarter of the Northeast quarter of Section 36, T1N, R8W;

62. Thence Northerly to the Southeast corner of Section 24, T1N, R8W;

63. Thence Northeasterly to the Southeast corner of the Northwest quarter of the Northwest quarter of Section 20, T1N, R7W; and

64. Thence Southerly to the Point of Beginning.

Sections Included

Said perimeter description includes all or portions of the following Townships, Ranges and Sections of San Bernardino Base and Meridian:

T1N, R5W - Sections:	30, 31 and 32
T1N, R6W - Sections:	8, 14, 15, 16, 17, 18, 19, 20, 21, 22, 23, 25, 26, 27, 28, 29, 30, 31, 32, 33, 34, 35 and 36
T1N, R7W - Sections:	19, 20, 24, 25, 26, 29, 30, 31, 32, 35 and 36
T1N, R8W - Sections:	25 and 36
T1S, R5W - Sections:	4, 5, 6, 7, 8, 9, 10, 11, 14, 15, 16, 17, 18, 19, 20, 21, 22, 28, 29, 30, 31 and 32.
T1S, R6W - Sections:	1 through 36, inclusive
T1S, R7W - Sections:	1 through 36, inclusive
T1S, R8W - Sections:	1, 2, 10, 11, 12, 13, 14, 15, 16, 19, 20, 21, 22, 23, 24, 25, 26, 27, 28, 29, 30, 31, 32, 33, 34, 35 and 36
T2S, R5W - Sections:	6, 7 and 18
T2S, R6W - Sections:	1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20, 21, 22, 23, 24, 26, 29, 30 and 31
T2S, R7W - Sections:	1 through 36, inclusive
T2S, R8W - Sections:	1, 2, 3, 4, 5, 9, 10, 11, 12, 13, 14, 15, 16, 21, 22, 23, 24, 25, 26, 27, 28, 35 and 36
T3S, R7W - Sections:	2, 3, 4, 5, 6, 7, 8, 9, 10, 15, 16, 17 and 20
T3S, R8W - Section:	1.

THE DOCUMENT TO WHICH THIS CERTIFICATION IS ATTACHED IS A FULL, TRUE AND CORRECT COPY OF THE ORIGINAL ON FILE AND OF RECORD IN MY OFFICE.

ATTEST OCT 2 9 2002

Clerk of the Superior Court of the State of California, in and for the County of San Bernardino

By _____ Deputy

Terry Wittenborn

92 pages

APPENDIX F

CUWCC BEST MANAGEMENT PRACTICES ANNUAL REPORTS 2001-2002, ACTIVITY REPORTS 2003-2004, and COVERAGE REPORTS

Water Supply & Reuse

Reporting Unit: **Monte Vista Water District**

Year: **2004**

Water Supply Source Information

Supply Source Name	Quantity (AF) Supplied	Supply Type
Chino Basin	13048	Groundwater

Total AF: 13048

Accounts & Water Use

Reporting Unit Name: **Monte Vista Water District**

Submitted to CUWCC **02/28/2005**

Year: **2004**

A. Service Area Population Information:

1. Total service area population 46434

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	7966	5062	0	0
2. Multi-Family	1749	2114	0	0
3. Commercial	1139	2335	0	0
4. Industrial	0	0	0	0
5. Institutional	0	0	0	0
6. Dedicated Irrigation	223	795	0	0
7. Recycled Water	0	0	0	0
8. Other	24	2	0	0
9. Unaccounted	NA	0	NA	0
Total	11101	10308	0	0

	Metered	Unmetered

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

Reporting Unit:	BMP Form Status:	Year:
Monte Vista Water District	**100% Complete**	**2004**

A. Implementation

1. Based on your signed MOU date, 10/24/1991, your Agency STRATEGY DUE DATE is:	10/23/1993
2. Has your agency developed and implemented a targeting/ marketing strategy for SINGLE-FAMILY residential water use surveys?	no
a. If YES, when was it implemented?	
3. Has your agency developed and implemented a targeting/ marketing strategy for MULTI-FAMILY residential water use surveys?	no
a. If YES, when was it implemented?	

B. Water Survey Data

Survey Counts:	**Single Family Accounts**	**Multi-Family Units**
1. Number of surveys offered:	0	0
2. Number of surveys completed:	0	0
Indoor Survey:		
3. Check for leaks, including toilets, faucets and meter checks	no	no
4. Check showerhead flow rates, aerator flow rates, and offer to replace or recommend replacement, if necessary	no	no
5. Check toilet flow rates and offer to install or recommend installation of displacement device or direct customer to ULFT replacement program, as necessary; replace leaking toilet flapper, as necessary	no	no
Outdoor Survey:		
6. Check irrigation system and timers	no	no
7. Review or develop customer irrigation schedule	no	no
8. Measure landscaped area (Recommended but not required for surveys)	no	no
9. Measure total irrigable area (Recommended but not required for surveys)	no	no
10. Which measurement method is typically used (Recommended but not required for surveys)		None

11. Were customers provided with information packets that included evaluation results and water savings recommendations?	no	no
12. Have the number of surveys offered and completed, survey results, and survey costs been tracked?	no	no
a. If yes, in what form are surveys tracked?	None	
b. Describe how your agency tracks this information.		

C. Water Survey 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

Agency does not have staff to plan, implement or evaluate this activity; wholesale agency does not have support program in place.

BMP 02: Residential Plumbing Retrofit

Reporting Unit:	BMP Form Status:	Year:
Monte Vista Water District	**100% Complete**	**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?	no
3. Estimated percent of single-family households with low-flow showerheads:	50%
4. Has your agency satisfied the 75% saturation requirement for multi-family housing units?	no
5. Estimated percent of multi-family households with low-flow showerheads:	50%
6. If YES to 2 OR 4 above, please describe how saturation was determined, including the dates and results of any survey research.	

B. Low-Flow Device Distribution Information

1. Has your agency developed a targeting/ marketing strategy for distributing low-flow devices?	no
a. If YES, when did your agency begin implementing this strategy?	
b. Describe your targeting/ marketing strategy. The only program in place is toilet replacement program.	

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:	388	168
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?	Database
b. If yes, describe your tracking and distribution system : Tracking and distribution system is administered by wholesale water agency, Inland Empire Utilities Agency	

C. Low-Flow Device Distribution Expenditures

	This Year	Next Year
1. Budgeted Expenditures	3000	3000
2. Actual Expenditures	2833	

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 03: System Water Audits, Leak Detection and Repair

Reporting Unit:	BMP Form Status:	Year:
Monte Vista Water District	**100% Complete**	**2004**

A. Implementation

1. Has your agency completed a pre-screening system audit for this reporting year?	no
2. If YES, enter the values (AF/Year) used to calculate verifiable use as a percent of total production:	
a. Determine metered sales (AF)	
b. Determine other system verifiable uses (AF)	
c. Determine total supply into the system (AF)	
d. Using the numbers above, if (Metered Sales + Other Verifiable Uses) / Total Supply is < 0.9 then a full-scale system audit is required.	0.00
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?	no
6. Does your agency operate a system leak detection program?	yes

a. If yes, describe the leak detection program:
Billing technician screens all bills. If billed amount for water use is unusually high, meter readers are notified and they go to the location and evaluate the meter and check for leaks. Maintenance workers respond as soon as possible to reported leaks.

B. Survey Data

1. Total number of miles of distribution system line.	172
2. Number of miles of distribution system line surveyed.	0

C. System Audit / Leak Detection 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 04: Metering with Commodity Rates for all New Connections and Retrofit of Existing

Reporting Unit:	BMP Form Status:	Year:
Monte Vista Water District	**100% Complete**	**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?	yes
a. If YES, when was the plan to retrofit and bill by volume-of-use existing unmetered connections completed?	06/30/2003
b. Describe the program: Some agricultural meters were hooked to hydrants and not metered. New meters were installed after communication program was implemented to inform customers.	
3. Number of previously unmetered accounts fitted with meters during report year.	12

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.	223
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	4000	4000
2. Actual Expenditures	390	

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 05: Large Landscape Conservation Programs and Incentives

Reporting Unit:	BMP Form Status:	Year:
Monte Vista Water District	**100% Complete**	**2004**

A. Water Use Budgets

1. Number of Dedicated Irrigation Meter Accounts:	223
2. Number of Dedicated Irrigation Meter Accounts with Water Budgets:	0
3. Budgeted Use for Irrigation Meter Accounts with Water Budgets (AF):	0
4. Actual Use for Irrigation Meter Accounts with Water Budgets (AF):	0
5. Does your agency provide water use notices to accounts with budgets each billing cycle?	no

B. Landscape Surveys

1. Has your agency developed a marketing / targeting strategy for landscape surveys?	no
a. If YES, when did your agency begin implementing this strategy?	
b. Description of marketing / targeting strategy:	
2. Number of Surveys Offered.	0
3. Number of Surveys Completed.	0
4. Indicate which of the following Landscape Elements are part of your survey:	
a. Irrigation System Check	no
b. Distribution Uniformity Analysis	no
c. Review / Develop Irrigation Schedules	no
d. Measure Landscape Area	no
e. Measure Total Irrigable Area	no
f. Provide Customer Report / Information	no
5. Do you track survey offers and results?	no
6. Does your agency provide follow-up surveys for previously completed surveys?	no
a. If YES, describe below:	

C. Other BMP 5 Actions

1. An agency can provide mixed-use accounts with ETo-based landscape budgets in lieu of a large landscape survey program. Does your agency provide mixed-use accounts with landscape budgets?	no
2. Number of CII mixed-use accounts with landscape budgets.	0
3. Do you offer landscape irrigation training?	no
4. Does your agency offer financial incentives to improve landscape water use efficiency?	no

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?	No
a. If YES, describe below:	
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	0	0
2. Actual Expenditures	0	

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

BMP 06: High-Efficiency Washing Machine Rebate Programs

Reporting Unit:	BMP Form Status:	Year:
Monte Vista Water District	**100% Complete**	**2004**

A. Implementation

1. Do any energy service providers or waste water utilities in your service area offer rebates for high-efficiency washers?	no
a. If YES, describe the offerings and incentives as well as who the energy/waste water utility provider is.	
2. Does your agency offer rebates for high-efficiency washers?	yes
3. What is the level of the rebate?	100
4. Number of rebates awarded.	83

B. Rebate 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

Rebate program is offered through wholesaler and Metropolitan Water District. The District promotes the program to its customers through billing inserts and website. No District funds are needed for the program as it is subsidized through wholesaler and MWD.

BMP 07: Public Information Programs

Reporting Unit:	BMP Form Status:	Year:
Monte Vista Water District	**100% Complete**	**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.
Monte Vista Water District actively promotes community awareness of water-related issues and conservation. It has an on-going quarterly publication, Waterline that is included in all customer billing statements. Information on rebates and conservation are included in each issue. Another publication, Cross Currents, was created in 2002 that is targeted to opinion leaders (750) and includes articles authored by experts and prominent people in the water industry. Infomercials are placed on the District's telephone system's on-hold feature that provides information about the District, its activities and programs and offers information on conservation and rebates. The District participates in a number of community events throughout the year and sponsors exhibits that provide information on water and conservation. District staff is active in several chambers of commerce, providing a forum for networking and dissemination of information. News releases are prepared and sent to local newspapers about District events and activities. The District is a member of two Conservation workgroups -- one through its wholesaler, Inland Empire Utilities Agency, and participates in joint programming, funded through surcharges on imported water designated for conservation programs on a regional basis -- and Water Awareness Water Education Committee (WEWAC), a consortium of 13 agencies who pool financial resources to conduct programming -- edu-grants for teachers, Project WET workshops for teachers, a high school video contest, and an exhibit at a home and garden show at the local convention center.

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	no	0
b. Public Service Announcement	yes	1
c. Bill Inserts / Newsletters / Brochures	yes	5
d. Bill showing water usage in comparison to previous year's usage	yes	
e. Demonstration Gardens	no	0
f. Special Events, Media Events	yes	4
g. Speaker's Bureau	yes	2
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	38000	38000
2. Actual Expenditures	28421	

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

BMP 08: School Education Programs

Reporting Unit:	BMP Form Status:	Year:
Monte Vista Water District	**100% Complete**	**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	4	1171	1
Grades 4th-6th	yes	4	1171	1
Grades 7th-8th	no	0	0	1
High School	yes	1	22	1

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

4. When did your Agency begin implementing this program? 06/01/1998

B. School Education Program Expenditures

	This Year	Next Year
1. Budgeted Expenditures	3000	3000
2. Actual Expenditures	2630	

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 District participates in two groups that conduct education programs: Inland Empire Utilities Agency Conservation Workgroup conducted Think Earth, It's Magic shows in schools in 7 agencies' service areas. The District also is a member of the Water Awareness Water Education Committee that conducts Project WET workshops for teachers annually and offers grants for teachers and conducts a high school video contest. The District's one high school participates in that activity each year and has won the contest.

