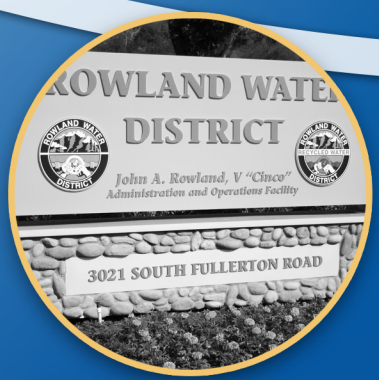

2010 Urban Water Management Plan
Rowland Water District
July, 2011

HDR

2010 Urban Water Management Plan

Rowland Water District

July 2011

REGISTERED PROFESSIONAL ENGINEER

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List of Abbreviations

ac-ft	Acre-feet
ac-ft/day	Acre-feet per day
ac-ft/yr	Acre-feet per year
BMP	Best management practices
cfs	Cubic feet per second
CDPH	California Department of Public Health
CII	Commercial, industrial, institutional
CRA	Colorado River Aqueduct
CUWCC	California Urban Water Conservation Council
District	Rowland Water District
DMM	Demand management measure
DWR	California Department of Water Resources
ET_o	Evapotranspiration
˚F	Degrees Fahrenheit
FY	Fiscal year
gpcd	Gallons per capita per day
hcf	Hundred cubic feet
in	Inch(es)
LACSD	Los Angeles County Sanitation District
MG	Million gallons
mgd	Million gallons per day
mg/L	Milligrams per liter
MOU	Memorandum of Understanding
MSGB	Main San Gabriel Basin
MWD	Metropolitan Water District of Southern California
SWP	State Water Project
TDS	Total dissolved solids
Three Valleys	Three Valleys Municipal Water District
TOC	Total organic carbon
ULFT	Ultra low flow toilet
UWMP	Urban Water Management Plan
UWMP Act	Urban Water Management Planning Act
VOC	Volatile organic compound
WRP	Water reclamation plant
WTP	Water treatment plant

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1.0 Plan Preparation

The Urban Water Management Planning Act (UWMP Act) was created by Assembly Bill 797, which was signed into law in September 1983. Since then the UWMP Act has been amended by Assembly Bill 2661 (July 1990), Assembly Bill 1869 (October 1991), and Assembly Bill 11X (October 1991).

The UWMP Act requires that urban water suppliers (i.e. municipal water suppliers providing water for municipal purposes to more than 3,000 customers or supplying more than 3,000 acre-feet of water annually) prepare and adopt Urban Water Management Plans (UWMPs) which report, describe, and evaluate water deliveries and uses, water supply sources, efficient water uses, and demand management measures.

The UWMP Act directs water agencies in carrying out their long-term resource planning responsibilities to ensure adequate water supplies are available to meet existing and future demands. Urban water suppliers are required to assess current demands and supplies over a 20-year planning horizon and consider various drought scenarios. The UWMP Act also requires water shortage contingency planning and drought response actions to be included in a UWMP.

In November 2009, the Water Conservation Bill of 2009 (SBX7-7) was passed. This bill includes elements of the 20x2020 Water Conservation Plan which was designed to reduce the statewide per capita urban water use by 20 percent by the year 2020. The Water Conservation Bill of 2009 requires urban water suppliers to report in their UWMPs base daily per capita water use (baseline), an urban water use target, an interim urban water use target, and compliance daily per capita water use. This will enable water agencies, and in turn, the State of California, to track progress towards decreasing daily per capita urban water use throughout the state.

The Rowland Water District (District) has prepared this UWMP to ensure the efficient use of available water supplies, determine existing baseline water consumption, establish water use targets, describe and evaluate the existing water system and historical and projected water use, evaluate current and projected water supply reliability, describe and evaluate demand management measures, and provide water shortage contingency plans as required by the UWMP Act.

1.1 Resource Maximization

The District recognizes the importance of planning for the future water demands of its customers. Since the District's potable water supply is currently imported, it is even more critical to coordinate with other regional and local agencies in planning for the future. As a result, joint-agency projects, such as groundwater basin clean-up and water transfer agreements, are being coordinated on a continual basis and not just coordinated as a result of developing an UWMP.

1.2 Coordination

The District met and coordinated with other local and regional agencies in the area during the preparation of this UWMP. Each agency and organization contacted or involved in the preparation, discussion, and/or coordination of this UWMP is listed in Table 1-1.

Table 1-1
Coordination with Appropriate Agencies

Coordinating Agencies	Commented on the Draft	Attended Public Meetings	Contacted for Assistance	Received a Copy of the Draft	Sent a Notice of Intent to Adopt
City of Industry					X
City of West Covina					X
County of Los Angeles					X
Three Valleys Municipal Water District			X		
General Public					

1.2.1 City and County Notification

The District sent out notices to cities within its service area and the County of Los Angeles, as identified in Table 1-1, that the UWMP was being reviewed, modified, and prepared. Copies of the notices, dated May 16, 2011, are provided in Appendix A.

1.2.2 Public Participation

The District has encouraged public participation in the development of the 2010 UWMP and provided opportunities for public review and comment. Notices of public hearings were placed in the local newspaper and posted at the District office. A copy of the notice is provided in Appendix B. The public notice stated that the UWMP was being updated and that a public review period of the draft report would be provided to address comments and concerns from members of the community. The notice stated that the public review period would be scheduled from July 5, 2011 to July 19, 2011. The draft UWMP was provided for public inspection at the District office since it is the only District facility in the community and it is easily accessible to all customers.

On July 19, 2011, the District conducted a public hearing at the District office to hear and discuss any comments from the public prior to adopting the UWMP. This hearing provided an opportunity for the District's customers/residents and employees in the area to learn about the water supply situation and plans for providing a reliable, safe, high-quality water supply for the future.

1.3 Plan Adoption, Submittal, and Implementation

The 2010 UWMP was prepared during the winter and spring of 2010-11. The 2010 UWMP was adopted by the District's Board of Directors on July 19, 2011, and will be submitted to the California Department of Water Resources (DWR) within 30 days of Board approval. A copy of the resolution is provided in Appendix C.

Within 30 days of submitting the UWMP to the DWR, the adopted UWMP will be submitted to the California State Library, City of Industry, City of West Covina, and County of Los Angeles. The adopted UWMP will also be available for public review at the District office.

This UWMP will be implemented to meet the 2015 and 2020 urban water use targets. Daily per capita urban water use will be decreased throughout the service area by increasing recycled water use, offsetting potable water demands and implementing the water use reduction plan discussed later in this report.

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2.0 System Description

This section provides a description the District's water system including a description of the climate, population, and demographics. This section also provides descriptions of the distribution system.

2.1 Description of District and Service Area

The District was formed in 1953, by a vote of the people, to provide a safe and reliable water source, transforming the area from a cattle raising and farming area to the large urban and industrial area that it is today. The expansion of the California Highway Route 60 (Pomona Freeway) provided significant industrial and residential growth opportunities for the area since it is a direct thoroughfare and link to the City of Los Angeles.

The District is located in a 17.5 square mile area in southeastern Los Angeles County. The District serves portions of unincorporated Rowland Heights, Hacienda Heights and La Puente, the City of Industry and the City of West Covina. The District's service area is shown in Figure 2-1.

The District is governed by a five person Board of Directors and a staff of 25 employees who are responsible for the total operation and maintenance of all District facilities and infrastructure. Each director is publically elected to represent one of five defined divisional boundaries within the District as shown in Figure 2-2.

2.2 Distribution System

The District owns, operates, and maintains about 150 miles of water distribution mains, 3,020 fire hydrants and 13,500 customer service connections. Because the underlying groundwater basin (Puente Basin) is contaminated with volatile organic compounds (VOCs), high levels of total dissolved solids (TDS), and high nitrate concentrations, the District's only potable water supply is imported water from Metropolitan Water District (MWD), through it's member agency, Three Valleys Municipal Water District (Three Valleys) The Puente Basin is adjudicated between the Rowland Water District, Walnut Valley Water District, the City of Industry and the City of Industry Urban Development Agency.

The potable water imported to the District is treated by MWD at its Weymouth Treatment Plant in La Verne, California. The water from this plant is delivered to the District by MWD through its regional water member agency, the Three Valleys Municipal Water District (Three Valleys). Three Valleys also operates its own potable water treatment facility, the Miramar Water Treatment Plant (WTP). Potable water supplies are delivered to the District through three different transmission connections.

The District has 17 potable water storage reservoirs with a total capacity of 48 million gallons (MG) to serve a customer water demand of about 14 million gallons per day (mgd), on average.

In an emergency, this storage represents a supply of water for just over three days. The District also has one recycled water reservoir with a total capacity of 5 MG.

The primary source of recycled water is treated effluent from the Los Angeles County Sanitation District's San Jose Creek Water Reclamation Plant (WRP). Recycled water is conveyed from the San Jose Creek WRP to the City of Industry's facilities. Located at the City's facilities is a pumping station used jointly by the City of Industry and the District. Recycled water is pumped from this station to the District's recycled water system.

Supplementary sources of recycled water include the following:

- Groundwater pumped from Puente Basin by the Anthony Poli Well No. 1
- Groundwater pumped from the Carrier groundwater treatment facility
- Emergency recycled water connection with Walnut Valley Water District

2.3 Climate

The District has a Mediterranean-style climate usually associated with hot, dry summers and cool mild winters. Annual average precipitation for the area is approximately 18 inches with most rainfall occurring between October and April. Reference evapotranspiration (ET_o) values, which serve as indicators of how much water is required to maintain healthy agriculture and landscaping, range from 1.59 to 8.67 inches per month. Temperature, rainfall, and evapotranspiration average for the District are presented in Table 2-1.

Table 2-1
Service Area Climate

Parameter [1]	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Annual
ETo (in) [2]	1.59	2.20	3.66	5.08	6.83	7.80	8.67	7.81	5.67	4.03	2.13	1.59	57.06
Rainfall (in) [3]	3.78	3.93	2.88	1.27	0.32	0.10	0.03	0.10	0.33	0.70	1.63	2.86	17.94
Temperature (˚F) [4]	52.90	53.90	56.65	60.10	62.75	69.10	74.10	74.45	71.25	65.70	58.90	53.15	62.75

1) Monthly average values
2) California Irrigation Management Information System, Station 159, Monrovia
3) Western Regional Climate Center, Covina
4) Western Regional Climate Center, Azusa City Park

2.4 Service Area Population

Population estimates for the District's service area were calculated in accordance with DWR guidelines, *Methodologies for Calculation of Baseline and Compliance Urban per Capita Water Use* (DWR, February 2010).

Population estimates were developed by correlating the year 2000 residential connections with the 2000 Census population estimate, and then scaling the estimate forward using data for active residential connections.

The 2000 Census population was estimated by identifying the census blocks that lie within the District's service area boundary, shown in Figure 2-3. The census data included population by structure type. This was used to estimate the distribution between single family and multiple family populations. These populations were then divided by the number of active single family and multi-family connections in year 2000 to obtain population per connection ratios. A summary of these numbers is presented in Table 2-2.

Table 2-2
Year 2000 Population and Connections

Parameter	Single Family	Multi-Family	Total
Population	44,774	12,234	57,009
Number of Connections	10,338	417	--
Population per Connection	4.33	29.34	--

1) Population data from the 2000 Census.

Over the last ten years, the annual growth rate within the District's service area has ranged from -2.5 percent to 8.7 percent, with an average growth rate of about one percent. Growth in recent years has been slow due to the decline in the economy. However, as the recession eases, it is anticipated that the growth will resume.

The populations per connection ratios in Table 2-2 were applied to the number of active single family and multi-family connections in the year 2010. Future infill and redevelopment within the District's service area is projected to increase at a rate of one percent per year. This growth rate was applied to the 2010 population to project population through 2035.

The Aera master planned community is a proposed development that will straddle unincorporated areas of both Los Angeles and Orange Counties. It includes the phased development of a 2,935 acre site with a maximum of 3,600 dwelling units, a golf course and related uses, park uses, commercial uses, internal greenbelt and open space preservation areas. This project has been delayed due to the economy. The developer's best estimate for the start of this project is about 2015 with projected buildout around 2025. Population estimates were developed based on the phasing and water demand projections provided in the *Water Supply Assessment for the Proposed Aera Master Planned Community* (Rowland Water District, 2007).

The total projected population is the sum of the growth from infill and redevelopment and the Aera project. A summary of the current and projected population is provided in Table 2-3.

Table 2-3
Population — Current and Projected

	2010	2015	2020	2025	2030	2035	Data Source
Service Area Population[1]	62,106	70,005	76,611	84,227	87,905	91,771	2000 Census

1) Service area population is defined as the population served by the distribution system.

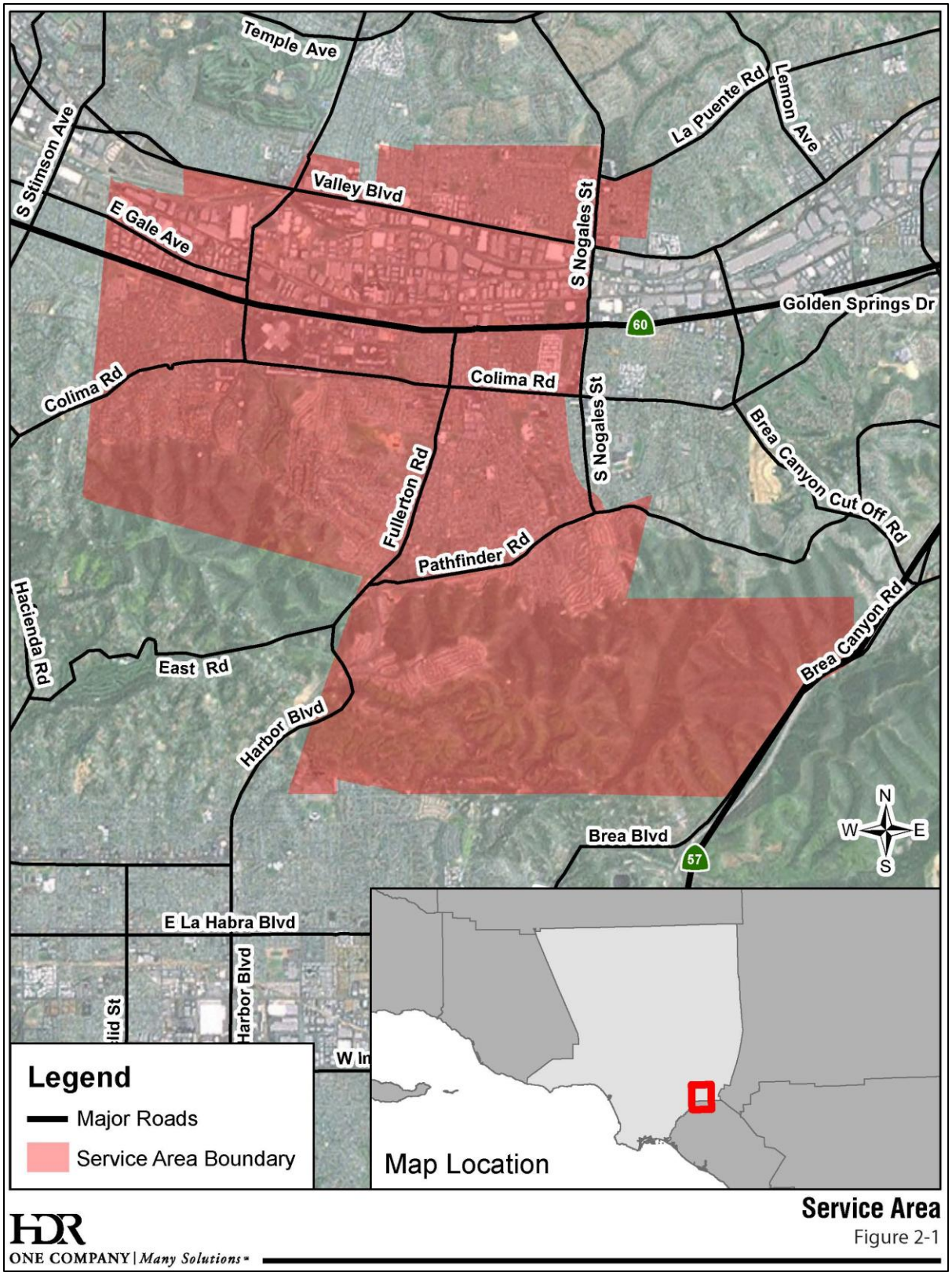

Figure 2-1. Service Area

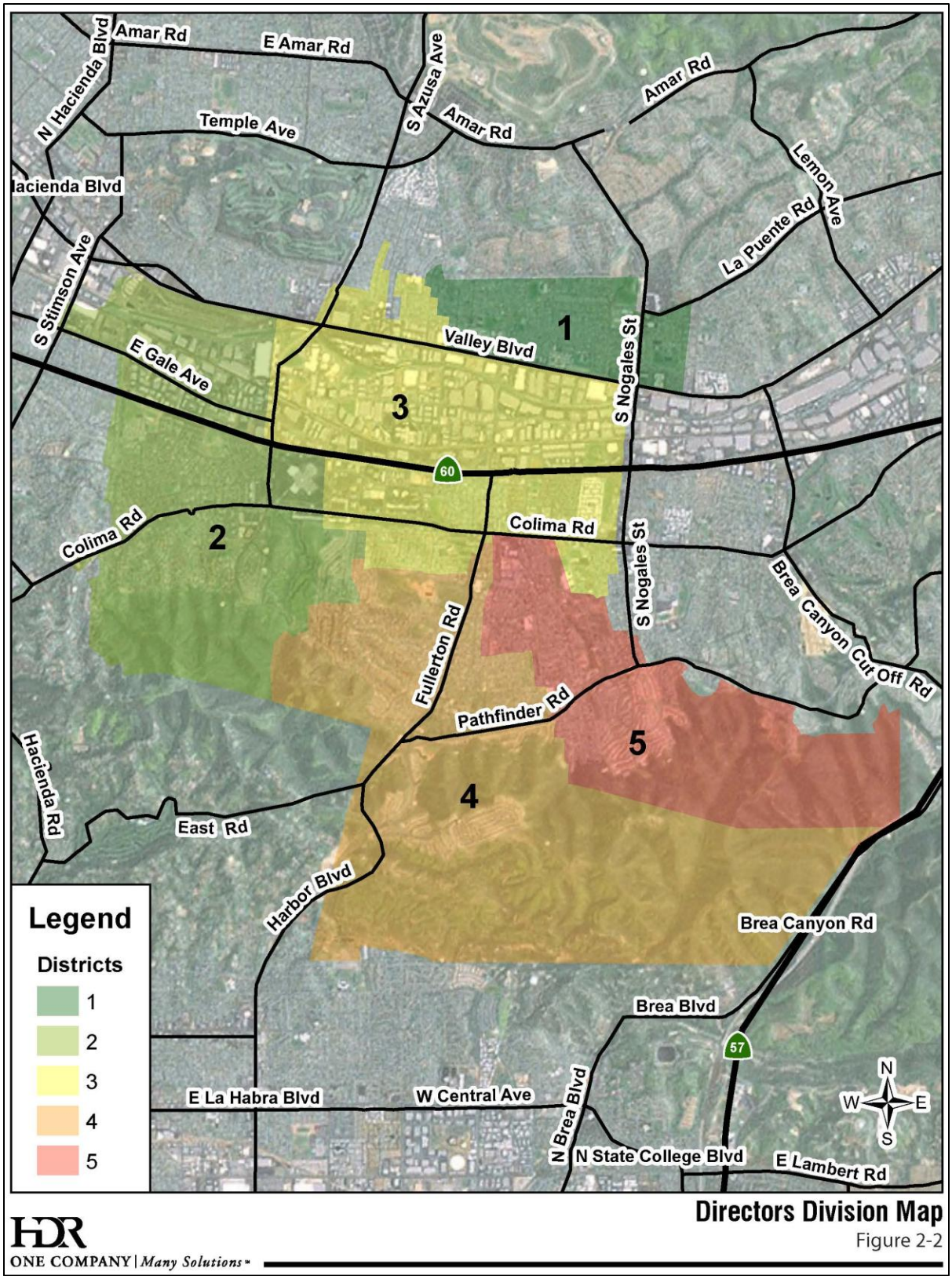

Figure 2-2. Directors Division Map

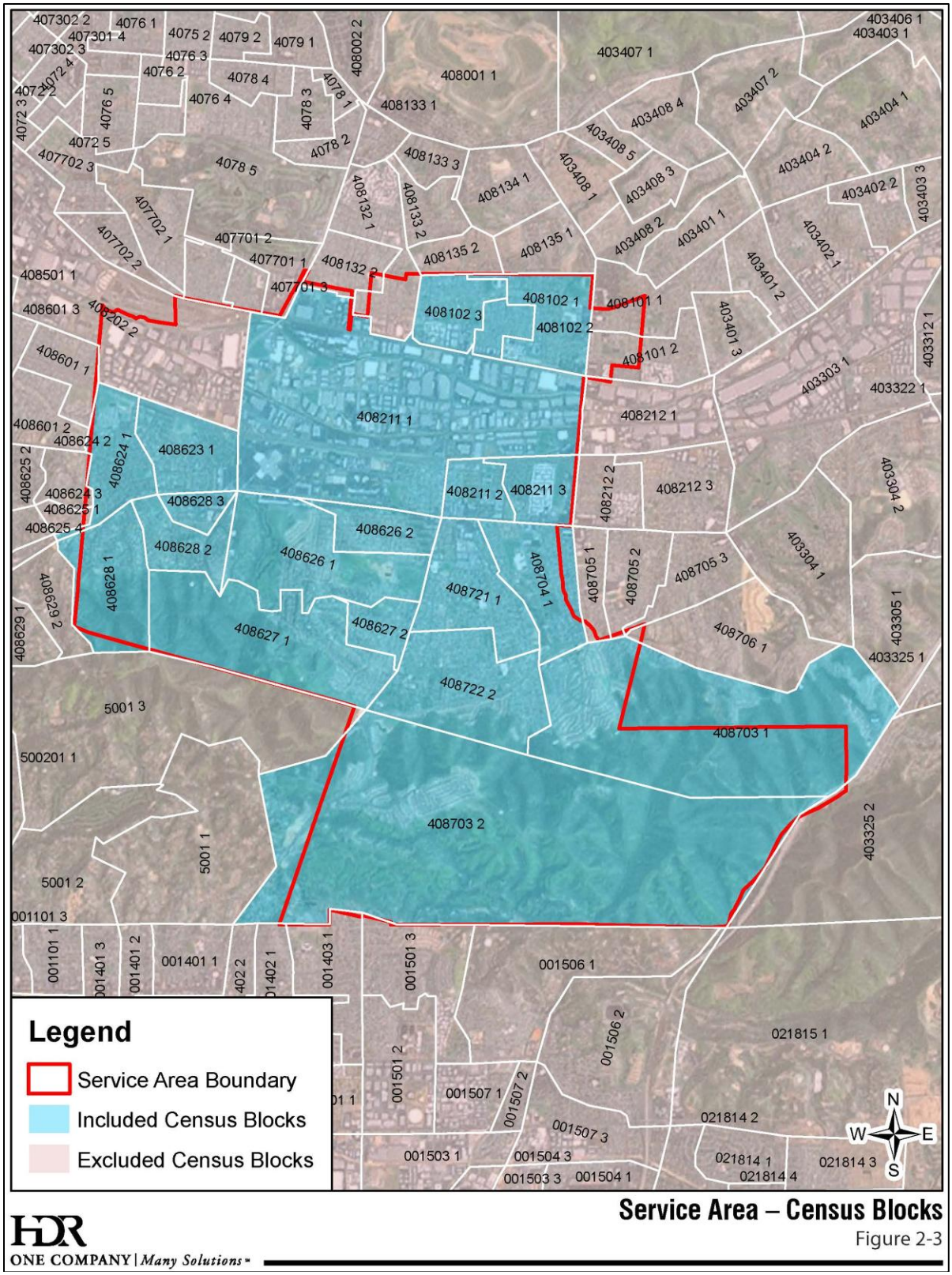

Figure 2-3. Service Area - Census Blocks

3.0 System Demands

The District's past, current and projected water demands are presented in this section. This section also includes a baseline water use calculation and specific water use targets to meet the requirements of the Water Conservation Bill of 2009. Current water demand is provided by water use sector and projected to 2035 in five-year increments. Current system losses are also provided and projected to 2035.

3.1 Baselines and Targets

The following sections describe the methods used to calculate the baseline water use and targets:

- **Baseline daily per capita water use:** The amount of water used within the District's distribution system area on a per capita basis.
- **Urban water use target:** The amount of water planned to be delivered in 2020 to each resident within the District's distribution system area, taking into account water conservation practices that currently are and plan to be implemented.
- **Interim urban water use target:** The planned daily per capita water use in 2015, a value halfway between the baseline daily per capita water use and the urban water use target.

3.1.1 Base Period Ranges

Two baseline periods must be determined to calculate the base daily per capita water use:

- **10- to 15-Year Base Period:** This is a 10-year or 15-year continuous period used to calculate baseline per capita water use.
  - If recycled water makes up less than 10 percent of 2008 water deliveries, use a continuous 10-year period.
  - If recycled water makes up 10 percent or more of 2008 water deliveries, use a continuous 10- to 15-year period.
- **5-Year Base Period:** This is a continuous 5-year period used to determine whether the 2020 per capita water use target meets the legislation's minimum water use reduction requirements of at least a 5 percent reduction per capita water use.

The District's 2008 water and recycled water deliveries are shown in Table 3-1. Recycled water made up about 0.24% of total water deliveries. Therefore, a 10-year base period is required to calculate baseline per capita water use. Water use in more recent years was artificially low due to tiered rates and economic factors. Therefore, the baseline period of 1999 through 2008 was used, which is more representative of the District's water use. Table 3-1 also shows the 5-year base period used to calculate the minimum water use reduction requirement.

Table 3-1 Base Period Ranges			
Base	**Parameter**	**Value**	**Units**
10- to 15-Year Base Period	2008 total water deliveries	13,452	ac-ft
	2008 total volume of delivered recycled water	32	ac-ft
	2008 recycled water as a percent of total deliveries	0.24%	percent
	Number of years in base period[1]	10	years
	Year beginning base period range	1999	
	Year ending base period range	2008	
5-Year Base Period	Number of years in base period	5	years
	Year beginning base period range	2004	
	Year ending base period range	2008	

1) The 2008 recycled water as a percent of total deliveries is less than 10 percent. Therefore, the first base period is a continuous 10-year period.

3.1.2 Base Period Population

The population per connection ratios in Table 2-2 was applied to the number of connections in each of the base period years to estimate the total population as shown in Table 3-2.

Table 3-2 Base Period Population						
Base Period Year		**Single Family**		**Multi-Family**		**Total Population**
Sequence Year	**Calendar Year**	**Connections**	**Population**	**Connections**	**Population**	
Year 1	1999	11,472	49,685	410	12,030	61,715
Year 2	2000	10,338	44,774	417	12,235	57,009
Year 3	2001	11,517	49,880	412	12,088	61,968
Year 4	2002	11,525	49,915	460	13,497	63,412
Year 5	2003	11,486	49,746	412	12,088	61,834
Year 6	2004	11,603	50,253	414	12,147	62,400
Year 7	2005	11,558	50,058	413	12,118	62,176
Year 8	2006	11,547	50,010	412	12,088	62,098
Year 9	2007	11,560	50,066	410	12,030	62,096
Year 10	2008	11,557	50,054	417	12,235	62,289

3.1.3 Gross Water Use

Gross water use is a measure of water supplied to the distribution system over 12 months and adjusted for changes in distribution system storage and deliveries to other water suppliers. Recycled water deliveries are excluded from the calculation and water delivered for agricultural use is deducted. A summary of the gross water use calculation for the District's distribution system is provided in Table 3-3.

Table 3-3 Gross Water Use Calculation (mgd)										
Calculation	**1999**	**2000**	**2001**	**2002**	**2003**	**2004**	**2005**	**2006**	**2007**	**2008**
Volume from Own Sources (raw data)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.28	0.29
Meter Error Adjustment (+/-)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Subtotal: Corrected Volume from Own Sources	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.28	0.29
Volume from Imported Sources (raw data)	13.15	12.61	12.32	13.60	12.21	12.25	12.17	11.87	12.23	11.83
Meter Error Adjustment (+/-)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Subtotal: Corrected Volume from Imported Sources	13.15	12.61	12.32	13.60	12.21	12.25	12.17	11.87	12.23	11.83
Total Volume Into Dist. System	**13.15**	**12.61**	**12.32**	**13.60**	**12.21**	**12.25**	12.17	11.87	**12.51**	**12.12**
Volume Exported to Other Utilities (raw data)	0.93	0.48	0.47	1.33	0.34	0.09	0.02	0.03	0.02	0.00
Meter Error Adjustment (+/-)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Subtotal: Corrected Volume Exported to Other Utilities	0.93	0.48	0.47	1.33	0.34	0.09	0.02	0.03	0.02	0.00
Change in Dist. System Storage (+/-) [1]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Gross Water Use Before Indirect Recycled Water Use Deductions	**12.22**	**12.14**	**11.85**	**12.27**	**11.88**	**12.17**	12.14	11.84	**12.49**	**12.12**
Indirect Recycled Water Use Deduction	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Gross Water Use After Indirect Recycled Water Use Deductions	**12.22**	**12.14**	**11.85**	**12.27**	**11.88**	**12.17**	12.14	11.84	**12.49**	**12.12**
Water Delivered for Ag. Use (optional deduction)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Process Water Use (optional deduction)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Gross Water Use After Optional Deductions	**12.22**	**12.14**	**11.85**	**12.27**	**11.88**	**12.17**	12.14	11.84	**12.49**	**12.12**

1) Volume of water in distribution system storage is unknown. It is expected to be insignificant.

3.1.4 Base Daily Per Capita Water Use

The daily per capita water use was calculated for each year in the base period by dividing the gross water use by the distribution system population. The daily per capita water use for the 10-year base period is shown in Table 3-4. The base daily per capita water use is calculated as the average daily per capita water use over the 10-year period.

The daily per capita water use for the 5-year base period is shown in Table 3-5. The base daily per capita water use is calculated as the average daily per capita water use over the 5-year period. Multiplying the 5-year base daily per capita water use by 0.95 results in a value of 186 gpcd. The 2020 per capita water use target cannot exceed this value.

Table 3-4 Base Daily Per Capita Water Use — 10-Year Range				
Base Period Year		Distribution System Population	Daily System Gross Water Use (mgd)	Annual Daily Per Capita Water Use (gpcd)
Sequence Year	Calendar Year			
Year 1	1999	61,715	12.22	198
Year 2	2000	57,009	12.14	213
Year 3	2001	61,968	11.85	191
Year 4	2002	63,412	12.27	193
Year 5	2003	61,834	11.88	192
Year 6	2004	62,400	12.17	195
Year 7	2005	62,176	12.14	195
Year 8	2006	62,098	11.84	191
Year 9	2007	62,096	12.49	201
Year 10	2008	62,289	12.12	195
			Base Daily Per Capita Water Use	**196**
			Base Daily Per Capita Water Use x 0.8	**157**

Table 3-5 Base Daily Per Capita Water Use — 5-Year Range				
Base Period Year		Distribution System Population	Daily System Gross Water Use (mgd)	Annual Daily per Capita Water Use (gpcd)
Sequence Year	Calendar Year			
Year 1	2004	62,400	12.17	195
Year 2	2005	62,176	12.14	195
Year 3	2006	62,098	11.84	191
Year 4	2007	62,096	12.49	201
Year 5	2008	62,289	12.12	195
			Base Daily Per Capita Water Use	**195**
			Base Daily Per Capita Water Use x 0.95	**186**

3.1.5 Water Use Targets

An urban water use target for the year 2020 and an interim water use target for the year 2015 must be set using one of four methods:

- **Method 1:** Eighty percent of the water supplier's baseline per capita water use.
- **Method 2:** Per capita daily water use estimated using the sum of performance standards applied to indoor residential use; landscaped area water use; and CII uses.
- **Method 3:** Ninety-five percent of the applicable state hydrologic region target as stated in the State's April 30, 2009, draft 20x2020 Water Conservation Plan.

- **Method 4:** An alternative approach developed by the DWR that takes into consideration water loss, conservation program saturation, and a number of other factors.

Method 1 was used to determine the District's water use targets. Based on Method 1, the 2020 target was determined to be 157 gpcd. The maximum allowable gpcd target in 2020, based on 95 percent of the 5-year base daily per capita water use, was determined to be 186 gpcd. The target based on Method 1 is less than the 186 gpcd maximum, therefore no further adjustment to the 2020 target is required.

The interim water use target for year 2015 was estimated as the mid-point between the 10-year baseline per capita water use of 196 gpcd and the 2020 target of 157 gpcd. A summary of the water use targets is provided in Table 3-6.

Table 3-6
Baseline and Water Use Targets

Water Use Target	Daily Per Capita Water Use (gpcd)
Baseline	196
Interim Water Use Target (2015)	177
Urban Water Use Target (2020)	157

3.2 Water Demands

The District's past, current, and projected potable water accounts and water deliveries are shown in five-year increments from 2005 through 2035 in Table 3-7 and Table 3-8. All of the District's water deliveries are metered.

Table 3-7
Potable Water — Number of Accounts[1]

Water Use Sector	2005	2010	2015	2020	2025	2030	2035
Single Family	11,558	11,630	13,103	14,381	15,966	16,655	17,379
Multi-Family	413	400	451	487	512	536	561
Commercial	1,041	1,257	1,330	1,395	1,480	1,554	1,632
Industrial	0	0	0	0	0	0	0
Institutional / Governmental	0	0	0	0	0	0	0
Landscape	38	43	0	0	0	0	0
Agriculture	12	0	0	0	0	0	0
Other	422	486	511	537	564	593	623
Total Water Deliveries	**13,484**	**13,816**	**15,396**	**16,800**	**18,523**	**19,339**	**20,196**

1) All accounts in the District's service area are metered.

Table 3-8 Water Deliveries — Actual and Projected Potable Water[1] (ac-ft/yr)							
Water Use Sector	**2005**	**2010**	**2015**	**2020**	**2025**	**2030**	**2035**
Single Family	6,276	4,860	6,254	6,864	7,620	7,949	8,295
Multi-Family	1,919	1,150	1,400	1,512	1,591	1,665	1,742
Commercial	5,023	4,390	4,419	4,416	4,728	5,031	5,350
Industrial	0	0	0	0	0	0	0
Institutional / Governmental	0	0	0	0	0	0	0
Landscape	273	251	0	0	0	0	0
Agriculture	58	0	0	0	0	0	0
Other	10	13	17	18	19	20	21
Total Water Deliveries	**13,559**	**10,664**	**12,090**	**12,810**	**13,959**	**14,665**	**15,407**

1) All accounts in the District's service area are metered.

3.2.1 Actual Water Deliveries

The delivery volumes by customer type from 1995 through 2010 are illustrated in Figure 3-1. The number of water service connections and volume of water served provide insight into different customers' water use, which can be useful in defining effective water conservation measures. Most service connections are single family residential which on average represents about 48 percent of the total demand.