BMP 09: Conservation Programs for CII Accounts

Reporting Unit:	BMP Form Status:	Year:
Monte Vista Water District	**100% Complete**	**2004**

A. Implementation

1. Has your agency identified and ranked COMMERCIAL customers according to use?	no
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?	no

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	20	7650
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.	.695
8. Estimated annual savings (AF/yr) from non-site-verified actions taken by agency since 1991.	6.255

B. Conservation Program Expenditures for CII Accounts

	This Year	Next Year
1. Budgeted Expenditures	0	0
2. Actual Expenditures	8815	

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

Metropolitan Water District's Sav-A-Buck program is marketed in the District's service area. The program is featured on the District's website at www.mvwd.org.

BMP 09a: CII ULFT Water Savings

Reporting Unit:	BMP Form Status:	Year:
Monte Vista Water District	**100% Complete**	**2004**

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

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.

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.)	no
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 ?	0

CII Subsector	Number of Toilets Replaced				
4.	**Standard Gravity Tank**	**Air Assisted**	**Valve Floor Mount**	**Valve Wall Mount**	**Type Not Specified**
a. Offices	0	0	0	0	0
b. Retail / Wholesale	0	0	0	0	0
c. Hotels	0	0	0	0	0
d. Health	0	0	0	0	0
e. Industrial	0	0	0	0	0
f. Schools: K to 12	0	0	0	0	0
g. Eating	0	0	0	0	0
h. Govern-ment	0	0	0	0	0
i. Churches	0	0	0	0	0
j. Other	0	0	0	0	0

5. Program design.

6. Does your agency use outside services to implement this program? No

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?

District customers are eligible to participate in Metropolitan Water District's CII program. The program has not been marketed in our service area. We promote the CII programs on our website. We do not have staff to market the program and our wholesaler has not had a program to promote CII programs in its service area, however it is being discussed for 2005-2006 budget year.

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	0
b. State agency contribution	0
c. Federal agency contribution	0
d. Other contribution	0
e. Total	0

D. Comments

BMP 11: Conservation Pricing

Reporting Unit:	BMP Form Status:	Year:
Monte Vista Water District	**57% Complete**	**2004**

Report Not Filed

BMP 12: Conservation Coordinator

Reporting Unit:	BMP Form Status:	Year:
Monte Vista Water District	**100% Complete**	**2004**

A. Implementation

1. Does your Agency have a conservation coordinator?	yes
2. Is this a full-time position?	no
3. If no, is the coordinator supplied by another agency with which you cooperate in a regional conservation program ?	yes
4. Partner agency's name:	Inland Empire Utilities Agency
5. If your agency supplies the conservation coordinator:	
a. What percent is this conservation coordinator's position?	30%
b. Coordinator's Name	Mary Ann Melleby
c. Coordinator's Title	Director of Public Affairs
d. Coordinator's Experience and Number of Years	7 years
e. Date Coordinator's position was created (mm/dd/yyyy)	01/01/1990
6. Number of conservation staff, including Conservation Coordinator.	1

B. Conservation Staff Program Expenditures

	This Year	Next Year
1. Budgeted Expenditures	8000	8000
2. Actual Expenditures	6469	

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

Conservation is about 30 percent of the duties of the Public Affairs Director who also is responsible for legislative affairs, public & community relations, website coordination, publications, school education programs and other outreach programs as well as special management projects as assigned by the General Manager.

BMP 13: Water Waste Prohibition

Reporting Unit:	BMP Form Status:	Year:
Monte Vista Water District	**100% Complete**	**2004**

A. Requirements for Documenting BMP Implementation

1. Is a water waste prohibition ordinance in effect in your service area? no

   a. If YES, describe the ordinance:

2. Is a copy of the most current ordinance(s) on file with CUWCC? no

   a. List local jurisdictions in your service area in the first text box and water waste ordinance citations in each jurisdiction in the second text box:

B. Implementation

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

   a. Gutter flooding no

   b. Single-pass cooling systems for new connections no

   c. Non-recirculating systems in all new conveyor or car wash systems no

   d. Non-recirculating systems in all new commercial laundry systems no

   e. Non-recirculating systems in all new decorative fountains no

   f. Other, please name no

2. Describe measures that prohibit water uses listed above:

   Some of these water uses are regulated by the City of Montclair and not our agency.

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. no

   b. Develop minimum appliance efficiency standards that:

      i.) Increase the regeneration efficiency standard to at least 3,350 grains of hardness removed per pound of common salt used. no

      ii.) Implement an identified maximum number of gallons discharged per gallon of soft water produced. no

   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. no

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

We have an ordinance that deals with these measures in the event of severe drought. Otherwise the city of Montclair is the regulatory agency that is responsible for these measures.

BMP 14: Residential ULFT Replacement Programs

Reporting Unit:	BMP Form Status:	Year:
Monte Vista Water District	**100% Complete**	**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	72	0
3. Direct Install	0	168
4. CBO Distribution	316	0
5. Other	0	0
Total	**388**	**168**

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

In partnership with our wholesale agency, who administers the programs, the District holds a single distribution event annually at a local high school. High School students assist the District at the event and the District donates $2,000 to student clubs. Promotion is carried out through information in the District's newsletter distributed through billing statements. Customers are also eligible to participate in a regional distribution that our wholesale agency, Inland Empire Utilities Agency, administers and implements. A rebate program is also provided through the wholesale agency with customers participating. Promotion of all programs is also provided on the District's website at www.mvwd.org. The toilets are obtained wholesale with a $60 per toilet subsidy provided by Metropolitan Water District of Southern California.

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

Our wholesale agency, Inland Empire Utilities Agency, provides a program to retrofit toilets in multi-family residences. We retain the services of a consultant who markets the program and delivers the toilets. Owners are required to do the installation.

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	3500	3500
2. Actual Expenditures	2883	

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: **Monte Vista Water District**

Year: **2003**

Report Not Filed

Accounts & Water Use

Reporting Unit Name: **Monte Vista Water District**

Submitted to CUWCC **02/28/2005**

Year: **2003**

A. Service Area Population Information:

1. Total service area population 46434

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	7966	5062	0	0
2. Multi-Family	1749	2114	0	0
3. Commercial	1139	2335	0	0
4. Industrial	0	0	0	0
5. Institutional	0	0	0	0
6. Dedicated Irrigation	223	795	0	0
7. Recycled Water	0	0	0	0
8. Other	24	2	0	0
9. Unaccounted	NA	0	NA	0
Total	11101	10308	0	0
	Metered		**Unmetered**	

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

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

A. Implementation

1. Based on your signed MOU date, 10/24/1991, your Agency STRATEGY DUE DATE is:	10/23/1993
2. Has your agency developed and implemented a targeting/ marketing strategy for SINGLE-FAMILY residential water use surveys?	no
a. If YES, when was it implemented?	
3. Has your agency developed and implemented a targeting/ marketing strategy for MULTI-FAMILY residential water use surveys?	no
a. If YES, when was it implemented?	

B. Water Survey Data

Survey Counts:	**Single Family Accounts**	**Multi-Family Units**
1. Number of surveys offered:	0	0
2. Number of surveys completed:	0	0
Indoor Survey:		
3. Check for leaks, including toilets, faucets and meter checks	no	no
4. Check showerhead flow rates, aerator flow rates, and offer to replace or recommend replacement, if necessary	no	no
5. Check toilet flow rates and offer to install or recommend installation of displacement device or direct customer to ULFT replacement program, as necessary; replace leaking toilet flapper, as necessary	no	no
Outdoor Survey:		
6. Check irrigation system and timers	no	no
7. Review or develop customer irrigation schedule	no	no
8. Measure landscaped area (Recommended but not required for surveys)	no	no
9. Measure total irrigable area (Recommended but not required for surveys)	no	no
10. Which measurement method is typically used (Recommended but not required for surveys)		None

11. Were customers provided with information packets that included evaluation results and water savings recommendations?	no	no
12. Have the number of surveys offered and completed, survey results, and survey costs been tracked?	no	no
a. If yes, in what form are surveys tracked?	None	
b. Describe how your agency tracks this information.		

C. Water Survey 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

Agency does not have staff to execute program; no support for this activity offered through wholesale agency

BMP 02: Residential Plumbing Retrofit

Reporting Unit:	BMP Form Status:	Year:
Monte Vista Water District	**100% Complete**	**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?	no
3. Estimated percent of single-family households with low-flow showerheads:	50%
4. Has your agency satisfied the 75% saturation requirement for multi-family housing units?	no
5. Estimated percent of multi-family households with low-flow showerheads:	50%
6. If YES to 2 OR 4 above, please describe how saturation was determined, including the dates and results of any survey research.	

B. Low-Flow Device Distribution Information

1. Has your agency developed a targeting/ marketing strategy for distributing low-flow devices?	no
a. If YES, when did your agency begin implementing this strategy?	
b. Describe your targeting/ marketing strategy. The only program in place is toilet replacement program	

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:	385	65
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?	Database
b. If yes, describe your tracking and distribution system : Tracking and distribution system is administered by wholesale water agency, Inland Empire Utilities Agency.	

C. Low-Flow Device Distribution Expenditures

	This Year	Next Year
1. Budgeted Expenditures	3000	3000
2. Actual Expenditures	2690	

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 03: System Water Audits, Leak Detection and Repair

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

A. Implementation

1. Has your agency completed a pre-screening system audit for this reporting year?	no
2. If YES, enter the values (AF/Year) used to calculate verifiable use as a percent of total production:	
a. Determine metered sales (AF)	
b. Determine other system verifiable uses (AF)	
c. Determine total supply into the system (AF)	
d. Using the numbers above, if (Metered Sales + Other Verifiable Uses) / Total Supply is < 0.9 then a full-scale system audit is required.	0.00
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?	no
6. Does your agency operate a system leak detection program?	yes

a. If yes, describe the leak detection program:
Billing technician screens all bills. If billed amount for water use is unusually high, meter readers are notified and they go to the location and evaluate the meter and check for leaks.

B. Survey Data

1. Total number of miles of distribution system line.	172
2. Number of miles of distribution system line surveyed.	0

C. System Audit / Leak Detection 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 04: Metering with Commodity Rates for all New Connections and Retrofit of Existing

Reporting Unit:	BMP Form Status:	Year:
Monte Vista Water District	**100% Complete**	**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?	yes
a. If YES, when was the plan to retrofit and bill by volume-of-use existing unmetered connections completed?	06/30/2003
b. Describe the program: Some agricultural meters were hooked to hydrants and not metered. New meters were installed after communication program implemented to inform customers.	
3. Number of previously unmetered accounts fitted with meters during report year.	12

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.	223
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	5000	5250
2. Actual Expenditures	1440	

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 05: Large Landscape Conservation Programs and Incentives

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

A. Water Use Budgets

1. Number of Dedicated Irrigation Meter Accounts:	223
2. Number of Dedicated Irrigation Meter Accounts with Water Budgets:	0
3. Budgeted Use for Irrigation Meter Accounts with Water Budgets (AF):	0
4. Actual Use for Irrigation Meter Accounts with Water Budgets (AF):	0
5. Does your agency provide water use notices to accounts with budgets each billing cycle?	no

B. Landscape Surveys

1. Has your agency developed a marketing / targeting strategy for landscape surveys?	no
a. If YES, when did your agency begin implementing this strategy?	
b. Description of marketing / targeting strategy:	
2. Number of Surveys Offered.	0
3. Number of Surveys Completed.	0
4. Indicate which of the following Landscape Elements are part of your survey:	
a. Irrigation System Check	no
b. Distribution Uniformity Analysis	no
c. Review / Develop Irrigation Schedules	no
d. Measure Landscape Area	no
e. Measure Total Irrigable Area	no
f. Provide Customer Report / Information	no
5. Do you track survey offers and results?	no
6. Does your agency provide follow-up surveys for previously completed surveys?	no
a. If YES, describe below:	

C. Other BMP 5 Actions

1. An agency can provide mixed-use accounts with ETo-based landscape budgets in lieu of a large landscape survey program. Does your agency provide mixed-use accounts with landscape budgets?	no
2. Number of CII mixed-use accounts with landscape budgets.	0
3. Do you offer landscape irrigation training?	no
4. Does your agency offer financial incentives to improve landscape water use efficiency?	no

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?	No
a. If YES, describe below:	
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	0	0
2. Actual Expenditures	0	

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

BMP 06: High-Efficiency Washing Machine Rebate Programs

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

A. Implementation

1. Do any energy service providers or waste water utilities in your service area offer rebates for high-efficiency washers?	no
a. If YES, describe the offerings and incentives as well as who the energy/waste water utility provider is.	
2. Does your agency offer rebates for high-efficiency washers?	yes
3. What is the level of the rebate?	100
4. Number of rebates awarded.	46

B. Rebate 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

BMP 07: Public Information Programs

Reporting Unit:	BMP Form Status:	Year:
Monte Vista Water District	**100% Complete**	**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.
Monte Vista Water District actively promotes community awareness of water-related issues and conservation. It has an on-going quarterly publication, Waterline that is included in all customer billing statements. Information on rebates and conservation are included in each issue. Another publication, Cross Currents, was created in 2002 that is targeted to opinion leaders (750) and includes articles authored by experts and prominent people in the water industry. Infomercials are placed on the District's telephone system's on-hold feature that provides information about the District, its activities and programs and offers information on conservation and rebates. The District participates in a number of community events throughout the year and sponsors exhibits that provide information on water and conservation. District staff is active in several chambers of commerce, providing a forum for networking and dissemination of information. News releases are prepared and sent to local newspapers about District events and activities. The District is a member of two Conservation workgroups -- one through its wholesaler, Inland Empire Utilities Agency, and participates in joint programming, funded through surcharges on imported water designated for conservation programs on a regional basis -- and Water Awareness Water Education Committee (WEWAC), a consortium of 13 agencies who pool financial resources to conduct programming -- edu-grants for teachers, Project WET workshops for teachers, a high school video contest, and an exhibit at a home and garden show at the local convention center.

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	no	0
b. Public Service Announcement	yes	1
c. Bill Inserts / Newsletters / Brochures	yes	5
d. Bill showing water usage in comparison to previous year's usage	yes	
e. Demonstration Gardens	no	
f. Special Events, Media Events	yes	4
g. Speaker's Bureau	yes	2
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	65305	40000
2. Actual Expenditures	51404	

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 District celebrated its 75th anniversary during 2002-2003 fiscal year. A one-time amount of $25,000 was budgeted for the celebration events.

BMP 08: School Education Programs

Reporting Unit:	BMP Form Status:	Year:
Monte Vista Water District	**100% Complete**	**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	6	590	1
Grades 4th-6th	yes	4	1357	1
Grades 7th-8th	no	0	0	1
High School	yes	1	22	1

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

4. When did your Agency begin implementing this program? 06/01/1998

B. School Education Program Expenditures

	This Year	Next Year
1. Budgeted Expenditures	2700	3000
2. Actual Expenditures	2660	

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 District participates in two groups that conduct education programs: Inland Empire Utilities Agency Conservation Workgroup conducted Think Earth, It's Magic shows in schools in 7 agencies' service areas. The District also is a member of the Water Awareness Water Education Committee that conducts Project WET workshops for teachers annually and offers grants for teachers and conducts a high school video contest. The District's one high school participates in that activity each year and has won the contest.

BMP 09: Conservation Programs for CII Accounts

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

A. Implementation

1. Has your agency identified and ranked COMMERCIAL customers according to use?	no
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?	no

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	22	5500
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.	0
8. Estimated annual savings (AF/yr) from non-site-verified actions taken by agency since 1991.	2.5

B. Conservation Program Expenditures for CII Accounts

	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

BMP 09a: CII ULFT Water Savings

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

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

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.

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 ?	0

CII Subsector	Number of Toilets Replaced				
4.	**Standard Gravity Tank**	**Air Assisted**	**Valve Floor Mount**	**Valve Wall Mount**	**Type Not Specified**
a. Offices	0	0	0	0	0
b. Retail / Wholesale	0	0	0	0	0
c. Hotels	0	0	0	0	0
d. Health	0	0	0	0	0
e. Industrial	0	0	0	0	0
f. Schools: K to 12	0	0	0	0	0
g. Eating	0	0	0	0	0
h. Govern-ment	0	0	0	0	0
i. Churches	0	0	0	0	0
j. Other	0	0	0	0	0

5. Program design.

6. Does your agency use outside services to implement this program? No

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 isues 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?

District customers are eligible to participate in Metropolitan Water District's CII program. The program has not been marketed in our service area. We promote the CII programs on our website. We do not have staff to market the program and our wholesaler has not had a program to promote CII programs in its service area, however it is being discussed for 2005-2005 budget year.

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	0
b. State agency contribution	0
c. Federal agency contribution	0
d. Other contribution	0
e. Total	0

D. Comments

BMP 11: Conservation Pricing

Reporting Unit:	BMP Form Status:	Year:
Monte Vista Water District	**57% Complete**	**2003**

Report Not Filed

BMP 12: Conservation Coordinator

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

A. Implementation

1. Does your Agency have a conservation coordinator?	yes
2. Is this a full-time position?	no
3. If no, is the coordinator supplied by another agency with which you cooperate in a regional conservation program ?	yes
4. Partner agency's name:	Inland Empire Utilities Agency
5. If your agency supplies the conservation coordinator:	
a. What percent is this conservation coordinator's position?	30%
b. Coordinator's Name	Mary Ann Melleby
c. Coordinator's Title	Public Affairs Director
d. Coordinator's Experience and Number of Years	7 years in above position
e. Date Coordinator's position was created (mm/dd/yyyy)	01/01/1990
6. Number of conservation staff, including Conservation Coordinator.	1

B. Conservation Staff Program Expenditures

	This Year	Next Year
1. Budgeted Expenditures	8000	8000
2. Actual Expenditures	6100	

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

BMP 13: Water Waste Prohibition

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

A. Requirements for Documenting BMP Implementation

1. Is a water waste prohibition ordinance in effect in your service area? no

    a. If YES, describe the ordinance:

2. Is a copy of the most current ordinance(s) on file with CUWCC? no

    a. List local jurisdictions in your service area in the first text box and water waste ordinance citations in each jurisdiction in the second text box:

B. Implementation

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

    a. Gutter flooding no

    b. Single-pass cooling systems for new connections no

    c. Non-recirculating systems in all new conveyor or car wash systems no

    d. Non-recirculating systems in all new commercial laundry systems no

    e. Non-recirculating systems in all new decorative fountains no

    f. Other, please name no

2. Describe measures that prohibit water uses listed above:
    The city of Montclair regulates the activities above.

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. no

    b. Develop minimum appliance efficiency standards that:

        i.) Increase the regeneration efficiency standard to at least 3,350 grains of hardness removed per pound of common salt used. no

        ii.) Implement an identified maximum number of gallons discharged per gallon of soft water produced. no

    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. no

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

We have an ordinance that deals with these measures in the event of severe drought. Otherwise the city of Montclair is the regulatory agency that is responsible for these measures.

BMP 14: Residential ULFT Replacement Programs

Reporting Unit:	BMP Form Status:	Year:
Monte Vista Water District	**100% Complete**	**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	30	0
3. Direct Install	0	0
4. CBO Distribution	355	65
5. Other	0	0
Total	**385**	**65**

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

In partnership with our wholesale agency, who administers the programs, the District holds a single distribution event annually at a local high school. High School students assist the District at the event and the District donates $2,000 to student clubs. Promotion is carried out through information in the District's newsletter distributed through billing statements. Customers are also eligible to participate in a regional distribution that our wholesale agency, Inland Empire Utilities Agency, administers and implements. A rebate program is also provided throught the wholesale agency with customers participating. Promotion of all programs is also provided on the District's website at www.mvwd.org. The toilets are obtained wholesale with a $60 per toilet subsidy provided by Metropolitan Water District of Southern California.

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

Our wholesale agency, Inland Empire Utilities Agency, provides a program to retrofit toilets in multi-family residences. We retain the services of a consultant who markets the program and delivers the toilets. Owners are required to do the installation.

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	3500	3500
2. Actual Expenditures	2690	

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:	Year:
Monte Vista Water District	**2002**

Water Supply Source Information

Supply Source Name	Quantity (AF) Supplied	Supply Type
Chino Basin	9658	Groundwater
State Water	2367	Imported

Total AF: 12025

Accounts & Water Use

Reporting Unit Name:	Submitted to CUWCC	Year:
Monte Vista Water District	**06/19/2003**	**2002**

A. Service Area Population Information:

1. Total service area population 46434

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	6350	0	0	0
2. Multi-Family	3381	0	0	0
3. Commercial	1406	0	0	0
4. Industrial	0	0	0	0
5. Institutional	0	0	0	0
6. Dedicated Irrigation	12	0	0	0
7. Recycled Water	0	0	0	0
8. Other	1	11737	0	0
9. Unaccounted	NA	0	NA	0
Total	11150	11737	0	0

	Metered	Unmetered

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

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

A. Implementation

1. Based on your signed MOU date, 10/24/1991, your Agency STRATEGY DUE DATE is:	10/23/1993
2. Has your agency developed and implemented a targeting/ marketing strategy for SINGLE-FAMILY residential water use surveys?	no
a. If YES, when was it implemented?	
3. Has your agency developed and implemented a targeting/ marketing strategy for MULTI-FAMILY residential water use surveys?	no
a. If YES, when was it implemented?	

B. Water Survey Data

Survey Counts:	**Single Family Accounts**	**Multi-Family Units**
1. Number of surveys offered:	0	0
2. Number of surveys completed:	0	0
Indoor Survey:		
3. Check for leaks, including toilets, faucets and meter checks	no	no
4. Check showerhead flow rates, aerator flow rates, and offer to replace or recommend replacement, if necessary	no	no
5. Check toilet flow rates and offer to install or recommend installation of displacement device or direct customer to ULFT replacement program, as necessary; replace leaking toilet flapper, as necessary	no	no
Outdoor Survey:		
6. Check irrigation system and timers	no	no
7. Review or develop customer irrigation schedule	no	no
8. Measure landscaped area (Recommended but not required for surveys)	no	no
9. Measure total irrigable area (Recommended but not required for surveys)	no	no
10. Which measurement method is typically used (Recommended but not required for surveys)		None

11. Were customers provided with information packets that included evaluation results and water savings recommendations?	no	no
12. Have the number of surveys offered and completed, survey results, and survey costs been tracked?	no	no
a. If yes, in what form are surveys tracked?	None	
b. Describe how your agency tracks this information.		

C. Water Survey 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

We do not have adequate staff to complete this BMP at this time.

BMP 02: Residential Plumbing Retrofit

Reporting Unit:	BMP Form Status:	Year:
Monte Vista Water District	**100% Complete**	**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?	no
3. Estimated percent of single-family households with low-flow showerheads:	50%
4. Has your agency satisfied the 75% saturation requirement for multi-family housing units?	no
5. Estimated percent of multi-family households with low-flow showerheads:	50%
6. If YES to 2 OR 4 above, please describe how saturation was determined, including the dates and results of any survey research.	

B. Low-Flow Device Distribution Information

1. Has your agency developed a targeting/ marketing strategy for distributing low-flow devices?	no
a. If YES, when did your agency begin implementing this strategy?	
b. Describe your targeting/ marketing strategy.	

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?	no
a. If YES, in what format are low-flow devices tracked?	
b. If yes, describe your tracking and distribution system :	

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

Wholesaler does not provide a program or subsidy. Budget restrictions and lack of staff to implement program prevents this BMP from being fully implemented.

BMP 03: System Water Audits, Leak Detection and Repair

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

A. Implementation

1. Has your agency completed a pre-screening system audit for this reporting year?	no
2. If YES, enter the values (AF/Year) used to calculate verifiable use as a percent of total production:	
a. Determine metered sales (AF)	0
b. Determine other system verifiable uses (AF)	0
c. Determine total supply into the system (AF)	0
d. Using the numbers above, if (Metered Sales + Other Verifiable Uses) / Total Supply is < 0.9 then a full-scale system audit is required.	0.00
3. Does your agency keep necessary data on file to verify the values used to calculate verifiable uses as a percent of total production?	no
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?	no
6. Does your agency operate a system leak detection program?	yes

a. If yes, describe the leak detection program:
A response program not a pro-active program. Reported leaks are investigated immediately and appropriate repairs completed as soon as possible. Pipe replacement projects are part of our 30-year capital improvement program

B. Survey Data

1. Total number of miles of distribution system line.	172
2. Number of miles of distribution system line surveyed.	0

C. System Audit / Leak Detection 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?	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."
Pipelines are being replaced as part of a comprehensive capital improvement program with projects scheduled throughout a 30 year period. If certain areas of the distribution are particularly troublesome (many reported leaks over a given time period) those projects are re-prioritized and moved up on the schedule. This has occurred twice over the past three years.

E. Comments

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

Reporting Unit:	BMP Form Status:	Year:
Monte Vista Water District	**100% Complete**	**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?	yes
a. If YES, when was the plan to retrofit and bill by volume-of-use existing unmetered connections completed?	06/30/2003
b. Describe the program: Several agriculture accounts were unmetered. Board of directors adopted plan to meter these customers, who were notified.	
3. Number of previously unmetered accounts fitted with meters during report year.	18

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.	1242
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	5000	5000
2. Actual Expenditures	2607	

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 05: Large Landscape Conservation Programs and Incentives

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

A. Water Use Budgets

1. Number of Dedicated Irrigation Meter Accounts:	241
2. Number of Dedicated Irrigation Meter Accounts with Water Budgets:	0
3. Budgeted Use for Irrigation Meter Accounts with Water Budgets (AF):	0
4. Actual Use for Irrigation Meter Accounts with Water Budgets (AF):	1064
5. Does your agency provide water use notices to accounts with budgets each billing cycle?	no

B. Landscape Surveys

1. Has your agency developed a marketing / targeting strategy for landscape surveys?	no
a. If YES, when did your agency begin implementing this strategy?	
b. Description of marketing / targeting strategy:	
2. Number of Surveys Offered.	0
3. Number of Surveys Completed.	0
4. Indicate which of the following Landscape Elements are part of your survey:	
a. Irrigation System Check	no
b. Distribution Uniformity Analysis	no
c. Review / Develop Irrigation Schedules	no
d. Measure Landscape Area	no
e. Measure Total Irrigable Area	no
f. Provide Customer Report / Information	no
5. Do you track survey offers and results?	no
6. Does your agency provide follow-up surveys for previously completed surveys?	no
a. If YES, describe below:	

BMP 06: High-Efficiency Washing Machine Rebate Programs

Reporting Unit:	BMP Form Status:	Year:
Monte Vista Water District	**100% Complete**	**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. Southern California Edison and Inland Empire Utilities Agency	
2. Does your agency offer rebates for high-efficiency washers?	yes
3. What is the level of the rebate?	100
4. Number of rebates awarded.	46

B. Rebate 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

Monte Vista Water District participates in the rebate program offered by Inland Empire Utilities Agency with subsidies provided through Metropolitan Water District of S. Cal.