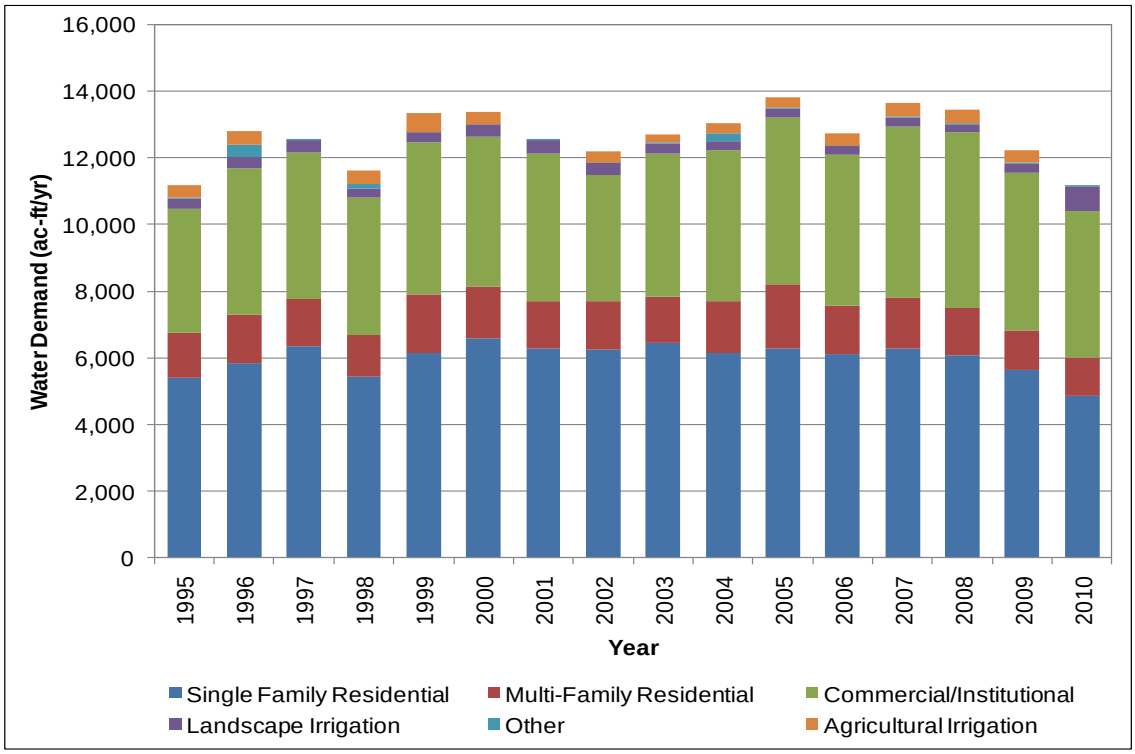

Figure 3-1. Historical Water Demand by Water Use Sector

Although the number of connections has increased in recent years, water demands have decreased. The decline in total water demand is due to a combination of mandatory water reductions and the enhanced levels of conservation taking place. During fiscal year 2009/2010, a Level 1 Water Supply Shortage was issued requiring a minimum 10 percent reduction in water use. In 2009, the District also implemented a tiered pricing strategy in an effort to eliminate water waste and promote reduced water consumption by end users. This has helped to reduce the pressure on supply availability during recent dry periods and will be important in maintaining reliability in the future.

3.2.2 Projected Water Deliveries

Future infill and redevelopment within the District's service area is projected to increase at a rate of one percent per year. Because of the mandatory water reductions in 2009/2010, the one percent growth rate was applied to the average number of connections and water delivery volumes from 2008 through 2010 to project demands for 2015 through 2035.

Water demand estimates for the Aera master planned community were provided in the *Water Supply Assessment for the Proposed Aera Master Planned Community* (Rowland Water District, 2007). These demands were added to the existing demands and demands from infill and redevelopment growth. The developer's best estimate for the start of this project is about 2015 with project buildout around 2025. This project has been put on hold due to the current economic recession. Depending on how long it takes for the economy to recover, the Aera project may be delayed further. As a result, water demands associated with the Aera project will be evaluated and further refined in the 2015 UWMP.

A summary of the water demand projections is provided in Table 3-8. These demand projections are consistent with the District's water use targets identified in Section 3.1.

3.2.3 Sales to Other Water Agencies

The District is dependent upon MWD through their member agency, Three Valleys, for its potable water supply. Three Valleys' current rate structure is a two-tiered rate which serves to discourage excessive use by forcing water purveyors to actively manage their own systems to minimize costs associated with buying imported water

The sale of water to other agencies by the District would push the District into the second pricing tier much sooner than planned. Therefore, the District will not sell water to other agencies, expect possibly in the event of an emergency. All water sold would be charged at a higher rate to cover the higher cost of the second tier water. Actual and projected water demands of water sold to other agencies are summarized in Table 3-9.

Table 3-9 Sales to Other Water Agencies (ac-ft/yr)							
Water Distributed	**2005**	**2010**	**2015**	**2020**	**2025**	**2030**	**2035**
Walnut Valley Water District	17	0	0	0	0	0	0
Suburban Water	11	0	0	0	0	0	0
La Puente Water	0	0	0	0	0	0	0
Total	**28**	**0**	**0**	**0**	**0**	**0**	**0**

3.2.4 Additional Water Uses and Losses

Additional water uses include recycled water. Recycled water uses are described in more detail in Section 4.6. Actual and projected recycled water uses are provided in Table 3-10.

A small portion of water produced in any water system is lost or unaccounted for between metered water production and metered water usage. Unaccounted for urban water (i.e. main flushing, meter error, leaks, etc.) in California generally ranges from 6 to 15 percent. From 1995 to 2010, water losses in the District's system average about 5 percent. Actual and projected system losses are provided in Table 3-10.

Table 3-10 Additional Water Uses and Losses (ac-ft/yr)							
Water Use[1]	**2005**	**2010**	**2015**	**2020**	**2025**	**2030**	**2035**
Saline Barriers	0	0	0	0	0	0	0
Groundwater Recharge	0	0	0	0	0	0	0
Conjunctive Use	0	0	0	0	0	0	0
Raw Water	0	0	0	0	0	0	0
Recycled Water - Commercial Irrigation	0	0	750	750	1,000	1,000	1,000
Recycled Water - Industrial Reuse	0	0	1,000	1,500	1,500	1,500	1,500
Recycled Water - Landscape Irrigation	0	106	1,250	2,750	4,000	4,000	4,000
Recycled Water - Agricultural Irrigation	249	0	0	0	0	0	0
Recycled Water (non-potable groundwater) [2]	0	417	0	0	0	0	0
System Losses	73	342	636	674	735	772	811
Total	**322**	**865**	**3,636**	**5,674**	**7,235**	**7,272**	**7,311**

1) Any water accounted for in Table 3-8 is not included in this table.
2) Non-potable groundwater is available to supplement the recycled water system. The District plans on using treated effluent from the San Jose Creek WRP as their primary source of recycled water.

System losses within the District's system may include the following:

- Non-billed District uses (these uses are metered for internal control purposes)
  - Facility irrigation
  - Office operations

- Unmetered District operations
  - Water line flushing as required by the California Department of Public Health (CDPH)
  - Reservoir maintenance
  - Fire hydrant damage (accidents)
- System leaks (distribution mains and service lines)
- Water theft
- Meter inaccuracies

In an attempt to limit the amount of water lost through meter inaccuracies, the District has a meter testing program for meters greater than 2 inches and a meter replacement program for meters 2 inches or less These two programs ensure that each meter in the service area is either tested and/or replaced, as needed, on a continual basis.

3.2.5 Total Water Use

Total potable water and recycled water demands are summarized in Table 3-11.

Table 3-11
Total Water Use (ac-ft/yr)

Water Use	2005	2010	2015	2020	2025	2030	2035
Potable Water							
Total Water Deliveries	13,559	10,664	12,090	12,810	13,959	14,665	15,407
Sales to Other Water Agencies	28	0	0	0	0	0	0
Water Losses	73	342	636	674	735	772	811
Total Potable Water Use	**13,660**	**11,006**	**12,727**	**13,484**	**14,693**	**15,437**	**16,218**
Recycled Water							
Total Water Deliveries	249	523	3,000	5,000	6,500	6,500	6,500
Total Recycled Water Use	**249**	**523**	**3,000**	**5,000**	**6,500**	**6,500**	**6,500**
Total Water Use	**13,909**	**11,529**	**15,727**	**18,484**	**21,193**	**21,937**	**22,718**

3.2.6 Consistency of Projected Water Demands to Water Use Targets

The District's projected potable gross water use is compared to the 2015 and 2020 water use targets in Table 3-12. Gross water use is the total volume of water entering the District's potable water distribution system. Therefore, the gross water use is the total metered potable water deliveries to the District's customers plus system losses. As shown in Table 3-12, the Districts per capita water use is below the 2015 target and is equal to the 2020 target.

Table 3-12 Comparison of Projected Gross Potable Water Use to Targets		
	2015	2020
Gross Projected Water Use		
Potable Water Demand, ac-ft/yr (from Table 3-11)	12,090	12,810
Water Losses, ac-ft/yr (from Table 3-11)	636	674
Total Projected Gross Water Use, ac-ft/yr	12,727	13,484
Total Projected Gross Water Use, gpd	11,361,576	12,037,498
Projected Population (from Table 2-3)	70,005	76,611
Projected Per Capita Water Use, gpcd	162	157
Target, gpcd (from Table 3-6)	177	157
Meets or Surpasses Water Conservation Target?	**YES**	**YES**

3.2.7 Lower-Income Projected Water Demands

State legislation (SB 1087 and Government Code §65589.7), effective January 1, 2006, specifies that local water agencies and sewer districts must grant priority for service hook-ups to projects that help meet the community's fair housing need.

A lower-income household is defined as a household that earns less than 80 percent of the median income, adjusted for family size. Based on the *Regional Housing Needs Assessment* (RHNA) for the County of Los Angeles, lower-income housing units make up about 41 percent of the total RHNA allocation. This percentage was applied to the water demands for new customers being added to the system between 2015 and 2035. The estimated water deliveries to lower income housing units are provided in Table 3-13. These water use projections are included in the overall water use projections provided in Table 3-8.

Table 3-13 Low-Income Projected Water Demands (ac-ft/yr)					
	2015	2020	2025	2030	2035
Water Demand for New Lower-Income Housing	676	297	344	165	174

1) The lower income projections shown in this table are included in the overall water use projections provided in Table 3-8.
2) Lower income housing projects based on the Regional Housing Needs Assessment for the County of Los Angeles (Los Angeles County Department of Regional Planning Housing Element, 2008).

3.3 Imported Water Demand Projections

Table 3-14 provides a summary of the District's projected imported water demands from Three Valleys.

Table 3-14 Retail Agency Demand Projections Provided to Wholesale Suppliers (ac-ft/yr)							
Wholesaler	Contracted Volume[1]	2010	2015	2020	2025	2030	2035
Three Valleys Municipal Water District	55 cfs	10,990	11,300	12,000	13,200	14,000	14,800

1) The District does not have formal agreements in place with MWD or Three Valleys, but rather relies on guaranteed service up to specified capacity at the District's three turnouts.

3.4 Water Use Reduction Plan

The District plans to achieve compliance with the water use targets through water conservation and increasing the use of recycled water.

The District adopted a three tiered rate structure in December 2008, which became effective January 1, 2009. The inclining block structure encourages conservation and discourages waste of potable water supplies by charging higher prices for excessive water uses. The District also encourages its customers to use water efficiently by recommending conservation practices as described in its *Water Conservation and Water Shortage Contingency Plan* (Rowland Water District, May 2009). A copy of this plan is provided in Appendix D.

As discussed in Section 3.2.1, although the number of connections has increased in recent years, water demands have decreased. The decline in total water demand is reflective of the enhanced levels of conservation taking place. Conservation is expected to continue over the planning horizon.

The District is also committed to expanding its recycled water system to conserve potable water supplies. Recycled water uses and opportunities are described in more detail in Section 4.6.

With water conservation and increasing recycled water use, the estimated daily per capita water use is as shown in Table 3-15. Based on these estimates, the interim and 2020 water use reduction targets will be achieved.

Table 3-15 Projected Per Capita Use		
Year	Water Use Target (gpcd)	Daily Per Capita Water Use (gpcd)
2015	177	162
2020	157	157

The District charges a fixed rate service charge, which is independent of the amount of water use, and a consumption charge based on the amount of water used during the billing period. District operations are funded through the fixed service charge. Therefore, a decrease in water demand to meet the water use targets would not adversely affect the District's financial stability or the District's ability to properly provide service to its customers.

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4.0 System Supplies

This section describes existing and future sources of water available to the District. It includes a description of each water source, source limitations, water quality, and water exchange opportunities.

4.1 Water Sources

The amount of water provided in 2010 and projected into the future is summarized in Table 4-1. Each of the water supply sources is described further in the following sections.

Table 4-1
Water Supplies — Current and Projected (ac-ft/yr)

Water Supply Sources	2010	2015	2020	2025	2030	2035
Three Valleys Municipal Water District	10,990	11,300	12,000	13,200	14,000	14,800
Supplier-Produced Groundwater	417	1,200	1,200	1,200	1,200	1,200
Supplier-Produced Surface Water	0	0	0	0	0	0
Transfers In	0	0	0	0	0	0
Exchanges In	0	0	0	0	0	0
Recycled Water	106	3,000	5,000	6,500	6,500	6,500
Desalinated Water	0	0	0	0	0	0
Future Water Projects	0	1,500	1,500	1,500	1,500	1,500
Total	**11,513**	**17,000**	**19,700**	**22,400**	**23,200**	**24,000**

1) Volumes shown here are consistent with Table 4-2 and Table 4-5.

4.2 Imported Water

The District purchases imported water from Three Valleys, the local wholesale MWD member agency, which purchases the water from MWD and distributes the water to districts and cities within its service area. MWD imports water from the Colorado River through the Colorado Aqueduct, owned and operated by MWD, and the State Water Project, which utilizes the California Aqueduct for transmission to southern California. The water is treated at MWD's Weymouth Treatment Plant prior to reaching the District's service area.

Three Valleys operates the Miramar Water Treatment Plant (WTP). The Miramar WTP receives 100 percent State Project Water from MWD's Foothill Feeder and treats that water for potable use. More recently, a groundwater production well was drilled at the Miramar site and now augments the imported water production of the plant. The well currently provides about 4 percent of the total output of the plant.

Water from Three Valleys is conveyed to the District's terminal storage reservoir for distribution within the District's water supply system. There are currently three imported water connections that feed the District's transmission and distribution systems. These connections

can deliver water at a maximum rate of 55 cubic feet per second (cfs). Providing that MWD and Three Valleys can continue to meet these design flows, the District does not anticipate any water shortages due to increased demands.

The need for imported water to serve the District's service area is necessary to satisfy overall water demands. It will remain a fixture in the District's water portfolio for the foreseeable future. Table 4-2 provides the District's estimate of projected imported water supplies.

Table 4-2
Wholesale Supplies — Existing and Planned Sources of Water (ac-ft/yr)

Wholesale Sources[1]	Contracted Volume[2]	2015	2020	2025	2030	2035
Three Valleys Municipal Water District	55 cfs	11,300	12,000	13,200	14,000	14,800

1) Water volumes presented here have been accounted for in Table 4-1.
2) The District does not have formal agreements in place with MWD or Three Valleys, but rather relies on guaranteed service up to specified capacity at the District's three turnouts.

4.3 Groundwater

The District lies over the Puente Basin, shown in Figure 4-1. The geologic and overlying land use characteristics of the basin create a situation wherein natural and/or artificial replenishment is virtually non-existent. Consequently, the aquifer experiences minimal "freshening" and the water quality of the relatively stagnant water within the basin suffers over time. Also, historical contamination by industrial and manufacturing companies in the area have added to water quality degradation.

The groundwater quality in the Puente Basin does not meet CDPH potable water criteria due to VOCs, high nitrate concentrations, and high levels of TDS. Therefore, groundwater is not used for potable water supplies. However, the quality maintains characteristics similar to recycled water and is suitable for irrigation purposes through the District's recycled water distribution system.

The groundwater is pumped from the Anthony Poli Well No. 1, which can produce an average of 1.75 ac-ft/day. Current static pumping level averages approximately 25 feet below ground surface level. The District is planning to add one additional groundwater well in the Puente Basin within an easement provided by the City of Industry.

Figure 4-1. Puente Basin Location

4.3.1 Groundwater Management and Rights

According to the Puente Basin Judgment, the declared safe yield of the Puente Basin is 4,400 ac-ft/yr. However, the basin is managed on the basis of operating safe yield determined annually by the Watermaster. A safe operating yield of 1,706 ac-ft was adopted in April 2010 and estimated each of the subsequent four years to be 1,530 ac-ft.

The Puente Basin was adjudicated in 1986 between the Rowland Water District, Walnut Valley Water District, the City of Industry and the City of Industry Urban Development Agency. A copy of the Puente Basin Judgment is provided in Appendix E. The provisions of the Judgment are managed and administered by the court-ordered Puente Basin Watermaster. This basin is also managed on an annual operating safe yield concept wherein each party is allocated its percentage of the operating safe yield established each year by the Watermaster.

In accordance with the Judgment, the pumping rights allotted to the District each year varies based on the following factors:

- Watermaster determined operating safe yield (based on water levels, Puente Narrows Agreement, subsurface flows, cost of availability of alternative sources of water, and groundwater pumping)
- Unproduced carry-over rights
- Return flow credits

Historical pumping rights allocated to the District are summarized in Table 4-3.

Table 4-3
Groundwater — Pumping Rights (ac-ft/yr)

Basin Name	FY 2004-2005	FY 2005-2006	FY 2006-2007	FY 2007-2008	FY 2008-2009	FY 2009-2010
Puente Basin	1,119	1,116	1,172	1,307	1,300	1,104

4.3.2 Basin Geology

The Puente Basin occupies the western end of the San Jose Valley and contains nearly 8,870 acres. The basin is relatively shallow, and in several locations, bedrock is found at the surface. Boundaries of the Puente Basin are formed on the north and south by the nonwater-bearing rocks of the San Jose and Puente Hills. The eastern boundary is contiguous with the western boundary of the Spadra Basin and is defined by a bedrock ridge and groundwater divide. The Puente Basin is bounded by the Main San Gabriel Basin to the west. Groundwater freely flows from the Puente Basin into the Main San Gabriel Basin.

Primary water-bearing sediments include weathered alluvium from the adjacent hills and recent deposits within San Jose Creek. The alluvial fill in the Puente Basin tends to be finer-grained

and has higher clay content than the sediments in the Main Basin and ranges in depth from 25 feet to 1,300 feet. Water-bearing sediments range in thickness between 70 and 120 feet throughout most of the basin but increase in thickness toward the west (maximum thickness of about 500 feet near the boundary with the Main Basin. Well depths range from about 75 feet to 300 feet in the Puente Basin. Total storage within the Puente Basin has been estimated to be approximately 979,650 ac-ft.

4.3.3 Groundwater Levels and Flows

A map of groundwater elevation monitoring wells in the Puente Basins is shown in Figure 4-2. The Los Angeles County Department of Public Works (LACDPW) semiannually measured groundwater elevations at the following wells in Puente Basin: 2S/10W-13E1, 2S/10W-10Q, 2S/10W-11K1, and 2S/9W-4G1 (historically). Well 2S/9W-4G1 was destroyed in late 1998 to make room for development. Currently LACDPW is scheduled to take spring and fall measurements.

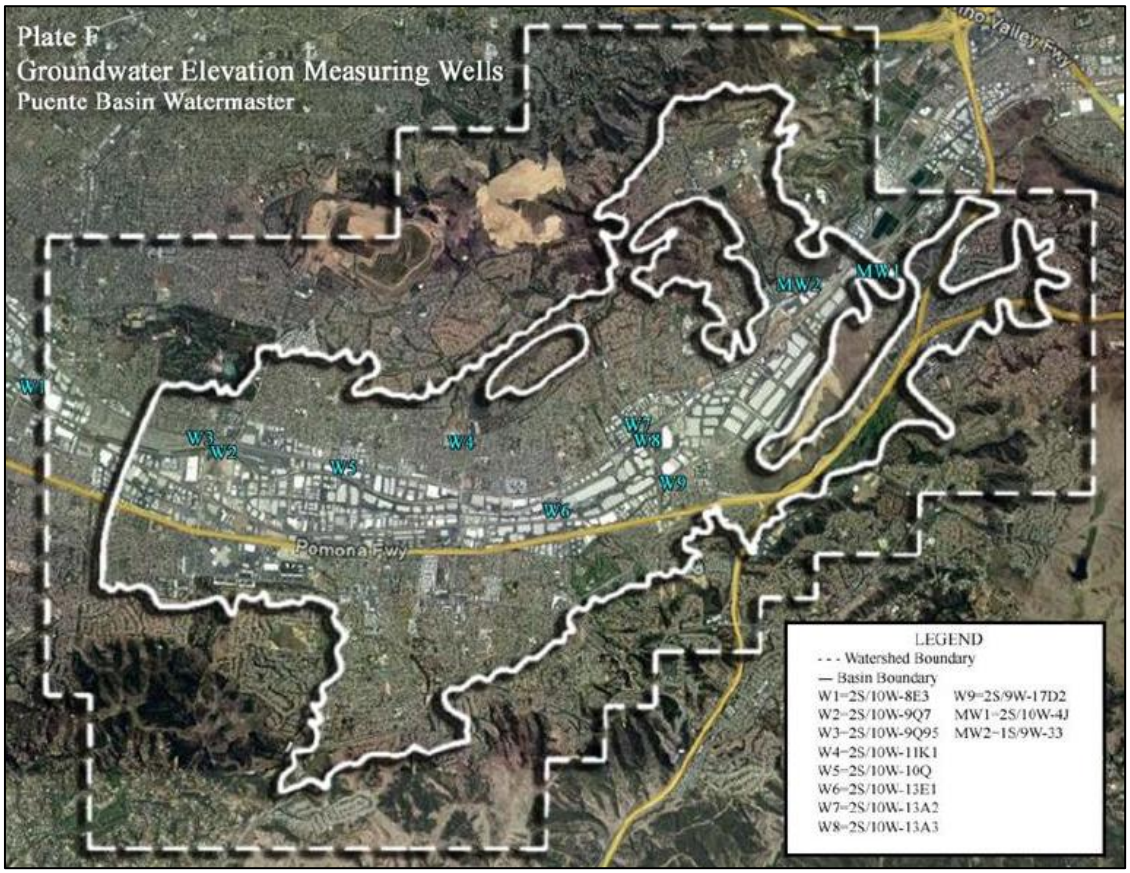

Figure 4-2. Groundwater Elevation Measuring Wells

The Puente Narrows Watermaster measures the groundwater elevation at well 2S/10W-9Q95 (Tony Poli Well) in Puente Basin and 2S/10W-8E1 in Main Basin semiannually as set forth in the Puente Narrows Agreement. Walnut Valley Water District measures the groundwater

elevations at its wells: 2S/10W-13A3 (Fairway Well), 2S/9W-17D2 (Lycoming Well), Grand Crossing, Well #4 and Puente Basin Monitoring Well 1.

The District measures groundwater elevations at its wells: 2S/10W-9Q95 (Tony Poli Well) Groundwater movement within the Puente Basin is generally controlled by topographic highs (i.e. surrounding hills). Because the Puente Basin is constrained on the north and south by bedrock, groundwater generally flows toward the west and northwest. As shown in Figure 4-3, water levels have been relatively stable-in basin since 1973 with an overall fluctuation of less than 25 feet.

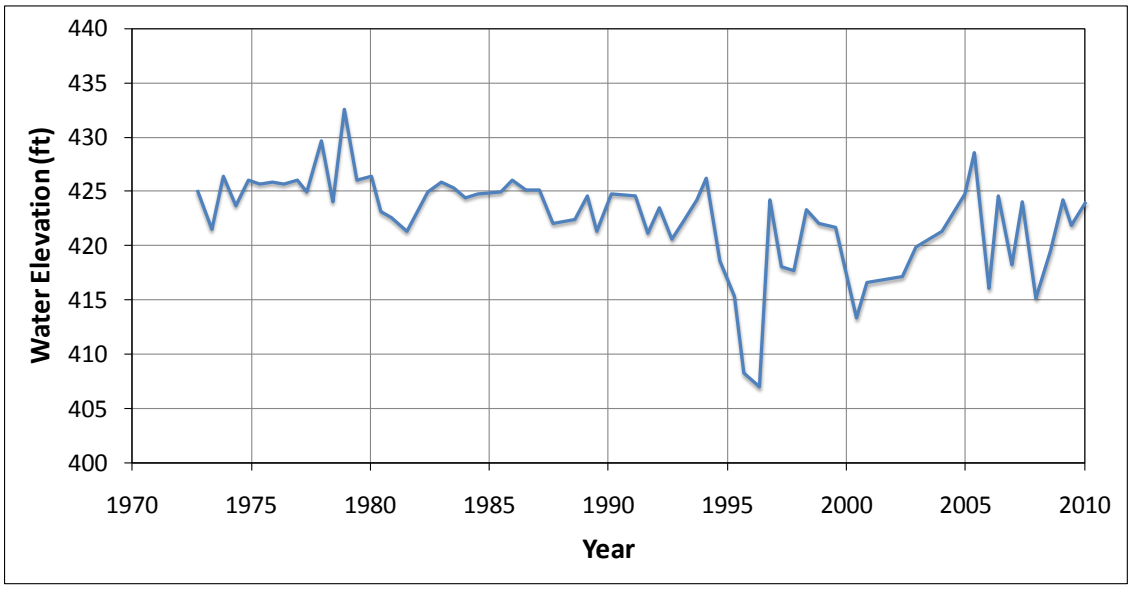

Figure 4-3. Historical Water Levels in the Puente Basin

4.3.4 Groundwater Quality

General water quality was monitored by LACDPW for 1986 and ending in 1992. Since then, water quality monitoring has been performed by the District and Walnut Valley Water District. Walnut Valley Water District quarterly monitors and reports TDS concentrations, and the District analyzes for a wider range of water quality constituents. Table 4-4 provides a summary of constituents of concern and Figure 4-4 provides a map of the location of groundwater quality monitoring wells.

Table 4-4 Groundwater Quality — Summary of Constituents of Concern		
Constituent	**Units**	**Value**
TDS	mg/L	1,170 average 550 to 1,390 range
Nitrate (as N)	mg/L	8.44
VOCs (TCE and PCE)	ug/L	ND to 28 (TCE) ND to 4.7 (PCE)

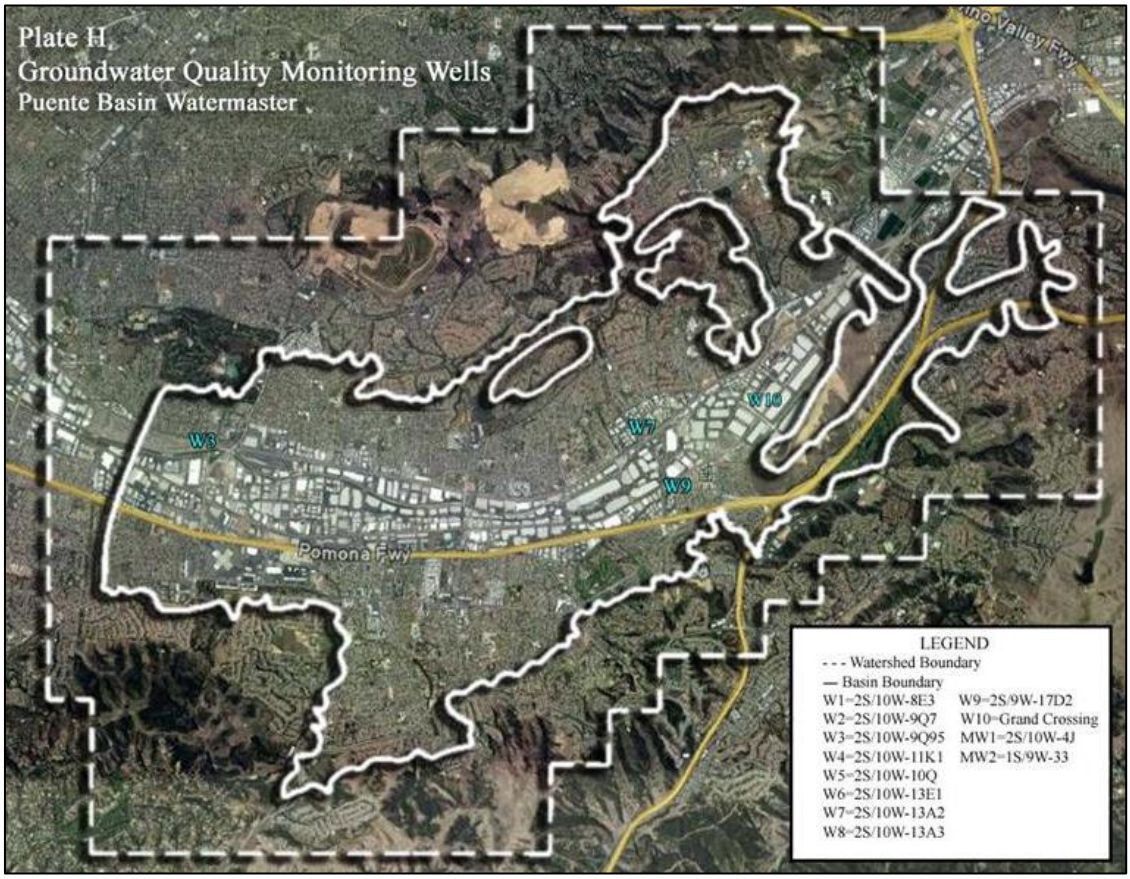

Figure 4-4. Groundwater Quality Monitoring Wells

4.3.5 Historical Groundwater Pumping

Historical groundwater pumping from the Anthony Poli Well No. 1 is summarized in Table 4-5. This water is used to supplement the recycled water system. There were sufficient groundwater supplies available for this use. The amount of groundwater pumped was less than the pumping rights allocated to the District as described in Table 4-3.

Table 4-5 Groundwater — Volume Pumped (ac-ft/yr)						
Basin Name	Metered or Unmetered	2006	2007	2008	2009	2010
Puente Basin	Metered	0	319	330	368	417
Percent of Total Non-Potable Water Supply		0.0%	93.5%	91.0%	76.3%	79.8%

4.3.6 Projected Groundwater Pumping

The District's primary source of recycled water is from the San Jose Creek WRP. The volume of water projected to be pumped during the UWMP planning horizon to supplement the recycled water system is provided in Table 4-6.

Table 4-6 Groundwater — Volume Projected to be Pumped (ac-ft/yr)					
Basin Name	2015	2020	2025	2030	2035
Puente Basin	1,200	1,200	1,200	1,200	1,200
Percent of Total Non-Potable Water Supply	28.6%	19.4%	15.6%	15.6%	15.6%

4.4 Transfer or Exchange Opportunities

The District has existing connections with Walnut Valley Water District, Suburban Water System, and La Puente Water System. As discussed in Section 3.2.3, the District will not sell any water to other agencies, except in the event of an emergency due to MWD's two-tiered rate structure. There are no other opportunities for the transfer or exchange of water.

4.5 Desalinated Water Opportunities

At this time, desalination of available groundwater supplies is not cost-effective due to the low quantities and poor quality. Because of these factors, the CDPH has indicated that the consideration and/or approval of these sources as a potable water supply would be highly unlikely.

4.6 Recycled Water Opportunities

The primary source of recycled water is treated effluent from the Los Angeles County Sanitation District's San Jose Creek WRP. Recycled water is conveyed from the San Jose Creek WRP to the City of Industry's facilities. Located at the City's facilities is a pumping station used jointly by the City of Industry and the District. Recycled water is pumped from this station to the District's recycled water system. Pumps owned and operated by the District within the pump station have the ability to produce about 9,000 gpm (14,500 ac-ft/yr).

Supplementary sources of recycled water include the following:

- Groundwater pumped from Puente Basin by the Anthony Poli Well No. 1
- Groundwater pumped from the Carrier groundwater treatment facility
- Emergency recycled water connection with Walnut Valley Water District

As described in Section 4.3, the groundwater from the Anthony Poli Well No. 1 does not meet CDPH potable water criteria, but does maintain characteristics similar to recycled water. Therefore, it is used to supplement the District's recycled water system supplies.

The Carrier groundwater cleanup facility is located next to the Anthony Poli Well No 1. This water will supplement the District's well and will provide about 500 ac-ft/yr. The water produced from this facility is a combination of water pumped from the Main San Gabriel Basin (MSGB) and the Puente Basin. The District will apply its adjudicated pumping rights within the Puente Basin to the water it receives and is produced by the Carrier facility from within the Puente Basin. In the event the District takes more water into its recycled water system from Carrier or more water than water Carrier produced in that month from the Puente Basin the additional water will be considered produced from the MSGB and all fees associated with MSGB will be applicable.

The District also has an emergency recycled water connection with Walnut Valley Water District which extracts groundwater from the Puente and Spadra Basins and obtains recycled water from the LACSD's Pomona Water Reclamation Plant.

The District's existing recycled water infrastructure is shown in Figure 4-5. The District has plans to increase recycled water use within its service area by expanding the system, also shown in Figure 4-5. With the expansion of the recycled water system, the District will extend recycled water service to various parks, schools, nurseries, and commercial landscaping areas currently using potable water. Future recycled uses also include providing 2,000 ac-ft/yr of recycled water to the Aera development to irrigate a golf course and common landscaped areas. Recycled water will also be used for cooling towers in a power plant which is currently going through the environmental permitting process.

4.6.1 Description of Wastewater Agencies and Quantities

LACSD's San Jose Creek WRP provides primary, secondary, and tertiary treatment for a residential population of approximately one million people. Actual wastewater volumes collected and treated in 2005 and 2010 are provided in Table 4-7. Wastewater flows are expected to increase to about 100 mgd by the year 2030. Wastewater projections between 2010 and 2030 were interpolated.

Figure 4-5. Existing and Proposed Recycled Water Infrastructure

Table 4-7 Recycled Water — Wastewater Collection and Treatment (ac-ft/yr)							
Type of Wastewater	2005	2010	2015	2020	2025	2030	2035
Wastewater Collected & Treated in Service Area	93,054	77,954	86,491	95,027	103,564	112,100	120,636
Volume that Meets Recycled Water Standard	93,054	77,954	86,491	95,027	103,564	112,100	120,636

Recycled water is used by the District as well as other public utilities in the region. Treated effluent not reused is discharged to the San Gabriel River. The volumes discharged in 2005 and 2010 are shown in Table 4-8. Future discharges to the river are dependant on tributary sewage flows into the plant and the amount of recycled water used in the future. LACSD does not have estimates for this at this time.

Table 4-8 Recycled Water — Non-Recycled Wastewater Disposal (ac-ft/yr)								
Method of Disposal	Treatment Level	2005	2010	2015	2020	2025	2030	2035
Discharge to San Gabriel River	Tertiary	61,240	28,731	Dependent on tributary sewage flows into the plant and the amount of water recycling that occurs in the future.				

4.6.2 Recycled Water Projections

Future recycled water use projections are based on existing recycled water use and planned recycled water projects. Recycled water projections are provided in Table 4-9. The primary source of recycled water for these uses is treated effluent from the San Jose Creek WRP.

The District has on-going plans to increase delivery capacity and expand the recycled water system to serve significantly more potential customers. The economic value of a recycled water system continues to increase due to the fact that the District is dependent upon imported water supplied from Three Valleys. Any additional water supplies that can offset imported water purchases make these projects more viable.

Table 4-9 Recycled Water — Potential Future Use (ac-ft/yr)							
User type	**Description**	**Feasible**	**2015**	**2020**	**2025**	**2030**	**2035**
Agricultural Irrigation	--	--	0	0	0	0	0
Landscape Irrigation	Schools, parks, cemetery, street medians, golf course	Yes	1,250	2,750	4,000	4,000	4,000
Commercial Irrigation	Landscaping, nurseries, car wash	Yes	750	750	1,000	1,000	1,000
Wildlife Habitat	--	--	0	0	0	0	0
Wetlands	--	--	0	0	0	0	0
Industrial Reuse	Power plant cooling, other industrial	Yes	1,000	1,500	1,500	1,500	1,500
Groundwater Recharge	--	--	0	0	0	0	0
Seawater Barrier	--	--	0	0	0	0	0
Geothermal / Energy	--	--	0	0	0	0	0
Indirect Potable Reuse	--	--	0	0	0	0	0
		Total	**3,000**	**5,000**	**6,500**	**6,500**	**6,500**

4.6.3 2010 Recycled Water Use

The District's 2005 UWMP projected recycled water use in 2010 to be 2,000 ac-ft/yr. Actual recycled water use in 2010 was not as high as projected, at 523 ac-ft/yr. Table 4-10 provides a comparison of the 2005 UWMP projection to actual 2010 use.

Table 4-10 Recycled Water — 2005 UWMP Use Projection Compared to 2010 Actual (ac-ft/yr)		
Use Type	**2010 Actual Use[1]**	**2005 Projection for 2010[2]**
Agricultural Irrigation	0	--
Landscape Irrigation	523	--
Commercial Irrigation	0	--
Golf course Irrigation	0	--
Wildlife Habitat	0	--
Wetlands	0	--
Industrial Reuse	0	--
Groundwater Recharge	0	--
Seawater Barrier	0	--
Geothermal / Energy	0	--
Indirect Potable Reuse	0	--
Other	0	--
Total	523	2,000

1) Includes non-potable groundwater used to supplement the recycled water system.
2) From the 2005 UWMP (revised in 2007). Projections were provided for total recycled water use and were not distributed by use type.