BMP 07: Public Information Programs

Reporting Unit:	BMP Form Status:	Year:
Monte Vista Water District	**100% Complete**	**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.
Publishes a quarterly newsletter for customers that is a billing statement insert and includes articles on water conservation, water-related issues and District activities. Infomercials, or on-hold messages are included on the telephone system. A website was developed this year. The District's PIO participates in community organizations such as chamber of commerce, city functions, health fairs and business expos, Earth Day events. News releases are prepared and sent to local media. A new publication, Cross Currents, was created, targeted to 750 opinion leaders in the region. New materials were created this year -- kids' activity book, stickers, information card.

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	1
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	no	
f. Special Events, Media Events	yes	12
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	13000	8000
2. Actual Expenditures	10800	

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

BMP 08: School Education Programs

Reporting Unit:	BMP Form Status:	Year:
Monte Vista Water District	**100% Complete**	**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	9	480	1
Grades 4th-6th	yes	4	50	1
Grades 7th-8th	no	0	0	0
High School	yes	2	60	0

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

4. When did your Agency begin implementing this program? 06/01/1998

B. School Education Program Expenditures

	This Year	Next Year
1. Budgeted Expenditures	3000	3000
2. Actual Expenditures	2661	

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 District participates in two regional groups that deliver education programs to schools. Through Inland Empire Utilities Agency a program, "Think Earth, It's Magic was taken to schools in service areas of 7 water agencies. In Monte Vista's service area 4 schools participated with 433 students and 16 teachers. The District also sponsors a poster contest with 5 schools participating with 157 students and 9 teachers participating. The District is a sponsor of the Chino Basin Water Conservation District's Earth Day event, contributing $1,000 each year. This event reaches 1200 fifth graders. Through membership in the Water Education Water Awareness Committee, the following programs are delivered: High School Video Contest, teacher workshop, Edu-grants for teachers.

BMP 09: Conservation Programs for CII Accounts

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

A. Implementation

1. Has your agency identified and ranked COMMERCIAL customers according to use?	no
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?	no

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			
i. Loans			
j. Grants			
k. Others			

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?	no
6. Does your agency document and maintain records on how savings were realized and the method of calculation for estimated savings?	no
7. Estimated annual savings (AF/yr) from site-verified actions taken by agency since 1991.	0
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	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

District computer system cannot separate these accounts at the present time. Not enough staff to accomplish tasks needed; not a high priority for District at this time.

BMP 09a: CII ULFT Water Savings

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

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

A. Targeting and Marketing

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

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

The CII customers are targeted through Metropolitan Water District's program for rebates. Information on this program is included on our website. The marketing program used by Metropolitan did not sufficiently reach the CII customers in the Inland Empire Region.

2. How does your agency advertise this program? Check all that apply.	Web page

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

Limited marketing of this program.

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 ?	0

CII Subsector	Number of Toilets Replaced				
4.	Standard Gravity Tank	Air Assisted	Valve Floor Mount	Valve Wall Mount	Type Not Specified
a. Offices	0	0	0	0	0
b. Retail / Wholesale	0	0	0	0	0
c. Hotels	0	0	0	0	0
d. Health	0	0	0	0	0
e. Industrial	0	0	0	0	0
f. Schools: K to 12	0	0	0	0	0
g. Eating	0	0	0	0	0
h. Govern-ment	0	0	0	0	0
i. Churches	0	0	0	0	0
j. Other	0	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
7. Participant tracking and follow-up.	No 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	3
b. Inadequate payback	5
c. Inadequate ULFT performance	3
d. Lack of funding	5
e. American's with Disabilities Act	3
f. Permitting	3
g. Other. Please describe in B. 9.	3

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

Inadequate marketing.

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?

Program was offered on a regional basis from Metropolitan Water District who did not market the program in our service area.

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	0
b. State agency contribution	0
c. Federal agency contribution	0
d. Other contribution	0
e. Total	0

D. Comments

BMP 11: Conservation Pricing

Reporting Unit:	BMP Form Status:	Year:
Monte Vista Water District	**57% Complete**	**2002**

Report Not Filed

BMP 12: Conservation Coordinator

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

A. Implementation

1. Does your Agency have a conservation coordinator?	yes
2. Is this a full-time position?	no
3. If no, is the coordinator supplied by another agency with which you cooperate in a regional conservation program ?	yes
4. Partner agency's name:	Inland Empire Utilities Agency
5. If your agency supplies the conservation coordinator:	
a. What percent is this conservation coordinator's position?	25%
b. Coordinator's Name	Mary Ann Melleby
c. Coordinator's Title	Public Affairs Director
d. Coordinator's Experience and Number of Years	6 years
e. Date Coordinator's position was created (mm/dd/yyyy)	04/28/1998
6. Number of conservation staff, including Conservation Coordinator.	1

B. Conservation Staff Program Expenditures

	This Year	Next Year
1. Budgeted Expenditures	13000	8000
2. Actual Expenditures	10800	

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 surcharge per acre-foot of imported water purchases is contributed to Inland Empire Utilities Agency which administers a regional conservation program. District purchases in 2002: 3,400.

BMP 13: Water Waste Prohibition

Reporting Unit:	BMP Form Status:	Year:
Monte Vista Water District	**91% Complete**	**2002**

Report Not Filed

BMP 14: Residential ULFT Replacement Programs

Reporting Unit:	BMP Form Status:	Year:
Monte Vista Water District	**100% Complete**	**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	no

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	292	0
5. Other	0	0
Total	**292**	**0**

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

We participate in the Metropolitan Water District toilet subsidy program through Inland Empire Utilities Agency, our wholesale water provider. Annual distribution with student clubs assisting for staffing of events. Student clubs receive donation for assisting.

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

None this year.

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	7000	7000
2. Actual Expenditures	5847	

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: **Monte Vista Water District**

Year: **2001**

Water Supply Source Information

Supply Source Name	Quantity (AF) Supplied	Supply Type
Chino Basin	7187	Groundwater
State Water	2239	Imported

Total AF: 9426

Accounts & Water Use

Reporting Unit Name: **Monte Vista Water District**

Submitted to CUWCC **06/19/2003**

Year: **2001**

A. Service Area Population Information:

1. Total service area population 46434

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	6481	5201	0	0
2. Multi-Family	3381	2175	0	0
3. Commercial	1215	1520	0	0
4. Industrial	0	0	0	0
5. Institutional	0	757	0	0
6. Dedicated Irrigation	24	1064	0	0
7. Recycled Water	0	0	0	0
8. Other	3	0	0	0
9. Unaccounted	NA	0	NA	0
Total	11104	10717	0	0

Metered **Unmetered**

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

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

A. Implementation

1. Based on your signed MOU date, 10/24/1991, your Agency STRATEGY DUE DATE is:	10/23/1993
2. Has your agency developed and implemented a targeting/ marketing strategy for SINGLE-FAMILY residential water use surveys?	no
a. If YES, when was it implemented?	
3. Has your agency developed and implemented a targeting/ marketing strategy for MULTI-FAMILY residential water use surveys?	no
a. If YES, when was it implemented?	

B. Water Survey Data

Survey Counts:	**Single Family Accounts**	**Multi-Family Units**
1. Number of surveys offered:	0	0
2. Number of surveys completed:	0	0
Indoor Survey:		
3. Check for leaks, including toilets, faucets and meter checks	no	no
4. Check showerhead flow rates, aerator flow rates, and offer to replace or recommend replacement, if necessary	no	no
5. Check toilet flow rates and offer to install or recommend installation of displacement device or direct customer to ULFT replacement program, as necessary; replace leaking toilet flapper, as necessary	no	no
Outdoor Survey:		
6. Check irrigation system and timers	no	no
7. Review or develop customer irrigation schedule	no	no
8. Measure landscaped area (Recommended but not required for surveys)	no	no
9. Measure total irrigable area (Recommended but not required for surveys)	no	no
10. Which measurement method is typically used (Recommended but not required for surveys)		None

11. Were customers provided with information packets that included evaluation results and water savings recommendations?	no	no
12. Have the number of surveys offered and completed, survey results, and survey costs been tracked?	no	no
a. If yes, in what form are surveys tracked?		None
b. Describe how your agency tracks this information.		

C. Water Survey 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 02: Residential Plumbing Retrofit

Reporting Unit:	BMP Form Status:	Year:
Monte Vista Water District	**100% Complete**	**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?	no
3. Estimated percent of single-family households with low-flow showerheads:	50%
4. Has your agency satisfied the 75% saturation requirement for multi-family housing units?	no
5. Estimated percent of multi-family households with low-flow showerheads:	30%
6. If YES to 2 OR 4 above, please describe how saturation was determined, including the dates and results of any survey research.	

B. Low-Flow Device Distribution Information

1. Has your agency developed a targeting/ marketing strategy for distributing low-flow devices?	no
a. If YES, when did your agency begin implementing this strategy?	
b. Describe your targeting/ marketing strategy.	

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?	no
a. If YES, in what format are low-flow devices tracked?	
b. If yes, describe your tracking and distribution system :	

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

BMP 03: System Water Audits, Leak Detection and Repair

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

A. Implementation

1. Has your agency completed a pre-screening system audit for this reporting year?	no
2. If YES, enter the values (AF/Year) used to calculate verifiable use as a percent of total production:	
a. Determine metered sales (AF)	0
b. Determine other system verifiable uses (AF)	0
c. Determine total supply into the system (AF)	0
d. Using the numbers above, if (Metered Sales + Other Verifiable Uses) / Total Supply is < 0.9 then a full-scale system audit is required.	0.00
3. Does your agency keep necessary data on file to verify the values used to calculate verifiable uses as a percent of total production?	no
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?	no
6. Does your agency operate a system leak detection program?	no
a. If yes, describe the leak detection program:	

B. Survey Data

1. Total number of miles of distribution system line.	172
2. Number of miles of distribution system line surveyed.	0

C. System Audit / Leak Detection 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 04: Metering with Commodity Rates for all New Connections and Retrofit of Existing

Reporting Unit:	BMP Form Status:	Year:
Monte Vista Water District	**100% Complete**	**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.	27
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	10000	5000
2. Actual Expenditures	1018	

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 05: Large Landscape Conservation Programs and Incentives

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

A. Water Use Budgets

1. Number of Dedicated Irrigation Meter Accounts:	27
2. Number of Dedicated Irrigation Meter Accounts with Water Budgets:	0
3. Budgeted Use for Irrigation Meter Accounts with Water Budgets (AF):	0
4. Actual Use for Irrigation Meter Accounts with Water Budgets (AF):	0
5. Does your agency provide water use notices to accounts with budgets each billing cycle?	no

B. Landscape Surveys

1. Has your agency developed a marketing / targeting strategy for landscape surveys?	no
a. If YES, when did your agency begin implementing this strategy?	
b. Description of marketing / targeting strategy:	
2. Number of Surveys Offered.	0
3. Number of Surveys Completed.	0
4. Indicate which of the following Landscape Elements are part of your survey:	
a. Irrigation System Check	no
b. Distribution Uniformity Analysis	no
c. Review / Develop Irrigation Schedules	no
d. Measure Landscape Area	no
e. Measure Total Irrigable Area	no
f. Provide Customer Report / Information	no

5. Do you track survey offers and results?	no
6. Does your agency provide follow-up surveys for previously completed surveys?	no
a. If YES, describe below:	

C. Other BMP 5 Actions

1. An agency can provide mixed-use accounts with ETo-based landscape budgets in lieu of a large landscape survey program. Does your agency provide mixed-use accounts with landscape budgets?	no
2. Number of CII mixed-use accounts with landscape budgets.	0
3. Do you offer landscape irrigation training?	no
4. Does your agency offer financial incentives to improve landscape water use efficiency?	no

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?	No
a. If YES, describe below:	
6. Do you have irrigated landscaping at your facilities?	yes
a. If yes, is it water-efficient?	no
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	0	0
2. Actual Expenditures	0	

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

BMP 06: High-Efficiency Washing Machine Rebate Programs

Reporting Unit:	BMP Form Status:	Year:
Monte Vista Water District	**100% Complete**	**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. Southern California Edison	
2. Does your agency offer rebates for high-efficiency washers?	no
3. What is the level of the rebate?	0
4. Number of rebates awarded.	0

B. Rebate 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

BMP 07: Public Information Programs

Reporting Unit:	BMP Form Status:	Year:
Monte Vista Water District	**100% Complete**	**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.
Publishes a quarterly newsletter for customers that is inserted in all billing statements and includes articles on water-related issues and conservation. Infomercials are included on telephone system with conservation messages. Participation in community events to promote water awareness and conservation (health fair, chamber of commerce business expo, local Earth Day event, school programs.

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	1
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	no	
f. Special Events, Media Events	yes	12
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	14000	8000
2. Actual Expenditures	8132	

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

BMP 08: School Education Programs

Reporting Unit:	BMP Form Status:	Year:
Monte Vista Water District	**100% Complete**	**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	3	90	0
Grades 4th-6th	yes	3	90	0
Grades 7th-8th	no	0	0	0
High School	no	1	60	0

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

4. When did your Agency begin implementing this program? 6/1/1998

B. School Education Program Expenditures

	This Year	Next Year
1. Budgeted Expenditures	3000	3000
2. Actual Expenditures	3551	

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

BMP 09: Conservation Programs for CII Accounts

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

A. Implementation

1. Has your agency identified and ranked COMMERCIAL customers according to use?	no
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?	no

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?	no
6. Does your agency document and maintain records on how savings were realized and the method of calculation for estimated savings?	no
7. Estimated annual savings (AF/yr) from site-verified actions taken by agency since 1991.	0
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	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

Our computer system cannot separate out CII accounts. Not a priority for the District at this time.

BMP 09a: CII ULFT Water Savings

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

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

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.

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.)	no
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 ?	0

CII Subsector	Number of Toilets Replaced				
4.	**Standard Gravity Tank**	**Air Assisted**	**Valve Floor Mount**	**Valve Wall Mount**	**Type Not Specified**
a. Offices	0	0	0	0	0
b. Retail / Wholesale	0	0	0	0	0
c. Hotels	0	0	0	0	0
d. Health	0	0	0	0	0
e. Industrial	0	0	0	0	0
f. Schools: K to 12	0	0	0	0	0
g. Eating	0	0	0	0	0
h. Govern-ment	0	0	0	0	0
i. Churches	0	0	0	0	0
j. Other	0	0	0	0	0

5. Program design.

6. Does your agency use outside services to implement this program? No

a. If yes, check all that apply.

7. Participant tracking and follow-up. No 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?

A CII program was offered through Metropolitan Water District who markets the programs on a regional basis.

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	0
b. State agency contribution	0
c. Federal agency contribution	0
d. Other contribution	0
e. Total	0

D. Comments

CII program offered through Metropolitan Water District who markets the program regionally. No feedback this year on numbers of our customers who participated in the program

BMP 11: Conservation Pricing

Reporting Unit:	BMP Form Status:	Year:
Monte Vista Water District	**50% Complete**	**2001**

Report Not Filed

BMP 12: Conservation Coordinator

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

A. Implementation

1. Does your Agency have a conservation coordinator?	yes
2. Is this a full-time position?	no
3. If no, is the coordinator supplied by another agency with which you cooperate in a regional conservation program ?	yes
4. Partner agency's name:	Inland Empire Utilities Agency
5. If your agency supplies the conservation coordinator:	
a. What percent is this conservation coordinator's position?	25%
b. Coordinator's Name	Mary Ann Melleby
c. Coordinator's Title	Public Affairs Director
d. Coordinator's Experience and Number of Years	5 years
e. Date Coordinator's position was created (mm/dd/yyyy)	4/28/1998
6. Number of conservation staff, including Conservation Coordinator.	1

B. Conservation Staff Program Expenditures

	This Year	Next Year
1. Budgeted Expenditures	14000	13000
2. Actual Expenditures	8132	

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

Of the District's imported water purchase, a $1 surcharge is levied by Inland Empire Utilities Agency for a Conservation Budget. The District purchases around 9,000 acre feet per year.

BMP 13: Water Waste Prohibition

Reporting Unit:	BMP Form Status:	Year:
Monte Vista Water District	**95% Complete**	**2001**

Report Not Filed

BMP 14: Residential ULFT Replacement Programs

Reporting Unit:	BMP Form Status:	Year:
Monte Vista Water District	**100% Complete**	**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	no

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	293	0
5. Other	0	0
Total	**293**	**0**

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

We coordinate this activity with our conservation partners Inland Empire Utility Agency and Metropolitan Water District. Annual distribution held at Montclair High School with student clubs assisting for staffing of event. Old toilets returned in two weeks. Student clubs receive a donation for their help.

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

None this year.

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	7000	7000
2. Actual Expenditures	4905.34	

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

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

Reporting Unit:	Reporting Period:
Monte Vista 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

Warning: The BMP 1 form is not 100% complete for one or more report years. This may produce inaccurate results for this report.

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

		Single-Family	Multi-Family
Monte Vista Water District to Implement Targeting/Marketing Program by:		1999	
Year Monte Vista Water District Reported Implementing Targeting/Marketing Program:			
Monte Vista Water District Met Targeting/Marketing Coverage Requirement:		NO	NO

Test for Condition 2

			Single-Family	Multi-Family
Survey Program to Start by:	1998	Residential Survey Offers (%)		
Reporting Period:	03-04	Survey Offers $\geq$ 20%	NO	NO

Test for Condition 3

	Completed Residential Surveys	
	Single Family	Multi-Family
Total Completed Surveys 1999 - 2004:		
Past Credit for Surveys Completed Prior to 1999 (Implementation of Reporting Database):		
Total + Credit		
Residential Accounts in Base Year	7,346	2,042
Monte Vista Water District Survey Coverage as % of Base Year Residential Accounts		
Coverage Requirement by Year 7 of Implementation per Exhibit 1	7.90%	7.90%
Monte Vista Water District on Schedule to Meet 10-Year Coverage Requirement	NO	NO

BMP 1 COVERAGE STATUS SUMMARY:
Coverage status cannot be calculated. Water supplier data is missing that is required to calculate coverage status for this BMP.

BMP 02 Coverage: Residential Plumbing Retrofit

Reporting Unit: **Monte Vista 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

Warning: The BMP 2 form is not 100% complete for one or more report years. This may produce inaccurate results for this report.

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

		Single-Family		Multi-Family	
Report Year	Report Period	Reported Saturation	Saturation > 75%?	Reported Saturation	Saturation > 75%?
1999	99-00				
2000	99-00				
2001	01-02	50.00%	NO	30.00%	NO
2002	01-02	50.00%	NO	50.00%	NO
2003	03-04	50.00%	NO	50.00%	NO
2004	03-04	50.00%	NO	50.00%	NO

Test for Condition 2

Report Year	Report Period	Monte Vista Water District has ordinance requiring showerhead retrofit?
1999	99-00	
2000	99-00	
2001	01-02	NO
2002	01-02	NO
2003	03-04	NO
2004	03-04	NO

Test for Condition 3

Reporting Period: 03-04

1992 SF Accounts	Num. Showerheads Distributed to SF Accounts	Single-Family Coverage Ratio	SF Coverage Ratio > 10%
7,196			NO

1992 MF Accounts	Num. Showerheads Distributed to MF Accounts	Multi-Family Coverage Ratio	MF Coverage Ratio > 10%
1,842			NO

BMP 2 COVERAGE STATUS SUMMARY:
Coverage status cannot be calculated. Water supplier data is missing that is required to calculate coverage status for this BMP.

BMP 03 Coverage: System Water Audits, Leak Detection and Repair

Reporting Unit: **Monte Vista 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

Warning: The BMP 3 form is not 100% complete for one or more report years. This may produce inaccurate results for this report.

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

Report Year	Report Period	Pre-Screen Completed	Pre-Screen Result	Full Audit Indicated	Full Audit Completed
1999	99-00				
2000	99-00				
2001	01-02	NO			NO
2002	01-02	NO			NO
2003	03-04	NO			NO
2004	03-04	NO			NO

BMP 3 COVERAGE STATUS SUMMARY:
Coverage status cannot be calculated. Water supplier data is missing that is required to calculate coverage status for this BMP.

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

Reporting Unit:	Reporting Period:
Monte Vista 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

Warning: The BMP 4 form is not 100% complete for one or more report years. This may produce inaccurate results for this report.

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	20
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	NO

BMP 4 COVERAGE STATUS SUMMARY:
Coverage status cannot be calculated. Water supplier data is missing that is required to calculate coverage status for this BMP.

BMP 05 Coverage: Large Landscape Conservation Programs and Incentives

Reporting Unit: **Monte Vista 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

Warning: The BMP 5 form is not 100% complete for one or more report years. This may produce inaccurate results for this report.

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				NA
2000	99-00	2				NA
2001	01-02	3	27			NA
2002	01-02	4	241			No
2003	03-04	5	223			No
2004	03-04	6	223			No

Test for Condition 2a (survey offers)

Select Reporting Period:	03-04
Large Landscape Survey Offers as % of Mixed Use Meter CII Accounts	
Survey Offers Equal or Exceed 20% Coverage Requirement	NO

Test for Condition 2a (surveys completed)

Total Completed Landscape Surveys Reported through	
Credit for Surveys Completed Prior to Implementation of Reporting Database	
Total + Credit	
CII Accounts in Base Year	1,358
RU Survey Coverage as a % of Base Year CII Accounts	
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		
2000	99-00	2		
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	27	
2002	01-02	4	1,242	
2003	03-04	5	223	
2004	03-04	6	223	

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			
2000	99-00	2			
2001	01-02	3	NO		
2002	01-02	4	NO		
2003	03-04	5	NO		
2004	03-04	6	NO		

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:
Coverage status cannot be calculated. Water supplier data is missing that is required to calculate coverage status for this BMP.

BMP 06 Coverage: High-Efficiency Washing Machine Rebate Programs

Reporting Unit: **Monte Vista 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

Warning: The BMP 6 form is not 100% complete for one or more report years. This may produce inaccurate results for this report.

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			
2000	99-00	2			
2001	01-02	3	YES	NO	
2002	01-02	4	YES	YES	100.00
2003	03-04	5	NO	YES	100.00
2004	03-04	6	NO	YES	100.00

Year	Report Period	BMP 6 Implementation Year	No. Rebates Awarded	Coverage Met?
1999	99-00	1		
2000	99-00	2		
2001	01-02	3		NO
2002	01-02	4	46	YES
2003	03-04	5	46	YES
2004	03-04	6	83	YES

BMP 6 COVERAGE STATUS SUMMARY:
Coverage status cannot be calculated. Water supplier data is missing that is required to calculate coverage status for this BMP.

BMP 07 Coverage: Public Information Programs

Reporting Unit: **Monte Vista 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

Warning: The BMP 7 form is not 100% complete for one or more report years. This may produce inaccurate results for this report.

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

Year	Report Period	BMP 7 Implementation Year	RU Has Public Information Program?
1999	99-00	2	
2000	99-00	3	
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:
Coverage status cannot be calculated. Water supplier data is missing that is required to calculate coverage status for this BMP.

BMP 08 Coverage: School Education Programs

Reporting Unit: **Monte Vista 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

Warning: The BMP 8 form is not 100% complete for one or more report years. This may produce inaccurate results for this report.

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

Year	Report Period	BMP 8 Implementation Year	RU Has School Education Program?
1999	99-00	2	
2000	99-00	3	
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:
Coverage status cannot be calculated. Water supplier data is missing that is required to calculate coverage status for this BMP.

BMP 09 Coverage: Conservation Programs for CII Accounts

Reporting Unit:
Monte Vista 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

Warning: The BMP 9 form is not 100% complete for one or more report years. This may produce inaccurate results for this report.

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			
2000	99-00	2			
2001	01-02	3	NO	NO	NO
2002	01-02	4	NO	NO	NO
2003	03-04	5	NO	NO	NO
2004	03-04	6	NO	NO	NO

Test for Condition 2a

	Commercial	Industrial	Institutional
Total Completed Surveys Reported through 2004			
Credit for Surveys Completed Prior to Implementation of Reporting Databases	12		8
Total + Credit	12		8
CII Accounts in Base Year	1,024	150	184
RU Survey Coverage as % of Base Year CII Accounts	1.2%		4.3%
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	YES

Test for Condition 2a

Year	Report Period	BMP 9 Implementation Year	Performance Target Savings (AF/yr)	Performance Target Savings Coverage	Performance Target Savings Coverage Requirement	Coverage Requirement Met
1999	99-00	1			0.5%	NO
2000	99-00	2			1.0%	NO
2001	01-02	3			1.7%	NO
2002	01-02	4			2.4%	NO
2003	03-04	5	1	0.0%	3.3%	NO
2004	03-04	6	2	0.1%	4.2%	NO

Test for Condition 2c

Total BMP 9 Surveys + Credit	20
BMP 9 Survey Coverage	1.5%
BMP 9 Performance Target Coverage	0.1%
BMP 9 Survey + Performance Target Coverage	1.5%
Combined Coverage Equals or Exceeds Coverage Requirement?	NO

BMP 9 COVERAGE STATUS SUMMARY:
Coverage status cannot be calculated. Water supplier data is missing that is required to calculate coverage status for this BMP.

BMP 11 Coverage: Conservation Pricing

Reporting Unit:
Monte Vista 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

Warning: The BMP 11 form is not 100% complete for one or more report years. This may produce inaccurate results for this report.

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

Year	Report Period	RU Employed Conserving WATER Rate Structure	RU Employed Conserving SEWER Rate Structure	RU Meets BMP 11 Coverage Requirement
1999	99-00			
2000	99-00			
2001	01-02			
2002	01-02			
2003	03-04			
2004	03-04			

BMP 11 COVERAGE STATUS SUMMARY:
Coverage status cannot be calculated. Water supplier data is missing that is required to calculate coverage status for this BMP.