4.6.4 Methods to Encourage Recycled Water Use

The District provides financial incentives by pricing recycled water at a discounted price from the price of potable water. The goal is to make the use of recycled water for irrigation and other suitable uses cost effective for new development, and result in savings sufficient to encourage existing customers to convert existing uses to recycled water where appropriate. To accomplish this, recycled water is priced at least 50 percent below potable water retail delivery costs. The difference between recycled water and potable water rates is expected to increase moving forward into the future.

The District's Board of Directors adopted Ordinance No. 0-9-2010 *Establishing Mandatory Recycled Water Connection Policy* (Mandatory Connection Ordinance) on September 14, 2010. Among the provisions of this ordinance is a surcharge equal to 50 percent of the potable water rate. This surcharge is imposed on the potable water uses for which recycled water is available and on-site conversion or retrofit which is not completed within a stipulated time period. A copy of the ordinance is attached in Appendix F.

Table 4-11 provides a summary of estimated recycled water use that is realized by implementing these methods to encourage recycled water use.

Table 4-11
Methods to Encourage Recycled Water Use (ac-ft/yr)

Actions	Projected Results[1]					
	2010	2015	2020	2025	2030	2035
Financial Incentives: 50% financial difference between the potable and recycled water rates	262	1,500	2,500	3,250	3,250	3,250
Mandatory Connection Ordinance No. 0-9-2010	262	1,500	2,500	3,250	3,250	3,250
Total	**523**	**3,000**	**5,000**	**6,500**	**6,500**	**6,500**

1) Projected results are estimates.

4.6.5 Optimizing Recycled Water Use

Recycled water planning is on on-going effort for the District. The District has the Mandatory Connection Ordinance and *Rules and Regulations Governing Recycled Water Service* (Rules and Regulations) to support their planning efforts. A copy of the ordinance and Rules and Regulations are provided in Appendix F and Appendix G, respectively.

The Mandatory Connection Ordinance presents the District’s policy on recycled water use and requires the adoption and upkeep of the Rules and Regulations. The Rules and Regulations were developed to establish standard procedures, specifications, and limitations for the safe and orderly development and operation of recycled water facilities and systems within the District's jurisdictional area. The Rules and Regulations cover the administrative, design, construction, and operational requirements, for obtaining recycled water service and the use of recycled water in on-site facilities, and aspects of the relationship between customers and the District.

The District's objective is to continually focus on ways to improve and enhance the quality of service and reliability of water supply to its customers. In light of this mission, it is the policy of the District that recycled water shall be used within its service area wherever such use is economically justified, financially and technically feasible and is not detrimental to public health, safety, and welfare, or the environment. The District will offer recycled water that is surplus to the needs of recycled water customers within the District's service area, for such uses outside the District by agreement with the retail purveyor.

4.7 Future Water Supply Projects

The District is currently working with several of its neighboring water agencies to develop new water projects that will enhance water supply and reliability. The District recently purchased a 1 ac-ft water right within the Central Basin, which gives the District an option to purchase or lease additional water rights. The District intends on leasing or purchasing additional rights, about 1,500 to 2,500 ac-ft, depending on what projects can be developed within that watershed. A summary of the future water supply project is provided in Table 4-12.

Table 4-12
Future Water Supply Projects (ac-ft/yr)

Project Name[1]	Project Completion	Potential Project Constraints	Normal Year Supply	Single Dry Year Supply	Multiple-Dry Year Supply		
					Year 1	Year 2	Year 3
Central Basin Water Rights	Fall 2011	Coordination with other agencies and development of projects	1,500	1,500	1,500	1,500	1,500
		Total	**1,500**	**1,500**	**1,500**	**1,500**	**1,500**

1) Water volumes presented here have been accounted for in Table 4-1.

This District is also working on other water supply projects. However, the timing of these projects has not been determined at this time. The District is working with the Main San Gabriel Basin Watermaster to develop a storage agreement that would give the District the ability to store water within the groundwater basin when supplies are plentiful. This stored water would then be used to offset future imported supplies.

Additionally, the District, in partnership with Walnut Valley Water District, the City of Azusa and the City of Glendora, has completed a feasibility study looking at re-furbishing ground water production facilities and constructing a water treatment plant for ground water cleanup. This project could produce as much as 20,000 acre feet per year. The schedule for implementing this project has not been determined as it is still being evaluated.

5.0 Water Supply Reliability and Water Shortage Contingency Planning

The UWMP Act requires that each urban water supplier provide an assessment of the reliability of its water supply during normal, dry, and multiple dry years. This section considers the impact on water supplies during a single extreme dry year and a multiple dry year period. In addition, a catastrophic water shortage could also occur, for example, as a result of earthquake damage, power outage, or water quality emergency. This section presents the response to potential water shortages including catastrophic water supply interruption and drought.

5.1 Water Supply Reliability

Many factors could result in inconsistency of supply and shortages, including legal, environmental, water quality, climatic, or a combination of these. Table 5-1 lists the sources of water supply and the potential factors that could impact the District's supply.

Table 5-1
Factors Resulting in Inconsistency of Supply

Factor	Three Valleys Municipal Water District (Imported Water)	Groundwater	Recycled Water
Limitation Quantification	The District relies on guaranteed service up to specified capacity at its three turnouts. If demand exceeds capacity, the District would need to pursue alternate sources or construct additional turnouts.	District is allocated its percentage of the operating safe yield established each year by the Watermaster.	None
Legal	Currently supply is available at a consistent level of use. Future supply increase may not be consistent due to delays in construction, approval of water rights application, or environmental documentation.	None	None
Environmental		None	As regulations become more stringent for recycled water use, the cost to address the concern will determine future viability for the resource. Supply inconsistency could occur due to delays in construction or environmental documentation.
Water Quality	Water sources are blended to reduce TDS. Availability of sources could affect salinity in the water.	None related to non-potable use.	
Climatic	During periods of drought, imported water is generally the first resource to be restricted. MWD has established drought management programs that foster a reduction in imported water use.	Drought could result in a reduction in the safe operating yield.	None

5.2 Water Shortage Contingency Planning

In accordance with Assembly Bill 11X, the District developed and adopted Ordinance No. 0-5-2009, Establishing a Water Conservation and Water Shortage Contingency Plan. This plan has been reviewed and accepted by DWR as meeting all requirements under the law. The following subsections provide an overview of the District's Water Conservation and Water Shortage Contingency Plan.

5.2.1 Catastrophic Supply Interruption Plan

Catastrophic water shortages could occur as a result of earthquake damage, power outage, or water quality emergency. The following is a summary of emergency procedures. A complete description of the emergency procedures is provided in Appendix H. Water system operations during an emergency may be divided into three phases:

- **Phase A - Initial Measures Upon Onset of An Emergency:** Initial steps that must be taken at the onset of an emergency under the direction of the Manager.
  - Receive and forward first news of an emergency.
  - Make an initial assessment of damages and needs.
  - Take immediate emergency measures as a result of the initial assessments.
  - Prepare for operations under a continuing and major emergency.
- **Phase B - Operations under Continuing and Major Emergencies:** These measures shall be instituted under the overall direction of the Manager. These activities set the stage for possible policy actions and ultimate decisions by the District Board.
  - Arrange District Board Meeting and establish liaison with City of Industry, West Covina, and other agencies
  - Make continuing assessments. The needs for water and for repairs are to be assessed so that water allocations and restoration of service can be carried out on a priority basis.
  - Propose suitable restoration measures.
  - Propose suitable water allocation measures.
- **Phase C - Administrative Decisions and Implementation:** Decisions regarding priorities for restoration of service and priorities are implemented by the Manager and the Director of Operations.
  - Decide on and implement mutual aid
  - Set restoration priorities and schedule
  - Set emergency water allocations
  - Invoke ordinances
  - Announce emergency measure to the public
  - Monitor compliance

Table 5-2 provides a summary of actions to be carried out in the event of possible catastrophes.

Table 5-2 Preparation Actions for a Catastrophe	
Possible Catastrophe	**Summary of Actions**
Regional Power Outage	• Open Emergency Operations Center • Activate auxiliary power sources • Contact Southern California Edison • Evaluate Supply Capabilities and priority needs • Notify customers, media and state and local authorities if service is disrupted or if significant demand management is necessary • Contact neighboring purveyors for mutual aid arrangements • Notify Fire Department if fire protection capabilities will be impaired • Contact fuel suppliers for auxiliary power sources to insure supply
Earthquake	• Open Emergency Operations Center • Assess damages and injuries • Contact emergency assistance (police, fire department, rescue squad, etc.) • Notify customers, media and state and local authorities if service is disrupted or if significant demand management is necessary • Inspect facilities for structural damage. Include: buildings, storage tanks, pipelines, process equipment, etc. Consider the use of an outside engineering consultant • Prioritize and repair water main leaks • Respond to side effects (loss of power, fire, chemical spills, etc.)
Floods	• Open Emergency Operations Center • Assemble essential personnel to designate duties • Secure loose items in facilities subject to flooding or move to higher elevations • Assemble and utilize auxiliary water pumps • Notify customers, media and state and local authorities if service is disrupted or if significant demand management is necessary
Civil Disturbance	• Open Emergency Operations Center • Evacuate non-essential personnel from trouble areas • Contact state and local police • Barricade doors and windows • Evaluate access limitations to major facilities • Coordinate access and operations of major facilities with state and local police • Notify customers, media and state and local authorities if service is disrupted or if significant demand management is necessary • Contact neighboring purveyors if additional supply is required • Lock company valuables in vaults or secure locations • Obtain private security forces, if necessary
Severe Storm	*Before the Storm*: • Open Emergency Operations Center • Monitor track of storm • Release non-essential personnel, if warranted • Assemble essential personnel and designate duties • Fill gravity storage tanks • Test auxiliary power sources • Fill fuel tanks • Secure windows and doors • Man remote stations which are essential to the operation. Stockpile chemicals, food, etc. • Discuss needs with electric utility

Table 5-2 Preparation Actions for a Catastrophe	
Possible Catastrophe	**Summary of Actions**
	• Test back-up communications system • Refer TO WARN mutual aid agreement *During The Storm:* • Notify customers, media, and state and local authorities if service is disrupted or if significant demand management is necessary • Monitor production and storage facilities • Monitor changes in water quality

The District also evaluates, on an on-going basis, its ability to respond to customer needs in an emergency situation. The results of these efforts include the following:

- Identification of water-dependent customers (medical care facilities and critical-care individuals)
- Establishment of a temporary emergency office site
- Purchase and storage of emergency supplies (food, water, tools, shelter)
- Evaluation and integration of mutual aid programs with neighboring agencies and independent contractors
- Purchase of mobile generators to run multiple pump sites in all pressure zones
- Retrofit of its oldest concrete reservoir to comply with current seismic standards

The District operates a radio controlled telemetry system which is used to monitor reservoir and pump levels from remote locations. This system provides a much faster response time to dramatic drops in water levels and pressure. A solar-powered telemetry cell site is also operated at one of the transmission connections to MWD which eliminates the dependency on electric and telephone utility service in emergency situations.

Emergency response is an ongoing process and through the District's structured safety program, staff will continue to look for areas of improvement and enhancements. The goals of this program are to be prepared to respond to water quality and quantity problems in emergency circumstances.

5.2.2 Water Conservation and Water Shortage Contingency Plan

In the event of a severe water shortage, the District's water supplies will be severely restricted. Therefore, the District adopted Ordinance No. 0-5-2009, Establishing a Water Conservation and Water Shortage Contingency Plan. The purpose of this ordinance is to implement measures to ensure that adequate supplies of water are available for domestic use, fire

suppression and sanitation, and that the District, so far as possible, limits its demand for imported water to avoid penalties for excessive use and to ensure a reliable and sustainable minimum supply of water for public health, safety and welfare for all. A copy of Ordinance No. 0-5-2009 is included in Appendix D.

Ordinance No. 0-5-2009 identifies the thresholds for implementation of various actions to support conservation. A description of each of the water emergency stages and criteria for each stage is provided in Table 5-3.

Table 5-3
Water Shortage Contingency — Water Supply Shortage Levels

Level No.	Water Supply Conditions	% Reduction
1	Available imported water supplies are limited or restricted due to drought, regulatory restrictions, and/or the imposition of a water supply allocation by MWD or Three Valleys to the extent that a 5 to 15 percent reduction in consumer demand is required due to actual water shortages or to avoid financial penalties for taking water in excess of the allocation.	Up to 10%
2	Available imported water supplies are limited or restricted due to drought, regulatory restrictions, and/or the imposition of a water supply allocation by MWD or Three Valleys to the extent that a 6 to 25 percent reduction in consumer demand is required due to actual water shortages or to avoid financial penalties for taking water in excess of the allocation.	Up to 25%
3	Available imported water supplies are limited or restricted due to drought, regulatory restrictions, and/or the imposition of a water supply allocation by MWD or Three Valleys to the extent that a reduction of greater than 25 percent in consumer demand is required due to actual water shortages or to avoid financial penalties for taking water in excess of the allocation.	In excess of 25%
4	In the event that an immediate water supply shortage occurs due to the breakage or failure of a dam, pump, pipeline or conduit causing an immediate emergency, the General Manager shall declare the extent of the water supply shortage emergency and, after allocating and setting aside the amount of water necessary for domestic use, sanitation and fire protection, shall determine and implement the appropriate water supply shortage restrictions.	To be determined in Special Meeting by Board of Directors

5.2.2.1 Mandatory Prohibitions

Upon adoption of a water supply shortage stage, as described in Table 5-3, the restrictions and mandatory water reductions summarized in Table 5-4 will take effect immediately. A full listing of the restrictions applicable to each level of shortage is provided in Ordinance No. 0-5-2009 which is included in Appendix D.

Table 5-4 Water Shortage Contingency — Mandatory Prohibitions	
Prohibitions	**Level When Prohibition Becomes Mandatory**
Limits on days per week permitted for watering or irrigation of lawn, landscape or other vegetated area.	1, 2, 3
All leaks, breaks, and malfunctions in customer's plumbing must be replaced.	1, 2, 3
Temporary water use for construction and dust control shall be limited to the quantity identified in the plan submitted to and approved by the District. Recycled water may be available for these uses.	1
Water from fire hydrants will be limited to fire fighting and related activities, or for activities necessary to maintain the public health, safety, and welfare.	1
Limits on filling/re-filling of ornamental lakes or ponds.	2
Limits on washing of vehicles/mobile equipment.	2
Limits on filling residential swimming pools and spas.	2
No new potable water services	3
Any customer who willfully or repeatedly violates any provision is subject to termination of water service.	3
Appropriate restrictions will be determined and implemented in the event of an immediate water supply shortage.	4

5.2.2.2 Consumption Reduction Methods

At each water supply shortage level, customers will be required to reduce their water consumption by the percentage specified in the resolution declaring the water supply shortage level. The required reduction will be calculated based on the amount of water used by the same customer during the same billing period in the last calendar year during which no potable water shortage was declared. If historical data is not available, an average consumption for the area will be used as a baseline for reduction. A summary of the metered reductions is provided in Table 5-5.

Table 5-5 Water Shortage Contingency — Consumption Reduction Methods		
Consumption Reduction Methods	**Level When Method Takes Effect**	**Projected Reduction (%)**
Level 1 Metered Reduction: Water consumption as measured through a customer's meter shall be reduced by the customer.	1	Specified in Resolution declaring Level 1 Water Supply Shortage.
Level 2 Metered Reduction	2	Specified in Resolution declaring Level 2 Water Supply Shortage.
Level 3 Metered Reduction	3	Specified in Resolution declaring Level 3 Water Supply Shortage.
Level 4 Metered Reduction	4	Will be determined in the event of an immediate water supply shortage.

5.2.2.3 Penalties and Charges for Excessive Use

Metered water use in excess of the conservation target specified in the resolution declaring a water supply shortage level will be billed at a penalty rate. The penalty rate is calculated as a unit cost of the penalty imposed on deliveries of water from Three Valleys exceeding the District's allocation. This penalty will be charged in addition to the regular water usage rate. Penalty charges based on Three Valleys' current policy is summarized in Table 5-6.

Table 5-6
Water Shortage Contingency — Penalties and Charges

Penalty	Level When Penalty Takes Effect	Charge[1] (per hcf)
Level 1 - Penalty for water in excess of mandatory restriction	1	$2.52
Level 2 - Penalty for water in excess of mandatory restriction	2	$5.04
Level 3 - Penalty for water in excess of mandatory restriction	3	$5.04
Level 4 - Penalty for water in excess of mandatory restriction	4	Will be determined in the event of an immediate water supply shortage.

1) Based on Three Valleys' current policy.

In addition to the penalties described in Table 5-6, customers violating mandatory prohibitions will be subject to procedures and/or penalties as summarized in Table 5-7.

Table 5-7
Water Shortage Contingency — Violations

Water Supply Shortage Level	First Violation	Second Violation	Third Violation	Fourth Violation	Fifth Violation
Level 1	Written Notice	Final Written Notice	$50 Fine	$100 Fine	$150 Fine
Level 2	Written Notice	Final Written Notice	$50 Fine	$150 Fine	$150 Fine Flow Restrictor
Level 3	Written Notice	$50 Fine	$150 Fine	$200 Fine Flow Restrictor	--
Level 4	Written Notice	$150 Fine	$200 Fine Flow Restrictor	--	--

5.2.3 Water Shortage Affects on Revenues and Expenditures

The District charges a fixed rate service charge, which is independent of the amount of water use, and a consumption charge based on the amount of water used during the billing period. District operations are funded through the fixed service charge. Therefore, a decrease in water demand, water supply shortages, or catastrophic reduction in water supply would not adversely affect the District's financial stability or the District's ability to properly provide service to its customers.

If a drought surcharge is imposed on the District by MWD, a strict pass-through of the charge would be implemented at the time to properly pay for the rate increase.

The District also has a Rate Stabilization Fund which accounts for about 60 percent of the District's Operating Reserve. Surplus revenues that the District collects are deposited into the Rate Stabilization Fund, which helps to mitigate to the loss of revenue and minimize impacts to customers.

5.3 Water Quality

The primary sources of water utilized in the District's service area are listed in Table 5-8. Each source has water quality characteristics that are beneficial and/or pose challenges prior to utilization. However, water quality is not expected to impact water supplies.

Table 5-8
Water Quality — Current and Projected Water Supply Impacts (ac-ft/yr)

Water Source	2010	2015	2020	2025	2030	2035
Imported Water	0	0	0	0	0	0
Groundwater	0	0	0	0	0	0
Recycled Water	0	0	0	0	0	0

5.3.1 Imported Water

State Water Project (SWP) water is generally of high water quality with TDS concentrations averaging 325 mg/L. The quality of SWP water as a drinking water source is affected by a number of factors, most notably seawater intrusion and agricultural drainage in the Bay-Delta system. The water quality parameters of most concern are total organic carbon (TOC), bromide, and salinity. Levels of TOC and bromide increase significantly as water moves through the Bay-Delta. These constituents combine with chemicals used in the water treatment process to form disinfection by-products which are carcinogenic. Water supplies from the SWP have significantly lower TDS levels than the Colorado River, ranging from 250 to 325 mg/L. Because of this lower salinity, MWD blends SWP water with high salinity Colorado River water to reduce the overall salinity levels of water delivered to the MWD system (*Three Valleys Urban Water Management Plan*, 2010).

Water imported from the Colorado River Aqueduct (CRA) has the highest level of salinity of all of MWD's sources of supply, averaging about 650 mg/L during normal water years. SWP water is used to blend with CRA water reduce overall salinity of delivered water from MWD. This practice is likely to continue, but the lack of SWP supplies during certain years will seasonally affect the salinity of southern California's drinking water supply (*Three Valleys Urban Water Management Plan*, 2010).

The appearance of perchlorate and Quagga mussels in Lake Mead and then downstream into the MWD system has become the water quality issue of recent concern. MWD is coordinating with upstream interests to control the sources of this contaminant and invasive species. Where necessary, MWD is addressing the problem within its own system. Because the CRA supply is less variable than the SWP supply to MWD, the Colorado River has become even more important to MWD's overall supply mix. Accordingly, MWD will exert a great deal of energy and time to retain that resource regardless of the water quality issue that may arise (*Three Valleys Urban Water Management Plan*, 2010).

5.3.2 Groundwater

As discussed in Section 4.3, the groundwater quality in the Puente Basin does not meet CDPH potable water criteria due to VOCs, high nitrate concentrations, and high levels of TDS. Therefore, groundwater is not used for potable water supplies. However, the quality maintains characteristics similar to recycled water and is suitable for irrigation purposes through the District's recycled water distribution system.

5.3.3 Recycled Water

Recycled water is produced by the San Jose Creek WRP. Recycled water is used for non-potable demands such as landscape/park irrigation, agricultural watering and industrial processes. As infrastructure for this resource grows, it is expected to replace the demand of various users currently served by potable water.

Water quality issues facing recycled water are less significant than those sources used for potable purposes. Nitrate, TOC, and NDMA are some of the constituents closely monitored for recycled water. LACSD is working with other stakeholders to keep such water quality concerns under control. If in the future, the regulations become more stringent for recycled water use, the cost to address the concern will determine future viability for the resource, but based on the investment in infrastructure that the District has already made, it is unlikely that the District would eliminate this source as a supply. The value and reliability of recycled water increases when compared to imported supplies. Therefore, future water quality issues are not expected to negatively affect the utility of recycled water.

5.4 Drought Planning

Drought planning considers water supplies during single-dry and multiple-dry years as defined below:

- **Average Year:** It is defined as the median runoff over the previous 30 years or more.
- **Single-Dry Year:** Generally considered to be the lowest annual runoff for a watershed since the water-year beginning in 1903.
- **Multiple-Dry Year:** Generally considered to be the lowest average runoff for a consecutive multiple year period (three years or more) for a watershed since 1903.

Three Valleys and MWD have used the years shown in Table 5-9 to evaluate average, single-dry, and multiple-dry year water supplies. The supply available in each of these historic years, as a percentage of normal year water supply is as shown in Table 5-10. With these hydrologic conditions as a basis, MWD estimated it's single dry and multiple dry year supplies based on existing and planned supplies. However, based on MWD's 2010 UWMP, the existing and planned supplies will provide 100 percent reliability through the planning horizon during single dry and multiple dry year conditions.

Table 5-9
Basis of Water Year Data

Hydrologic Condition	Base Year(s)
Average Water Year	2004
Single-Dry Water Year	1977
Multiple-Dry Water Years	1990 - 1992

Table 5-10
Supply Reliability — Historic Conditions

	Single Dry Water Year (1977)	Multiple Dry Water Years		
		1990	1991	1992
Percent of Average/Normal Year[1]	71.5%	97.8%	80.5%	83.0%

1) Based on MWD's historical supplies in each of the identified years.

5.4.1 Minimum Water Supply over the Next Three Years

The minimum water supply available during each of the next three years (2011 - 2013) is provided in Table 5-11. Imported water supplies are based on MWD's estimate of supplies during dry periods, which are expected to be 100 percent reliable. Water from the Central Basin is shown as a constant due to the pumping limits on the total amount of water that each customer can extract. Recycled water is also 100 percent reliable because it is not subject to cutbacks due to drought.

5.4.2 Determination of Actual Water Reductions

At a given water supply shortage level, customers will be required to reduce their water consumption by a specified percentage. Actual water reductions are determined by comparing metered water consumption to the consumption during the same billing period in the last calendar year.

Table 5-11 Supply Reliability — Current Water Sources (ac-ft/yr)					
Water Supply Sources	Average / Normal Water Year Supply	Single Dry Year	Multiple Dry Water Year Supply		
		Year 2011	Year 2011	Year 2012	Year 2013
Imported Water	11,052	11,052	11,052	11,052	11,052
Central Basin Water Rights (Future Source)	1,500	1,500	1,500	1,500	1,500
Recycled Water	685	685	685	685	685
Percent of Normal Year		100%	100%	100%	100%

5.4.3 Comparison of Supply and Demand

Table 5-12, Table 5-13, and Table 5-14 compare projected water supplies and demands under normal, single dry, and multiple dry water years. As discussed above, imported water supplies are estimated to be 100 percent reliable, water from the Central Basin is constant due to the pumping limits, and recycled water is 100 percent reliable because it is not subject to cutbacks due to drought.

Table 5-12 Supply and Demand Comparison — Normal Year (ac-ft/yr)					
	2015	2020	2025	2030	2035
Supply Totals	17,000	19,700	22,400	23,200	24,000
Demand Totals	15,727	18,484	21,193	21,937	22,718
Difference	1,273	1,216	1,207	1,263	1,282
Difference as % of Supply	7.5%	6.2%	5.4%	5.4%	5.3%
Difference as % of Demand	8.1%	6.6%	5.7%	5.8%	5.6%

Table 5-13 Supply and Demand Comparison — Single Dry Year (ac-ft/yr)					
	2015	2020	2025	2030	2035
Supply Totals	17,000	19,700	22,400	23,200	24,000
Demand Totals	15,727	18,484	21,193	21,937	22,718
Difference	1,273	1,216	1,207	1,263	1,282
Difference as % of Supply	7.5%	6.2%	5.4%	5.4%	5.3%
Difference as % of Demand	8.1%	6.6%	5.7%	5.8%	5.6%

Table 5-14 Supply and Demand Comparison — Multiple Dry-Year Events (ac-ft/yr)						
		2015	2020	2025	2030	2035
Multiple-Dry Year First Year Supply	Supply Totals	17,000	19,700	22,400	23,200	24,000
	Demand Totals	15,727	18,484	21,193	21,937	22,718
	Difference	1,273	1,216	1,207	1,263	1,282
	Difference as % of Supply	7.5%	6.2%	5.4%	5.4%	5.3%
	Difference as % of Demand	8.1%	6.6%	5.7%	5.8%	5.6%
Multiple-Dry Year Second Year Supply	Supply Totals	17,000	19,700	22,400	23,200	24,000
	Demand Totals	15,727	18,484	21,193	21,937	22,718
	Difference	1,273	1,216	1,207	1,263	1,282
	Difference as % of Supply	7.5%	6.2%	5.4%	5.4%	5.3%
	Difference as % of Demand	8.1%	6.6%	5.7%	5.8%	5.6%
Multiple-Dry Year Third Year Supply	Supply Totals	17,000	19,700	22,400	23,200	24,000
	Demand Totals	15,727	18,484	21,193	21,937	22,718
	Difference	1,273	1,216	1,207	1,263	1,282
	Difference as % of Supply	7.5%	6.2%	5.4%	5.4%	5.3%
	Difference as % of Demand	8.1%	6.6%	5.7%	5.8%	5.6%

6.0 Demand Management Measures

Demand management measures (DMMs) are specific actions a water supplier takes to support its water conservation efforts. The UWMP Act identifies 14 DMMs that are to be evaluated in each UWMP. These 14 DDMs also correspond to the 14 best management practices (BMPs) listed and described in the California Urban Water Conservation Council Memorandum of Understanding (CUWCC MOU) that signatory water suppliers commit to implement as part of their urban water conservation programs. Table 6-1 correlates the DMM names and the CUWCC BMP names and their recent reorganization; the table also indicates which BMPs the District is currently implementing or will be implementing in the future.

Table 6-1
Demand Measurement Measures (DMMs) and Best Management Practices (BMPs)

CUWCC BMP Organization and Names (2009 MOU)		UWMP DMMs		District Implementation Status
BMP #	BMP Name	DMM #	DMM Name	
1.1.1	Conservation Coordinator	L	Water Conservation Coordinator	On-going
1.1.2	Water Waste Prevention	M	Water Waste Prohibition	On-going
1.1.3	Wholesale Agency Assistance Programs	J	Wholesale Agency Programs	Not Applicable
1.2	Water Loss Control	C	System Water Audits, Leak Detection, and Repair	On-going
1.3	Metering with Commodity Rates for All New Connections and Retrofit of Existing Connections	D	Metering with Commodity Rates for All New Connections and Retrofit of Existing Connections	On-going
1.4	Retail Conservation Pricing	K	Conservation Pricing	On-going
2.1	Public Information Programs	G	Public Information Programs	On-going
2.2	School Education Programs	H	School Education Programs	On-going
3.1	Residential Assistance Program	A	Water Survey Programs for Single-Family Residential and Multifamily Residential Customers	As requested
		B	Residential Plumbing retrofit	Three Valleys
3.2	Landscape Water Survey	A	Water Survey Programs for Single-Family Residential and Multifamily Residential Customers	As requested
3.3	High-Efficiency Clothes Washing Machine Financial Incentive Programs	F	High-Efficiency Washing Machine Rebate Programs	Three Valleys
3.4	Water Sense Specification (WSS) Toilets	N	Residential Ultra-Low-Flush Toilet Replacement Programs	Three Valleys
4	Commercial, Industrial, and Institutional	I	Conservation Programs for Commercial, Industrial, and Institutional Accounts	Three Valleys
5	Landscape	E	Large Landscape Conservation Programs and Incentives	Three Valleys

The District is a signatory to the CUWCC MOU. The District's water conservation programs and goals are included in the annual report to the CUWCC, provided in Appendix I. The following sections provide a description of the District's water conservation programs.

6.1 Conservation Coordinator (BMP 1.1.1)

The District has maintained a conservation coordinator position since 1994. About 25 percent of the coordinator's time is allocated to the Conservation Coordinator role. The Conservation Coordinator responsibilities are largely related to implementing the public outreach programs, including:

- Providing customers with information on conservation programs by preparing and distributing a newsletter, updating the District's website, and distributing conservation materials (refer to BMP 2.1).
- Conducts public outreach and coordinates with the local schools to provide conservation programs such a poster contests (refer to BMP 2.2).
- Coordinates with the public to provide conservation informational booth at events.
- During times of drought, outreach is focused on providing water savings tips to the community.

In addition to the Water Conservation Coordinator, other District staff also contributes a significant amount of time to water conservation efforts, including operations staff who actively monitor for water waste, customer service staff who respond to conservation inquiries, and the finance department who regularly monitor bills to detect potential customer leaks.

Effectiveness Evaluation

The District evaluates the overall effectiveness of its conservation programs by monitoring total annual water use. The benefits provided by the coordinator are qualitative and are not associated with specific water conservation savings.

6.2 Water Waste Prevention (BMP 1.1.2)

The District adopted Ordinance No. 0-5-2009 Establishing a Water Conservation and Water Shortage Contingency Plan in May 2009. A copy of this ordinance is provided in Appendix D. This ordinance implements measures to ensure adequate supplies of water are available for domestic use, fire suppression and sanitation, and that the District limits its demand for imported water to avoid penalties for excessive use and to ensure a reliable and sustainable minimum supply of water for public health, safety and welfare.

The District encourages its customers to use water efficiently, even during times of adequate supplies, and the following water conservation practices, described in the District's ordinance, are recommended at all times:

- Limit watering hours.
- Eliminate excessive water flow or runoff.
- Wash down hard or paved surfaces with a bucket, hand-held hose equipped with a positive self-closing water shut-off device, or low-volume high-pressure cleaning machine or water broom.
- Repair all leaks and/or breaks as soon as possible.
- Eating or drinking establishments should provide drinking water to patrons only upon request.
- Lodging establishments should offer customers the option of not having towels and linens laundered daily.

The ordinance also provides for additional mandatory water conservation measures during various stages of water supply shortages, as described in Section 5.3.2. When water use restrictions are in place, the District will leave notices on customers' doors that are in violation of any of the water use prohibitions. In the past, this method has been effective and customers have mediated the problem upon notice. If the customer were to continue violating the prohibitions, fines would be issued. The District keeps track of the number of warnings issued and service representatives routinely check for compliance.

The District's residents may also report water waste by calling the District's customer service line. The customer service department will then issue a work order for a service representative to investigate the complaint.

On July 1, 2009, the District implemented a Level One Water Supply Shortage which included a mandatory minimum 10 percent water use reduction in response to drought conditions in California and restrictions on the State Water Project deliveries.

Effectiveness Evaluation

The District will continue to measure the effectiveness of this program by the reduction in water use compared to pre-drought conditions. In the 12 months ending December 31, 2010, average water use per District account declined approximately 16 percent as compared to the same period ending December 31, 2007, equating to a total savings of approximately 2,076 ac-ft/year within the 12 month period.

6.3 Wholesale Agency Assistance Programs (BMP 1.1.3)

Not applicable, the District is not a wholesale agency.

6.4 Water Loss Control (BMP 1.2)

The District's water loss control program has been in place since 1987. In 2010, the District completed a water audit and balance using AWWA's Water Audit Software. Data on volume

of water supplied, customer consumption, distribution system attributes, and quantities of losses were entered into the software's worksheets. Based on the District's data, the AWWA spreadsheets gave the District a score of 94 out of 100. The high score validates the District's data, meaning the District can trust their data to serve as the basis for budgetary decisions or major loss control initiatives.

Based on the unaccounted for water use, the District has historically been under 10 percent and over the last six years it has been less than 5 percent, which is relatively low compared to other water utilities. A considerable percentage of the unaccounted for water is attributed to damaged fire hydrants and water theft.

The District's system leak detection program focuses on notifying customers when a leak may be occurring on their property. The potential leak is normally discovered by unusually high meter reads identified by the meters which have high water use warnings or by the District's customer service and billing staff as they prepare monthly bills. If a high meter read is identified, a District service representative is sent to the location for further investigation and to notify the customer. The District also has a proactive large meter testing and replacement program in place which ensures the highest level of accuracy.

Other activities for detecting leaks include the following:

- Annual water balance system audits and water balance reconciliation
- SCADA system sensor calibration
- Large and small meter testing and replacement
- Residential water audits
- Flushing

Effectiveness Evaluation

The District tracks the effectiveness of its water loss control program based on reductions in water losses throughout the system. Over the five year period from 2006 to 2010, the average system water loss was approximately 1.4 percent, compared to approximately 7 percent for the period from 2000 to 2004. This reduction in water losses is estimated to result in an annual savings of approximately 700 ac-ft/yr.

6.5 Metering with Commodity Rates (BMP 1.3)

All of the District's existing service connections are metered and the District requires meters for all new connections. The District bills for water use according to its tiered block rate structure. Refer to BMP 1.4 in the following subsection for a description of the District's rate structure.

Effectiveness Evaluation

All of the District's customers are metered. Therefore, effectiveness and conservation savings are not measured because benefits are not significant.

6.6 Retail Conservation Pricing (BMP 1.4)

As described above, the District meters all services and charges for use based on the quantity of water used. About half of the meters are read and billed on a bimonthly basis and the other half is read and billed on a monthly basis.

The use of tiered rates to promote on-going water conservation has been in place since January 2009. Single family residential customers are billed on an inclining block rate structure, with a fixed service charge based on meter size to encourage conservation and discourage water waste. The current rate structure includes three tiers and varies according to the zones of elevation within the District.

Multi-family, commercial, and landscape customers are billed at a uniform rate per one hundred cubic feet, plus a pumping charge covering the energy cost to pump water to each zone of elevation.

Effectiveness Evaluation

As previously described, the District implemented a Level One Water Supply Shortage on July 1, 2009, which included a mandatory minimum 10 percent water use reduction. The Level One Water Supply Shortage was only recently rescinded in April 2011. Therefore, the District will measure the effectiveness of this program by the reduction in water use compared to pre-drought conditions. However, there is not sufficient data to evaluate the effectiveness or quantify conservation savings of the program at this time, since the mandatory water use reduction was instituted only 6 months after the new block rate structure was implemented.

6.7 Public Information Programs (BMP 2.1)

The District's public information program has been on-going since 1998. The District develops information and materials to support public information activities including newsletter articles on conservation, flyers and/or brochures, bill stuffers, messages printed on bill and information packets, and general water conservation information. The District also posts conservation information on its website including the conservation newsletter, school programs, grant programs, teacher workshops, and conservation/water restrictions.