BMP 12 Coverage: Conservation Coordinator

Reporting Unit: **Monte Vista 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

Warning: The BMP 12 form is not 100% complete for one or more report years. This may produce inaccurate results for this report.

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		
2000	99-00		
2001	01-02	YES	1
2002	01-02	YES	1
2003	03-04	YES	1
2004	03-04	YES	1

BMP 12 COVERAGE STATUS SUMMARY:
Coverage status cannot be calculated. Water supplier data is missing that is required to calculate coverage status for this BMP.

BMP 13 Coverage: Water Waste Prohibition

Reporting Unit: **Monte Vista 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

Warning: The BMP 13 form is not 100% complete for one or more report years. This may produce inaccurate results for this report.

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	Gutter Flooding	Single-Pass Cooling Systems	Single-Pass Car Wash	Single-Pass Laundry	Single-Pass Fountains	Other	RU has ordinance that meets coverage requirement
1999							
2000							
2001	YES	NO	YES	YES	YES	NO	NO
2002	NO	NO	YES	YES	YES	NO	NO
2003	NO	NO	NO	NO	NO	NO	NO
2004	NO	NO	NO	NO	NO	NO	NO

BMP 13 COVERAGE STATUS SUMMARY:
Coverage status cannot be calculated. Water supplier data is missing that is required to calculate coverage status for this BMP.

BMP 14 Coverage: Residential ULFT Replacement Programs

Reporting Unit: **Monte Vista 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 has not met one or more 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	YES			76.00	28.43
1999	NO	NO	NO	207.44	42.20
2000	NO	NO	NO	378.62	55.42
2001	YES	NO	NO	577.56	75.86
2002	YES	NO	NO	795.19	103.19
2003	YES	NO	NO	1024.62	142.75
2004	YES	NO	NO	1260.65	199.09
2005	NO	NO	NO	1499.40	
2006	NO	NO	NO	1737.95	
2007	NO	NO	NO	1974.17	

*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 has not met one or more coverage requirements for this BMP.

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

Reporting Unit:	Reporting Period:
Monte Vista Water District	**01-02**

MOU Exhibit 1 Coverage Requirement

No exemption request filed

Agency indicated "at least as effective as" implementation during report period?	No

Warning: The BMP 1 form is not 100% complete for one or more report years. This may produce inaccurate results for this report.

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

		Single-Family	Multi-Family
Monte Vista Water District to Implement Targeting/Marketing Program by:		1999	
Year Monte Vista Water District Reported Implementing Targeting/Marketing Program:			
Monte Vista Water District Met Targeting/Marketing Coverage Requirement:		NO	NO

Test for Condition 2

			Single-Family	Multi-Family
Survey Program to Start by:	1998	Residential Survey Offers (%)		
Reporting Period:	01-02	Survey Offers $\geq$ 20%	NO	NO

Test for Condition 3

	Completed Residential Surveys	
	Single Family	Multi-Family
Total Completed Surveys 1999 - 2002:		
Past Credit for Surveys Completed Prior to 1999 (Implementation of Reporting Database):		
Total + Credit		
Residential Accounts in Base Year	7,346	2,042
Monte Vista Water District Survey Coverage as % of Base Year Residential Accounts		
Coverage Requirement by Year 5 of Implementation per Exhibit 1	4.90%	4.90%
Monte Vista Water District on Schedule to Meet 10-Year Coverage Requirement	NO	NO

BMP 1 COVERAGE STATUS SUMMARY:
Coverage status cannot be calculated. Water supplier data is missing that is required to calculate coverage status for this BMP.

BMP 02 Coverage: Residential Plumbing Retrofit

Reporting Unit: **Monte Vista Water District**

Reporting Period: **01-02**

MOU Exhibit 1 Coverage Requirement

No exemption request filed

Agency indicated "at least as effective as" implementation during report period? No

Warning: The BMP 2 form is not 100% complete for one or more report years. This may produce inaccurate results for this report.

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

		Single-Family		Multi-Family	
Report Year	Report Period	Reported Saturation	Saturation ≥ 75%?	Reported Saturation	Saturation ≥ 75%?
1999	99-00				
2000	99-00				
2001	01-02	50.00%	NO	30.00%	NO
2002	01-02	50.00%	NO	50.00%	NO
2003	03-04	50.00%	NO	50.00%	NO
2004	03-04	50.00%	NO	50.00%	NO

Test for Condition 2

Report Year	Report Period	Monte Vista Water District has ordinance requiring showerhead retrofit?
1999	99-00	
2000	99-00	
2001	01-02	NO
2002	01-02	NO
2003	03-04	NO
2004	03-04	NO

Test for Condition 3

Reporting Period: 01-02

1992 SF Accounts	Num. Showerheads Distributed to SF Accounts	Single-Family Coverage Ratio	SF Coverage Ratio > 10%
7,196			NO

1992 MF Accounts	Num. Showerheads Distributed to MF Accounts	Multi-Family Coverage Ratio	MF Coverage Ratio > 10%
1,842			NO

BMP 2 COVERAGE STATUS SUMMARY:
Coverage status cannot be calculated. Water supplier data is missing that is required to calculate coverage status for this BMP.

BMP 03 Coverage: System Water Audits, Leak Detection and Repair

Reporting Unit: **Monte Vista Water District**

Reporting Period: **01-02**

MOU Exhibit 1 Coverage Requirement

No exemption request filed

Agency indicated "at least as effective as" implementation during report period? Yes

Warning: The BMP 3 form is not 100% complete for one or more report years. This may produce inaccurate results for this report.

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

Report Year	Report Period	Pre-Screen Completed	Pre-Screen Result	Full Audit Indicated	Full Audit Completed
1999	99-00				
2000	99-00				
2001	01-02	NO			NO
2002	01-02	NO			NO
2003	03-04	NO			NO
2004	03-04	NO			NO

BMP 3 COVERAGE STATUS SUMMARY:
Coverage status cannot be calculated. Water supplier data is missing that is required to calculate coverage status for this BMP.

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

Reporting Unit:	Reporting Period:
Monte Vista Water District	**01-02**

MOU Exhibit 1 Coverage Requirement

No exemption request filed

Agency indicated "at least as effective as" implementation during report period?	No

Warning: The BMP 4 form is not 100% complete for one or more report years. This may produce inaccurate results for this report.

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 2002	
No. of Unmetered Accounts in Base Year	20
Meter Retrofit Coverage as % of Base Year Unmetered Accounts	
Coverage Requirement by Year 4 of Implementation per Exhibit 1	24.0%
RU on Schedule to meet 10 Year Coverage Requirement	NO

BMP 4 COVERAGE STATUS SUMMARY:
Coverage status cannot be calculated. Water supplier data is missing that is required to calculate coverage status for this BMP.

BMP 05 Coverage: Large Landscape Conservation Programs and Incentives

Reporting Unit: **Monte Vista Water District**

Reporting Period: **01-02**

MOU Exhibit 1 Coverage Requirement

No exemption request filed

Agency indicated "at least as effective as" implementation during report period?	No

Warning: The BMP 5 form is not 100% complete for one or more report years. This may produce inaccurate results for this report.

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				NA
2000	99-00	2				NA
2001	01-02	3	27			NA
2002	01-02	4	241			No
2003	03-04	5	223			No
2004	03-04	6	223			No

Test for Condition 2a (survey offers)

Select Reporting Period:	01-02
Large Landscape Survey Offers as % of Mixed Use Meter CII Accounts	
Survey Offers Equal or Exceed 20% Coverage Requirement	NO

Test for Condition 2a (surveys completed)

Total Completed Landscape Surveys Reported through	
Credit for Surveys Completed Prior to Implementation of Reporting Database	
Total + Credit	
CII Accounts in Base Year	1,358
RU Survey Coverage as a % of Base Year CII Accounts	
Coverage Requirement by Year of Implementation per Exhibit 1	3.6%
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		
2000	99-00	2		
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	27	
2002	01-02	4	1,242	
2003	03-04	5	223	
2004	03-04	6	223	

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			
2000	99-00	2			
2001	01-02	3	NO		
2002	01-02	4	NO		
2003	03-04	5	NO		
2004	03-04	6	NO		

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:
Coverage status cannot be calculated. Water supplier data is missing that is required to calculate coverage status for this BMP.

BMP 06 Coverage: High-Efficiency Washing Machine Rebate Programs

Reporting Unit: **Monte Vista Water District**

Reporting Period: **01-02**

MOU Exhibit 1 Coverage Requirement

No exemption request filed

Agency indicated "at least as effective as" implementation during report period? No

Warning: The BMP 6 form is not 100% complete for one or more report years. This may produce inaccurate results for this report.

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			
2000	99-00	2			
2001	01-02	3	YES	NO	
2002	01-02	4	YES	YES	100.00
2003	03-04	5	NO	YES	100.00
2004	03-04	6	NO	YES	100.00

Year	Report Period	BMP 6 Implementation Year	No. Rebates Awarded	Coverage Met?
1999	99-00	1		
2000	99-00	2		
2001	01-02	3		NO
2002	01-02	4	46	YES
2003	03-04	5	46	YES
2004	03-04	6	83	YES

BMP 6 COVERAGE STATUS SUMMARY:
Coverage status cannot be calculated. Water supplier data is missing that is required to calculate coverage status for this BMP.

BMP 07 Coverage: Public Information Programs

Reporting Unit: **Monte Vista Water District**

Reporting Period: **01-02**

MOU Exhibit 1 Coverage Requirement

No exemption request filed

Agency indicated "at least as effective as" implementation during report period? No

Warning: The BMP 7 form is not 100% complete for one or more report years. This may produce inaccurate results for this report.

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

Year	Report Period	BMP 7 Implementation Year	RU Has Public Information Program?
1999	99-00	2	
2000	99-00	3	
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:
Coverage status cannot be calculated. Water supplier data is missing that is required to calculate coverage status for this BMP.

BMP 08 Coverage: School Education Programs

Reporting Unit: **Monte Vista Water District**

Reporting Period: **01-02**

MOU Exhibit 1 Coverage Requirement

No exemption request filed

Agency indicated "at least as effective as" implementation during report period? No

Warning: The BMP 8 form is not 100% complete for one or more report years. This may produce inaccurate results for this report.

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

Year	Report Period	BMP 8 Implementation Year	RU Has School Education Program?
1999	99-00	2	
2000	99-00	3	
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:
Coverage status cannot be calculated. Water supplier data is missing that is required to calculate coverage status for this BMP.

BMP 09 Coverage: Conservation Programs for CII Accounts

Reporting Unit:
Monte Vista Water District

Reporting Period:
01-02

MOU Exhibit 1 Coverage Requirement

No exemption request filed

Agency indicated "at least as effective as" implementation during report period? No

Warning: The BMP 9 form is not 100% complete for one or more report years. This may produce inaccurate results for this report.

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			
2000	99-00	2			
2001	01-02	3	NO	NO	NO
2002	01-02	4	NO	NO	NO
2003	03-04	5	NO	NO	NO
2004	03-04	6	NO	NO	NO

Test for Condition 2a

	Commercial	Industrial	Institutional
Total Completed Surveys Reported through 2002			
Credit for Surveys Completed Prior to Implementation of Reporting Databases	12		8
Total + Credit	12		8
CII Accounts in Base Year	1,024	150	184
RU Survey Coverage as % of Base Year CII Accounts	1.2%		4.3%
Coverage Requirement by Year 4 of Implementation per Exhibit 1	2.4%	2.4%	2.4%
RU on Schedule to Meet 10 Year Coverage Requirement	NO	NO	YES

Test for Condition 2a

Year	Report Period	BMP 9 Implementation Year	Performance Target Savings (AF/yr)	Performance Target Savings Coverage	Performance Target Savings Coverage Requirement	Coverage Requirement Met
1999	99-00	1			0.5%	NO
2000	99-00	2			1.0%	NO
2001	01-02	3			1.7%	NO
2002	01-02	4			2.4%	NO
2003	03-04	5	1	0.0%	3.3%	NO
2004	03-04	6	2	0.1%	4.2%	NO

Test for Condition 2c

Total BMP 9 Surveys + Credit	20
BMP 9 Survey Coverage	1.5%
BMP 9 Performance Target Coverage	
BMP 9 Survey + Performance Target Coverage	1.5%
Combined Coverage Equals or Exceeds Coverage Requirement?	NO

BMP 9 COVERAGE STATUS SUMMARY:
Coverage status cannot be calculated. Water supplier data is missing that is required to calculate coverage status for this BMP.

BMP 11 Coverage: Conservation Pricing

Reporting Unit:
Monte Vista Water District

Reporting Period:
01-02

MOU Exhibit 1 Coverage Requirement

No exemption request filed

Agency indicated "at least as effective as" implementation during report period? No

Warning: The BMP 11 form is not 100% complete for one or more report years. This may produce inaccurate results for this report.

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

Year	Report Period	RU Employed Conserving WATER Rate Structure	RU Employed Conserving SEWER Rate Structure	RU Meets BMP 11 Coverage Requirement
1999	99-00			
2000	99-00			
2001	01-02			
2002	01-02			
2003	03-04			
2004	03-04			

BMP 11 COVERAGE STATUS SUMMARY:
Coverage status cannot be calculated. Water supplier data is missing that is required to calculate coverage status for this BMP.

BMP 12 Coverage: Conservation Coordinator

Reporting Unit: **Monte Vista Water District**

Reporting Period: **01-02**

MOU Exhibit 1 Coverage Requirement

No exemption request filed

Agency indicated "at least as effective as" implementation during report period?	No

Warning: The BMP 12 form is not 100% complete for one or more report years. This may produce inaccurate results for this report.

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		
2000	99-00		
2001	01-02	YES	1
2002	01-02	YES	1
2003	03-04	YES	1
2004	03-04	YES	1

BMP 12 COVERAGE STATUS SUMMARY:
Coverage status cannot be calculated. Water supplier data is missing that is required to calculate coverage status for this BMP.

BMP 13 Coverage: Water Waste Prohibition

Reporting Unit: **Monte Vista Water District**

Reporting Period: **01-02**

MOU Exhibit 1 Coverage Requirement

No exemption request filed

Agency indicated "at least as effective as" implementation during report period? No

Warning: The BMP 13 form is not 100% complete for one or more report years. This may produce inaccurate results for this report.

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	Gutter Flooding	Single-Pass Cooling Systems	Single-Pass Car Wash	Single-Pass Laundry	Single-Pass Fountains	Other	RU has ordinance that meets coverage requirement
1999							
2000							
2001	YES	NO	YES	YES	YES	NO	NO
2002	NO	NO	YES	YES	YES	NO	NO
2003	NO	NO	NO	NO	NO	NO	NO
2004	NO	NO	NO	NO	NO	NO	NO

BMP 13 COVERAGE STATUS SUMMARY:
Coverage status cannot be calculated. Water supplier data is missing that is required to calculate coverage status for this BMP.

BMP 14 Coverage: Residential ULFT Replacement Programs

Reporting Unit: **Monte Vista 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 has not met one or more 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	YES			76.00	28.43
1999	NO	NO	NO	207.44	42.20
2000	NO	NO	NO	378.62	55.42
2001	YES	NO	NO	577.56	75.86
2002	YES	NO	NO	795.19	103.19
2003	YES	NO	NO	1024.62	142.75
2004	YES	NO	NO	1260.65	199.09
2005	NO	NO	NO	1499.40	
2006	NO	NO	NO	1737.95	
2007	NO	NO	NO	1974.17	

*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 has not met one or more coverage requirements for this BMP.

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APPENDIX G

DRAFT WATER SHORTAGE CONTINGENCY PLAN ORDINANCE

DRAFT WATER SHORTAGE CONTINGENCY PLAN

DRAFT CONSERVATION ORDINANCE
ORDINANCE NO. _____

AN ORDINANCE OF THE MONTE VISTA WATER DISTRICT ESTABLISHING RULES AND REGULATIONS TO INSURE THE MAXIMUM BENEFICIAL USE OF AVAILABLE WATER SUPPLIES, PER WATER SHORTAGE CONTINGENCY PLAN, HERETO AND MADE A PART OF THE URBAN WATER MANAGEMENT PLAN SUBMITTED FOR 2005.

The Board of Directors of the Monte Vista Water District does hereby ordain:

Section I: Water Conservation

1. Declaration of Policy.

Monte Vista Water District is responsible to insure that available water supplies are put to the most beneficial use possible for the health, safety and welfare of its customers. The District finds that available water supplies within the District have been severely depleted due to a prolonged drought and announced cutback in the supply of imported water from the Metropolitan Water District and the State Water Project. This District has worked diligently to educate its customers as to the value of water conservation and available water supplies within the District, and the current statewide drought condition and curtailment of imported water to the District requires that the District adopt more stringent methods of water conservation methods by adopting a Phase Conservation Measures Policy. Such methods will help to insure that the protection and maximum beneficial use of water within the District is achieved.

2. Purpose of Policy.

   A. Because of the water conditions prevailing in the Monte Vista Water District service area, the region and the State of California, the general welfare requires that the waste or unreasonable use of water be prevented, and that the conversation of water be encouraged.

   B. Further, the State of California Water Code requires urban water suppliers to establish a means to review current and anticipated water demands in order to guarantee water availability. In accordance with the State Water Code, Monte Vista Water District has adopted a Water Shortage Contingency Plan, part of which is a four stage rationing plan. This plan establishes water conservation measure responses to specific levels of efficiencies in State and/or local water supplies. In implementing this Ordinance, it is the Districts intent to establish water use guidelines and restrictions, which will reinforce the water use reduction goals established in the Water Shortage Contingency Plan made hereto and a part of the Regional Updated Urban Water Management Plan for 2005.

3. Authorization and Authority

The District Manager shall request the Board of Directors to authorize and implement if applicable the provisions of said Ordinance which declares that the demand for water consumption is anticipated to be in excess of the water supply at such time that it appears that such a condition exists or is threatened. The request shall be made at a regular or special meeting of the Board of Directors. The Board shall receive evidence of water supply conditions at a public hearing and shall make findings concerning the adequacy of water supplies for the District and the necessity, if any, to implement water conservation procedures.

The Board of Directors shall have the power to declare a local water emergency and to implement the provision of this Ordinance when it appears to the Board that the demand for water consumption exceeds the District's available supply, or threatens to do so, and there is no other water available to the District to remedy such emergency.

The declaration of the Board shall be made by public announcement and shall be published in a newspaper of general circulation. The declaration shall become effective immediately upon such publication.

4. Compliance Responsibility

It shall be presumed that the agency whose name the account has service with, or was last billed by, shall be responsible for compliance of said Ordinance.

5. Water Rationing

A. Water Shortage - Defined

A water shortage occurs when the current or projected water demand as determined exceeds the current or projected water supply, based on yearly assessment.

B. Conservation Phases

Phase I - A Phase I drought condition will occur when water deficiencies range between 5 and 10 percent.

Phase II - A Phase II drought condition will occur when water deficiencies range from more than 10 percent and up to 25 percent.

Phase III - A Phase III drought condition will occur when water deficiencies range from more than 25 percent and up to 40 percent.

Phase IV - A Phase IV drought condition will occur when water deficiencies are more than 40 percent.

6. Emergency Water Shortage Response

A. In the event that an immediate shortage of water occurs due to disaster, the Monte Vista Water District General Manager shall declare the extent of water shortage emergency and shall

implement the appropriate water conservation measure phase. The General Manager shall report such water shortage condition and level of response to the Board of Directors at a time which is reasonable and practicable.

7. Measure Recommendations

The effects of a water shortage can be magnified due to wasteful use in times of sufficient supply. Water shall be used in an efficient manner to eliminate unnecessary water use when possible.

Following are encouraged practices:

a. Insure that irrigation water does not run off into a gutter, ditch or drain.

b. Repair all leaks.

c. Wash all types of mobile equipment with a hand held bucket or a hand held hose equipped with a shut off nozzle.

d. Serve water to restaurant customers upon request only.

e. Use low flow shower head and faucet fixtures even where not required by government or city code.

In addition, general water efficient landscape guidelines shall be followed to comply with requirements of state law or city landscape and irrigation standards.

8. Enforcement

No District customer shall use or permit the use of water in a manner contrary to the provision of this Ordinance. Any violation of use restrictions as set forth in this Ordinance shall be reported to the District. Each individual customer shall be guilty of a separate offense for each day during which unauthorized use occurs. Any violation of the use restrictions set forth in this Ordinance shall be prosecuted by the District Legal Counsel by means of a criminal or civil filing as deemed appropriate by the Monte Vista Water District General Manager and District Legal Counsel if such violation continues after a notice has been issued by District.

Section II: Stage 1 - Drought Condition

A. If the General Manager declares that there is a 5 to 10 percent shortage of available water within the District and that voluntary water conservation measures have not sufficiently reduced the demand for water to meet the existing water supply, and after reporting such condition to the Board of Directors, the Board may declare a Phase I Water Conservation Drought Condition Resolution, and

B. After adoption of Resolution declaring such shortage and notification requirements have been met, Phase I water use restrictions shall become effective. The following prohibitions shall be initiated immediately:

   1. Allowing irrigation water to run off into a gutter, ditch, drain, sidewalk or other paved areas due to incorrectly directed or maintained sprinklers or as a result of excessive watering.

2. Failing to repair a reported leak within 48 hours of discovery.

3. Washing of all types of mobile equipment, unless done with a hand held bucket or a hand held hose equipped with a shut off nozzle. This section does not apply to the premises of a commercial car wash using on-site water recycling.

4. Restaurants serving customers water only when requested.

5. Hosing or washing a sidewalk, walkway, driveway, parking area or any paved surface except as required for sanitary purposes.

6. Using water to clean, fill or maintain levels in decorative fountains, ponds, lakes or other similar structures unless such water is a part of a recycling system.

The following provisions shall apply:

a) All lawns, landscaper or turf areas shall be watered only during the hours between 5 P.M. and 10 a.m. except during germination for new turf areas or when necessary to test proper operation of an irrigation system. This time restriction shall apply to residential, commercial and industrial properties within district, but shall not apply to commercial nurseries, golf courses and/or other water dependent industries as determined by the General Manager.

b) Commercial gardeners, landscapers, municipal users, nurseries, golf courses, publicly owned facilities and other water dependent industries shall not water between the hours of 10 a.m. and 5 P.M. unless reclaimed water is used.

c) Irrigation by hand held hoses, drip irrigation or hand held buckets is permitted anytime.

C. The Board of Directors Resolution declaring a Phase I situation shall set for a time schedule for expiration after review of the water shortage situation as reported by the District General Manager.

Section II: Stage 2 - Drought Condition

A. If the General Manager declares that there is a 10 percent and not more than 25 percent shortage of available water within the District and that Phase I Water Conservation measures have not sufficiently reduced the demand for water to meet the existing water supply, Phase II water use restrictions shall become effective, and

B. Adoption of Resolution declaring such shortage and notification requirements shall be administered and the following Phase II measures shall become effective:

1. All restrictions and prohibitions listed under Phase I shall apply.

2. Landscape Irrigation Residential - Outdoor irrigation by sprinklers will only be allowed on even numbered days of the month for those locations with a street address ending in an even last digit. Outdoor irrigation by sprinklers will only be allowed on odd numbered days of the month for those locations with a street address ending in an odd last digit. Outdoor irrigation of locations not having a street address shall irrigate on even numbered days of the month. Irrigation shall not occur during the hot hours of the day as established in Phase I measures.

3. Except as limited in item #4 below, no customer shall use or permit the use of water for any purpose in an amount exceeding 90% of the average daily amount used during the customers corresponding billing period in the customers historical base period use, however, no customer shall be required to reduce consumption below nineteen (19 billing) units per thirty (30) day period. Allocations between units shall be rounded up to the next full billing unit.

4. Landscape Irrigation Commercial - Water consumption through water meters designed for landscape irrigation shall not exceed 75% of the amount of water used during the base period or 75% of the daily CIMIS evapotranspiration water amount.

5. Any customer who was not a customer during the full historical base period shall be assigned by the District an average daily usage which corresponds to the usage of a similar account.

6. Water used on a one time basis for construction and dust control shall be limited to that quantity identified in a plan submitted by the user which describes water use requirements. The plan shall be submitted to the General Manager for approval.

7. Grading, Pool and Spa Permits -

   a) Permits will not be issued until such time as Phase II restrictions are deemed no longer in effect.

   b) Restrictions on permits will become effective at a time the General Manager, in the event of immediate emergency, submits report for Resolution proposal. Normally the measures will be in effect a minimum of thirty (30) days after resolution declaration.

   c) No one shall cause the emptying or refilling of existing pools or spas for cleaning purposes. Water levels will be maintained.

8. Landscaping -

   a) All new landscaping shall be limited to drought- tolerant plantings as determined by the District.

   b) No new lawns, whether by seed or sod shall be permitted.

   c) No person or entity shall be required to implement any landscaping requirements of any association, developer or governing agency until the termination of this stage.

C. The Board of Directors Resolution declaring a Phase II situation shall set forth a scheduled time for expiration after review of the water shortage situation as reported by the District General Manager.

Section II: Stage 3 - Drought Condition

A. If the General Manager declares that there is a 25 percent but not more than 40 percent shortage of available water within the District and that Phase II water conservation measures have not sufficiently reduced the demand for water to meet the existing water supply and after reporting such condition to the Board of Directors, the Board may declare a Phase III Water Conservation Drought Condition Resolution, and

B. After adoption of Resolution declaring such shortage and notification requirements have been met, Phase III water use restrictions shall become effective. The following prohibitions shall be initiated immediately:

1. All restrictions and/or prohibitions listed in Phase II.

2. No customer shall use or permit the use of water for any purpose in an amount exceeding seventy (70%) percent of the average daily amount used on the customer's premises during the corresponding billing period of the historical base period; however, no customer shall be required to reduce consumption below fifteen (15) billing units per thirty (30) day period. Allocations falling between full billing units shall be rounded up to the next full unit.

3. Any customer who was not a customer during the full historical base period shall be assigned by the District an average daily usage amount which corresponds to the usage of a similar account.

4. Water used on a one time basis for purposes such as construction and dust control shall be limited to that quantity identified in a plan submitted by the user which describes water use requirements. The plan shall be submitted to the General Manager for approval.