Three Valleys, which provides imported water to the District, also does an extensive amount of public information through local advertisements, supplement sections (i.e. *Think Environment, Living Here*), articles and attending local fairs, to promote water conservation. Three Valleys also assists MWD by sending out their *Straight From the Tap* public information series directly to the local cable outlets in the Three Valleys service area. Three Valleys also hosts a quarterly

Leadership Breakfast for all interested parties in the community to provide an opportunity to network and listen to speakers on items of interest on the local and national level.

Effectiveness Evaluation

The public information programs are an essential component of developing water conservation awareness; however, the effectiveness and benefits of the programs are qualitative in nature and cannot be defined in quantitative terms.

6.8 School Education Programs (BMP 2.2)

The District's water education program for schools has been on-going since 1998 and most recently has included the following programs:

- **Edu-Grant Program -** The Edu-Grant Program provides financial support to teachers interested in doing creative classroom projects that increase students' awareness of water as a significant resource.
- **Poster Contest –** The District encourages schools within its service area to participate in the annual poster contest held by Metropolitan Water District (MWD). As a result, students have taken an active role in spreading the word on the importance of water conservation. The District collected posters from local schools, Grades 1 through 12, for inclusion in the MWD Poster Contest.
- **Video/PSA Contest -** The District also encourages schools within its service area to participate in MWD's PSA-Video contest. The objective of the contest is to increase the importance of water awareness in local high schools through group participation. In 2010, Glen A. Wilson High School, located in the District's service area, was awarded $400 for taking Second Place in MWD's 15th annual PSA-Video contest.
- **Project WET "Teacher In Service" Workshop -** Teachers in the District's service area were given the opportunity to participate in exciting grade-level, hands-on water conservation activities which they could implement in their curriculum and were provided with water education materials for their classrooms.
- **Theater Group -** The National Theater for Children performed *Aqua League and the Drought Dilemma* at several elementary schools throughout the District's service area during the 2009-2010 school year and are scheduled to perform again during the 2010-2011 school year. Teachers are provided with workbooks and teacher guides to promote water awareness in the classroom.

Effectiveness Evaluation

The public information programs are an essential component of developing water conservation awareness; however, the effectiveness and benefits of the programs are qualitative in nature and cannot be defined in quantitative terms.

6.9 Residential Assistance Program (BMP 3.1)

Although the District does not maintain a formal water survey program for residential customers, the District does provide water audits for customers under special circumstances. For example, a water audit would be performed if a customer has high meter readings and a water leak is not detected in the customer's service connection. In this case, District personnel, trained to conduct these audits, would do an interior and exterior water use review in order to identify potential leaks and areas for water savings. During the water audit, interior fixtures are checked and tested for leaks, and irrigation systems and pools are evaluated. At the completion of the water audit, customers are given a report documenting the findings and recommendations. During 2009 and 2010, the District conducted 5 residential water audits.

A water audit may also be requested by customers who have implemented water savings techniques (i.e. installed low flow fixtures) and have not realized a significant change in their water bill.

The District participates in the Three Valleys' residential plumbing retrofit program in which Three Valleys has provided low-flow showerheads to be distributed at outreach events and activities. Three Valleys has also participated in the Learning to Live Waterwise program for 4th grade students which provided residential retrofit kits (showerheads, faucet aerators, toilet tummies, rain/sprinkler gauges) to students and required a pre- and post-survey to be completed by the student for their household. This program is available to the District; however, none of the schools within the District's service area have taken advantage of this program.

Three Valleys also participates in a regional rebate program, the SoCal Water$mart Program which is available to the District's customers. Rebates are available for indoor plumbing including high efficiency clothes washers and toilets. Rebates for outdoor plumbing include those for weather-based irrigation controllers, rotating sprinkler nozzles, and replacement of irrigated lawn with drought tolerant plants or other approved landscape options. Table 6-2 provides a summary of rebates issued to District customers during the 2008-2009 and 2009-2010 fiscal years.

Table 6-2
Residential Rebates Issued to District Customers

Measure	2008-2009		2009-2010	
	No. of Rebates	No. of Units	No. of Rebates	No. of Units
High Efficiency Clothes Washer	198	198	206	206
High Efficiency Toilet	58	101	42	74
Rotating Nozzles	0	0	0	0
Synthetic Turf	1	925	3	2,533

In the coming years, the District will need to comply with the recently passed Senate Bill (SB) 407 legislation requiring replacement of non-water conserving plumbing fixtures. Key compliance dates for SB 407 are as follows:

- On or after January 1, 2014, for all building alterations or improvements to residential (single-and multi-family) and commercial real property, water-conserving plumbing fixtures must replace other noncompliant plumbing fixtures as a condition for issuing a certificate of final completion and occupancy or final permit approval by the local building department.
- On or before January 1, 2017, all noncompliant plumbing fixtures in any single-family residential real property must be replaced by the property owner with water-conserving plumbing fixtures.
- On or after January 1, 2017, a seller or transferor of residential (single-and multi-family) or commercial real property must disclose to a purchaser or transferee specified requirements for replacing plumbing fixtures, and indicate whether the property includes noncompliant plumbing.
- On or before January 1, 2019, all noncompliant plumbing fixtures in multi-family residential and commercial real property must be replaced with water-conserving plumbing fixtures.

Effectiveness Evaluation

The District tracks the number of residential water audits conducted each year. The District does not track effectiveness or estimate conservation savings because these vary based on type of recommendations provided to the customer.

The District does not track the effectiveness or estimate conservation savings of residential plumbing retrofits as this program is implemented by Three Valleys.

6.10 Landscape Water Survey (BMP 3.2)

Residential landscape surveys are included as a part of the water surveys described in Section 6.9.

6.11 High-Efficiency Clothes Washers (BMP 3.3)

The high efficiency clothes washer rebate program is administered and run by Three Valleys for its member agencies for the last three years. Three Valleys has helped member agencies inform the public about this program by printing ads for local newspapers, providing billing inserts specific to each member agency and providing the information on its website. The District refers its customers to Three Valleys to participate in this program. The effectiveness of this program is also evaluated by Three Valleys, which monitors the number of rebates

provided. The District does not evaluate the effectiveness or estimate conservation savings of this program.

6.12 Water Sense Specification Toilets (BMP 3.4)

Three Valleys supports ULFT replacement programs through the negotiation of a consultant contract to help the member agencies receive a better pre-unit price and standardize reporting and programs. The District does not evaluate the effectiveness or estimate conservation savings of this program.

6.13 Commercial, Industrial, and Institutional (BMP 4)

The Commercial, Institutional and Industrial (CII) retrofit program, called *Save Water, Save a Buck*, is implemented by MWD, which allows its member agencies to participate. Through Three Valleys, the District has participated in the program since its inception and promotes this worthwhile program through mail-outs and joint workshops. The District does not evaluate the effectiveness or estimate conservation savings of this program.

The number of rebates issued is tracked and recorded by Three Valleys. Table 6-3 provides a summary of the number of rebates issued to the District's customers during the 2008-2009 and 2009-2010 fiscal years.

Table 6-3
CII Rebates Issued to District Customers

Measure	2008-2009		2009-2010	
	No. of Rebates	No. of Units	No. of Rebates	No. of Units
Zero Water Urinals	3	5	206	206
Multi-Family High Efficiency Toilets	8	59	42	74
High Efficiency Toilet Tanks	0	0	2	137

6.14 Landscape (BMP 5)

The District recognizes the importance of *water-wise* outdoor water use in Southern California and through MWD and Three Valleys has promoted the understanding and use of native and drought tolerant plants in large landscape design, more particularly through MWD's California Friendly Landscape Training Program, formerly known as the Protector del Agua program. This program provides instruction in efficient water use through proper design, irrigation and maintenance. The District does not evaluate the effectiveness or estimate conservation savings of this program.

The District does not have a formal landscape water survey at this time. A majority of the District's landscape customers (i.e. parks and schools) use recycled water. Currently, landscape irrigation accounts for less than 3 percent of the District's total water demand and these will be converted to recycled water users in the future.

At this time it is not considered cost effective to implement a landscape water survey program. If the District were to conduct a water survey on half of the existing potable water landscape customers (about 20 surveys), it is estimated there would be 25 ac-ft/yr of water savings (based on an assumed reduction of 20%). The cost to implement a landscape audit program is estimated to be approximately $36,400 per year. The average cost for potable water in the District's system is $954 per ac-ft, including the cost to purchase water from Three Valleys and the District's administrative costs. By reducing use by 25 ac-ft/yr, the cost savings would only be about $23,850 per year. The cost to implement the landscape survey program outweighs the benefits. Therefore, the District has no plans to implement a landscape water survey program at this time. Furthermore, given the current economic climate, the District does not have available funding to implement such a program. Instead, the District has focused on improving its recycled water system to supply large landscape customers with recycled water.

Table 6-4
Landscape Survey — Cost Benefit Analysis

	Cost	Basis
Landscape Survey Costs [1]		
Administrative	$6,000	80 hrs x $75/ hour
Field Labor	$14,400	12 hrs/survey x $60/hr x 20 surveys
Customer Participation	$16,000	$800/survey x 20 surveys
Total Cost	**$36,400**	
Potential Savings	25 ac-ft/yr	
Cost of Potable Water	$23,850	$954/ac-ft x 25 ac-ft/yr
Does Landscape Survey Provide Benefit?	**NO**	

1) The survey costs are based on surveying half of the District's existing potable water customers (about 20 surveys).
2) Potential savings are based on 20% of the 20 existing potable water customers' demands for which a survey may be conducted.

7.0 Completed UWMP Checklist

No.	UWMP Requirement [a]	Calif. Water Code reference	Additional clarification	UWMP location
PLAN PREPARATION				
4	Coordinate the preparation of its plan with other appropriate agencies in the area, including other water suppliers that share a common source, water management agencies, and relevant public agencies, to the extent practicable.	10620(d)(2)		Section 1.2 Table 1-1
6	Notify, at least 60 days prior to the public hearing on the plan required by Section 10642, any city or county within which the supplier provides water that the urban water supplier will be reviewing the plan and considering amendments or changes to the plan. Any city or county receiving the notice may be consulted and provide comments.	10621(b)		Section 1.1.2
7	Provide supporting documentation that the UWMP or any amendments to, or changes in, have been adopted as described in Section 10640 et seq.	10621(c)		Documentation will be provided when changes occur
54	Provide supporting documentation that the urban water management plan has been or will be provided to any city or county within which it provides water, no later than 60 days after the submission of this urban water management plan.	10635(b)		Section 1.3
55	Provide supporting documentation that the water supplier has encouraged active involvement of diverse social, cultural, and economic elements of the population within the service area prior to and during the preparation of the plan.	10642		Section 1.2.1 Table 1-1
56	Provide supporting documentation that the urban water supplier made the plan available for public inspection and held a public hearing about the plan. For public agencies, the hearing notice is to be provided pursuant to Section 6066 of the Government Code. The water supplier is to provide the time and place of the hearing to any city or county within which the supplier provides water. Privately-owned water suppliers shall provide an equivalent notice within its service area.	10642		Section 1.2.2
57	Provide supporting documentation that the plan has been adopted as prepared or modified.	10642		Section 1.3
58	Provide supporting documentation as to how the water supplier plans to implement its plan.	10643		Section 1.3

No.	UWMP Requirement [a]	Calif. Water Code reference	Additional clarification	UWMP location
59	Provide supporting documentation that, in addition to submittal to DWR, the urban water supplier has submitted this UWMP to the California State Library and any city or county within which the supplier provides water supplies a copy of its plan no later than 30 days after adoption. This also includes amendments or changes.	10644(a)		Section 1.3
60	Provide supporting documentation that, not later than 30 days after filing a copy of its plan with the department, the urban water supplier has or will make the plan available for public review during normal business hours	10645		Section 1.3
SYSTEM DESCRIPTION				
8	Describe the water supplier service area.	10631(a)		Section 2.1 Figure 2-1
9	Describe the climate and other demographic factors of the service area of the supplier	10631(a)		Section 2.3 Table 2-1
10	Indicate the current population of the service area	10631(a)	Provide the most recent population data possible. Use the method described in "Baseline Daily Per Capita Water Use." See Section M.	Section 2.4
11	Provide population projections for 2015, 2020, 2025, and 2030, based on data from State, regional, or local service area population projections.	10631(a)	2035 and 2040 can also be provided to support consistency with Water Supply Assessments and Written Verification of Water Supply documents.	Section 2.4 Table 2-3
12	Describe other demographic factors affecting the supplier's water management planning.	10631(a)		Section 2.4
SYSTEM DEMANDS				
1	Provide baseline daily per capita water use, urban water use target, interim urban water use target, and compliance daily per capita water use, along with the bases for determining those estimates, including references to supporting data.	10608.20(e)		Section 3.1 Table 3-1 Table 3-4 Table 3-5
2	*Wholesalers:* Include an assessment of present and proposed future measures, programs, and policies to help achieve the water use reductions. *Retailers:* Conduct at least one public hearing that includes general discussion of the urban retail water supplier's implementation plan for complying with the Water Conservation Bill of 2009.	10608.36 10608.26(a)	Retailers and wholesalers have slightly different requirements	Section 3.4

No.	UWMP Requirement [a]	Calif. Water Code reference	Additional clarification	UWMP location
3	Report progress in meeting urban water use targets using the standardized form.	10608.40		To be submitted in future.
25	Quantify past, current, and projected water use, identifying the uses among water use sectors, for the following: (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, conjunctive use, and (I) agriculture.	10631(e)(1)	Consider 'past' to be 2005, present to be 2010, and projected to be 2015, 2020, 2025, and 2030. Provide numbers for each category for each of these years.	Section 3.2 Table 3-7 through Table 3-11
33	Provide documentation that either the retail agency provided the wholesale agency with water use projections for at least 20 years, if the UWMP agency is a retail agency, OR, if a wholesale agency, it provided its urban retail customers with future planned and existing water source available to it from the wholesale agency during the required water-year types	10631(k)	Average year, single dry year, multiple dry years for 2015, 2020, 2025, and 2030.	Section 3.2.6 Table 3-13
34	Include projected water use for single-family and multifamily residential housing needed for lower income households, as identified in the housing element of any city, county, or city and county in the service area of the supplier.	10631.1(a)		Section 3.2.7 Table 3-13
SYSTEM SUPPLIES				
13	Identify and quantify the existing and planned sources of water available for 2015, 2020, 2025, and 2030.	10631(b)	The 'existing' water sources should be for the same year as the "current population" in line 10. 2035 and 2040 can also be provided.	Section 4.1 - 4.2 Table 4-1 Table 4-2
14	Indicate whether groundwater is an existing or planned source of water available to the supplier. If yes, then complete 15 through 21 of the UWMP Checklist. If no, then indicate "not applicable" in lines 15 through 21 under the UWMP location column.	10631(b)	Source classifications are: surface water, groundwater, recycled water, storm water, desalinated sea water, desalinated brackish groundwater, and other.	Section 4.3
15	Indicate whether a groundwater management plan been adopted by the water supplier or if there is any other specific authorization for groundwater management. Include a copy of the plan or authorization.	10631(b)(1)		Section 4.3.1
16	Describe the groundwater basin.	10631(b)(2)		Section 4.3
17	Indicate whether the groundwater basin is adjudicated? Include a copy of the court order or decree.	10631(b)(2)		Section 4.3.1 Appendix E

No.	UWMP Requirement [a]	Calif. Water Code reference	Additional clarification	UWMP location
18	Describe the amount of groundwater the urban water supplier has the legal right to pump under the order or decree. If the basin is not adjudicated, indicate “not applicable” in the UWMP location column.	10631(b)(2)		Section 4.3.1
19	For groundwater basins that are not adjudicated, provide information as to whether DWR 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. If the basin is adjudicated, indicate “not applicable” in the UWMP location column.	10631(b)(2)		N/A
20	Provide a detailed description and analysis of the location, amount, and sufficiency of groundwater pumped by the urban water supplier for the past five years	10631(b)(3)		Section 4.3.5 Table 4-5
21	Provide a detailed description and analysis of the amount and location of groundwater that is projected to be pumped.	10631(b)(4)	Provide projections for 2015, 2020, 2025, and 2030.	Section 4.3.6 Table 4-6
24	Describe the opportunities for exchanges or transfers of water on a short-term or long-term basis.	10631(d)		Section 4.4
30	Include a detailed description of all water supply projects and programs that may be undertaken by the water supplier to address water supply reliability in average, single-dry, and multiple-dry years, excluding demand management programs addressed in (f)(1). Include specific projects, describe water supply impacts, and provide a timeline for each project.	10631(h)		Section 4.7 Table 4-12
31	Describe desalinated water project opportunities for long-term supply, including, but not limited to, ocean water, brackish water, and groundwater.	10631(i)		Section 4.5
44	Provide information on recycled water and its potential for use as a water source in the service area of the urban water supplier. Coordinate with local water, wastewater, groundwater, and planning agencies that operate within the supplier's service area.	10633		Section 4.6
45	Describe the wastewater collection and treatment systems in the supplier's service area, including a quantification of the amount of wastewater collected and treated and the methods of wastewater disposal.	10633(a)		Section 4.6.1

No.	UWMP Requirement [a]	Calif. Water Code reference	Additional clarification	UWMP location
46	Describe the quantity of treated wastewater that meets recycled water standards, is being discharged, and is otherwise available for use in a recycled water project.	10633(b)		Section 4.6.1
47	Describe the recycled water currently being used in the supplier's service area, including, but not limited to, the type, place, and quantity of use.	10633(c)		Section 4.6
48	Describe and quantify the potential uses of recycled water, including, but not limited to, agricultural irrigation, landscape irrigation, wildlife habitat enhancement, wetlands, industrial reuse, groundwater recharge, indirect potable reuse, and other appropriate uses, and a determination with regard to the technical and economic feasibility of serving those uses.	10633(d)		Section 4.6.2 Table 4-9
49	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.	10633(e)		Section 4.6.3 Table 4-10
50	Describe the actions, including financial incentives, which may be taken to encourage the use of recycled water, and the projected results of these actions in terms of acre-feet of recycled water used per year.	10633(f)		Section 4.6.4 Table 4-11
51	Provide a plan for optimizing the use of recycled water in the supplier's service area, including actions to facilitate the installation of dual distribution systems, to promote recirculating uses, to facilitate the increased use of treated wastewater that meets recycled water standards, and to overcome any obstacles to achieving that increased use.	10633(g)		Section 4.6.5
WATER SHORTAGE RELIABILITY AND WATER SHORTAGE CONTINGENCY PLANNING [b]				
5	Describe water management tools and options to maximize resources and minimize the need to import water from other regions.	10620(f)		Section 1.1
22	Describe the reliability of the water supply and vulnerability to seasonal or climatic shortage and provide data for (A) an average water year, (B) a single dry water year, and (C) multiple dry water years.	10631(c)(1)		Section 5.4
23	For any water source that may not be available at a consistent level of use - given specific legal, environmental, water quality, or climatic factors - describe plans to supplement or replace that source with alternative sources or water demand management measures, to the extent practicable.	10631(c)(2)		Section 5.1 Table 5-1
35	Provide an urban water shortage contingency analysis that specifies stages of action, including up to a 50-percent water supply reduction, and an outline of specific water supply conditions at each stage	10632(a)		Section 5.2.2

No.	UWMP Requirement [a]	Calif. Water Code reference	Additional clarification	UWMP location
36	Provide an estimate of the minimum water supply available during each of the next three water years based on the driest three-year historic sequence for the agency's water supply.	10632(b)		Section 5.4.1 Table 5-11
37	Identify actions to be undertaken by the urban water supplier to prepare for, and implement during, a catastrophic interruption of water supplies including, but not limited to, a regional power outage, an earthquake, or other disaster.	10632(c)		Section 5.2.1 Table 5-2
38	Identify additional, mandatory prohibitions against specific water use practices during water shortages, including, but not limited to, prohibiting the use of potable water for street cleaning.	10632(d)		Section 5.2.2.1 Table 5-4
39	Specify consumption reduction methods in the most restrictive stages. Each urban water supplier may use any type of consumption reduction methods in its water shortage contingency analysis that would reduce water use, are appropriate for its area, and have the ability to achieve a water use reduction consistent with up to a 50 percent reduction in water supply.	10632(e)		Section 5.2.2.2 Table 5-5
40	Indicated penalties or charges for excessive use, where applicable.	10632(f)		Section 5.2.2.3 Table 5-6
41	Provide an analysis of the impacts of each of the actions and conditions described in subdivisions (a) to (f), inclusive, on the revenues and expenditures of the urban water supplier, and proposed measures to overcome those impacts, such as the development of reserves and rate adjustments.	10632(g)		Section 5.2.3
42	Provide a draft water shortage contingency resolution or ordinance.	10632(h)		Appendix D
43	Indicate a mechanism for determining actual reductions in water use pursuant to the urban water shortage contingency analysis.	10632(i)		Section 5.4.3
52	Provide information, to the extent practicable, relating to the quality of existing sources of water available to the supplier over the same five-year increments, and the manner in which water quality affects water management strategies and supply reliability	10634	For years 2010, 2015, 2020, 2025, and 2030	Section 5.3

No.	UWMP Requirement [a]	Calif. Water Code reference	Additional clarification	UWMP location
53	Assess the water supply reliability during normal, dry, and multiple dry water years by comparing the total water supply sources available to the water supplier with the total projected water use over the next 20 years, in five-year increments, for a normal water year, a single dry water year, and multiple dry water years. Base the assessment on the information compiled under Section 10631, including available data from state, regional, or local agency population projections within the service area of the urban water supplier.	10635(a)		Section 5.5.3 Table 5-12 through Table 5-14
DEMAND MANAGEMENT MEASURES				
26	Describe how each water demand management measures is being implemented or scheduled for implementation. Use the list provided.	10631(f)(1)	Discuss each DMM, even if it is not currently or planned for implementation. Provide any appropriate schedules.	Section 6
27	Describe the methods the supplier uses to evaluate the effectiveness of DMMs implemented or described in the UWMP.	10631(f)(3)		Section 6
28	Provide 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 ability to further reduce demand.	10631(f)(4)		Section 6
29	Evaluate each water demand management measure that is not currently being implemented or scheduled for implementation. The evaluation should include economic and non-economic factors, cost-benefit analysis, available funding, and the water suppliers' legal authority to implement the work.	10631(g)	See 10631(g) for additional wording.	Section 6
32	Include the annual reports submitted to meet the Section 6.2 requirements, if a member of the CUWCC and signer of the December 10, 2008 MOU.	10631(j)	Signers of the MOU that submit the annual reports are deemed compliant with Items 28 and 29.	Appendix I

a The UWMP Requirement descriptions are general summaries of what is provided in the legislation. Urban water suppliers should review the exact legislative wording prior to submitting its UWMP.

b The Subject classification is provided for clarification only. It is aligned with the organization presented in Part I of this guidebook. A water supplier is free to address the UWMP Requirement anywhere with its UWMP, but is urged to provide clarification to DWR to facilitate review.

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APPENDIX A

City and County Notification Letters

May 16, 2011

Mr. John Ballas
City Engineer
City of Industry
15651 East Stafford Street
City of Industry, CA 91744

Re: Notice of Preparation of 2010 Urban Water Management Plan

Dear Mr. Ballas:

The Rowland Water District, in conformance with the California Water Code Section 10621, is in the process of preparing its 2010 Urban Water Management Plan (UWMP).

The District will be holding a public hearing at its Board of Directors meeting to receive input on the draft 2010 Urban Water Management Plan (UWMP). The Urban Water Management Planning Act requires every urban water supplier that serves more than 3,000 customers, or serves more than 3,000 acre-feet of water annually, to prepare and adopt an UWMP and periodically update that plan at least once every five years. The UWMP is a planning document that assists urban water suppliers in assessing existing and future water demands and evaluating long-term water supply reliability. The Plan also evaluates potential future sources and water conservation efforts to improve overall reliability for a water supplier's service area.

The Rowland Water District is currently updating its UWMP for 2010 and welcomes and appreciates your participation. The public hearing will be on:

July 19, 2011 at 6:00 p.m. at the District office located at
3021 South Fullerton Road, Rowland Heights, CA 91748

The UWMP will be available at the District's office for review on July 5, 2011.

Should you have any questions in connection with this process, please do not hesitate to contact me directly.

Thank you.

Yours truly,

KEN DECK
General Manager

/rp

May 16, 2011

Planning Department
City of West Covina
1444 West Garvey Avenue
West Covina, CA 91790

Re: Notice of Preparation of 2010 Urban Water Management Plan

Gentlemen:

The Rowland Water District, in conformance with the California Water Code Section 10621, is in the process of preparing its 2010 Urban Water Management Plan (UWMP).

The District will be holding a public hearing at its Board of Directors meeting to receive input on the draft 2010 Urban Water Management Plan (UWMP). The Urban Water Management Planning Act requires every urban water supplier that serves more than 3,000 customers, or serves more than 3,000 acre-feet of water annually, to prepare and adopt an UWMP and periodically update that plan at least once every five years. The UWMP is a planning document that assists urban water suppliers in assessing existing and future water demands and evaluating long-term water supply reliability. The Plan also evaluates potential future sources and water conservation efforts to improve overall reliability for a water supplier's service area.

The Rowland Water District is currently updating its UWMP for 2010 and welcomes and appreciates your participation. The public hearing will be on:

July 19, 2011 at 6:00 p.m. at the District office located at
3021 South Fullerton Road, Rowland Heights, CA 91748

The UWMP will be available at the District's office for review on July 5, 2011.

Should you have any questions in connection with this process, please do not hesitate to contact me directly.

Thank you.

Yours truly

KEN DECK
General Manager

/rp

May 16, 2011

County of Los Angeles
Los Angeles County Registrar Recorder/County Clerk
12400 Imperial Highway
P.O. Box 1208
Norwalk, CA 90051-1208

SUBJECT: **Notice of Preparation**
2010 Urban Water Management Plan

Please be informed that the Rowland Water District, in conformance with the California Water Code Section 10621, has prepared its 2010 Urban Water Management Plan (UWMP). Recent amendments to the Water Code require notification to the county and cities within the service area of any wholesale or retail water purveyors preparing UWMP's.

Rowland Water District is a retail water supplier serving the City of Industry and the City of West Covina in the County of Los Angeles. The District will be holding a public hearing at its Board of Directors meeting to receive input on the draft 2010 Urban Water Management Plan (UWMP). The Urban Water Management Planning Act requires every urban water supplier that serves more than 3,000 customers, or serves more than 3,000 acre-feet of water annually, to prepare and adopt an UWMP and periodically update that plan at least once every five years. The UWMP is a planning document that assists urban water suppliers in assessing existing and future water demands and evaluating long-term water supply reliability. The Plan also evaluates potential future sources and water conservation efforts to improve overall reliability for a water supplier's service area.

The Rowland Water District is currently updating its UWMP for 2010. The public hearing will be on:

July 19, 2011 at 6:00 p.m. at the District office located at
3021 South Fullerton Road, Rowland Heights, CA 91748

The 2010 Urban Water Management Plan is available for review at the offices of the District located at 3021 South Fullerton Road, Rowland Heights, California 91748.

_____
KEN DECK, General Manager

May 16, 2011

County of Los Angeles
Los Angeles County Registrar Recorder/County Clerk
12400 Imperial Highway, P.O. Box 1208
Norwalk, CA 90051-1208

Re: 2010 Urban Water Management Plan

Gentlemen:

Enclosed for filing is “Notice of Preparation of 2010 Urban Water Management Plan” together with our check in the amount of $75.00 representing the filing fee.

Please stamp the additional copy of the Notice with the date of filing and return it to our office in the envelope provided.

Thank you for your assistance in this matter.

Yours truly,

KEN DECK
General Manager

/rp
Enclosures

APPENDIX B

Public Hearing Notice

NOTICE OF PUBLIC HEARING
CONCERNING THE ADOPTION OF AN
URBAN WATER MANAGEMENT PLAN

Notice is hereby given that the Board of Directors of ROWLAND WATER DISTRICT will hold a Public Hearing on July 19, 2011 at 6:00 P.M. at the District Office located at 3021 S. Fullerton Road, Rowland Heights, California, at which members of the public will be afforded an opportunity to make oral or written presentations concerning the proposed adoption of the District's 2010 Urban Water Management Plan.

All interested persons may present oral comments and information at the Public Hearing or may submit written comments and information to the Board of Directors at any time prior to the hearing by delivering them to the District office.

A copy of the proposed Urban Water management Plan will be available at the District office for review beginning July 5, 2011.

Ken Deck
General Manager

June 24, 2011

Publish: July 5, 2011 and July 12, 2011

APPENDIX C

Resolution Adopting UWMP

Resolution No. 7-2011

RESOLUTION OF THE BOARD OF DIRECTORS OF THE ROWLAND WATER DISTRICT ADOPTING THE URBAN WATER MANAGEMENT PLAN

WHEREAS, pursuant to the Urban Water Management Planning Act (Water Code Section 10610 et seq. the "Act") Rowland Water District has adopted an Urban Water Management Plan and updates the plan every five years as required by Water Code Section 10621; and

WHEREAS, District staff has prepared an update for the year 2010, revising the information and projections of the Plan and providing additional information required under the Act; and

WHEREAS, notice has been given to the County of Los Angeles, the City of Industry, and the City of West Covina that the District is reviewing its Urban Water Management Plan for purposes of amending and updating the plan, and has provided an opportunity for those local governments to comment; and

WHEREAS, a copy of the proposed 2010 Rowland Water District Urban Water Management Plan has been made available for public inspection at the District office, and notice has been published pursuant to Government Code Section 6066 for two weeks in a newspaper of general circulation within the District, of the date, time and place of the public hearing to receive public comment on the proposed 2010 Rowland Water District Urban Water Management Plan; and

WHEREAS, a public hearing regarding said proposed Plan was held by the Rowland Water District on July 19, 2011, and the Board of Directors adopted a final 2010 Urban Water Management Plan;

NOW, THEREFORE, BE IT RESOLVED by the Board of Directors as follows:

1) The 2010 Urban Water Management Plan is hereby adopted; and
2) The General Manager is hereby authorized and directed to file a copy of this Plan with the California Department of Water Resources; the California State Library, the County of Los Angeles, the City of Industry and the City of West Covina; and
3) The General Manager shall recommend additional procedures, rules and regulations to the Board of Directors to carry out effective and equitable allocation of water resources during a water shortage.

PASSED AND ADOPTED at a regular meeting of the Board of Directors of the Rowland Water District held on July 19, 2011 by the following vote:

AYES: Directors Lima, Lu-Yang, Lewis, Bellah, Rios
NOES: None
ABSENT: None
ABSTAIN: None

ANTHONY J. LIMA
Board President

Attest:

Ken Deck, Board Secretary

APPENDIX D

Ordinance No. 0-5-2009
Water Conservation and
Water Shortage Contingency Plan

ORDINANCE NO. 0-5-2009
ROWLAND WATER DISTRICT

ESTABLISHING A WATER CONSERVATION AND WATER SHORTAGE CONTINGENCY PLAN

Be it ordained by the Board of Directors of the Rowland Water District (District) as follows:

Section 1: Purpose

Rowland Water District receives one hundred percent of its potable water supplies from the Metropolitan Water District of Southern California (MWD) through MWD's member agency, Three Valleys Municipal Water District (Three Valleys). The imported water supplies available to MWD have been substantially reduced due to drought and regulatory limitations to the point where MWD has notified their member agencies that due to the reduction in supplies and depletion of water storage reserves, measures have been put in place by MWD to allocate the available water supplies among their members depending upon the level of shortage, which include severe financial penalties on the retail agencies for taking water in excess of the allocated supply. The District has implemented water conservation measures, and developed a recycled water system to offset use of potable water for appropriate uses, which, although effective, may not be sufficient to stay within a reduced imported water supply allocation imposed by MWD. The Board of Directors finds that, because of the foregoing circumstances, there is currently a substantial threat and likelihood of a severe water shortage, in which the District's water supplies will be severely restricted. It is in the best interest of the residents and businesses within the District that measures are implemented to ensure that adequate supplies of water are available for domestic use, fire suppression and sanitation, and that the District, so far as possible, limits its demand for imported water to avoid penalties for excessive use and to ensure a reliable and sustainable minimum supply of water for public health, safety and welfare for all.

Section 2: Authorization and Authority

Article X, Section 2 of the California Constitution declares the general welfare requires that water resources be put to beneficial use, waste or unreasonable method of use of water be prevented, and conservation of water be fully exercised with the view to the reasonable and beneficial use thereof. Pursuant to Water Code Sections 31026 et seq., Water Code Sections 350 et seq., Water Code Sections 370 et seq., and 375 et seq., the District is authorized and empowered to enact and enforce restrictions on water use and water conservation programs to conserve its water supplies and prevent wastage.

Section 3: Declaration and Notification of Water Supply Shortage

At any time that the Board of Directors determines that the water supply available to the District is likely to be insufficient to meet the expected demands of the District's customers due to any cause, including but not limited to facility failure or reductions or allocations imposed by the District's wholesale suppliers, such that the District will not be able to supply all of the demands of its customers without incurring penalties or violating policies of the wholesale agencies, the Board may declare a water shortage. A declaration of a Level 1 or Level 2 Water Supply Shortage, as defined, shall be made at a regular or special meeting of the Board of Directors. The declaration of a Level 3 Water Supply Shortage or "Water Shortage Emergency" as authorized pursuant to Water Code Section 350, shall be made after a public hearing held pursuant to published notice, unless the Water Shortage Emergency is caused by the breakage or failure of a dam, pump, pipeline or conduit causing an immediate emergency. The Board of Directors may declare, change or rescind, as applicable, the particular stage of the water supply shortage through the adoption of a Resolution. The restrictions and mandatory reduction of use listed under each level of shortage will take effect immediately upon adoption. A full listing of the restrictions applicable to the level of shortage declared shall be published once in full in a newspaper of general circulation, printed, published and circulated in the District within ten (10) days after adoption of the declaration of water supply shortage. Any provisions requiring curtailment in the use of water shall become effective with the first full billing period commencing on or after the date of adoption. Notice of the activation of a water supply shortage will be included in the regular billing statement or by separate mailing to the address and customer name on record.

Section 4: Compliance Responsibility

The customer of the District whose name is on the account shall be responsible for compliance with the provisions of this Ordinance.

Section 5: Water Conservation Best Management Practices

The District encourages its customers to use water efficiently, even during times of adequate supplies, and the following water conservation practices are recommended at all times.

a. **Limits on Watering Hours: No** watering or irrigation of lawn, landscape or other vegetated area with potable water between the hours 8:00 a.m. and 5:00 p.m.

b. **Excessive Water Flow or Runoff:** Eliminate watering or irrigating of any lawn, landscape or other vegetated area in a manner that causes or allows excessive water flow or runoff onto an adjoining sidewalk, driveway, street, alley, gutter or ditch.

c. **Washing Down of Hard or Paved Surfaces:** Washing down of hard or paved surfaces, including but not limited to sidewalks, walkways, driveways, parking areas, tennis courts, patios or alleys, should only be done when using a bucket or similar container, a hand-

held hose equipped with a positive self-closing water shut-off device, a low volume, high-pressure cleaning machine, or a low-volume high-pressure water broom.

d. **Leaks and Breaks:** Repair all plumbing and irrigation leaks and/or breaks as soon as reasonably possible.

e. **Serving of Water at Establishments:** Eating or drinking establishments, including but not limited to restaurants, hotels, cafes, bars or other public places where food or drinks are sold or served should provide drinking water to patrons only upon request.

f. **Lodging Establishments Linen Service:** Hotels, motels and other commercial lodging establishments should offer customers the option of not having towels and linens laundered daily. Commercial lodging establishments should prominently display notice of this option in each bathroom using clear and easily understood language.

Section 6: Level 1 Water Supply Shortage

A Level 1 Water Supply Shortage may be declared in the event that the imported water supplies available to the District are limited or restricted due to drought, regulatory restrictions and/or the imposition of a water supply allocation by MWD or Three Valleys to the extent that a 5 to 15 percent reduction in consumer demand is required due to actual water shortages or to avoid financial penalties for taking water in excess of the allocation. A Level 1 Water Supply Shortage shall be declared pursuant to resolution adopted by the Board of Directors of the District, which shall specify a mandatory conservation level of up to 10%. Upon the declaration by the District of a Level 1 Water Supply Shortage condition, the District will implement Mandatory Level 1 conservation measures identified in this section.

Additional Water Conservation Measures:

In addition to the water conservation practices identified in Section5, the following water conservation requirements apply during a declared Level 1 Water Supply Shortage:

a. **Limits on Watering Days:** Watering or irrigation of lawn, landscape or other vegetated area with potable water is limited to three days per week (**Monday, Wednesday & Friday).** Irrigation by hand-held hose equipped with a positive self-closing shut-off nozzle, drip irrigation type irrigation systems when no emitter produces more than two (2) gallons per hour, or hand-held bucket or similar container is permitted.

b. **Obligation to Fix Leaks, Breaks or Malfunctions:** All leaks, breaks and malfunctions in the customer's plumbing must be repaired within seventy-two (72) hours of discovery. Failure to repair a leak or break within 72 hours of notification by the District will constitute a violation.

c. **Construction/Temporary Water:** Potable water used on a temporary basis for construction and dust control shall be limited to that quantity identified in the plan submitted by the user which describes water use requirements. The plan must be

submitted and approved by the District. Upon availability, non-potable recycled water will be made available for these uses.

d. **Fire Hydrant Use:** Use of water from fire hydrants shall be limited to fire fighting and related activities, or for activities necessary to maintain the public health, safety and welfare.

e. **Metered Reduction:** Water consumption as measured through the customer's meter shall be reduced by the customer by the percentage specified in the Resolution declaring the Level 1 Water Supply Shortage. The required reduction will be calculated based on the amount of water used by the same customer during the same billing period in the last calendar year during which no potable water shortage was declared. For those customers who do not have historical data upon which to base the reduction, an average consumption for the area will be used as a baseline for reduction. Metered water use in excess of the amount set forth in the Resolution will be billed at a penalty rate which shall be calculated as the per unit (hundred cubic foot) cost of the penalty imposed on deliveries of potable water from Three Valleys Municipal Water District exceeding Rowland Water District's allocation. Under the current policy of Three Valleys Municipal Water District, the penalty rate for use of District water in excess of the mandatory restriction is $2.52 per hcf. This penalty will be charged in addition to the water usage rate. At such time as the penalties imposed by Three Valleys Municipal Water District for excess use are changed, the penalty rate imposed under this Water Shortage Ordinance will be adjusted to reflect the actual per unit cost of the penalty. Notice of the amount of any adjustment to the penalty rate will be given in the next billing statement after the adjustment is made.

Section 7: Level 2 Water Supply Shortage

A Level 2 Water Supply Shortage may be declared in the event that the imported water supplies available to the District are limited or restricted due to drought, regulatory restrictions and/or the imposition of a water supply allocation by MWD or Three Valleys to the extent that a 16 to 25 percent reduction in consumer demand is required due to actual water shortages or to avoid financial penalties for taking water in excess of the allocation. A Level 2 Water Supply Shortage shall be declared pursuant to resolution adopted by the Board of Directors of the District, which shall specify a mandatory conservation level of up to 25%. Upon the declaration by the District of a Level 2 Water Supply Shortage condition, the District will implement Mandatory Level 2 conservation measures identified in this section.

Additional Water Conservation Measures:

In addition to the prohibited uses of potable water indentified in Sections 5 and 6, the following water conservation requirements apply during a declared Level 2 Water Supply Shortage:

a. **Limits on Watering Days:** Watering or irrigation of lawn, landscape or other vegetated area with potable water by use of a sprinkler or soaker hose is limited to two days per

week (**Monday & Friday).** Irrigation by hand-held hose equipped with a positive self-closing shut-off nozzle, drip irrigation type irrigation systems when no emitter produces more than two (2) gallons per hour or hand-held bucket or similar container is permitted at other times.

b. **Obligation to Fix Leaks, Breaks or Malfunctions:** All leaks, breaks and malfunctions in the customer's plumbing must be repaired within Forty-eight (48) hours of discovery. Failure to repair a leak or break within 24 hours of notification by the District will constitute a violation.

c. **Limits on Filling Ornamental Lakes or Ponds:** Filling or re-filling of ornamental lakes or ponds is prohibited, except to the extent needed to sustain existing aquatic life.

d. **Limits on Washing of Vehicles:** Using water to wash motor vehicles, trailers, boats and other types of mobile equipment is prohibited except by use with a bucket or a hand-held hose equipped with a positive self-closing water shut-off nozzle or device.

e. **Limits on Filling Residential Swimming Pools & Spas:** Emptying or refilling swimming pools, spas and ponds for cleaning purposes is prohibited. Water levels may be maintained.

f. **Metered Reduction:** Water consumption as measured through the customer's meter shall be reduced by the customer by the percentage specified in the Resolution declaring the Level 2 Water Supply Shortage. The required reduction will be calculated based on the amount of water used by the same customer during the same billing period in the last calendar year during which no potable water shortage was declared. For those customers who do not have historical data upon which to base the reduction, an average consumption for the area will be used as a baseline for reduction. Metered water use in excess of the amount set forth in the Resolution will be billed at a penalty rate which shall be calculated as the per unit (hundred cubic foot) cost of the penalty imposed on deliveries of potable water from Three Valleys Municipal Water District exceeding Rowland Water District's allocation. Under the current policy of Three Valleys Municipal Water District, the penalty rate for use of District water in excess of the mandatory restriction is $5.04 per hcf. This penalty will be charged in addition to the water usage rate. At such time as the penalties imposed by Three Valleys Municipal Water District for excess use are changed, the penalty rate imposed under this Water Shortage Ordinance will be adjusted to reflect the actual per unit cost of the penalty. Notice of the amount of any adjustment to the penalty rate will be given in the next billing statement after the adjustment is made.

Section 8: Level 3 Water Supply Shortage – Emergency Condition

A Level 3 Water Supply Shortage may be declared in the event that the imported water supplies available to the District are limited or restricted due to drought, regulatory restrictions and/or the imposition of a water supply allocation by MWD or Three Valleys to the extent that a reduction

of greater than twenty-five (25) percent in consumer demand is required due to actual water shortages or to avoid financial penalties for taking water in excess of the allocation. A Level 3 Water Supply Shortage shall be declared pursuant to resolution adopted by the Board of Directors of the District after a public hearing, and shall specify a mandatory conservation level which may be in excess of 25%. A Level 3 Water Supply Shortage condition is also referred to as a "Water Shortage Emergency" condition. Upon the declaration by the District of a Level 3 Water Supply Shortage condition, the District will implement Mandatory Level 3 conservation measures identified in this section.

Additional Water Conservation Measures:

In addition to the prohibited uses of potable water indentified in Sections 5, 6 and 7, the following water conservation requirements apply during a declared Level 3 Water Shortage Emergency:

a. **Limits on Watering Days:** Watering or irrigation of lawn, landscape or other vegetated area with potable water is limited to one day per week **(Wednesday).** Irrigation by hand-held hose equipped with a positive self-closing shut-off nozzle, drip irrigation type irrigation systems when no emitter produces more than two (2) gallons per hour or bucket or similar container is permitted at other times. The restriction does not apply to the following categories.

   i. Minimum water necessary for maintenance of existing landscape necessary for fire protection and for properties adjacent to wildlands provided that such irrigation does not exceed two (2) days per week according to the Section 7 (a) and time restrictions in Section 5 (a);

   ii. Minimum water necessary for maintenance of existing landscape for soil erosion control on slopes provided that such irrigation does not exceed two (2) days per week according to the Section 7 (a) and time restrictions in Section 5 (a);

   iii. Maintenance of landscape within active public parks and playing fields, day care centers, golf course tee boxes and greens, and school grounds, provided that such irrigation does not exceed two (2) days per week according to the Section 7 (a) and time restrictions in Section 5 (a);

b. **Obligation to Fix Leaks, Breaks or Malfunctions:** All leaks, breaks and malfunctions in the customer's plumbing must be repaired within Twenty-Four (24) hours of discovery. Failure to repair a leak or break within 24 hours after notification by the District will constitute a violation.

c. **No New Potable Water Service:** Upon declaration of a Level 3 Water Supply Shortage Emergency condition, no new potable water services will be provided, no new temporary meters or permanent meters will be provided, and no statements of immediate ability to

serve or provide water service (such as will-serve letters, certificates, or letters of availability) will be issued, except under the following circumstances:

i. A valid unexpired building permit has been issued for the project; or
ii. The project is necessary to protect the public health, safety, and welfare; or
iii. The applicant provides substantial evidence of an enforceable commitment that water demands for the project will be offset prior to the provision of a new water meter(s) to the satisfaction of District.

d. **Service Disconnection:** A customer who willfully or repeatedly violates any provision of this section is subject to termination of water service by the District after notice of the violation as specified in Section 11.

e. **Metered Reduction:** Water consumption as measured through the customer's meter shall be reduced by the customer by the percentage specified in the Resolution declaring the Level 3 Water Supply Shortage. The required reduction will be calculated based on the amount of water used by the same customer during the same billing period in the last calendar year during which no potable water shortage was declared. For those customers who do not have historical data upon which to base the reduction, an average consumption for the area will be used as a baseline for reduction. Metered water use in excess of the amount set forth in the Resolution will be billed at a penalty rate which shall be calculated as the per unit (hundred cubic foot) cost of the penalty imposed on deliveries of potable water from Three Valleys Municipal Water District exceeding Rowland Water District's allocation. Under the current policy of Three Valleys Municipal Water District, the penalty rate for use of District water in excess of the mandatory restriction is $5.04 per hcf. This penalty will be charged in addition to the water usage rate. At such time as the penalties imposed by Three Valleys Municipal Water District for excess use are changed, the penalty rate imposed under this Water Shortage Ordinance will be adjusted to reflect the actual per unit cost of the penalty. Notice of the amount of any adjustment to the penalty rate will be given in the next billing statement after the adjustment is made.

Section 9: Exceptions

No mandatory water conservation provisions shall apply to the following water uses:

a. Recycled water distributed through the District's recycled water distribution system and used for landscape irrigation, industrial processes, construction, dust control or other approved uses.

b. The routine and necessary use of water by a governmental entity in pursuit of its functions for protecting the public health, safety and welfare of its citizens. This exception does not apply to the use of potable water for landscape irrigation by a government agency.

c. The necessary use of water for routine maintenance, testing and/or repair of the District's distribution and storage facilities.

Section 10: Level 4 Water Shortage Emergency Response

In the event that an immediate water supply shortage occurs due to the breakage or failure of a dam, pump, pipeline or conduit causing an immediate emergency, the General Manager shall declare the extent of the water supply shortage emergency and, after allocating and setting aside the amount of water necessary for domestic use, sanitation and fire protection, shall determine and implement the appropriate water supply shortage restrictions, as defined herein. The General Manager will call a special meeting of the Board of Directors as soon as practical for the purpose of reviewing and ratifying the action of the General Manager in declaring the Water Shortage Emergency.

Section 11: Failure to Comply

a. In addition to the penalties imposed in Sections 6(e), 7(f) and 8(e), customers violating the mandatory provisions set forth in this Ordinance, as enacted by Board Resolution declaring the specific level of Water Supply Shortage, shall be subject to the procedures and/or penalties as outlined in this section.

b. Continued violations of this Ordinance may be prosecuted as a misdemeanor punishable by imprisonment in the County jail for not more than thirty (30) days, or by fine not exceeding one thousand dollars ($1,000.00), or by both.

c. The following table outlines the procedures and penalties for each violation of each declared water supply shortage level, respectively:

Water Supply Shortage Level	First Violation	Second Violation	Third Violation	Fourth Violation	Fifth Violation
Level 1	Written Notice	Final Written Notice	$50 Fine	$100 Fine	$150 Fine
Level 2	Written Notice	Final Written Notice	$50 Fine	$150 Fine	$150 Fine; Flow Restrictor
Level 3	Written Notice	$50 Fine	$150 Fine	$200 Fine Flow Restrictor	------
Level 4	Written Notice	$150 Fine	$200 Fine Flow Restrictor	-------	------

d. **Notice and Hearing:**

i. The District will issue a Notice of Violation, as outlined in the above table by mail or personal delivery to the customer at the address currently on file at least ten (10) days before taking enforcement action. If the notice is sent via mail, it will be done in such a manner to be able to track delivery and signature of the person for which delivery is made.

ii. If personal delivery is made, the name of the person for which delivery is made will be documented including time and date.

iii. If the customer or person of suitable age is unavailable at the time of delivery, a copy of the notice may be affixed in a conspicuous location at the premises; additionally, a copy will be mailed to the customer's address on file.

iv. The notice shall contain a description of the violation, the potential penalties associated with the violation and a statement informing the customer of the right to request a waiver due to hardship or special circumstances.

v. Pending receipt of a written Notice of Violation or pending a hearing pursuant to an appeal, the District may take appropriate action to prevent the unauthorized use of water as appropriate to the nature of the violation, including termination of service for multiple violations based on the current Water Shortage Level in effect at the time.

Section 12: Request for Adjustment

a. Any customer may request an adjustment to his or her mandatory water use reduction amount, or appeal the enforcement of the mandatory restrictions imposed under this Ordinance by making a written application for relief to the District. An adjustment of a customer's mandatory water use reduction level may be granted for the following reasons:

i. The customer or a member of the customer's household has a medical condition that requires the use of an amount of water in excess of normal demand. A request for adjustment on the basis of a medical condition must be supported by the certificate of a physician which specifies the nature of the use and quantity of water required.

ii. The customer demonstrates that he or she installed conservation devices or implemented measures to substantially reduce water use at the customer's property prior to the base year on which the water use reduction level was calculated, and that those conservation measures have resulted in a reduction in the customer's water consumption of at least one unit (one hundred cubic feet) per billing period. Where such conservation has been established, the customer's base year on which the mandatory water use reduction amount is calculated shall be increased by the estimated quantity of water conserved per billing period.

iii. The customer establishes that the imposition of the mandatory water use reduction on the customer would threaten the public health or safety. Examples of threats to public health and safety include the use of water to abate an unsanitary condition, or for fire suppression.

Applications for adjustment to a customer's mandatory water use reduction levels will be reviewed by the General Manager, who shall determine whether the customer qualifies for adjustment of his or her mandatory water use reduction amount and make recommendations for the resolution of such applications in accordance with the procedures and criteria set forth in this appeals policy.

b. The application for relief may include a request that the customer be relieved, in whole or in part, from the water use reduction provisions as outlined in this Ordinance.

c. In order to be considered, an application for relief must be filed in writing with the District within ten (10) business days after receipt of the disputed billing and shall include the name and address of the party submitting the appeal, as well as a brief explanation of the basis for the appeal. No relief shall be granted unless the customer demonstrates that he or she has achieved the maximum practical reduction in water consumption. No relief shall be granted to any customer who, when requested by the General Manager, fails to provide information necessary for the resolution of the customer's application for relief.

d. The appeals procedure shall consist of the following steps:

i. The General Manager shall review the application for adjustment. If the documentation provided with the application is not adequate to establish that the customer is eligible for an adjustment or the amount of the adjustment which is justified, the General Manager shall contact the applicant to request further documentation. The General Manager shall notify the customer within 5 days after documentation is completed whether the adjustment is granted and the amount of adjustment allowed. If the General Manager determines, based upon the documentation provided by the applicant that the customer does not qualify for an adjustment or qualifies for an adjustment less than that requested, the applicant may request a hearing before the General Manager, which shall be scheduled within five business days of the request. No formal rules of evidence apply. All evidence customarily relied upon by reasonable persons in the conduct of serious business affairs will be allowed, and the customer may present any such evidence which would support the grant of relief, and evidence that the customer has not engaged in wasteful water use.

ii. Filing of an application will not prevent discontinuance of service or imposition of any other penalties. To avoid penalties or discontinuance of service, water bills must be paid under protest, pending conclusion of the appeals process. The final decision of the General Manager will be given in writing by mail to the

customer within fifteen (15) days of the appeals hearing. A customer whose request for relief has been denied in whole or in part shall have the right to appeal to the Board of Directors, provided a written request has been made within fifteen (15) days following the date of mailing of the decision rendered by the General Manager.

iii. The appeal to the Board of Directors shall be scheduled at the next public meeting of the Board which is at least seven (7) days following receipt of the request.

iv. The decision of the Board shall be final.

e. Any appeal made should state the grounds upon which it is based and what remedy, if any, the appellant seeks.

f. Appendix A is a listing of conservation measures/devices which, if implemented or installed by the customer prior to the billing period for which the allocation amount is determined, would be considered, and the estimated quantity of water conserved per measure or device.

Section 13: Severability

If any section, subsection, sentence, clause or phrase in 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 the remaining portion of this Ordinance.

Section 14: Effective Date

This Ordinance shall be effective immediately upon adoption and shall be published in a newspaper of general circulation and distributed within the District.

Section 15: Repeal and Rescind

Upon adoption of this Ordinance, Ordinance No. 1-91 shall be repealed and rescinded.

Said ordinance was adopted, on roll call vote, at the regular meeting of the Board of Directors held May 12, 2009, by the following vote:

AYES:	Directors Lewis, Lima and Rios
NOES:	None
ABSENT:	Directos Lu and Bellah
ABSTAIN:	None

I hereby certify that the foregoing is a true and correct copy of Ordinance No. 0-5-2009, adopted by the Board of Directors of the Rowland Water District at its regular meeting held on May 12, 2009.

Robert W. Lewis

Robert Lewis
Board President

ATTEST:

Ken Deck
Board Secretary

Appendix A

	Non-conserving		Conserving		Savings/Month ***Gallons/Hcf***
ULFT	5.5 gals x 5.2 flushes/day x 4 people= 114x 30 days=	3432gals	2.5 gals x 5.2 flushes/day x 4 people= 52 x 30 days=	1560	1,872 gallons or *2.51 hcf*
HET	2.5 gals x 5.2 flushes/day x 4 people=52 x30 days=	1560gals	1.6 gals x 5.2 flushes/day x 4 people=33 x30 days=	990	570 gallons or *.77 hcf*
DualFlush	1.6 gals x 5.2 flushes/day x 4 people=33 x30 days=	990gals	1.2 gals x 5.2 flushes/day x 4 people=25 x30 days=	749	241 gallons or *.33 hcf*
Waterless Urinals	3432 gallons per month x 12 42,000/year				3432 gallons or *4.6 hcf*
Low Flow Faucet Aerator	9.2 gals x 4 people= 37 x 30 days	1110 gals	8.0 gals x 4 people= 32 x 30 days	960	150 gallons or *.20 hcf*
Dishwasher	12 gals per load x 4 Per week x 4 weeks	192	6 gals per load 4/week x 4 weeks	96	96 gallons or *.13 hcf*
Washing Machine	40.9 gals/load x .36 loads/day= 14.8 gals x 30	444	24.3 gals/load x .38 loads/day= 9.2 gals x 30	277	167 gallons or *.23 hcf*
ET Weather-Based Controller			41 gallons/day *(Based on median lot size of 11,000 sq. ft.)*		1230 gallons or *1.65 hcf*
Rotary Sprinkler Heads (10)					333 gallons or *.45 hcf*
Artificial Turf					**Reduce** outdoor water use by 61%

APPENDIX E

Puente Basin Judgment

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PUENTE BASIN WATER AGENCY, a joint powers agency, et al.
vs.
(A): THE CITY OF INDUSTRY, a municipal corporation, et al.,

Superior Court of the State of California
for the County of Los Angeles

(Case No. C 369 220)

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MAY 30 1986

ENTERED MAY 30, 1986

SUPERIOR COURT OF THE STATE OF CALIFORNIA

FOR THE COUNTY OF LOS ANGELES

PUENTE BASIN WATER AGENCY, a joint powers agency, et al., Plaintiffs, vs. (A): THE CITY OF INDUSTRY, a municipal corporation, et al., Defendants.	Case No. C 369 220 JUDGMENT

Recitals:

The original complaint herein was filed by plaintiffs on June 1, 1981. Certain defendants have been dismissed. Those defendants not dismissed are sometimes referred to hereinafter as "remaining defendants," and together with plaintiffs as "remaining parties."

The defaults of numerous defendants have been entered (see Exhibits D and E for names thereof).

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Each of the remaining defendants specifically named in paragraph 9 hereof filed an answer denying the material allegations of the complaint and asserting a right to pump water from Puente Basin. Such defendants are referred to sometimes hereinafter as "principal defendants," and together with plaintiffs other than PUENTE BASIN WATER AGENCY as "principal parties." There has been filed herein a "Stipulation for Judgment" signed by all principal parties except CITY OF INDUSTRY, and by PUENTE BASIN WATER AGENCY.

Among said remaining defendants are certain ones described and referred to hereinafter as "minimum water user defendants," or the singular thereof. Each of such minimum water user defendants has executed a "Stipulation and Acknowledgment of a Defendant" which has been filed.

There are no remaining parties other than PUENTE BASIN WATER AGENCY, principal parties, minimum water user defendants and defaulted defendants. There is no remaining party who is not either a stipulating party or defaulted. This Judgment is consistent with all of the foregoing stipulations.

After due examination and consideration of the pleadings, said "Stipulation for Judgment" and other documents and papers on file herein, it appears to the Court that:

(a) Principal parties and minimum water user defendants or their successors-in-interest have substantially all of the right, title and interest to pump groundwater from Puente Basin.

(b) There is a need for the declarations, determinations and restrictions and limitations provided herein on the production of water from Puente Basin by all remaining parties in order to avoid undesirable results and adverse effects on Puente

Basin, and to protect the public's interests in the groundwater in Puente Basin.

(c) The declarations, determinations, and orders embodied in this Judgment constitute a feasible, equitable and just resolution of the issues presented by the complaint and answers thereto on file herein, and it will bring about a fair division of the water supply of Puente Basin.

(d) On the basis of the "Stipulation for Judgment" filed herein and the consent of all of said principal parties except defendant CITY OF INDUSTRY and after a trial of the cause, it is in the interest of justice and in furtherance of the water policy of the State of California to make and enter this Judgment.

Now, therefore, it is hereby ORDERED, ADJUDGED AND DECREED:

1. Jurisdiction. The Court has jurisdiction of the subject matter of this action and of all remaining parties.

2. Exhibits. The following Exhibits are set forth as a part of this Judgment in paragraph 31 hereof:

Exhibit A -- Map of "Puente Basin" and "Puente Basin Watershed," depicting Puente Narrows and containing appropriate legends.

Exhibit B -- A metes and bounds description encompassing Puente Basin Watershed.

Exhibit C -- A list entitled "Minimum Water User Defendants."

Exhibit D -- A list entitled "Disclaiming Defendants Stipulating to Entry of Default and Determination of No Water Rights."

Exhibit E -- A list entitled "Defendants Whose Default Has Been Entered Otherwise Than On the Basis of a Stipulation."

Exhibit F -- A copy of that certain written agreement dated May 8, 1972 and entitled "Puente Narrows Agreement."

Exhibit G -- Description of overlying land owned and/or leased by Golf Course Defendants as defined in Paragraph 9A(1).

Exhibit H -- Description of certain overlying land owned by defendants EDMUND F. AIREY and HELENE M. AIREY.

3. Definitions. As used in this Judgment, including the recitals and these definitions, the following terms shall have the meanings assigned to them:

"Annual pumping right" -- This means as to principal parties the party's quantitative share of operating safe yield for the year plus that party's imported return water credit if any, plus any authorized carry-over under paragraph 10A, less any reduction because of prior excess pumping.

"Base underflow" -- The quantity of water which under the "Puente Narrows Agreement" plaintiff Puente Basin Water Agency agreed to maintain as the underflow through Puente Narrows to the Main San Gabriel Basin and on which accrued debits and credits are to be calculated under that agreement.

"Declared safe yield" -- The quantity of water which can be extracted annually from the Puente Basin based on the long-term supply, under the set of cultural conditions and extraction patterns presently existing, without prospectively caus-

ing a continuing reduction of water in storage over a long-term hydrologic cycle or other form of permanent damage to Puente Basin as a source of groundwater for beneficial use. It includes import return flow.

"Export" or "exporting" -- A conveyance by conduit or otherwise to an area outside Puente Basin Watershed of groundwater produced from Puente Basin.

"Golf Course Defendants" -- as defined in paragraph 9A(1).

"Groundwater" -- Water beneath the surface of the ground and within an identifiable zone of saturation.

"Groundwater basin" -- An interconnected, permeable, geologic formation which is capable of holding and storing a substantial amount of groundwater, and which constitutes a common source of supply to those pumping therefrom.

"Import return water" -- Groundwater of Puente Basin originating either from (a) water reclaimed from sewage water whether or not the sewage water originated from water pumped from Puente Basin or (b) water imported from a source outside Puente Basin Watershed.

"Minimum water user defendant" -- Any defendant who has a right to produce water from the Puente Basin, but not in excess of three (3) acre-feet per year, as declared in paragraph 8.

"Operating safe yield" -- The quantity of water which the Watermaster determines hereunder may be produced by or on behalf of the principal parties from the Puente Basin in a particular water year after the effective date of this Judg-

ment. Absent such a determination, it is the declared safe yield.

"Person" -- Includes any natural or artificial person, including but not limited to corporations, private or public, governmental entities, partnerships and Watermasters.

"Principal defendants" -- as defined in the recitals above.

"Principal parties" -- as defined in the recitals above.

"Public Agency Principal Parties" -- Plaintiffs WALNUT VALLEY WATER DISTRICT and ROWLAND WATER DISTRICT, and defendants CITY OF INDUSTRY and INDUSTRY URBAN-DEVELOPMENT AGENCY.

"Puente Basin" -- That certain groundwater basin underlying the area delineated and shown as Puente Basin on the map attached hereto as Exhibit A.

"Puente Basin Watershed" -- That certain area, including the area overlying the Puente Basin, which contributes water by gravity drainage to the supply of water available for production from Puente Basin, and which total area is delineated and shown as such on the map attached hereto as Exhibit A and the exterior boundaries of which are described in Exhibit B.

"Puente Narrows" -- The subsurface geologic constriction of the downstream boundary of Puente Basin, the location of which is shown on the map attached hereto as Exhibit A.

"Puente Narrows Agreement" -- Exhibit F -- That certain written agreement dated May 8, 1972, between plaintiff PUENTE BASIN WATER AGENCY and the Upper San Gabriel Valley Municipal Water District as the plaintiff in the "San Gabriel Basin

Case," and approved and accepted by plaintiffs ROLAND WATER DISTRICT and WALNUT VALLEY WATER DISTRICT.

"Pump" or "pumping" -- The process of extracting groundwater from Puente Basin by any means.

"Pumper" -- A person who or which pumps water from Puente Basin.

"Remaining parties" -- as defined in the recitals above.

"Remaining defendants" -- as defined in the recitals above.

"San Gabriel Basin Case" -- Los Angeles Superior Court Case No. 924128, entitled "Upper San Gabriel Valley Municipal Water District vs. City of Alhambra, et al."

"Transfer" -- Any transfer, by whatever name, of all or any portion of a water right and whether voluntary, involuntary or by operation of law. It includes a "transfer" in perpetuity or of any lesser interest, such as a lease, and any contractual right of user, such as a license.

"Water" -- Unless the context clearly indicates otherwise, groundwater of Puente Basin.

"Year" or "annual" -- Unless the context clearly indicates otherwise, the period from July 1 through June 30 of the following calendar year.

4. Puente Basin. Underlying the area shown on Exhibit A hereto as Puente Basin there is and has been from time immemorial, a certain groundwater basin which is referred to herein as Puente Basin.

5. Import Return Water. As early as 1956 and continuing each and every year thereafter, plaintiff ROWLAND WATER DISTRICT and

plaintiff WALNUT VALLEY WATER DISTRICT, and each of them, have caused water to be imported into Puente Basin Watershed and to be delivered to their customers. Said imported water has been delivered and applied for municipal and industrial uses within Puente Basin Watershed and for irrigation on lands overlying Puente Basin.

Such use and application of imported water has resulted in, does result in, and will continue to result in, import return water. Such import return waters have become a part of the declared safe yield of Puente Basin. Defendants CITY OF INDUSTRY and INDUSTRY URBAN-DEVELOPMENT AGENCY may in the future cause water to be imported into Puente Basin Watershed and used in and applied to lands overlying Puente Basin Watershed. No party has any right to pump based upon import return water except as set forth in paragraphs 9B and 10A, or as a part of its share of operating safe yield.

6. Declared Safe Yield. The safe yield of Puente Basin is declared and determined to be 4400 acre-feet per year.

7. No Rights in Remaining Parties Except as Decreed. None of the remaining parties is the owner of or has any right to pump groundwater from Puente Basin, except as herein affirmatively determined and declared.

8. Limited Pumping Rights of "Minimum Water User Defendants." Each defendant whose name is included on the list attached hereto as Exhibit C, entitled "Minimum Water User Defendants," has the right to produce or extract from Puente Basin each year for beneficial use up to but not in excess of three (3) acre-feet of water per annum. Where two or more names are listed together they are one defendant for purposes of this paragraph and all other provisions of this Judgment with respect to the rights and obliga-

tions of a remaining defendant. The right of each such minimum water user defendant is limited to pumping of water for reasonable beneficial uses on the land owned by such defendant overlying Puente Basin as of June 1, 1981, the date on which the complaint was filed in this action. Such pumping right is appurtenant to and is not severable from the overlying land which gives rise to such right. Such pumping right is not transferable except in connection with the said land and as a part thereof. The aggregate of the pumping to be expected in any given year by all of said minimum water user defendants is not expected to be sufficient to affect the groundwater available for pumping by the principal parties. Defendants EDMUND F. AIREY and HELENE M. AIREY, in addition to rights declared in Paragraph 9A(1), have a pumping right as a minimum water user defendant in the same manner and extent as if they were listed together on Exhibit C, with all of the quantitative and other limitations set forth in this paragraph or other paragraphs of this Judgment. Said right, however, is appurtenant only to the overlying land described in Exhibit H, and is not transferable except in connection with said property and as a part thereof.

9. Water Rights of Principal Parties. All water rights determined in this paragraph are subject to all terms, conditions, restrictions and limitations contained in this paragraph or elsewhere in this Judgment.

A. Rights Other Than Related to Increased Import Return Water. The principal parties have the following rights to extract groundwater from Puente Basin.

/ / /

/ / /

(1) Defendants LOS ANGELES ROYAL VISTA GOLF COURSES, INC., ALEXANDER C. WATERHOUSE, EDMUND F. AIREY, HELENE M. AIREY, and BANK OF AMERICA NATIONAL TRUST AND SAVINGS ASSOCIATION as trustee under the Will of Andre E. Moynier, Deceased, considered collectively ("Golf Course Defendants" sometimes herein) are the owners of and have the right as overlying landowners to pump from Puente Basin for beneficial use on the real property described in Exhibit G the amount of groundwater reasonably required for said property but not exceeding three hundred and six (306) acre-feet of water a year. Except as set forth in paragraph 8 as to defendants EDMUND F. AIREY and HELENE M. AIREY the above right is cumulative of all water rights of said defendants in Puente Basin, is appurtenant to and not severable from the property described in Exhibit G, and is not transferable except in connection with said property and as a part thereof. Such quantity is not subject to increase or decrease by reason of increase or decrease in operating safe yield. Reference hereinafter to said parties' share of operating safe yield shall be deemed to mean said fixed quantity.

(2) Plaintiffs ROWLAND WATER DISTRICT and WALNUT VALLEY WATER DISTRICT and Defendants CITY OF INDUSTRY and INDUSTRY URBAN-DEVELOPMENT AGENCY each is the owner of and has the right to extract annually One Thousand Twenty-Three and One Half (1023.5) acre-feet of water from Puente Basin, plus or minus twenty-five percent (25%) of the quantity by which operating safe yield in that year is greater than or less than the declared safe yield.

The total of the quantitative rights above set forth (1023.5 x 4 plus 306) equals the declared safe yield.

B. Rights Related to Increased Import Return Water. Public agency principal parties shall be entitled to pump an additional quantity of water from Puente Basin determined as follows:

(1) The Watermaster shall calculate the additional quantity of water imported by each such party and used by that party or sold for use within the area overlying Puente Basin ("so used or sold") in each year under this Judgment in excess of that quantity, if any, so imported by that party in fiscal year 1984-1985.

(2) Fifteen percent (15%) of such excess shall be determined.

(3) Such fifteen percent (15%), but not to exceed a total of seven hundred and fifty (750) acre-feet as to plaintiffs WALNUT VALLEY WATER DISTRICT and ROWLAND WATER DISTRICT, collectively, and a total of seven hundred and fifty (750) acre-feet as to defendants CITY OF INDUSTRY and INDUSTRY URBAN-DEVELOPMENT AGENCY, collectively, is the amount of return water credit which said plaintiffs, on the one hand, and said defendants, on the other hand, are entitled to pump in the next succeeding year.

Each year, upon receiving the Watermaster's calculations as to the total amount of water imported by each of said plaintiffs and by each of said defendants, and the Watermaster's determinations as to the two total collective amounts of import return water credit available to said

plaintiffs and to said defendants, said plaintiffs may determine how such collective credit shall be allocated as between themselves and said defendants may determine how such collective credit shall be allocated as between themselves. Written notice of said determinations by said plaintiffs and said defendants shall be given to the Watermaster within thirty (30) days of the receipt of said calculations and determinations from the Watermaster. In the absence of such a written notice within said period the import return water credit otherwise belonging collectively to said two parties shall be determined for and allocated to each of them by the Watermaster based on (1) and (2) above, but not in excess of three hundred and seventy-five (375) acre-feet per year as to each such party.

Said return water credits and pumping pursuant thereto are apart from and in addition to said parties other pumping rights and the quantities thereof are not a part of declared safe yield or operating safe yield.

10. Principal Parties - Carry-over of Pumping Rights and Permitted Excess Pumping. To provide for flexibility in operation of Puente Basin, the physical solution herein adjudged, and to alleviate problems inherent in any annual basis of operation, the following privileges shall apply.

A. Carry-over of Pumping Rights. Each principal party who, during any year commencing on or after the date this Judgment becomes operative does not pump from Puente Basin the quantity of water equal to the annual pumping right of that party less its carry-over into that year is permitted to carry over the unused

portion into, and pump the same, in the next ensuing year, but not beyond. The first water pumped in the next ensuing year shall be deemed pursuant to said carry-over.

B. Excess Pumping.

(1) Principal parties each may pump in any given year from Puente Basin a quantity of water in addition to that which it otherwise would be entitled to pump, not to exceed ten percent (10%) of such party's share of the operating safe yield for such year.

(2) Any party who pumps an additional quantity of water pursuant to the authority of subparagraph (1) above, shall have its right to pump water during the following year reduced by the amount so over-extracted.

(3) Whenever a party pumps in any given year water in excess of the quantity it is entitled to pump under the foregoing provisions of this Judgment, then such party has to that extent violated this Judgment and its injunctive provisions. Such party's annual pumping right for the following year, or years as needed, shall be reduced by an amount equivalent to its total over-pumping in the particular year in which the over-pumping occurred. In addition, such party shall be subject to remedies for violation of injunction and such other processes and action as the Court might deem appropriate to take with regard to such violation of this Judgment.

(4) No party who pumps from Puente Basin in any year a quantity of water greater than that permitted by paragraphs 8 and 9 of the Judgment shall acquire any additional rights by reason of such over-extractions.

11. Situs of Public Agency Water Rights. The situs of the water rights adjudged by this Judgment to public agency principal parties is as to each of said parties hereby declared to be wholly within the corporate boundaries of each such party. The provisions of this paragraph do not limit where water may be pumped or where water may be used or delivered for use as provided in paragraphs 12 and 13, nor limit the transfer provisions of paragraph 13.

12. Area of Pumping By and Use of Public Agency Water Pumped from Puente Basin. Water may be pumped by any of the public agency principal parties from anywhere in Puente Basin. Water so pumped may be used by that party or delivered for use by customers thereof within its service area and any newly proposed addition thereto or newly proposed service area, whether within or outside Puente Basin Watershed or within or outside the then corporate boundaries of that principal party. In addition, any such water so pumped may be delivered: (i) to another public agency principal party for use or delivery by it as if pumped by it; and (ii) to some other water purveyor providing water service within the then corporate boundaries of that public agency principal party for distribution therein.

Where a water system of some other water purveyor is partly inside and partly outside such corporate boundaries of the public agency principal party, Puente Basin water delivered to such other water purveyor shall be deemed delivered for distribution within the then corporate boundaries of said public agency principal party up to the quantity of water from whatever source or sources delivered within said corporate boundaries by said other water purveyor.