5. The use of water from fire hydrants shall be limited to fire fighting and related activities and other water for municipal purposes shall be limited to activities necessary to maintain the public health, safety and welfare.

C. The Board of Directors Resolution declaring a Phase III situation shall set forth a scheduled time for expiration after review of the water shortage situation as reported by the District General Manager.

Section II: Stage 4 - Drought Condition

A. If the General Manager declares that there is a more than 40 percent shortage of available water within the District and that Phase III water conservation measures have not sufficiently reduced the demand for water to meet the existing water supply and after reporting such condition to the Board of Directors, the Board may declare a Phase IV Conservation Drought Condition Resolution, and

B. After Resolution declaring such shortage and notification requirements have been met, Phase IV water use restrictions shall become effective. The following prohibitions shall be initiated immediately:

1. All restrictions and/or prohibitions listed in Phase III.

2. No customer shall use or permit the use of water for any purpose in an amount exceeding fifty (50) percent or some other percentage determined by the General Manager to be an appropriate average daily amount used on the customer's premises during the corresponding billing period of the historical base period; however, no customer shall be required to reduce consumption below thirteen (13) billing units per thirty (30) day period. Allocations falling between full billing units shall be rounded up to the next full billing unit.

3. Landscaping -

   (a) No new landscaping shall be permitted.

   (b) Existing landscaping shall be maintained with reclaimed water only as approved by the Department of Health. Existing trees and larger shrubs will be exempt.

4. Pool and Spa Permits -

   (a) No new pool or spa permit shall be issued.

5. Building and Grading Permits -

   (a) Permits for new residential construction which would result in additional dwelling unit(s) shall not be issued. Residential additions are over 50% of the existing residences habitable floor area will be considered an additional dwelling unit.

   (b) Building permits for new non-residential construction and non-residential additions which are over 50% of the existing habitable floor area shall not be issued.

   (c) All grading under permits issued prior to the Resolution declaring a Phase IV shortage shall be limited to the use of reclaimed water, as approved by the County Department of Health.

C. The Board of Directors Resolution declaring a Phase IV situation shall set forth a scheduled time for expiration after review of the water shortage situation as reported by the District General Manager.

<u>Exceptions To Provisions</u>

None of the restrictions outlined shall apply to the following:

1. The routine and necessary use of water by a governmental entity in pursuit of its functions for protecting the public health, safety and welfare. This exception does not apply to landscape irrigation by a governmental agency.

2. The necessary use of water for the routine maintenance and/or repair of water distribution facilities, residential and commercial plumbing and permanently installed landscape irrigation systems.

3. The prohibited uses set forth in this subsection do not apply to “gray water”. This provision shall not be construed to authorize the use of “gray water” if such use is otherwise prohibited by law.

4. Commercial car washes with water recycling systems and commercial laundries shall be exempt from allotment restrictions. These types of businesses are commonly used by consumers as a water conservation measure.

5. The use of reclaimed water shall be exempt from this Ordinance with respect to restrictions.

Exemptions from Provisions

Nothing contained in this Ordinance shall require any single family residential customer to reduce the customer's consumption of water to any amount less than the following water usage expressed as billing units per month at each meter during any billing period.

Phase Reduction Units per Month (each unit = 100 cubic feet or 748 gallons

I: 0% 22 units (548 gallons per day)

II: 10% 19 units (473 gallons per day)

III: 30% 15 units (374 gallons per day)

IV: 50% 11 units (274 gallons per day)

Hardship and Special Cases - Implementation/Review

A. A review board shall be established to review hardship special cases, which cannot follow the letter of this chapter. The review board shall consist of the General Manager, Controller, Legal Counsel and the Board of Directors of the District.

B. It will be the purpose of the review board to review hardship or special cases and to determine whether or not said case warrants a variance, permit or compliance agreement. A fee shall be assessed, as set fort to defray administrative costs for each permit application.

C. A variance or permit issued under a particular phase shortage shall not be valid upon implementation of a higher phase water shortage. A separate application or variance or permit must be submitted at each higher stage of the water conservation ordinance.

D. Any person, corporation or association who is issued a variance or permit and makes use of the water utility of the District pursuant to said variance, permit or compliance agreement shall provide proof of said variance, permit or compliance agreement upon demand by any person authorized by the District. Upon conviction of any person, corporation or association for violating any provision of this part, the review board shall revoke any permit, variance or compliance agreement previously granted. The Board shall notify applicant of the proposed revocation five (5) working days before taking such action and applicant shall be given the opportunity to be heard by the review board prior to its taking such action.

E. Persons wishing to appeal the decision of the board shall have the right of appeal to the General Manager. Appeal shall be made in writing within ten (10) working days of the board decision. The decision of the General Manager shall be final.

Section III: Failure To Comply - Violation - Penalty

A. Penalties. It is unlawful for any water customer to fail to comply with any of the provisions of this chapter. The penalties for failure to comply with the provisions of this chapter shall be as set out in subsection B of this section.

B. Violation of Prohibited Activities.

1. For the first violation by any customer of any of the provisions of these subsections, the District shall issue a written notice of the fact of such violation to the customer.

2. For a second violation within the preceding twelve calendar months, the District shall issue a final written notice of the fact of such violation to the customer.

3. For a third violation within the preceding twelve calendar months, a surcharge in the amount of $50 (fifty) shall be added to the customer's water bill.

4. For a fourth violation within the preceding twelve calendar months, a surcharge in the amount of $100 (one hundred) dollars shall be added to the customer's water bill.

5. For a fifth and any subsequent violation within the preceding twelve calendar months, a surcharge of $150 (one hundred-fifty) shall be added to the customer's water bill.

6. After a fifth violation the District may install a flow restricting device of one gallon per minute (1 GPM) capacity for services up to 1 1/2" size and comparatively sized restrictors for larger services. The District may terminate a customer's landscape meter service, in addition to the final surcharges provided for herein, upon a prior determination that the customer has repeatedly violated this Ordinance regarding the conservation of water and that such action is reasonably necessary to assure compliance with this chapter's rules regarding the conservation of water. Such action will only be taken after a hearing held by the review board where the customer has an opportunity to respond the District's evidence that the customer has repeatedly violated this chapter's rules regarding the conservation of water and that such action is reasonably necessary to assure compliance with this Ordinance regarding the conservation of water. Appeal of board decisions shall be made to the General Manager. The decision of the General Manager shall be final.

Any such restricted or terminated service may be restored upon application of the customer made not less than forty-eight (48) hours after the implementation of the action restricting or terminating service and only upon a showing by the customer that the customer is ready, willing and able to comply with the provision of this chapter's rules regarding the conservation of water. Prior to any restoration of the service, the customer shall pay all District charges for any restriction or termination of service and its restoration.

C. Violation of Water Usage Restriction Under Phase II, III and IV Water Shortage Conditions.

1. For the first violation by any customer of any of the provision a drought surcharge in an amount equal to fifteen (15%) percent of the water bill plus an additional three dollars ($3.00) for each billing unit in excess of the usage of water permitted by the particular conservation phase in which the violation occurred shall be added to the customer's water bill.

2. For a second violation within the preceding twelve calendar months, a drought surcharge in an amount equal to twenty-five (25%) of the water bill, plus an additional three dollars ($3.00) for each billing unit in excess of the usage of water permitted by the particular conservation phase in which the violation occurred shall be added to the customer's water bill.

3. For a third violation and any subsequent violation within the preceding twelve calendar months, a drought surcharge in an amount equal to seventy-five (75%) of the water bill, plus an additional four dollars ($4.00) for each billing unit in excess of the usage of water permitted by the particular conservation phase in which the violation occurred shall be added to the customer's water bill.

4. After a fourth violation by a customer of any of the provision of subsections within the preceding twelve calendar months, in addition to the surcharges established herein, the review board may impose the penalties provided for in the subsection that covers flow restriction.

Section IV: Request for Adjustment to Average Daily Usage During Historical Base Period

A customer notified of failure to comply with the water use allotment provisions shall have the right to request relief from or an adjustment to their average daily usage during the historical base period, provided that a written request using forms provided by the District is submitted, or a letter setting forth the reasons for the request filed by the customer within fifteen (15) days after receipt of notice of failure to comply. No relief shall be granted to any customer who, when requested , fails to provide any information requested by the District. A decision on the request shall be made by the District within fifteen (15) days after receipt of the request thereof. Penalties, including the installation of a flow restricting device, will be stayed until such time as a written decision by the District is conveyed to the customer. In determining whether relief shall be granted, the District shall take into consideration all relevant factors including, but not necessarily limited to the following:

1. Whether any additional reduction in water consumption will result in unemployment or economic hardship.

2. Whether additional members have been added to the household.

3. Whether any additional landscaped property has been added to the property subsequent to the historical base period.

4. Changes in vacancy factors in multi-family housing.

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

6. Water uses during new construction.

7. Adjustment to water use caused by emergency health or safety hazards.

8. First filling of a swimming pool constructed under permit.

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

10. Increased production requiring increased process water.

11. Water use in multi-family housing or mobile home parks where more than one dwelling unit is provided water service by a single water meter.

12. Unusual or unexplained water usage.

13. Water usage which is substantially less than adjacent and similar properties as a direct result of historic water conservation practices. In no event, however, could an adjustment be made which would permit a water use higher than that which historically existed.

A written decision shall be given to the customer personally or by mail within fifteen (15) days after the request for an adjustment is received by the District.

Section V: Notices Of Failure To Comply

1. The District shall give at least the following written notice of violation to the customer committing the violation:

   A. Notice of violation of the water use allotment provision or of the water use restrictions shall be given in writing by regular mail or personal delivery to the customer's address on file with the District.

   B. If personal delivery is used, any notice of violation of the water use allotments or of water use restrictions shall be made in the following manner:

      (1) By handing notice to customer personally.

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

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

   C. The notice shall contain a description of the facts of the violation, a statement of the possible penalties for each violation and a statement informing the customer of his or her right to request an adjustment to the average daily water use during the historical base period.

Section VI: No Obligation on Water Purveyor When Health and Safety Would be Impacted

Nothing contained in this article shall be construed to require the District to curtail or reduce the supply of water to any customer when in the discretion of the District, damage to equipment could occur or such water is required by that customer to maintain an adequate level of health and safety.

Section VII: Validity

If any section, sub-section, clause, phrase or portion of this Ordinance is for any reason held to be invalid or unconstitutional by any court of competent jurisdiction, such decision shall not affect the validity of remaining portions of this Ordinance.

Section VIII: Effective Date

This Ordinance shall be effective _____ upon publication in any newspaper of general circulation and distributed within the District as required by law.

The President of the Board of Directors shall sign this Ordinance and the Secretary shall attest to the same, and the Secretary shall cause it to be published within ten (10) days after its adoption, at least once in a newspaper of general circulation which is distributed within the Monte Vista Water District.

ADOPTED THIS _____ day of _____ 20__

_____
Robb D. Quincey, President
Board of Directors
MONTE VISTA WATER DISTRICT

ATTEST:

_____
Mark N. Kinsey, Secretary
Board of Directors
MONTE VISTA WATER DISTRICT

APPENDIX H

DRAFT WATER SHORTAGE STAGE RESOLUTION

RESOLUTION XXX-XX

**RESOLUTION OF THE BOARD OF DIRECTORS
OF THE MONTE VISTA WATER DISTRICT,
COUNTY OF SAN BERNARDINO, STATE OF CALIFORNIA,
ADOPTING AND AUTHORIZING IMPLEMENTATION OF
WATER SHORTAGE STAGE __ OF THE WATER SHORTAGE CONTINGENCY PLAN**

WHEREAS, the District's Water Shortage Contingency Plan establishes Water Conservation Measures to be implemented when the demand for water consumption threatens to exceed the District's available supply of water to the consumer, provided there are no immediate resources available to remedy the situation.

WHEREAS, the District's Water Shortage Contingency Plan establishes water conservation stages and penalties for violations of mandatory conservation measures to be enacted during a declared water shortage.

WHEREAS, the Board of Directors of the Monte Vista Water District is authorized to direct implementation of the applicable provisions of the Water Shortage Contingency Plan upon determination that such implementation is necessary to protect the public health, welfare and safety.

WHEREAS, the Board of Directors of Monte Vista Water District hereby finds that a water shortage exists within the District's service area.

BE IT THEREFORE RESOLVED, that the Monte Vista Water District adopt Resolution XXX-XX, implementing the Water Shortage Stage __ of the Water Shortage Contingency Plan for the purpose of conserving water consumption within the District's service area.

ADOPTED, SIGNED, AND APPROVED this __ day of _____ 2005.

_____
Robb D. Quincey
President of the Board of Directors
MONTE VISTA WATER DISTRICT

I, Mark N. Kinsey, Secretary of the Governing Board, hereby certify that the foregoing resolution was adopted by the Monte Vista Water District at a regular meeting thereof, held on the ____ day of _____, _____ by the following vote:

AYES: _____
NOES: _____
ABSENT: _____

ATTEST:

_____
Mark N. Kinsey
Secretary to the Board of Directors
MONTE VISTA WATER DISTRICT

Monte Vista Water District

10575 Central Avenue, Montclair, CA 91763
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