Except as permitted by this paragraph 12, or as to a transferee by paragraph 13, water pumped by any public agency principal party or any of their respective successors in interest shall not be exported by or on behalf of that party or successor from Puente Basin Watershed.

13. Transferability of Water Rights.

A. The transferability of and restrictions and limitations thereon with respect to water rights of all parties not covered by subparagraph B below are set forth in paragraphs 8 and 9(A)(1) above.

B. The water rights of each public agency principal party may be transferred in whole or in part as among or between those parties, and the transferee may use or deliver water pumped pursuant to such transfer as if such rights had been originally adjudicated to it. The water rights of each public agency principal party also may be transferred in whole or in part to any person other than a public agency principal party provided that as to any such transfer other than a license or lease such transferee becomes a successor party to this Judgment by compliance with subparagraph C below. Any transferee, immediate or mediate, other than a public agency principal party, may only (i) use the water itself; (ii) distribute the same to transferee's customers within the corporate boundaries, from time to time, of the original public agency principal party predecessor; and (iii) distribute the same within any service area of such original public agency principal party predecessor in use at the time of transfer by the latter. Under (ii), the same principle set forth in the second unnumbered sub-

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paragraph of paragraph 12 shall apply in determining what quantity of water is deemed delivered within the corporate boundaries.

C. If any person shall desire to transfer other than by license or lease to any other person not a party to this Judgment all or any part of the water rights decreed hereunder to any public agency principal party, then whether such transferring person is the original public agency principal party or an immediate or mediate successor to the water rights of such original public agency principal party, such person shall cause such transferee to appear in this action and file a valid and effective express assumption of the obligations imposed upon such original public agency principal party under this Judgment as to such transferred water rights, including but not limited to restrictions as to the area of use as provided in subparagraph B. Such appearance and assumption of obligations shall include the filing in accordance with paragraph 25B below of a designee and designated mailing address for the service of all notices, requests, objections, determinations, decisions, reports and other papers permitted or required by the terms of this Judgment.

D. If any public agency principal party or any successor of or to any of the water rights of such party, whether immediate or mediate, shall cease, whether by transfer or otherwise, to own any rights in or to the water supply of the Puente Basin, and as to each transfer of such water rights if the transferor and transferee shall have fully complied with subparagraph C above, then upon application to this Court and after notice and hearing such party or such successor of such party shall thereupon be relieved of and discharged from all then future obligations hereunder.

14. No Waiver of Certain Rights. Nothing in this Judgment or any stipulation or consent to its entry shall be deemed to be a waiver by any public agency principal party of any right which any of said parties may have or may acquire (i) to prevent another of said parties, or any persons acting on its behalf, from providing water services or facilities to persons within the boundaries of the former party, or (ii) to recover compensation from another party for any encroachment by another party, or any persons acting on its behalf, upon the service area of the former party. Nothing in this Judgment affirms the existence of or denies any right of the type mentioned.

15. No Abandonment or Loss of Water Rights. Any party who fails in any year to pump or have pumped on its behalf the quantity permitted to that party under this Judgment loses the right to pump that annual quantity except as a right of carry-over exists under paragraph 10A of this Judgment. However, it is in the interest of reasonable beneficial use of Puente Basin water that no party with water rights therein be encouraged to pump more water in any year than is actually required. Therefore, failure by any such party to pump all or any part of the annual quantity of water permitted to that party under this Judgment, for whatever number of years, shall not constitute or give rise to loss by abandonment or non-use of the water right as distinguished from inability to carry over the annual pumping entitlement (subject to carry-over under Paragraph 10A).

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16. Puente Narrows Agreement.

A. The obligations of plaintiffs herein under the Puente Narrows Agreement are and shall be unaffected by any term or provision of this Judgment. Neither this Judgment nor any stipulation or consent thereto nor any act pursuant hereto:

(1) constitutes or will constitute any defendant herein as a party to that agreement or as an obligor thereunder;

(2) nor constitutes or will constitute any person, including but not limited to any party to this Judgment, as a third party beneficiary with respect to any defendant herein and that agreement.

B. The responsibilities from time to time of principal defendants under this paragraph 16 are subject to the following conditions precedent.

(1) At the time of any payment requested or demanded of any of them by the Watermaster pursuant to this paragraph 16, plaintiffs are then in substantial compliance with their obligations under the Puente Narrows Agreement. A good faith dispute of plaintiffs under said agreement, where any difference is funded with escrowed funds, shall not be deemed lack of compliance if the same proportion of funds otherwise due from any defendant to Watermaster is to be so escrowed by Watermaster.

(2) No accumulated credit of plaintiffs or any of them has been utilized under or pursuant to subparagraph 9a of said Puente Narrows Agreement.

C. For any year in which there is an "accumulated deficit" under paragraph 9b of the Puente Narrows Agreement giving rise to an obligation of plaintiffs to make payments during the next

succeeding year, the minimum amount of such payments to be made shall be determined and principal defendants shall contribute thereto based upon the following calculations (unless the results of the calculation is "0"). There shall be determined the percentage that the quantity of pumping by or on behalf of each of the principal defendants during that year and the preceding four years bears to total pumping from Puente Basin, during the same five-year period.

Each principal defendant shall respectively (jointly and severally as to Golf Course Defendants) pay to the Watermaster the percentage of plaintiffs' minimum make-up obligation to be made in the next succeeding year under said paragraph 9b determined by applying the percentage so determined as to that defendant. Payment shall be made to Watermaster upon 30 days written demand, but need not be made prior to June 15th of said next succeeding year.

Watermaster shall promptly remit said payments to plaintiff PUENTE BASIN WATER AGENCY, which shall utilize the same toward plaintiffs' obligations under said paragraph 9b of the Puente Narrows Agreement.

All matters to be determined under this paragraph 16 shall be determined by the Watermaster.

D. Any amendment to the Puente Narrows Agreement shall automatically rescind and delete the provisions of this paragraph 16, except an amendment which would increase any then accumulated credit or reduce any then accumulated deficit under or pursuant to paragraph 9b of the Puente Narrows Agreement and without increasing any then present or prospective obligation of any principal defendant under this paragraph 16.

17. Watermaster Appointment. A Watermaster, comprised of three persons to be nominated as hereinafter provided, shall be appointed by and serve at the pleasure of and until further order of this Court, except as hereinafter provided. One shall be nominated jointly by and through plaintiffs WALNUT VALLEY WATER DISTRICT and ROWLAND WATER DISTRICT, one shall be nominated jointly by and through defendants CITY OF INDUSTRY and INDUSTRY URBAN-DEVELOPMENT AGENCY, and one, herein referred to as the third person, shall be nominated by said two persons duly nominated and appointed by the Court acting upon the nominations of said parties. The first such third person so nominated and so appointed by the Court shall serve from the date of such appointment until December 31 of the second full calendar year following such appointment, and thereafter the third person member of the Watermaster shall be so nominated and so appointed by the Court to serve a term of three calendar years. Such persons shall as Watermaster represent the interests of all persons producing or extracting water from the Puente Basin. Any member of the Watermaster may be removed by the same procedure as for nomination of the member. Upon or coincident with resignation, death or removal of any member, a substitute member shall be nominated, and appointed by Court order, in the same manner as the former member was nominated and appointed. The term of the third person shall not continue beyond its fixed date of termination for any reason. Any person can be renominated.

For good cause, the Court may reject any nominations. Each such nomination shall be in writing, served upon all parties entitled to notice thereof under paragraph 24, and filed with the Court. It shall contain the written acceptance of the nominee.

18. Watermaster Power and Duties - Annual Determination of Operating Safe Yield. The Watermaster annually shall determine the operating safe yield of Puente Basin for the succeeding year and estimate the same for the next succeeding four (4) years. Insofar as practicable, and absent a water shortage emergency or threatened water shortage emergency, the Watermaster shall attempt to maintain water levels which will in turn maintain an accrued credit for plaintiffs against their base underflow obligations under the Puente Narrows Agreement of at least one thousand (1,000) acre-feet.

A. Otherwise, in making such determinations and estimates the Watermaster shall be governed in the exercise of its discretion by the following criteria:

(1) the Watermaster shall be guided by water levels as measured by wells in the basin for previous year, the current year and as estimated for the subsequent year;

(2) the accrued credit or the accrued debit for the previous year under paragraph 9b of the Puente Narrows Agreement, estimates for the current year and the subsequent years;

(3) the subsurface flow for the previous year and estimates for the current and subsequent year;

(4) the cost of alternate sources of water, and availability of such sources;

(5) and the amount of water pumped from Puente Basin by all persons in the previous year and the estimated amount to occur in the current year and the next subsequent year.

B. The procedures to be followed in fixing the operating safe yield shall be as follows:

(1) On or before the first Monday in April of each year, the Watermaster shall make a preliminary determination of operating safe yield for the succeeding five (5) years, together with the quantity of annual pumping right which would be applicable to each principal defendant for the next succeeding year, subject to later adjustment for any applicable carry-over, excess pumping, and import return water credit. Said determination shall be made in the form of a report containing a summary statement of the considerations, calculations and factors utilized by the Watermaster in arriving at each of such operating safe yields.

(2) A copy of said preliminary determinations and report shall be mailed to each principal party to this Judgment at least ten (10) days prior to a hearing by Watermaster to be held the first Monday in May, at which time objections or suggested corrections or modifications of said determinations shall be considered. It shall be mailed concurrently to each other party who has requested the same in writing delivered to the Watermaster no later than February 15 of that year. Each such written request must be renewed for each year. Said hearing shall be held pursuant to procedures adopted by the Watermaster. Within thirty (30) days after completion of said hearing the Watermaster shall mail to each party entitled to have received the preliminary determinations and report, a final report and determination of the operating safe yield for the succeeding year, and its estimate of the operating safe yield for each of the succeeding four (4) water years. Any such party, within thirty (30) days of mailing of notice of said determination, may, by a regularly-noticed motion, petition the Court for an order to show cause for review of said determinations

by the Watermaster, and thereupon the Court shall hear such objections and settle such dispute. Unless so ordered by the Court, such petition shall not operate to stay the effect of said report and determinations. In the absence of such review proceeding the determinations of the Watermaster shall be final.

C. At such time as said determination by the Watermaster of the operating safe yield for Puente Basin during the succeeding water year shall become final, each party hereto shall be bound by such determination and its annual pumping right for such year shall be in accordance with such determination, subject to adjustments for any applicable carry-over, excess production, and import return water credit.

19. Additional Watermaster Powers and Duties. The Watermaster shall have the following additional powers and duties and any other powers or duties given by this Court.

A. The Watermaster shall promptly upon confirmation establish and enforce rules for installation and maintenance of water meters by remaining parties and shall calibrate the same as it deems appropriate from time to time, provided that 12 acre-feet of water may be produced annually from PARCEL 26 of Exhibit G for use on the land described in Exhibit H without prior metering, and such production and use shall be estimated by the Watermaster and charged against the right of the Golf Course Defendants to pump 306 acre-feet under paragraph 9A(1) above. Watermaster may exempt some or all minimum water user defendants, unless the Watermaster determines that it is probable that a party's production exceeds or will exceed three acre-feet per year.

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B. The Watermaster shall annually determine a budget pursuant to paragraph 21.

C. The Watermaster shall take all steps necessary to make the following required determinations and calculations for each year promptly after the end of each year.

(1) The amount of water pumped by each party and each non-party to the Judgment and the total water pumped. In this connection for pumpers not metered, the Watermaster shall make estimates based on available information.

(2) The amount of base underflow from Puente Basin to the Main San Gabriel Basin.

(3) The amount of water imports entering into calculations of import return water credit under paragraph 9B.

(4) The quality of the groundwater of Puente Basin. In this regard, Watermaster shall utilize samples from existing wells from time to time.

D. Promptly after making the determinations required by subparagraph C above the Watermaster shall take all steps necessary to make the following determinations and decisions for each water year as soon after the beginning of such year as feasible;

(1) The "return water credit" to which any public agency principal party is entitled for such year.

(2) The amount of any allowed annual carry-over from the prior year to which any principal party is entitled under paragraph 10A.

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(3) The amount of any excess pumping by any party and the amount of reduction in pumping which is required of that party because of such excess pumping.

(4) Each party's annual pumping right for such year, and the components thereof.

(5) With respect to the matters governed by paragraph 16 above, all matters necessary to determine obligations under paragraph 16 and to administer that paragraph on a continuing basis.

(6) Any other act, determination or decision required under any other paragraph of this Judgment or reasonably deemed necessary concerning the rights of any party to pump water from Puente Basin under this Judgment.

E. The Watermaster shall report in writing to the Court and to each principal party and any other party entitled to notice under paragraph 24 not more than three (3) months after the end of each fiscal year the determinations and decisions required by this paragraph 19, provided that determinations as to the operating safe yield shall be reported as provided in paragraph 15 above.

F. The Watermaster shall collect and maintain all data necessary to make the determinations and decisions required under the provision of this Judgment or to discharge the duties hereby imposed on the Watermaster.

G. The Watermaster may conduct such investigation of present and planned operations of any minimum water user defendant as may be appropriate.

In accordance with, and subject to the provisions of paragraph 21 below, the Watermaster shall have the power to charge

and collect from the parties to this Judgment sums determined to be necessary to pay the costs of Watermaster operations and to discharge Watermaster's duties and responsibilities under this Judgment.

20. Certain Obligations of Parties - Meters, Cooperation With Watermaster. The parties required to meter under Watermaster rules shall install and maintain said meters in good working order at their own expense. Said parties shall promptly repair any meter found by the Watermaster to be outside a tolerance of +5% to -5%, and replace meters as determined by Watermaster to be necessary.

Each party shall make available to Watermaster upon written request any information or data reasonably required by the Watermaster to fulfill its duties under this Judgment.

21. Watermaster Budget and Allocation.

A. In addition to the above-specified administrative powers and duties, the Watermaster shall prepare a tentative operating budget for each year commencing with the second year hereunder, stating the estimated fees, compensation and expenses for discharging the duties of the Watermaster set forth in this Judgment. The Watermaster shall mail a copy of the tentative budget to each of the parties at the same time at least sixty (60) days before the beginning of each year. If any party has an objection to a tentative budget, or any suggestions with respect thereto, that party shall present the same in writing to the Watermaster within fifteen (15) days after service of the tentative operating budget upon it. If no objections are received, the tentative operating budget shall become the final operating budget. If objections to the tentative operating budget are received, the Watermaster shall,

within fifteen (15) days after the expiration of the time for presenting objections, consider all such objections, prepare a final operating budget, and mail a copy thereof to each party, together with a statement of the amount assessed, if any, to each party, computed as provided in subparagraph (c) below. If the Watermaster denies any objection in whole or in part, the party whose objection was so denied may, within fifteen (15) days after service of the final operating budget upon it, make written objection to such denial by filing its objections with the Court after first mailing a copy of such objections to each party, and such party shall bring its objections on for hearing before the Court upon notice and motion and at such time as the Court may direct. If the Watermaster makes a change in the tentative operating budget, then any party may within fifteen (15) days after service of the final operating budget upon it object to any such change by following the procedure prescribed above in the case of a denial of an objection to the tentative operating budget. If objection to the final operating budget is filed with the Court as herein provided and brought on for hearing, then such final operating budget may be confirmed or adjusted in whole or part as the Court may deem proper.

B. With respect to the first year following the effective date of this Judgment the operating budget is hereby fixed at $18,000, which budget is allocated as follows: $1,250 jointly and severally to Golf Course Defendants and $4,187.50 to each of the other principal parties. Said sums shall be paid to the Watermaster within thirty (30) days after the effective date of this Judgment.

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C. The fees, compensation and expenses of the Watermaster shall be borne by the principal parties and/or the transferees of their water rights, and shall be allocated each year after the first year based upon each such party's or transferee's proportionate share of the total production rights of all such parties and transferees for the year during which the fees and compensation will be earned and the expenses incurred. In determining such proportionate share the Watermaster shall use production entitlements to the operating safe yield as determined under paragraph 18 above for such year, including any return flow credit but not including any carry-over right.

D. Payment of the amount assessed to a principal party or transferee of the water rights of such a party, whether or not subject to adjustment by the Court, shall be paid on or prior to the beginning of the year to which the final operating budget and statement of assessed costs is applicable. If such payment is not made on or before said date, the Watermaster shall add a penalty of ten percent (10%) thereof to the statement, and the basic amount so assessed shall bear interest at the rate of one and one-half percent (1 1/2%) per month or any portion thereof from the date such payment becomes delinquent. Payment required hereunder may be enforced by execution issued out of this Court, or as may be provided by order hereinafter made by this Court. All such payments and penalties received by the Watermaster shall be expended for the administration of this Judgment. Any money remaining at the end of any year shall be available for use in the following year.

E. Notwithstanding anything to the contrary in this paragraph 21, the Golf Course Defendants shall not on the basis of

the water rights decreed to them by paragraph 9A(1) above, be assessed for their share of the fees, compensation and expenses of the Watermaster in any year an amount greater than ten percent (10%) of the operating budget for the year.

22. Watermaster Records - Location and Availability. Watermaster's offices and records shall be maintained at the offices of plaintiff WALNUT VALLEY WATER DISTRICT, 271 South Brea Canyon Road, Walnut, California 91789, provided that no rent charge is made therefor or for Watermaster meetings or other Watermaster functions. However, reasonable charges may be made for reasonable secretary and reproduction expenses as agreed upon in writing by the WALNUT VALLEY WATER DISTRICT and the Watermaster. All records, reports and data received, maintained or compiled by the Watermaster shall be open upon reasonable notice and at reasonable times to inspection by any principal party or any minimum water user defendant or such party's or such defendant's representative. Copies of said records, reports and data may be had by any party upon payment of the duplication and any preparation costs thereof.

23. Watermaster Determinations - Objections and Appeal. Any principal party or transferee party of the water rights of such party who objects to any determination or decision made by the Watermaster pursuant to paragraphs 18 or 19 above, may make such objection in writing to the Watermaster within thirty (30) days after the Watermaster gives the required written notice of such determination or decision. Within thirty (30) days after expiration of the time within which such objection may be made, the Watermaster shall consider all objections thereto and shall amend, modify or affirm the determination or decision and give notice to

all principal parties and parties who are their transferees and shall file a copy of such final determination or decision with the Court. If the Watermaster denies any objection in whole or in part, the party whose objection was so denied may within thirty (30) days after service of the final determination or decision upon it, make written objection to such denial by filing its objections with the Court after first mailing a copy of such objections to the Watermaster and to each other party, and such party shall bring its objections on for hearing before the Court upon notice and motion and at such time as the Court may direct. If the Watermaster shall change or modify any determination or decision, then any party may within fifteen (15) days after service of such final determination or decision upon it object to such change or modification by following the procedure prescribed above in the case of a denial of an objection to the first determination or decision. If objection to a final determination or decision is filed with the Court as herein provided and brought on for hearing, then such final determination or decision may be confirmed or modified in whole or in part as the Court may deem proper. Notwithstanding the time that may be required for any determination or decision made by the Watermaster under paragraph 18 or 19 of this Judgment to become final, any such determination or decision shall be deemed effective for all purposes of this Judgment as of the beginning of the year for which such determination or decision is being made.

24. Notices by Parties and Watermaster. All notices, requests, objections, determinations, decisions, reports and other papers permitted or required by law or by the terms of this Judgment shall be given or made by written document. All such items need only

be given or made to the principal parties, successors thereof and the Watermaster; provided, however, in any specific subsequent proceeding in which an attorney appears on behalf of a principal party or successor thereto, such notice shall also be given to said attorney-of-record in such subsequent proceeding. All such items shall be served by first class mail, postage prepaid, addressed to the designee and at the address designated for that purpose in accordance with paragraph 25 below or to the Watermaster at its then business address of record, or to such attorney-of-record in such subsequent proceeding at his or her then address of record. No further notice of any kind as to any matter arising hereunder need be given, made or served. Except for any such subsequent proceeding in which an attorney-of-record appears, all attorneys-of-record are hereby relieved of any and all responsibility for responding to or taking any action in respect of any notice, request, objection, determination, decision, report or other paper permitted or required by law or by the terms of this Judgment.

25. Designees of Parties for Service and Appeals.

A. Each principal party except defendant CITY OF INDUSTRY has by the Stipulation for Judgment executed and filed herein made a designation of the person and that designee's designated mailing address, upon whom service shall be made of all notices, requests, objections, determinations, decisions, reports and other papers permitted or required to be served by the terms of this Judgment upon a principal party or a transferee of a principal party. Defendant CITY OF INDUSTRY shall promptly file herein and serve upon all other principal parties its designation of the person

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and that person's mailing address upon whom such service shall be made.

B. Each transferee of a principal party of a water right under paragraph 9 above shall at the time such transferee appears in this action and files an assumption of the obligations imposed upon such transferring party as to such transferred water rights, and in the same document, designate the person and the party's mailing address, upon whom service shall be made of all notices, requests, objections, determinations, decisions, reports and other papers permitted or required to be served by the terms of this Judgment upon such transferee as the successor-in-interest of water rights of such transferring party.

C. If any principal party or any transferee of a water right of a principal party shall desire to change its designee for notice purpose or its designation of a mailing address, such party shall file a written notice of such change with the clerk of this Court and shall serve a copy thereof on the Watermaster. Upon the receipt of any such notice the Watermaster shall promptly give written notice thereof to each principal party and to each transferee of water rights of a principal party. Any such later designation of a person or a mailing address for service purposes shall be effective from the date of filing.

D. The Watermaster shall maintain a current list of designees of each principal party and each transferee of water rights of a principal party, together with the current designated mailing address of such party.

E. Any reference in this Judgment to the service of notices, requests, objections, determinations, decisions, reports

or other papers upon a party to this Judgment, shall be satisfied by the making of service upon the person designated by such party as its designee under this paragraph 25.

26. Report of Transfers, Leases and Licenses of Water Rights.

A. Any voluntary transfer of any water right decreed herein to a principal party under paragraph 9 above shall be in writing with a copy furnished promptly to the Watermaster by the transferor. Every transfer of any right shall be reported promptly in writing to the Watermaster by the transferor.

B. A report of a transfer of water rights shall contain all of the information required to be given by the Watermaster under subparagraph C below, and such additional matters as may be required by Watermaster's rules.

(c) As to each transfer covered by subparagraph A above, the Watermaster shall give prompt written notice to each principal party and to each party transferee of the water rights of such party. Such notice by the Watermaster shall contain the following information as to each such transfer:

(1) The identity of the transferor.

(2) The identity of the transferee.

(3) The effective date of the transfer.

(4) The effective date of the termination of the transfer, if any.

(5) A brief description of the document by which such transfer is made, and the recording data, if any.

(6) The quantity of water rights transferred.

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(7) A statement as to whether the transfer was voluntary or involuntary, including a transfer by operation of law.

(8) A statement whether or not after such transfer the transferor still has or claims to have any of the water rights which are the subject of paragraph 9 of this Judgment.

27. Injunction as to Parties.

A. Commencing with the operative date of this subparagraph each remaining party (including in the word "party" only for purposes of this paragraph the members of their governing bodies and board of directors, if any, and their officials, officers, employees, agents, transferees and successors in interest, all from time to time), is enjoined and restrained from pumping water from Puente Basin or exporting same from Puente Basin Watershed except as specifically permitted by this Judgment.

B. Commencing with the operative date of this subparagraph, each remaining party is ordered to comply with all provisions of this Judgment and all rules and regulations of the Watermaster as finally adopted and applicable to such party, and each such remaining party shall furnish to the Watermaster requested information as provided in paragraph 20.

28. Continuing Jurisdiction. The court shall have continuing jurisdiction to amend or modify the provisions of this Judgment, on appropriate notice, to accomplish the objectives thereof consistent with the rights and obligations determined, declared and decreed herein; provided that no amendment of the provisions of paragraphs 7, 8, 9, 10, 12, 13, 15 or 16 shall be made, although

permitted transfers of water rights determined, declared and decreed hereunder may be recognized and implemented.

29. Effective and Operative Date of Judgment. The effective date of this Judgment is the date of its filing. All paragraphs of this Judgment shall become operative upon its effective date except for paragraphs 8, 9, 10, 12, 16 and 27A which shall become operative commencing with the year (July 1 - June 30) which is at least three months after said effective date.

30. Costs. All parties shall bear their own costs of suit.

31. Incorporated Exhibits. Exhibits A through H to this Judgment are made a part hereof and are set forth in the following pages of this Judgment.

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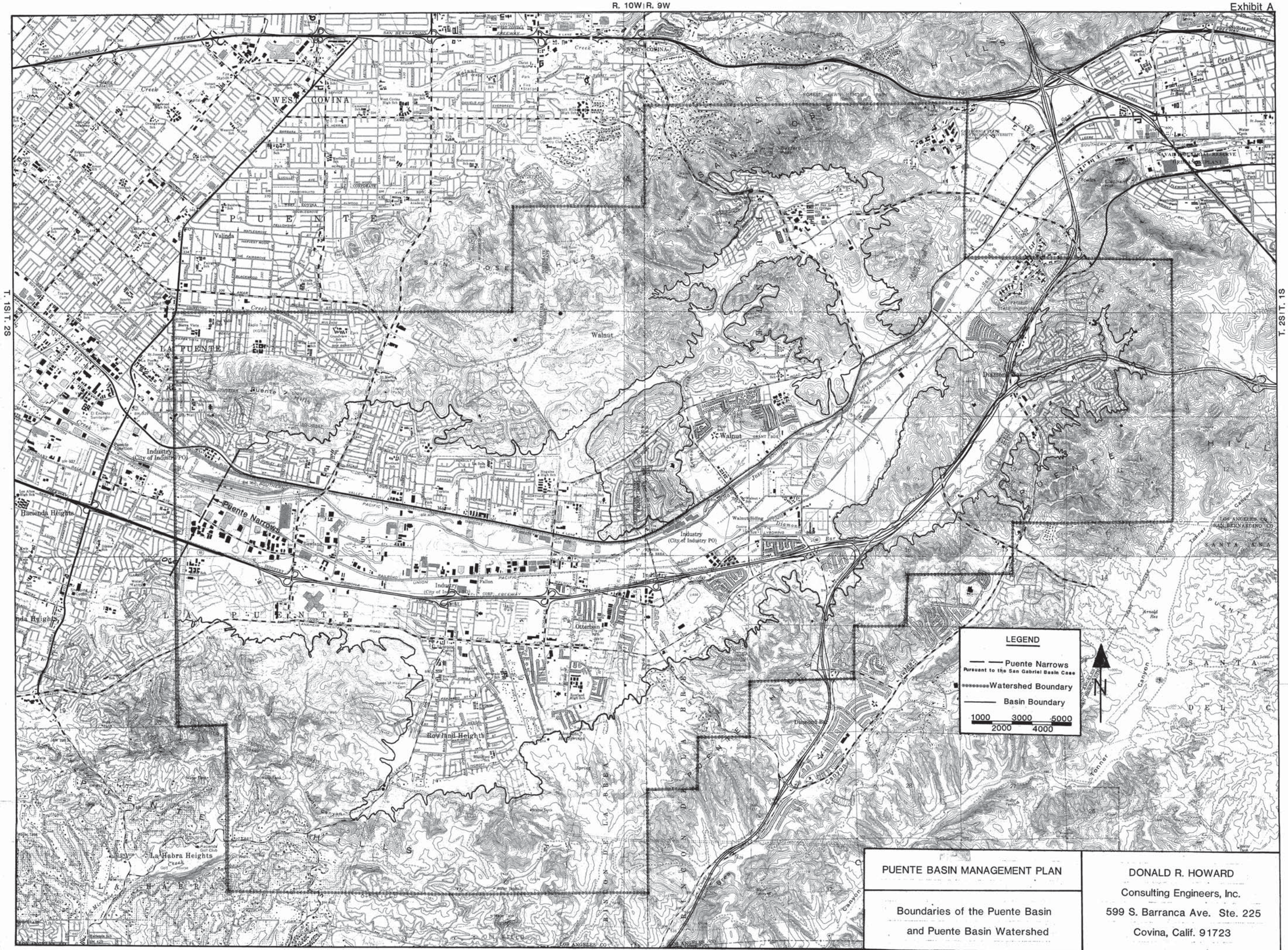
Exhibit A

R. 10W | R. 9W

T. 1S | T. 2S

T. 2S | T. 1S



PUENTE BASIN MANAGEMENT PLAN

Boundaries of the Puente Basin and Puente Basin Watershed

DONALD R. HOWARD
Consulting Engineers, Inc.
599 S. Barranca Ave. Ste. 225
Covina, Calif. 91723

R. 10W | R. 9W

Exhibit B

LEGAL DESCRIPTION OF THE PUENTE BASIN WATERSHED

The following described property is located in Los Angeles County, of the State of California:

Beginning at the Northeast corner of Section 2, Township 2 South, Range 9 West, San Bernardino Base and Meridian;

thence southerly along the easterly line of said Section 2 and continuing along the easterly line of Section 11, Township 2 South, Range 9 West to the Southeast corner of said Section 11;

thence westerly along the southerly line of said Section 11 and continuing along the southerly line of Section 10, Township 2 South, Range 9 West, said line also being the northerly line of Section 15, Township 2 South, Range 9 West, to the Northwest corner of the Northeast quarter of said Section 15;

thence southerly along the westerly line of said Northeast quarter of Section 15 to the Southwest corner of said Northeast quarter of Section 15;

thence westerly along the southerly line of the Northwest quarter of said Section 15 and continuing along the southerly line of the Northeast quarter of Section 16, Township 2 South, Range 9 West, to the Southwest corner of said Northeast quarter of said Section 16;

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thence southerly along the easterly line of the Southwest quarter of said Section 16 to the southerly line of said Section 16;

thence westerly along the southerly line of said Section 16 to the Northeast corner of Section 20, Township 2 South, Range 9 West;

thence southerly along the easterly line of said Section 20 to the Southeast corner of the North half of said Section 20;

thence westerly along the southerly line of said North half of Section 20 to the westerly line of said Section 20;

thence southerly along the westerly line of said Section 20 to the Southwest corner of said Section 20;

thence westerly along the westerly prolongation of the southerly line of said Section 20 a distance of two thousand six hundred forty (2,640) feet;

thence South a distance of two thousand six hundred forty (2,640) feet;

thence West to an intersection with the westerly line of Range 9 West, said line being also the easterly line of Range 10 West;

thence southerly along the westerly line of said Range 9 West a distance of five thousand two hundred eighty (5,280) feet;

thence West a distance of twenty-one thousand one hundred twenty (21,120) feet;

/ / /

thence North to the easterly prolongation of the southerly line of Section 20, Township 2 South, Range 10 West;

thence westerly along said prolongation of the southerly line of said Section 20 to the Southeast corner of said Section 20;

thence North to the northerly line of Township 2 South, said line being also the southerly line of Township 1 South;

thence easterly along said northerly line of Township 2 South a distance of seventeen thousand one hundred sixty (17,160) feet;

thence North a distance of five thousand two hundred eighty (5,280) feet;

thence East to an intersection with the easterly line of Range 9 West, said line being also the westerly line of Range 10 West;

thence northerly along the easterly line of Range 9 West a distance of five thousand two hundred eighty (5,280) feet;

thence East to an intersection with the northerly prolongation of the easterly line of Section 28, Township 1 South, Range 9 West;

thence southerly along said prolongation of the easterly line of said Section 28 and continuing along the easterly line of said Section 28 to the Southeast corner of said Section 28;

/ / /

thence South a distance of two thousand six hundred forty (2,640) feet;

thence East to an intersection with the northerly prolongation of the easterly line of Section 2, Township 2 South, Range 9 West;

thence southerly along said prolongation of the easterly line of said Section 2 of the Point of Beginning.

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EXHIBIT C

"Minimum Water User Defendants"

GROUP "C" - CORPORATIONS

Corporation of the Presiding Bishop of the Church of Jesus Christ of Latter Day Saints

Owens Illinois, Inc.

Scovill Manufacturing Company, a Connecticut corporation

Southern California Edison Company

Stoody Company

Teledyne, Inc.

GROUP "D" - PARTNERSHIPS

Pomona Islander

GROUP "E" - INDIVIDUALS

Ernest M. Briles

Gary Briles

Mary J. Briles

P. Albert Faure (erroneously named as Albert Faure)

John M. Galleano

Melvin I. Harper

Francis H. Maloney

Mary A. Maloney

Edward J. Pilario

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EXHIBIT D

"Disclaiming Defendants Stipulating to Entry of Default and Determination of No Water Rights"

GROUP "A" - MUNICIPAL CORPORATIONS OR BODY POLITIC

The City of La Puente, a municipal corporation

The City of Pomona, a municipal corporation

County of Los Angeles, a body politic and corporate

GROUP "B" - PUBLIC AGENCY OR PUBLIC DISTRICT

Hacienda La Puente Unified School District

Los Angeles County Flood Control District

Pomona Unified School District

Rowland Unified School District

Walnut Valley Unified School District

GROUP "C" - CORPORATIONS

American Industrial and Commercial Developers, Inc.

Archinvest Corporation, N.V.

Aro Corp.

Bielec Enterprises, Inc.

Fred H. Bixby Ranch Company

M. J. Brock and Sons, Inc.

California Institute of Technology

CC&F Industry Properties, Inc.

Colonel Baker Home For Retired Ministers

Cutter Laboratories, Inc.

Dasco Co.

Diamond Bar Development Corp.

Diamond Bar Hills Club, Inc.

1 Edro Engineering, Inc.
2 Farmers New World Life Insurance Company,
3 a Washington corporation
4 First Baptist Church of Walnut Valley
5 Fuller Theological Seminary
6 General Electric Company
7 General Telephone Company of California
8 The General Tire Realty Company, an Ohio corporation
9 GWCC Development Corp.
10 John Hancock Mutual Life Insurance Company,
11 a Massachusetts corporation
12 Indal Aluminum, a division of Indal, Inc., successor in
13 interest to Consolidated Aluminum Corporation
14 JEC Investments Co., successor to Lewis Properties, Inc.
15 Kim Lighting, Inc.
16 Laika Corp.
17 L P L Industries, Inc.
18 Macco Corporation
19 John F. Moloney and Company (erroneously named as "John F.
20 Maloney")
21 The Maytag Company, a Delaware corporation
22 Meyer Investment Properties, Inc.
23 MTI Corp.
24 New England Mutual Life Insurance Company,
25 a Massachusetts corporation
26 Oltmans Construction Co.
27 Oro Construction Co.
28 Pacific Latin American District Council of The Assemblies of God

1 J. C. Penney Properties, Inc. (erroneously named as
2 "J. C. Penny Properties, Inc."
3 The Presbytery of Los Angeles
4 Presley of Southern California
5 The Prudential Insurance Company of America,
6 a New Jersey corporation
7 Public Storage Management, Inc. sued herein as
8 Public Storage, Inc.
9 Ralee Engineering Co.
10 Rancho Los Alamitos Corp.
11 Reuland Electric Company
12 Rexnord, Inc.
13 Roman Catholic Archbishop of Los Angeles
14 Seymour Realty Register
15 Southern Pacific Transportation Co.
16 Sully-Miller Contracting Company
17 Tally's Truck Line
18 Transamerica Development Company
19 Vecchione Investment Co.
20 Vogel Properties, Inc.
21 Von's Grocery Company, a Delaware corporation
22 84 Lumber Company (erroneously named as "84 Lumbar Co.")
23 GROUP "D" - PARTNERSHIPS
24 Amiloc Development Co.
25 CH Ranch Co.
26 Family Affair, Ltd. - 1971
27 First Home Investments
28 The Hannah Co.

1 Heltzer Enterprises-Brookfield Walnut

2 Heltzer Enterprises-Walnut Industrial Park

3 Leonard Ranch

4 LSE-Industry

5 Norwich Associates, a New York partnership

6 Property Research Fund-II

7 Railroad Street Partnership

8 Samuelson Bros.

9 Triple R.

10 GROUP "E" - INDIVIDUALS

11 Lucy O. Alvarez

12 Larry Armour

13 Marie A. Baum

14 Michael G. Berolzheimer

15 Phillip C. Berolzheimer

16 Stanley Black

17 Hazel D. Book

18 Morris S. Book

19 S. K. Bourns

20 Jean Bourns

21 Albert E. Carrey

22 Arthur T. Cox

23 Frank W. Denny

24 Eli G. Dubrow

25 Mary Dubrow

26 Jack C. Ecoff

27 Lawrence E. Elrod

28 Annie K. Endres

George H. Engelage
Frank R. Erro
Ida Erro
Frederick Feck
Ruby Jeanetta Galland
Thomas Galland
Charles Jaramillo
Jeannie M. Jaramillo
Arthur H. Kaplan
Patricia H. Ketchum, successor in interest of
Stuart M. Ketchum
Edward Kipling
Lois A. Kipling
Jane R. Leibel
Dorothy Jean Leming
Gene Leming
Normand A. Levesque
Marylyne M. Mehl
Ross Mehl
Frank Mendez
Ivan Mendoza
Terry J. Mendoza
Lawrence A. Mitchell
Lois Mitchell
Charles McConaughy
Lorraine McConaughy
Charles F. Nichols
Judith A. Nichols

Ruby P. Patritti

Luis Rios

Margarita Rios

Jack D. Samuelson

Robert A. Samuelson

Lorene M. Shelton

Joseph Sherman

Ruth P. Simmons

Hayward Soohoo

Charles Terranova, Jr.

Van N. Walls

Estate of Lloyd S. Whaley, deceased, Lloyd A. Whaley, Executor

Don A. Winneguth

Patricia M. Winneguth

Debra M. Wong

Stephen B. Wong

Edward J. Zahorick

GROUP "F" - FIDUCIARIES

George A. Cordingly, Jr., Burdette Sadler & Elaine Russell, as Trustees under the Will of George A. Cordingly, Deceased

Cushman Family Trust "B"

Marvin B. Donsker, Trustee Under the Trust Agreement of 7/19/79

J. E. Libaw, as Trustee of Libaw Family Trust

Chester L. Mitchell as Trustee of the Chester L. Mitchell Family Trust Dated December 19, 1973

Ray B. Mitchell, as Trustee of the Ray B. Mitchell Family Trust, Dated December 9, 1973

Harold F. Pemberton & Maxine G. Pemberton, as Trustees

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EXHIBIT E

"Defendants Whose Default Has Been Entered Otherwise Than On the Basis of a Stipulation"

Defendants Served - No Appearance

GROUP "C" - CORPORATIONS

R. L. Arcinage, Inc.

Bell Memorial United Methodist Church

Butler-Umark and Umark, Inc.

Central California Livestock, Inc.

Citizens Savings and Loan Association

Congoleum Corporation

Cordingly Enterprises, Inc.

Creftcon Industries, Inc.

Cunningham Building Specialties, Inc.

Day and Night Manufacturing

Federated Dept. Stores, Inc.

First Baptist Church of Rowland Heights

Gabriele Macaroni, Inc.

The Good Guys, Inc.

H.T.M. Development, Inc.

Investco Associates, Inc.

Iodent Co., also known as Iodent Chemical Co.

Jiffy Packing, Inc.

The Lyon Realty Co.

G. A. MacDonald Construction Co.

Martin Shower Door Company, Inc.

Moore Plastic Industries, Inc.

Occidental Life Insurance

Pacific Island Development Co.

Pomona Valley Land Development Company

Puente Post No. 1944 Veterans of Foreign Wars of the United States

Redeemer Lutheran Church of La Puente

Rowland Land Company

Robert C. Sebring Construction Co.

J. F. Shea, Inc.

Southern California District of the Lutheran Church, Missouri Synod

Southern Pacific Industrial Development Company, a Texas corporation

Sutherland Building Material Supermart, Inc.

Synod of Southern California

Third Fishland Properties Corp.

Torite Enterprises, Inc.

Tragniew, Inc.

Utility Trailer

Zelman Development Co.

Zenith Specialty Bag, Inc.

<u>GROUP "D" - PARTNERSHIPS</u>

Arciero & Arciero

Roy F. Benton Feed Yard

Continental Apartments, Ltd.

Crow-Los Angeles #9

Horst and Stafford

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Laurelwood Homes

PJB Investment Co.

S.C.I.P. Associates, Ltd.

Walnut Valley Industrial Park

W.H.A. Investment

GROUP "E" - INDIVIDUALS

Mary A. Abbott

Orris D. Abbott

Marion T. Allen

Dean F. Anderson

Orovene O. Anderson

Hortense G. Bassett

Alfred E. Benton

J. P. Bourdet

Don Brage

Laura Buccola

S. Russell Buccola

John W. Burrows

Margrette D. Burrows

Frances L. Bush

Frederick E. Bush

Domenic Cagliero

A. E. Carrey

H. P. Carrey

Donald Carroll

Shirlee M. Carroll

Dorothy V. Cauffman

Fern P. Cauffman, erroneously named as "Fern P. Caufman"

John R. Cauffman

Maurice Z. Cofer

Shirley M. Cofer

George A. Cordingly, Jr.

Frederick B. Cordova

Joan M. Cordova

Wayne Crowder

Robert B. Dicken

Clarence H. Duke

Thelma Duke

George C. Dunn

David L. Gentle

Francis Gentle

Harold Gershman

George C. Good

Nellie M. Grant

William R. Grant

Dick Griegorian

Grace H. Griffin

John C. Hall

Allen R. Hamlin

Gayle P. Hamlin

Bernice L. Harbers

Ruth A. Harper

Kazuko Higashi

Tom Y. Higashi

Elsie L. Hill

Lydia Hofgaarden

1 Ruth Holland
2 Marvin G. Holwick
3 Patricia J. Houghton
4 Herbert J. Humboldt
5 Virginia Humboldt
6 Odessa Irving
7 Willie T. Irving
8 John S. Irwin
9 Phyllis M. Irwin
10 Charles Isenberg
11 Peggy Isenberg
12 Ernest V. Jarvis
13 Khalid Javaid
14 Ann M. Jennett
15 John W. Jennett
16 Edward J. Johnson
17 Irene A. Johnson
18 Joan Johnson
19 Barry D. Jordan
20 E. Brent Jordan
21 Marguerite S. Jordan
22 Rose Kasparoff
23 Semon Kasparoff
24 Glenn A. Kennedy
25 Martha E. Kennedy
26 Khan Komai
27 Kiyoko Komai
28 Herman Laub

Louise M. Laub

Richard C. Lauer

Carroll A. Leister

Moses Lerner

Bernice M. Licha

Charles Licha

Eva M. Liechti

Arlene Lloyd

R. Brent Lloyd

Gordon A. MacDonald

Albert J. Manchester

Betty H. Maurer

Charles W. Maurer

Walter Melendez

Milton Moritz

Donna McGrail

Richard P. McGrail

Florence McMillan

Frank B. McMillan

Rena E. McMillan

Kazvichi Nakawatasse

Lydia A. Nash

Barbara A. Nelson

Lee L. Nelson

Paul Pairis

John C. Parker

Zita A. Parker

Samuel J. Parriott

Mike Pennell

Vicente Perez

James C. Perry

Ruth E. Perry

Natividad Quiroz

Julio Ramirez

Ruth Ramirez

Philip S. Ramser

Mark M. Rassi

Sharleen J. Rassi

Manuel C. Reyes

Deborah A. Rich

Thomas E. Rich

Hal Riger

Robert M. Rossini

Susanne F. Rossini

Roger R. Rousset

Chester F. Rzonca

Katy H. Rzonca

Charley E. Sackett

Shirley B. Sackett

John R. Salles

Ann Samors

Ruth J. Schumacher

Magdy Seif

John F. Shea

Irving J. Snyder

Sylvia Snyder

Bruce W. Soderberg

Dolores L. Stranieri

Vincent G. Stranieri

David D. Szymanek

Elizabeth B. Taylor

Walter E. Taylor

Charles Terranova

Manuel G. Valenzuela

Rosalva O. Valenzuela

Debra E. Walls

Arthur A. Warren

Leonard G. Westhoff

Clayton D. Williams

Dorothy M. Williams

C. Janet Wilson

James F. Wilson

Jerry D. Wright

Katherine E. Wright

Carolina E. Ybarra

Venancio R. Ybarra

Ralph Yeomans

Theda N. Yeomans

Gail D. York

Homer V. York

Wali M. Zafar

GROUP "F" - FIDUCIARIES

Bank of America, National Trust & Savings Association,
as Conservator of the Estate of Edith L. Wood

1 John E. Lupo and Maria R. Lupo, as Trustees of the Lupo Family
2 Trust, Dated November 3, 1976
3 Wells Fargo Bank N.A., not personally but as ancillary trustee
4 under trust agreement dated September 15, 1973
5
6 Defendants Served By Publication - No Appearance
7 GROUP "E" - INDIVIDUALS
8 Tarla H. Agarwala
9 Vijay K. Agarwala
10 Camille Allen
11 Max E. Allen
12 Ann E. Anderson
13 Roy I. Anderson
14 Wade H. Anderson
15 Thomas Arcoraci
16 Zerma Arcoraci
17 Oliver C. Bjorneby
18 Ruth Bjorneby
19 N. V. Bolzano
20 James E. Brown
21 Clarence Brueckner
22 Erminia L. Brueckner
23 Alvino Campos
24 Julia Campos
25 H. D. Chastain
26 H. D. Chastain, Jr.
27 Azalia H. Chunn
28 William R. Chunn

1 Pat H. Cochran
2 Guiseppe Comino
3 Charles E. Coulter
4 Alfred H. Cox
5 Isabel P. Cox
6 George G. Cross
7 Donald C. DeThomas
8 Natale DeThomas
9 Natale DeThomas, Jr.
10 Robert D. DeThomas
11 John Gale
12 Mario Gomez
13 Benjamin Granado
14 Francis Granado
15 Alan R. Griffin
16 Irma D. Henderson
17 Richard A. Henderson
18 Barbara S. Herman
19 Daniel L. Herman
20 Aubrey L. Holwick
21 Hildegard James
22 Laviola James
23 Wayne Johnson
24 John N. Jurgensen
25 Lawrence J. Kaplan
26 Joe B. King
27 Karen Kissel
28 Beth L. Krushaar

Isaac N. Krushaar

Ed Krist

Alice Labesque

Shirley B. Little

Martha R. Meisel

Milomer Milojezich

Robert H. Moore

Alfred Murray

Ella Murray

Bruce E. Nescher

Donna M. Nescher

Elizabeth V. Nichol

Harold L. Nichol

Leo Palwisa

Barbara Pederson

Thor Pederson

Dionne Poelstra

Gerritt L. Poelstra

William A. Pressey

Harold C. Ramser

Charles J. Rawland

William O. Reimann

Amdello Reyes

Soledad Reyes

Grace F. Salvatore

Clinton E. Seccombe

Willie Smith

Adeline Sumpter

Julian B. Sumpter

Lucas Curry Wall

S. Wyle Weiman

Jacqueline F. White

Luke F. White

Dorothy Williams

Edward J. Worosila

Mary F. Worosila

GROUP "F" - FIDUCIARIES

C. Price Walker

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Exhibit F

PUENTE NARROWS AGREEMENT

THIS AGREEMENT is made and entered into as of the 8th day of May, 1972, by and between PUENTE BASIN WATER AGENCY, herein called "Puente Agency", and UPPER SAN GABRIEL VALLEY MUNICIPAL WATER DISTRICT, herein called "Upper District".

A. RECITALS

1. Puente Agency. Puente Agency is a joint powers agency composed of Walnut Valley Water District, herein called "Walnut District", and Rowland Area County Water District, herein called "Rowland District". Puente Agency is formed for the purpose of developing and implementing a ground water basin management program for Puente Basin. Pursuant to said purpose, said Agency is acting as a representative of its member districts and of the water users and water right claimants therein in the defense and maintenance of their water rights within Puente Basin.

2. Upper District. Upper District is a municipal water district overlying a major portion of the Main San Gabriel Basin. Upper District is plaintiff in the San Gabriel Basin Case, wherein it seeks to adjudicate rights and implement a basin management plan for the Main San Gabriel Basin.

3. Puente Basin is a ground water basin tributary to the Main San Gabriel Basin. Said area was included within the scope of the San Gabriel Basin Case and substantially

all water rights claimants within Puente Basin were joined as defendants therein. The surface contribution to the Main San Gabriel Basin from Puente Basin is by way of the paved flood control channel of San Jose Creek, which passes through Puente Basin from the Pomona Valley area. Subsurface outflow is relatively limited and moves from the Puente Basin to the Main San Gabriel Basin through Puente Narrows.

4. Intent of Agreement. Puente Agency is prepared to assure Upper District that no activity within Puente Basin will hereafter be undertaken which will (1) interfere with surface flows in San Jose Creek, or (2) impair the subsurface flow from Puente Basin to the Main San Gabriel Basin. Walnut District and Rowland District, by operation of law and by express assumption endorsed hereon, assume the covenants of this agreement as a joint and several obligation. Based upon such assurances and the covenants hereinafter contained in support thereof, Upper District consents to the dismissal of all Puente Basin parties from the San Gabriel Basin Case. By reason of said dismissals, Puente Agency will be free to formulate a separate water management program for Puente Basin.

B. DEFINITIONS AND EXHIBITS

5. Definitions. As used in this Agreement, the following terms shall have the meanings herein set forth:

(a) Annual or Year refers to the fiscal year July 1 through June 30.

(b) Base Underflow. The underflow through

Puente Narrows which Puente Agency agrees to maintain, and on which accrued debits and credits shall be calculated.

(c) Make-up Payment. Make-up payments shall be an amount of money payable to the Watermaster appointed in the San Gabriel Basin Case, sufficient to allow said Watermaster to purchase replacement water on account of any accumulated deficit as provided in Paragraph 9 hereof.

(d) Puente Narrows. The subsurface geologic constriction at the downstream boundary of Puente Basin, located as shown on Appendix "B".

(e) Main San Gabriel Basin, the ground water basin shown and defined as such in Exhibit "A" to the Judgment in the San Gabriel Basin Case.

(f) San Gabriel Basin Case. Upper San Gabriel Valley Municipal Water District v. City of Alhambra, et al., L. A. Sup. Ct. No. 924128, filed January 2, 1968.

6. Appendices. Attached hereto and by this reference made a part hereof are the following appendices:

"A" -- Location Map of Puente Basin, showing major geographic, geologic, and hydrologic features.

"B" -- Map of Cross-Section Through Puente Narrows, showing major physical features and location of key wells.

"C" -- Engineering Criteria, being a description of a method of measurement of subsurface outflow to be utilized for Watermaster purposes.

C. COVENANTS

7. Watermaster. There is hereby created a two member Watermaster service to which each of the parties to this agreement shall select one consulting engineer. The respective representatives on said Watermaster shall serve at the pleasure of the governing body of each appointing party and each party shall bear its own Watermaster expense.

a. Organization. Watermaster shall perform the duties specified herein on an informal basis, by unanimous agreement. In the event the two representatives are unable to agree upon any finding or decision, they shall select a third member to act, pursuant to the applicable laws of the State of California. Thereafter, until said issue is resolved, said three shall sit formally as a board of arbitration. Upon resolution of the issue in dispute, the third member shall cease to function further.

b. Availability of Information. Each party hereto shall, for itself and its residents and water users, use its best efforts to furnish all appropriate information to the Watermaster in order that the required determination can be made.

c. Cooperation With Other Watermasters. Watermaster hereunder shall cooperate and coordinate activities with the Watermasters appointed in the San Gabriel Basin Case and in Long Beach v. San Gabriel Valley Water Company, et al.

d. Determination of Underflow. Watermaster shall annually determine the amount of underflow from Puente Basin to the San Gabriel Basin, pursuant to Engineering Criteria.

e. Perpetual Accounting. Watermaster shall maintain a perpetual account of accumulated base underflow, accumulated subsurface flow, any deficiencies by reason of interference with surface flows, and the offsetting credit for any make-up payments. Said account shall annually show the accumulated credit or debit in the obligation of Puente Agency to Upper District.

f. Report. Watermaster findings shall be incorporated in a brief written report to be filed with the parties and with the Watermaster in the San Gabriel Basin Case. Said report shall contain a statement of the perpetual account heretofore specified.

8. Base Underflow. On the basis of a study and review of historic underflow from Puente Basin to the Main San Gabriel Basin, adjusted for the effect of the paved flood control channel and other relevant considerations, it is

mutually agreed by the parties that the base underflow is and shall be 580 acre feet per year, calculated pursuant to Engineering Criteria.

9. Puente Agency's Obligation. Puente Agency covenants, agrees and assumes the following obligation hereunder:

a. Noninterference with Surface Flow. Neither Puente Agency nor any persons or entities within the corporate boundaries of Walnut District or Rowland District will divert or otherwise interfere with or utilize natural surface runoff now or hereafter flowing in the storm channel of San Jose Creek; provided, however, that this covenant shall not prevent the use, under Watermaster supervision, of said storm channel by the Puente Agency or Walnut District or Rowland District for transmission within Puente Agency of supplemental or reclaimed water owned by said entities and introduced into said channel solely for transmission purposes. In the event any unauthorized use of surface flow in said channel is made contrary to the covenant herein provided, Puente Agency shall compensate Upper District by utilizing any accumulated credit or by make-up payment in the same manner as is provided for deficiencies in subsurface outflow from Puente Basin.

b. Subsurface Outflow. To the extent that

the accumulated subsurface outflow falls below the accumulated base underflow and the result thereof is an accumulated deficit in the Watermaster's annual accounting, Puente Agency agrees to provide make-up payments during the next year in an amount not less than one-third of the accumulated deficit.

c. Purchase of Reclaimed Water. To the extent that Puente Agency or Walnut District or Rowland District may hereafter purchase reclaimed water from the facilities of Sanitation District 21 of Los Angeles County, such purchaser shall use its best efforts to obtain waters originating within San Gabriel River Watershed.

10. Puente Basin Parties Dismissal. In consideration of the assumption of the obligation hereinabove provided by Puente Agency, Upper District consents to entry of dismissals as to all Puente Basin parties in San Gabriel Basin Case. This agreement shall be submitted for specific approval by the Court and a finding that it shall operate as full satisfaction of any and all claims by the parties within Main San Gabriel Basin against Puente Basin parties by reason of historic surface and subsurface flow.

IN WITNESS WHEREOF the parties hereto have caused this Agreement to be executed as of the day and date first above written.

Approved as to form:
CLAYSON, STARK, ROTHROCK & MANN

By _____
Attorneys for Puente Agency

PUENTE BASIN AGENCY

By _____
EDWARD M. BIEDERMAN
President

Approved as to form:

By _____
Attorney for Upper District

UPPER SAN GABRIEL VALLEY
MUNICIPAL WATER DISTRICT

By _____
Howard H. Hawkins
President

The foregoing agreement is approved and accepted, and the same is acknowledged as the joint and several obligation of the undersigned.

Approved as to form:

_____
Attorney for Walnut District

WALNUT VALLEY WATER DISTRICT

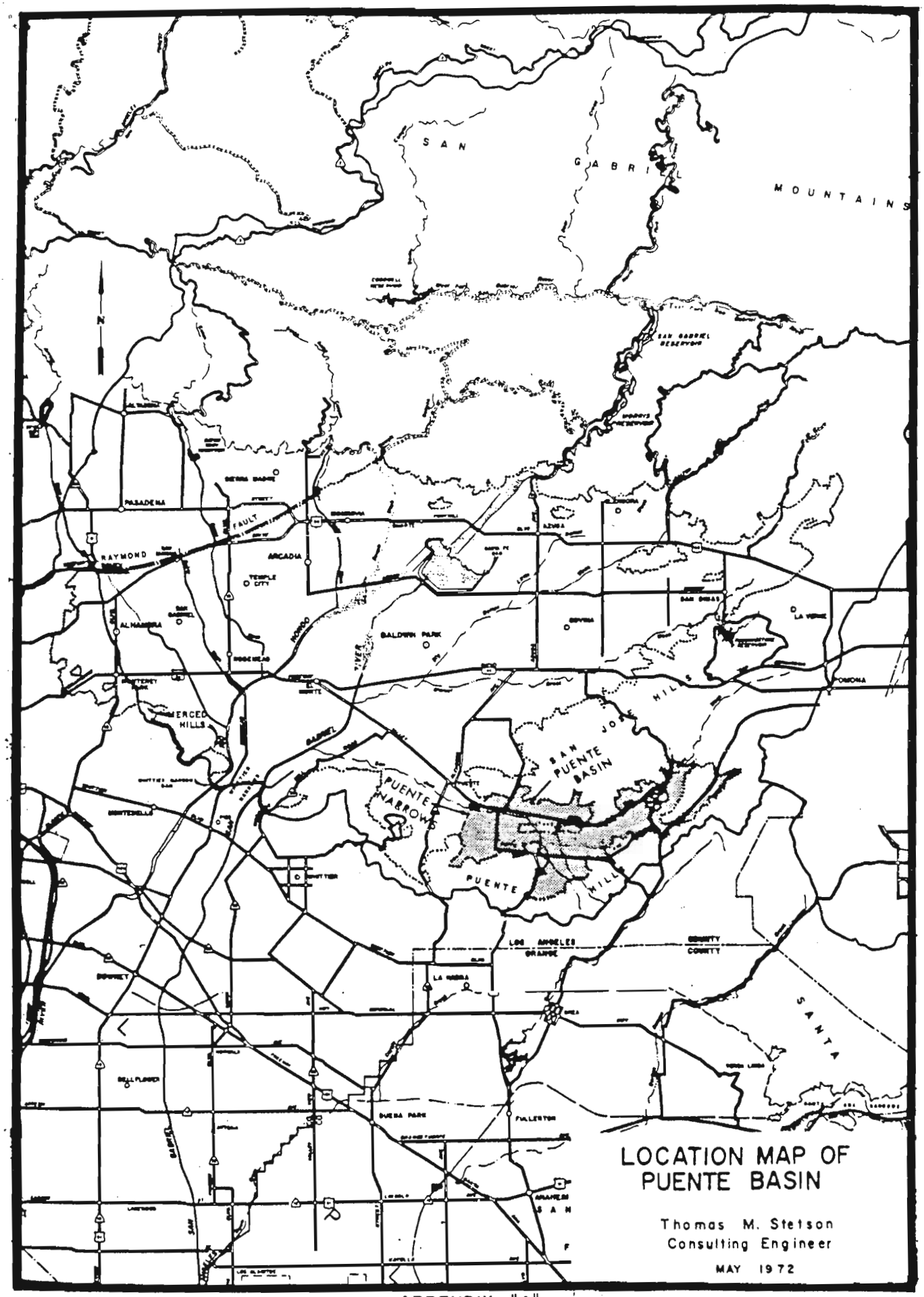
By _____
J. P. BOURDET
Vice President

Approved as to form:

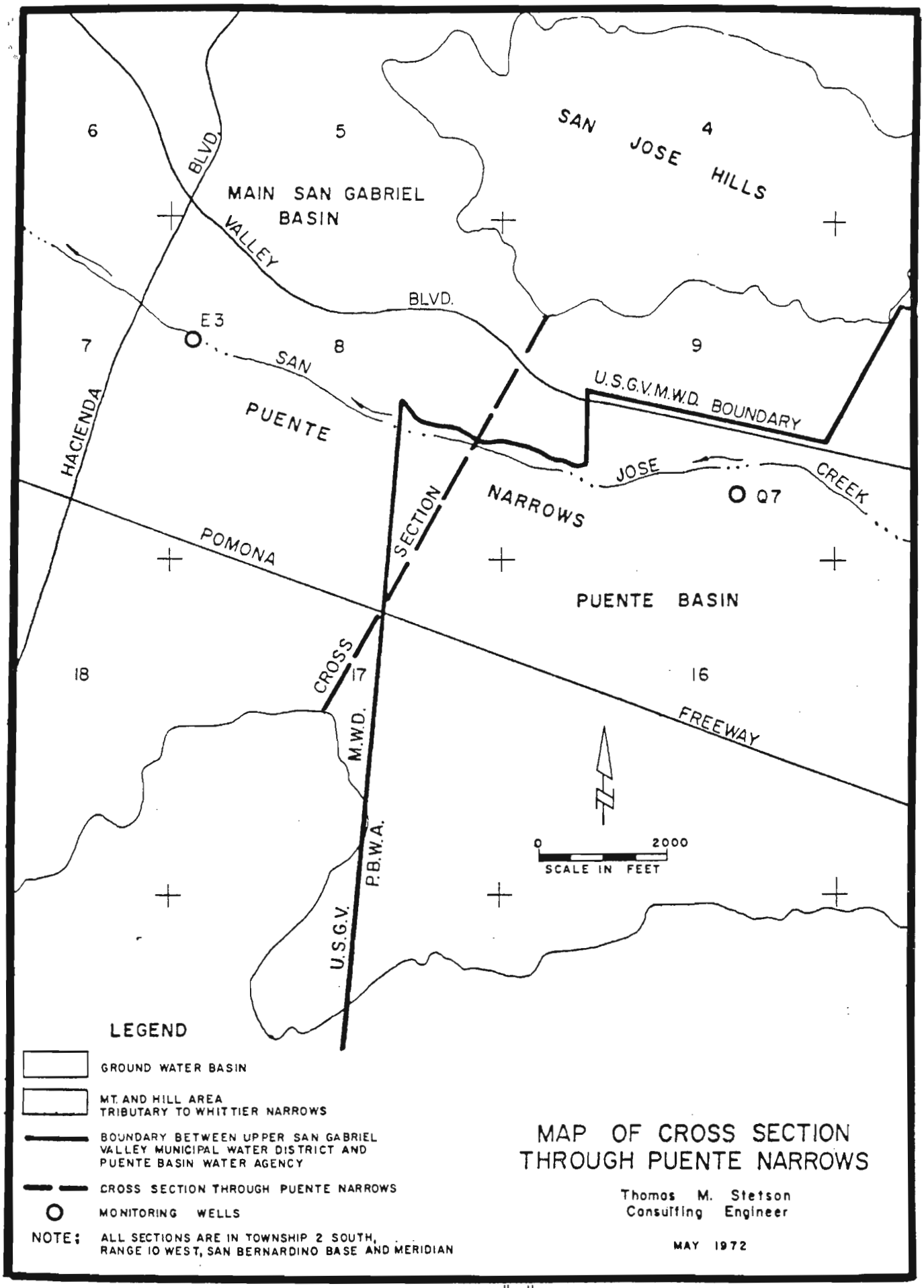
_____
Attorneys for Rowland District

ROWLAND AREA COUNTY WATER
DISTRICT

By _____
President
Wm. A. Simmons


SAN
GABRIEL
MOUNTAINS
N
PASADENA
RAYMOND
FAULT
ARCADIA
TEMPLE CITY
ALHAMBRA
BALDWIN PARK
MERCED HILLS
PUENTE HARROW
SAN PUENTE BASIN
PUENTE HILLS
LOS ANGELES
ORANGE
COUNTY
COUNTY
LA HABRA
SANTA
BELLFLOWER
FULLERTON
LOCATION MAP OF
PUENTE BASIN
Thomas M. Stetson
Consulting Engineer
MAY 1972

APPENDIX "A"


6
5
4
SAN JOSE HILLS
MAIN SAN GABRIEL BASIN
BLVD.
VALLEY
BLVD.
E3
7
8
9
SAN
U.S.G.V.M.W.D. BOUNDARY
HACIENDA
PUENTE
JOSE
CREEK
Q7
NARROWS
SECTION
POMONA
PUENTE BASIN
CROSS
18
17
16
M.W.D.
FREEWAY
P.B.W.A.
U.S.G.V.
0
2000
SCALE IN FEET
LEGEND
GROUND WATER BASIN
MT. AND HILL AREA TRIBUTARY TO WHITTIER NARROWS
BOUNDARY BETWEEN UPPER SAN GABRIEL VALLEY MUNICIPAL WATER DISTRICT AND PUENTE BASIN WATER AGENCY
CROSS SECTION THROUGH PUENTE NARROWS
MONITORING WELLS
NOTE: ALL SECTIONS ARE IN TOWNSHIP 2 SOUTH, RANGE 10 WEST, SAN BERNARDINO BASE AND MERIDIAN
MAP OF CROSS SECTION THROUGH PUENTE NARROWS
Thomas M. Stetson
Consulting Engineer
MAY 1972

APPENDIX "B"

ENGINEERING CRITERIA

APPENDIX "C"

1. Monitoring Wells. The wells designated as State Wells No. 2S/10W-9Q7 and 2S/10W-8E3 and Los Angeles County Flood Control District Nos. 3079M and 3048B, respectively, shall be used to measure applicable ground water elevations. In the event either monitoring well should fail or become unrepresentative, a substitute well shall be selected or drilled by Watermaster. The cost of drilling a replacement well shall be the obligation of the Puente Agency.

2. Measurement. Each monitoring well shall be measured and the ground water elevation determined semi-annually on or about April 1 and October 1 of each year. Prior to each measurement, the pump shall be turned off for a sufficient period to insure that the water table has recovered to a static or near equilibrium condition.

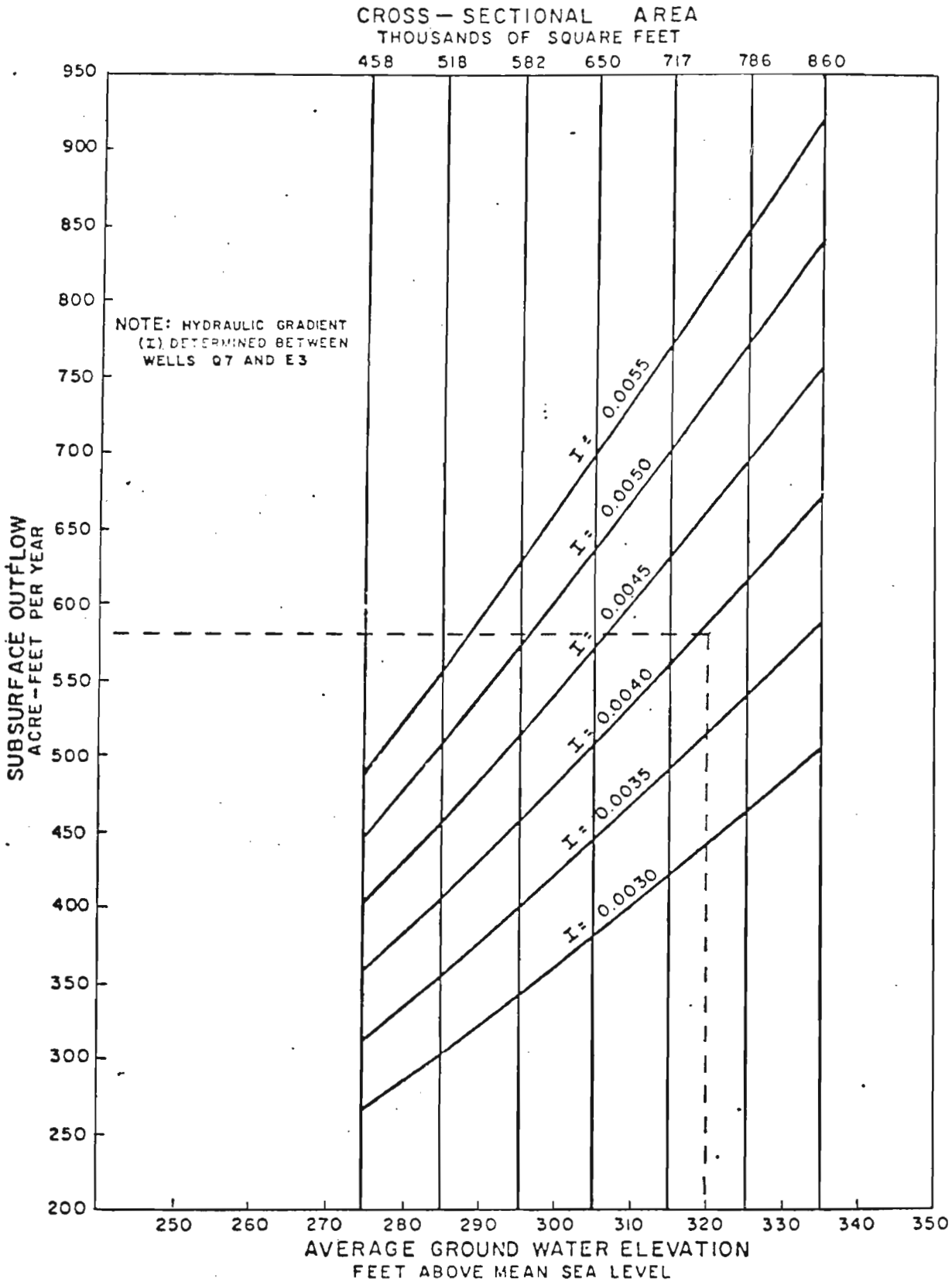
3. Hydraulic Gradient. The hydraulic gradient, or slope of the water surface through Puente Narrows, shall be calculated between the monitoring wells as the difference in water surface elevation divided by the distance, approximately 9,000 feet, between the wells. The hydraulic gradient shall be determined for the spring and fall and the average hydraulic gradient calculated for the year.

4. Ground Water Elevation at Puente Narrows Cross Section. The ground water elevation at the Puente Narrows

cross section midway between the monitoring wells shall be the average of the ground water elevation at the two wells. This shall be determined for the spring and fall and the average annual ground water elevation calculated for the year.

5. Determination of Underflow. The chart attached is a photo-reduction of a full scale chart on file with the Watermaster. By applying the appropriate average annual hydraulic gradient (I) to the average annual ground water elevation at the Puente Narrows cross section (involving the appropriate cross-sectional area [A]), it is possible to read on the vertical scale the annual acre feet of underflow.

APPENDIX "C"



RELATIONSHIP OF AVERAGE GROUND WATER ELEVATION AT PUENTE NARROWS AND APPLICABLE CROSS-SECTIONAL AREA WITH SUBSURFACE OUTFLOW THROUGH PUENTE NARROWS FOR VARIOUS HYDRAULIC GRADIENTS

Thomas M. Stetson
Consulting Engineer
MAY 1972

Exhibit G

Description of Overlying Land Owned by or Owned by and Leased to "Golf Course Defendants" as Said Defendants Are Defined in Paragraph 9A(1)

PARCEL 1:

THAT PORTION OF LOT 1 OF TRACT NO. 9494, IN THE COUNTY OF LOS ANGELES, STATE OF CALIFORNIA, AS PER MAP RECORDED IN BOOK 138, PAGES 41 AND 42 OF MAPS, IN THE OFFICE OF THE COUNTY RECORDER OF SAID COUNTY, described as follows:

Beginning at the intersection of the Southwesterly line of said Tract No. 9494, within the Northwesterly line of Fifth Avenue, 100 feet wide, as described in the deed to the County of Los Angeles, recorded in Book 11599, Page 391, Official Records of said County; thence along said Southwesterly line, North 33° 15' 20" West, 1011.47 feet, more or less, to an angle point in the boundary lines of said Tract No. 9494; thence along the Westerly line of said tract, North 0° 15' 25" West, 949.07 feet, more or less, to the Northerly line of said tract; thence along said Northerly line, South 79° 33' 08" East 8.19 feet to an angle point in the boundary lines of said tract; thence continuing along the boundary lines of said tract, North 57° 52' 17" East, 274.48 feet to the Easterly line of the land described as Parcel 1 in the Lease recorded on December 18, 1963, as Instrument No. 4661, in Book M-1413, Page 223, Official Records of said County; thence along the boundary lines of the land

described in said lease, South 40° 03' 53" East, 130.62 feet, South 14° 54' 34" East 102.96 feet, South 0° 29' 27" East, 176.26 feet, South 15° 00' 40" West, 222.92 feet, South 10° 18' 50" East, 203.61 feet, South 25° 58' 50" East 61.94 feet, North 88° 28' 51" East, 112.28 feet, South 53° 22' 09" East, 54.63 feet and South 61° 31' 19" East, 31.66 feet to the Northerly line of the land described as Parcel 5 in the deed to Huntington Park First Savings and Loan Association, recorded January 2, 1962, as Instrument No. 827, in Book D-1465, Page 632, Official Records of said County; thence along the boundary lines of said Parcel 5 and of Parcel 4 of said last mentioned deed, South 69° 40' 36" West, 51.48 feet, South 19° 00' 30" East, 629.32 feet, South 68° 11' 54" East, 53.85 feet, North 64° 40' 38" East 350.70 feet, North 78° 38' 48" East, 446.79 feet and South 30° 38' 15" East, 79.92 feet to Northwesterly line of said Fifth Avenue; thence along said Northerwesterly line, South 59° 21' 45" West, 1145.85 feet, more or less, to the point of beginning, together with that portion of Fifth Avenue, the title to which would pass by a conveyance of the above described land.

EXCEPT therefrom that portion thereof described as Parcel 1-9 in the Final Order of Condemnation entered in Los Angeles County Superior Court, Case No. C 344,840, a certified copy being recorded January 8, 1981, as

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Instrument No. 81-18500, of Official Records of said County, for Fairway Drive and Walnut Drive.

PARCEL 2:

THAT PORTION OF LOT 1 OF TRACT NO. 9494, IN THE COUNTY OF LOS ANGELES, STATE OF CALIFORNIA, AS PER MAP RECORDED IN BOOK 138, PAGES 41 AND 42 OF MAPS, IN THE OFFICE OF THE COUNTY RECORDER OF SAID COUNTY, described as follows:

Beginning at the intersection of the Northeasterly line of said Tract No. 9494, with the center line of Fifth Avenue, as shown on County Surveyor's Map No. B 191-4, on file in the office of the County Surveyor of said County; thence along said center line, South 59° 21' 45" West, 974.74 feet; thence North 37° 14' 13" West, 50.33 feet to a point in the Northwesterly line of said Fifth Avenue; thence along said Northwesterly line, South 59° 21' 45" West, 95.86 feet; thence North 30° 38' 15" West, 79.92 feet; thence South 78° 38' 48" West, 446.79 feet; thence South 64° 40' 30" West, 350.70 feet to the true point of beginning; thence North 68° 11' 54" West, 53.85 feet; thence North 19° 00' 30" West, 629.32 feet; thence North 69° 40' 36" East, 51.48 feet to the beginning of a non-tangent curve having a radius of 177.00 feet and being concave to the Northeast, said curve having a radial line which bears North 24° 28' 28" East; thence Southeasterly along said curve, a distance of 76.61 feet through a central angle of 24° 47' 52" to a curve compound to said last mentioned curve, said compound curve

having a radius of 257.00 feet and being concave to the Northwest, said point of compound curve having a radial line which bears North 0° 19' 24" West; thence Northeasterly along said last mentioned curve, a distance of 60.55 feet through a central angle of 13° 30' 00" to a curve compound to said last mentioned curve, said compound curve having a radius of 64.00 feet and being concave to the Northwest, said point of compound curve having a radial line which bears North 13° 49' 24" West; thence Northeasterly along said last mentioned curve, a distance of 42.45 feet through a central angle of 38° 00' 00" to a curve compound to said last mentioned curve, said compound curve having a radius of 132.00 feet and being concave to the Northwest, said point of compound curve having a radial line which bears North 51° 49' 24" West; thence Northeasterly along said last mentioned curve, a distance of 64.51 feet through a central angle of 28° 00' 00" to a point in a line, said line being not tangent to said last mentioned curve, said point having a radial line which bears North 79° 49' 24" West, said line being the Northeasterly continuation of the hereinbefore mentioned line having a bearing of North 69° 40' 36" East; thence along said continuation of said line, North 69° 40' 36" East 28.00 feet; thence South 7° 42' 43" West, 137.27 feet; thence South 68° 05' 48" West, 80.18 feet; thence South 21° 31' 49" East, 81.27 feet; thence North 68° 05' 48" East, 34.51 feet to the Southerly continuation of the herein-

before mentioned line having a bearing of South 7° 42' 43" West; thence along said last mentioned line, South 7° 42' 43" West, 253.63 feet; thence South 68° 11' 54" West, 30.07 feet; thence South 19° 00' 39" East, 183.50 feet; thence South 68° 11' 54" East, 18.10 feet; thence South 1° 45' 38" East, 43.64 feet to the true point of beginning.

EXCEPT all oil, gas and other hydrocarbon substances and all precious metals and minerals in and under the above Parcels 1 and 2 below a depth of 500 feet below the surface but without right of surface entry, as reserved by Helene M. Airey, a married woman, as her separate property, in deed recorded January 2, 1962, as Instrument No. 827, in Book D-1465, Page 632, Official Records of said County.

PARCEL 3:

THAT PORTION OF LOT 1 OF TRACT NO. 9494, IN THE COUNTY OF LOS ANGELES, STATE OF CALIFORNIA, AS PER MAP RECORDED IN BOOK 138, PAGES 41 AND 42 OF MAPS, IN THE OFFICE OF THE COUNTY RECORDER OF SAID COUNTY, described as follows:

Beginning at the intersection of the Northeasterly line of said Tract No. 9494, with the center line of Fifth Avenue, as shown on County Surveyor's Map No. B 191-4, on file in the office of the County Surveyor of said County; thence along said center line, South 59° 21' 45" West, 974.74 feet; thence North 37° 14' 13" West, 50.33

feet to a point in the Northwesterly line of said Fifth Avenue, said point being the true point of beginning; thence along said Northwesterly line of Fifth Avenue, South 59° 21' 45" West, 95.86 feet; thence North 30° 38' 15" West, 79.92 feet; thence South 78° 38' 48" West, 446.79 feet; thence South 64° 40' 38" West, 350.70 feet; thence North 1° 45' 38" West, 43.64 feet; thence North 64° 40' 38" East, 73.47 feet; thence North 21° 54' 58" East, 436.31 feet; thence North 74° 59' 24" East, 328.20 feet; thence South 87° 57' 17" East, 71.75 feet; thence South 37° 14' 13" East, 432.36 feet to the true point of beginning, together with that portion of said Fifth Avenue that would pass with a conveyance of the above described land.

EXCEPT all oil, gas and other hydrocarbon substances and all precious metals and minerals in and under all of the above referred to parcel of land, below a depth of 500 feet below the surface but without right of surface entry, as reserved by Helene M. Airey, a married woman, as her separate property, in deed recorded January 2, 1962, as Instrument No. 827, in Book D-1465, Page 632, Official Records of said County.

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PARCEL 4:

THAT PORTION OF LOT 1 OF TRACT NO. 9494, IN THE COUNTY OF LOS ANGELES, STATE OF CALIFORNIA, AS PER MAP RECORDED IN BOOK 138, PAGES 41 AND 42 OF MAPS, IN THE OFFICE OF THE COUNTY RECORDER OF SAID COUNTY, described as follows:

Beginning at the intersection of the Northeasterly line of said Tract No. 9494, with the center line of Fifth Avenue, as shown on County Surveyor's Map No. B 191-4, on file in the office of the county Surveyor of said County; thence along said center line, South 59° 21' 45" West, 974.74 feet; thence North 37° 14' 13" West, 50.33 feet to a point in the Northwesterly line of said Fifth Avenue, said point being the true point of beginning; thence along said Northwesterly line of Fifth Avenue, North 59° 21' 45" East, 110.00 feet, thence North 37° 14' 13" West, 240.00 feet; thence South 59° 21' 45" West 110.00 feet; thence North 37° 14' 13" West, 92.26 feet; thence North 5° 42' 38" East, 77.64 feet; North 87° 57' 17" West, 68.34 feet, thence South 37° 14' 13" East, 432.36 feet to the true point of beginning, together with that portion of said Fifth Avenue that would pass with a conveyance of said land.

EXCEPT all oil, gas and other hydrocarbon substances and all precious metals and minerals in and under all of the above referred to parcel of said land below a depth of 500 feet, but without right of surface entry, as reserved by Andre E. Moynier, a married man, as his

separate property, in deed recorded January 2, 1962, as Instrument No. 830, in Book D-1465, Page 636, Official Records of said County.

PARCEL 5:

THAT PORTION OF LOT 2 OF TRACT NO. 9058, AS PER MAP RECORDED IN BOOK 144, PAGES 98 TO 100 INCLUSIVE OF MAPS, IN THE OFFICE OF THE COUNTY RECORDER OF THE COUNTY OF LOS ANGELES, STATE OF CALIFORNIA, described as follows:

Beginning at the most westerly corner of said Lot 2; thence South 33° 15' 20" East, 50.00 feet along the westerly line of said Lot 2 to the North line of the Lot described in the deed to Charles H. Schimpff and Jane W. Schimpff, recorded in Book 15743, Page 18 of Official Records, in the office of the County Recorder of said County; thence North 52° 39' 25" East, 68.66 feet to the true point of beginning; thence South 84° 43' 50" East, 1104.53 feet; thence North 0° 04' 30" East, 100.00 feet to a point in said north line; said point being South 89° 55' 30" East, 1100.00 feet along said north line from the true point of beginning; thence South 89° 55' 30" East, 32.42 feet; thence South 0° 06' 48" West, 101.67 feet; thence South 82° 02' 33" West, 175.50 feet; thence North 88° 03' 44" West 252.30 feet; thence North 84° 43' 06" West 480.29 feet; thence North 78° 18' 33" West 261.75 feet; thence North 52° 39' 25" East, 35.66 feet to the true point of beginning.

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PARCEL 6:

THAT PORTION OF LOT 1 OF TRACT NO. 9494, IN THE COUNTY OF LOS ANGELES, STATE OF CALIFORNIA, AS PER MAP RECORDED IN BOOK 138, PAGES 41 AND 42 OF MAPS, IN THE OFFICE OF THE COUNTY RECORDER OF SAID COUNTY, described as follows:

Beginning at the most Northerly corner of said Tract No. 9494, being a point in the Southerly line of Walnut Drive, as shown on said map; thence along said Southerly line, South 87° 15' 13" West, 103.02 feet to the beginning of a curve in said Southerly line concave to the Southeast and having a radius of 230.00 feet; thence Southwesterly along said curve through a central angle of 41° 12' 40", an arc length of 165.43 feet; thence tangent to said curve and along the Southeasterly line of said Walnut Drive, South 46° 02' 33" West, 80.00 feet to the true point of beginning; thence leaving said Southerly line; South 26° 58' 11" East, 246.30 feet; thence South 36° 33' 09" West, 361.01 feet; thence South 52° 57' 27" West, 664.00 feet; thence South 56° 55' 15" East, 650.42 feet; thence North 42° 26' 09" East, 47.42 feet; thence North 0° 15' 17" East, 675.01 feet; thence North 35° 32' 16" East, 86.02 feet; thence South 18° 26' 06" East, 284.60 feet; thence North 83° 51' 13" East, 326.88 feet; thence South 29° 03' 48" East, 285.66 feet to the Easterly line of said Tract No. 9494; thence along said Easterly line, South 12° 26' 32" East, 270.00 feet to an angle point in said Easterly line; thence continuing along the boundary line of said Tract, South

37° 54' 25" East, 788.56 feet to the Northwesterly line of Fifth Avenue, 100 feet wide, as described in the deed to the County of Los Angeles, recorded in Book 11599, Page 391, Official Records of said County; thence along said Northwesterly line South 59° 21' 45" West, 864.14 feet to the most Easterly corner of the land described as Parcel 2 in the deed to Huntington Park First Savings and Loan Association, recorded January 2, 1962, as Instrument No. 830, in Book D1465, Page 636, Official Records of said County; thence along the boundary lines of the land described in Parcel 2 of said deed, North 37° 14' 13" West, 240.00 feet, South 59° 21' 45" West, 110.00 feet, North 37° 14' 13" West, 92.26 feet, North 5° 42' 38" East 77.64 feet and North 87° 57' 17" West, 68.34 feet to a point in the Southwesterly line of the land described as Exhibit "A" in the lease recorded December 18, 1963, as Instrument No. 4660, in Book M1413, Page 200, Official Records of said County; thence along said Southwesterly line, North 37° 14' 13" West, 564.20 feet, more or less, to an angle point in said line; thence continuing along the boundaries, described in said lease, South 52° 45' 47" West, 135.22 feet, North 46° 06' 13" West, 41.74 feet, North 3° 17' 44" East, 30.91 feet, North 51° 25' 06" East, 122.97 feet and North 37° 34' 26" West, 795.60 feet, more or less, to the Southeasterly line of said Walnut Drive, North 44° 47' 33" East, 1022.98 feet to an angle point in said Southeasterly line; thence continuing along said South-

easterly line, North 46° 02' 33" East, 211.59 feet to the true point of beginning, together with that portion of Fifth Avenue, the title to which would pass by a conveyance of the above described land.

PARCEL 7:

THAT PORTION OF LOT 1 OF TRACT NO. 9494, IN THE COUNTY OF LOS ANGELES, STATE OF CALIFORNIA, AS PER MAP RECORDED IN BOOK 138, PAGES 41 AND 42 OF MAPS, IN THE OFFICE OF THE COUNTY RECORDER OF SAID COUNTY, described as follows:

Beginning at the intersection of the Northeasterly line of said Tract, with the Northwesterly line of Fifth Avenue, 100 feet wide, as described in the deed to the County of Los Angeles, recorded in Book 11599, Page 391, Official Records of said County; thence along said Northwesterly line, South 59° 21' 45" West, 864.14 feet to the most Easterly corner of the land described as Parcel 2 in the deed to Huntington Park First Savings and Loan Association, recorded January 2, 1962, as Instrument No. 830, in Book D1465, Page 636, Official Records of said County; thence along the boundary line of the land described in Parcel 2 of said deed, North 37° 14' 13" West, 240.00 feet, South 59° 21' 45" West, 110.00 feet, North 37° 14' 13" West, 92.26 feet, North 5° 42' 38" East, 77.64 feet and North 87° 57' 17" West, 68.34 feet to a point in the Southwesterly line of the land described as Exhibit "A" in the lease recorded December 18, 1963, as Instrument No. 4660, in Book

M1413, Page 200, Official Records of said County, said point being the true point of beginning; thence along said Southwesterly line, North 37° 14' 13" West, 564.20 feet, more or less, to an angle point in said line; thence continuing along the boundaries described in said lease, South 52° 45' 47" West, 135.22 feet and North 46° 06' 13" West, 41.74 feet to the boundary line of the land described in the lease recorded December 18, 1963, as Instrument No. 4661, in Book M1413, Page 223, Official Records of said County; thence along the boundary lines of the land described in said last mentioned lease, South 3° 17' 44" West, 49.70 feet, South 24° 31' 44" West, 85.94 feet, South 61° 39' 59" West, 115.61 feet and South 6° 58' 44" West, 71.26 feet to the Northwesterly line of the land described as Parcel 5 in the deed to Huntington Park First Savings and Loan Association, recorded January 2, 1962, as Instrument No. 827, in Book M1465, Page 632, Official Records of said County; thence along the boundary lines of the land described in said last mentioned deed, North 69° 40' 36" East, 28.00 feet and South 7° 42' 43" West, 137.27 feet to the most Northerly corner of the land described as Parcel 2 in the deed to Helene M. Airey, a married woman, recorded March 15, 1962, as Instrument No. 4920, in Book D1545, Page 755, Official Records of said County; thence along the boundary lines of the land described as said Parcel 2 of said last mentioned deed, South 68° 05' 48" West, 80.18 feet, South 21° 31' 49"

East, 81.27 feet and North 68° 05' 48" East, 34.51 feet to the boundary line of the land described as said Parcel 5 in said deed recorded in Book D1465, Page 632, Official Records; thence along the boundary lines of the land described as said Parcel 5 and in Parcel 4 of said last mentioned deed, South 7° 42' 43" West, 253.63 feet, South 68° 11' 54" West, 30.07 feet, South 19° 00' 39" East, 183.50 feet, South 68° 11' 54" West, 18.10 feet, North 64° 40' 38" East, 73.47 feet, North 21° 54' 58" East, 436.31 feet, North 74° 59' 24" East, 328.20 feet and South 87° 57' 17" East, 71.75 feet to the true point of beginning.

PARCEL 8:

THAT PORTION OF LOT 1 OF TRACT 9494, IN THE COUNTY OF LOS ANGELES, STATE OF CALIFORNIA, AS PER MAP RECORDED IN BOOK 138, PAGES 41 AND 42 OF MAPS, IN THE OFFICE OF THE COUNTY RECORDER OF SAID COUNTY, described as follows:

Beginning at the intersection of the Southwesterly line of said Lot 1 with the Southeasterly line of Fifth Avenue, 100 feet wide, as described in deed recorded in Book 11599, Page 391, Official Records of said County; thence along said Southeasterly line, North 59° 21' 45" East, 1260.10 feet to the most Westerly corner of Lake Canyon Drive, as shown on the map of Tract No. 28140, recorded in Book 709, Pages 86 to 91 inclusive of Maps, in the office of the County Recorder of said County, said point being the Westerly terminus of a tangent

curve, concave Southerly and having a radius of 25.00 feet; thence along the boundary lines of said Tract No. 28140, the following courses and distances, Easterly along said tangent curve through an angle of 86° 09' 22" an arc length of 37.59 feet, tangent to said curve, South 34° 28' 53" East, 86.87 feet, South 16° 41' 57" West, 146.16 feet, South 37° 41' 38" West, 55.61 feet, South 58° 59' 41" West, 473.68 feet, South 70° 59' 39" West, 285.57 feet, South 11° 33' 37" West, 89.82 feet, South 35° 45' 42" East, 475.69 feet, North 52° 12' 14" East, 445.46 feet, North 61° 35' 26" East, 720.06 feet, South 7° 47' 05" East, 93.44 feet, South 45° 34' 52" West, 697.24 feet, South 54° 46' 06" West, 391.76 feet, South 28° 29' 10" West, 146.77 feet, South 32° 57' 39" East, 152.56 feet, South 37° 23' 55" East, 390.22 feet and South 69° 19' 57" East, 107.14 feet to the Southeasterly line of said Lot 1; thence along said Southeasterly line, South 52° 42' 29" West, 335.00 feet to the most Southerly corner of said lot; thence along the Southwesterly line of said lot, North 33° 15' 57" West, 1711.03 feet to the point of beginning together with that portion of Fifth Avenue, the title to which would pass with a conveyance of the above described land.

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PARCEL 9:

THAT PORTION OF LOT 1 OF TRACT NO. 9494, IN THE COUNTY OF LOS ANGELES, STATE OF CALIFORNIA, AS PER MAP RECORDED IN BOOK 138, PAGES 41 AND 42 OF MAPS, IN THE OFFICE OF THE COUNTY RECORDER OF SAID COUNTY, described as follows:

Beginning at the most Northerly corner of Lot 1 of Tract No. 28140, as per map recorded in Book 709, Pages 86 to 91 inclusive of Maps, in the office of the County Recorder of said County; thence along the boundary line of said Tract No. 28140, South 60° 15' 36" East, 69.02 feet to the true point of beginning; thence continuing along the boundaries of said Tract No. 28140, the following courses and distances: South 60° 15' 36" East, 109.18 feet, South 23° 34' 32" East, 60.01 feet, South 60° 03' 37" East, 182.33 feet, South 40° 36' 05" East, 202.83 feet, South 61° 59' 26" West, 106.47 feet, South 6° 08' 28" East, 158.91 feet, South 52° 31' 38" East, 437.22 feet and South 58° 22' 16" East, 556.74 feet along said boundary line and prolongation thereof to the Southeasterly line of said Tract No. 9494; thence along the Southeasterly and Northeasterly lines of said Tract No. 9494, North 53° 30' 52" East, 427.00 feet and North 37° 54' 50" West, 235.00 feet to an angle point in the Southerly line of Lot 195 of Tract No. 27141, as per map recorded in Book 765, Pages 72 to 86 inclusive of Maps, records of said County; thence along the boundary lines of said Tract No. 27141, South 34° 29' 02" East, 88.82 feet, North 48° 11' 01" West, 572.93 feet, North 17° 55'

40" East, 71.47 feet and North 86° 44' 48" East, 155.21 feet to the Northeasterly line of said Tract No. 9494; thence along said Northeasterly line, North 37° 54' 50" West, 325.00 feet; thence North 74° 12' 28" West, 200.59 feet; thence North 65° 47' 07" West, 393.93 feet; thence South 59° 21' 45" West, 348.12 feet to the true point of beginning.

PARCEL 10:

THAT PORTION OF LOT 2 OF TRACT NO. 9058, IN THE COUNTY OF LOS ANGELES, STATE OF CALIFORNIA, AS PER MAP RECORDED IN BOOK 144, PAGES 98, 99 AND 100, OF MAPS, IN THE OFFICE OF THE COUNTY RECORDER OF SAID COUNTY, described as follows:

Beginning at an angle point in the Southerly line of Lot 9 of Tract No. 27141, as per map recorded in Book 765, Pages 72 to 86 inclusive of Maps, records of said County, said point being in the Northerly line of the land described in the deed to Charles H. Schimpff, et al., recorded in Book 15743, Pages 18 and 19, Official Records of said County; thence along the Southerly line of said Tract No. 27141 and the Southerly line of Lot 81 of Tract No. 28140, as per map recorded in Book 709, Pages 86 to 91 inclusive of Maps, records of said County, North 74° 10' 16" West, 897.64 feet, more or less, to the Northwesterly line of Lot 2 of said Tract No. 9058; thence along the boundary lines of said Lot 2, South 52° 42' 29" West, 400.00 feet and South 33° 08' 52" East, 49.86 feet; thence North 52° 30' 54" East,

68.49 feet, more or less, to said Northerly line of the land described in the deed to Charles H. Schimpff, et al.; thence along said Northerly line, South 89° 53' 17" East, 1100.00 feet to the point of beginning.

PARCEL 11:

THOSE PORTIONS OF LOTS 1 AND 2 OF TRACT NO. 9058, IN THE COUNTY OF LOS ANGELES, STATE OF CALIFORNIA, AS PER MAP RECORDED IN BOOK 144, PAGES 98, 99 AND 100 OF MAPS, IN THE OFFICE OF THE COUNTY RECORDER OF SAID COUNTY, described as follows:

Beginning at the angle point in the Northeasterly line of Lot 130 of Tract No. 27141, as per map recorded in Book 765, Pages 72 to 86 inclusive of Maps, records of said County, as said point being in the Northwesterly line of Lot 2 of said Tract No. 9058; thence along the boundary lines of said Tract No. 27141, South 58° 30' 00" East, 225.00 feet, South 8° 00' 00" West, 40.00 feet, South 82° 00' 00" East, 280.00 feet, Easterly along a tangent curve, concave Northerly and having a radius of 70.00 feet through a central angle of 40° 15' 56" an arc length of 49.19 feet, non-tangent North 8° 00' 00" West, 392.75 feet, North 30° 30' 00" East, 30.00 feet, North 59° 30' 00" West, 110.00 feet and North 48° 55' 31" West, 235.60 feet to the Southwesterly line of Lot 1 of said Tract No. 9058; thence along the Southwesterly line of said Lot 1 and the Northwesterly line of Lot 2 of said Tract No. 9058, South 37° 54' 50" East,

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235.00 feet and South 53° 30' 52" West, 427.00 feet to the point of beginning.

PARCEL 12:

THAT PORTION OF LOT 1 OF TRACT NO. 9058, IN THE COUNTY OF LOS ANGELES, STATE OF CALIFORNIA, AS PER MAP RECORDED IN BOOK 144, PAGES 98, 99 AND 100, OF MAPS, IN THE OFFICE OF THE COUNTY RECORDER OF SAID COUNTY, described as follows:

Beginning at the intersection of the Southwesterly line of said Lot 1 with the Northerly line of Lot 201 of Tract No. 27141, as per map recorded in Book 765, Pages 72 to 86 inclusive of Maps, records of said County; thence along the boundary lines of said Tract No. 27141, North 85° 15' 09" East, 370.64 feet to the Westerly line of Walnut Leaf Drive, as shown on the map of said Tract No. 27141; thence along said Westerly line, North 24° 49' 59" West, 110.00 feet; thence South 65° 10' 01" West, 25.00 feet; thence North 74° 44' 58" West 518.57 feet to said Southwesterly line of Lot 1; thence along said Southwesterly line, South 37° 54' 50" East, 325.00 feet to the point of said beginning.

PARCEL 13:

THOSE PORTIONS OF LOTS 1 AND 2 OF TRACT NO. 9058, IN THE COUNTY OF LOS ANGELES, STATE OF CALIFORNIA, AS PER MAP RECORDED IN BOOK 144, PAGES 98, 99 AND 100, OF MAPS, IN THE OFFICE OF THE COUNTY RECORDER OF SAID COUNTY, described as follows:

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Beginning at the most Northerly corner of Lot 226 of Tract No. 27141, as per map recorded in Book 765, Pages 72 to 86 inclusive of Maps, records of said County; thence along the boundary lines of said Tract No. 27141, the following courses and distances: South 40° 30' 00" West, 230.00 feet, South 29° 15' 00" East, 370.00 feet, South 39° 30' 00" West, 180.00 feet, South 21° 30' 00" East, 115.00 feet, South 59° 45' 00" West, 93.00 feet, North 40° 00' 00" West, 735.00 feet, South 76° 15' 00" West, 55.00 feet, South 1° 00' 00" East, 338.00 feet, South 85° 13' 28" West, 170.71 feet, North 24° 49' 59" West, 182.22 feet to a tangent curve, concave Southwesterly and having a radius of 230.00 feet and Northwesterly along said curve through a central angle of 18° 30' 00", an arc distance of 74.26 feet; thence North 49° 36' 00" East, 41.28 feet; thence North 3° 30' 13" West, 245.45 feet; thence North 20° 48' 07" West, 630.43 feet to a point in the Southeasterly line of Fifth Avenue, 100 feet wide, said point being a curve, concave Northwesterly and having a radius of 1050.00 feet, the radial line to said point bears South 50° 24' 51" East; thence Northeasterly along said curve through a central angle of 16° 54' 54", an arc distance of 309.98 feet; thence tangent to said curve and continuing along said Southeasterly line, North 22° 40' 15" East, 79.41 feet, more or less, to the Northeasterly line of Lot 1 of said Tract No. 9058; thence along said Northeasterly line, South 48° 38' 15" East, 1260.00 feet to the point of

beginning, together with that portion of Fifth Avenue that would pass by a conveyance of the above described land.

PARCEL 14:

THAT PORTION OF LOT 1 OF TRACT NO. 9058, IN THE COUNTY OF LOS ANGELES, STATE OF CALIFORNIA, AS PER MAP RECORDED IN BOOK 144, PAGES 98, 99 AND 100, OF MAPS, IN THE OFFICE OF THE COUNTY RECORDER OF SAID COUNTY, described as follows:

Beginning at the intersection of the Northwesterly line of Fifth Avenue, 100 feet wide, as described in the deed recorded in Book 11537, Page 397, Official Records of said County with the Northeasterly line of said Lot 1; thence along said Northwesterly line, South 22° 40' 15" West, 113.23 feet to the beginning of a tangent curve in said Northwesterly line, concave Northwesterly and having a radius of 950.00 feet; thence Southwesterly along said curve, through a central angle of 5° 25' 41", an arc distance of 90.00 feet; thence non-tangent to said curve, North 57° 12' 38" West, 344.21 feet; thence North 65° 00' 00" West, 105.00 feet; thence North 87° 00' 00" West, 120.00 feet; thence South 86° 00' 00" West, 380.00 feet; thence South 25° 00' 00" West, 105.04 feet to a point in a non-tangent curve, concave Northeasterly and having a radius of 170.00 feet, the radial line to said point bears South 28° 14' 03" West; thence Northwesterly along said curve through a central angle of 31° 15' 57", an arc distance of 92.77 feet; thence

tangent to said curve, North 30° 30' 00" West, 69.00 feet; thence North 62° 30' 06" East, 744.86 feet to the Northeasterly line of Lot 1 of said Tract No. 9058; thence along said Northeasterly line, South 48° 38' 52" East, 454.80 feet and South 48° 38' 02" East, 145.22 feet to the point of beginning, together with that portion of said Fifth Avenue, that would pass by a conveyance of the above described land.

PARCEL 15:

THAT PORTION OF LOT 1 OF TRACT NO. 9058, IN THE COUNTY OF LOS ANGELES, STATE OF CALIFORNIA, AS PER MAP RECORDED IN BOOK 144, PAGES 98, 99 AND 100, OF MAPS, IN THE OFFICE OF THE COUNTY RECORDER OF SAID COUNTY, described as follows:

Beginning at the intersection of the Northwesterly line of Fifth Avenue, 100 feet wide, as described in the deed recorded in Book 11537, Page 397, Official Records of said County, with the Southwesterly line of said Lot 1; thence along said Southwesterly line, North 37° 54' 25" West, 788.56 feet and North 12° 26' 32" West, 270.00 feet; thence South 30° 49' 45" East, 329.79 feet; thence North 46° 30' 00" East, 126.00 feet to a point in a non-tangent curve, concave Northeasterly and having a radius of 230.00 feet, the radial line to said point bears South 44° 00' 00" West; thence Southeasterly along said curve through a central angle of 33° 00' 00", an arc distance of 132.47 feet; thence non-tangent to said curve, South 20° 43' 14" East, 635.50 feet to said

Northwesterly line of Fifth Avenue; thence along said Northwesterly line, South 59° 21' 45" West, 68.00 feet to the point of beginning, together with that portion of said Fifth Avenue, that would pass by a conveyance of the above described land.

PARCEL 16:

AN EASEMENT FOR INGRESS AND EGRESS TO BE USED IN COMMON WITH OTHERS, FOR THE PURPOSE OF PERMITTING CONSTRUCTION OF A GOLF COURSE AND TO PERMIT FREE ACCESS FROM ONE PORTION OF THE PROPOSED GOLF COURSE TO ANOTHER BEFORE, DURING AND AFTER CONSTRUCTION OF SAID GOLF COURSE, OVER THAT PORTION OF LOT 1 OF TRACT NO. 9058, AS SHOWN ON MAP RECORDED IN BOOK 144, PAGES 98 AND 99 OF MAPS, IN THE OFFICE OF THE COUNTY RECORDER OF SAID COUNTY, described as follows:

Beginning at a point in the Westerly line of said Lot 1, said point being South 12° 26' 40" East, a distance of 1389.40 feet along said Westerly line from the Southerly line of Walnut Drive; thence North 12° 26' 40" West, 270.00 feet; thence South 30° 50' 58" East, 329.79 feet; thence North 46° 30' 00" East, 126.00 feet to a point in a non-tangent curve of radius 230.00 feet concave to the Northeast, said point having a radial line which bears North 44° 00' 00" East, said last mentioned point being the true point of beginning; thence North 44° 00' 00" East, 60.00 feet along said radial line to a point in a curve of radius 170.00 feet, said curve being parallel to the said curve of radius, 230.00 feet; thence in a

Southeasterly direction along said 170.00 foot radius curve, a distance of 29.57 feet through a central angle of 9° 57' 53"; thence South 34° 02' 07" West, 60.00 feet along a radial line to a point in said 230 foot radius curve; thence in a Northwesterly direction along said last mentioned curve; 40.00 feet through a central angle of 9° 57' 53" to the true point of beginning.

PARCEL 17:

AN EASEMENT FOR INGRESS AND EGRESS, TO BE USED IN COMMON WITH OTHERS, FOR THE PURPOSE OF PERMITTING CONSTRUCTION OF A GOLF COURSE AND TO PERMIT FREE ACCESS FROM ONE PORTION OF THE PROPOSED GOLF COURSE TO ANOTHER BEFORE, DURING AND AFTER CONSTRUCTION OF SAID GOLF COURSE, OVER THAT PORTION OF LOT 1 OF TRACT NO. 9058, AS SHOWN ON MAP RECORDED IN BOOK 144, PAGE 98 OF MAPS, IN THE OFFICE OF THE COUNTY RECORDER OF SAID COUNTY, described as follows:

Beginning at the most Southerly corner of said Lot 1; thence North 37° 54' 50" West, 1048.00 feet along the Southwesterly line of said Lot 1; thence South 74° 44' 58" East, 518.57 feet; thence North 65° 10' 01" East, 25 feet; thence South 24° 49' 59" East, 110.00 feet to the true point of beginning; thence North 85° 13' 28" East, 63.87 feet; thence North 24° 49' 59" West, to a line parallel with that course described above as having a length of 63.87 feet and distant 50 feet Northerly therefrom, measured at right angles; thence South 85° 13' 28" West, to a line that bears North 24° 49' 50"

West, from the true point of beginning; thence South 24° 49' 59" East, to the true point of beginning.

PARCEL 18:

THAT PORTION OF LOT 2 OF TRACT NO. 9058 IN THE COUNTY OF LOS ANGELES, STATE OF CALIFORNIA, AS PER MAP RECORDED IN BOOK 144, PAGES 98, 99 AND 100, OF MAPS, IN THE OFFICE OF THE COUNTY RECORDER OF SAID COUNTY, described as follows:

Beginning at an angle point in the Southerly line of Lot 9 of Tract No. 27141, as per map recorded in Book 765, Pages 72 to 86 inclusive of Maps, records of said County, said point being in the Northerly line of the land described in the deed to Charles H. Schimpff, et al., recorded in Book 15743, Pages 18 and 19, Official Records of said County; thence along said Northerly line, North 89° 53' 17" West, 1100.00 feet to an angle point in the boundary lines of the land described in said deed; thence South 84° 41' 37" East, 1104.54 feet to a line which bears South 0° 06' 43" West from the point of beginning; thence North 0° 06' 43" East, 100.00 feet to the point of beginning.

PARCEL 19:

AN EASEMENT FOR INGRESS, EGRESS AND INCIDENTAL PURPOSES OVER THOSE PORTIONS OF LOTS 48 AND 131 OF TRACT NO. 28140, IN THE COUNTY OF LOS ANGELES, STATE OF CALIFORNIA, AS PER MAP RECORDED IN BOOK 709, PAGES 86 TO 91 INCLUSIVE OF MAPS, IN THE OFFICE OF THE COUNTY RECORDER OF SAID COUNTY, described as follows:

Beginning at the most Southerly corner of said Lot 48, being also the most Northerly corner of Lot 49 of said Tract; thence South 25° 23' 45" West, 109.59 feet to the most Northerly corner of Lot 129 of said Tract, being a point in the Westerly line of said Lot 131; thence along said Westerly line North 7° 47' 05" West, 93.44 feet to the most Easterly corner of Lot 34 of said Tract; thence North 25° 23' 45" East, 107.10 feet to a point in the Easterly line of said Lot 131, said Easterly line being a curve concave Southwesterly and having a radius of 330.00 feet, the radial line to said point bears North 76° 59' 57" East; thence Northerly along said curve, through a central angle of 10° 48' 27" an arc distance of 62.25 feet to the Southwesterly prolongation of that certain line in the boundary of said Lot 48 having a bearing and length of North 61° 59' 26" East, 106.47 feet; thence along said prolonged line North 61° 59' 26" East, 18.52 feet to an angle point in the boundary line of said Lot 48; thence along the Easterly line of said Lot 48, South 6° 08' 28" East, 158.91 feet to the point of beginning.

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PARCEL 20:

THAT PORTION OF THE 33.05 ACRE ALLOTMENT TO JESUS YBARRA IN THE RANCHO RINCON DE LA BREA, IN THE COUNTY OF LOS ANGELES, STATE OF CALIFORNIA, AS SHOWN ON THE PARTITION MAP FILED WITH THE REPORT OF THE REFEREES IN CASE NO. 2168 OF THE DISTRICT COURT OF THE 17th JUDICIAL DISTRICT OF SAID COUNTY AND STATE, described as follows:

Beginning at a point in the Northerly line of said 33.05 acre allotment, distant thereon South 74° 45' 25" West, 85.21 feet from the most Northerly corner of said 33.05 acre allotment, said most Northerly corner being a point in the Southwesterly line of Tract No. 5979, as shown on map recorded in Book 88, Pages 52 and 53 of maps, records of said County, said point being the Northeasterly corner of the land designated as Lot 5, Parcel "A" on Partition Map in Case No. 72721, New Probate of the Superior Court of said County; thence along said Northerly line, North 74° 45' 25" East, 85.21 feet to said most Northerly corner; thence along said Southwesterly line, South 35° 23' 35" East, 440.40 feet to a point in the Northerly line of a railroad right of way, as shown on map recorded in Book 150, Page 86 of Deeds, records of said County, said last mentioned point being the Southeasterly corner of said Lot 5, Parcel "A"; thence Westerly along the Northerly line of said right of way, on a curve, concave to the North having a radius of 2814.90 feet to the intersection with a line that bears South 35° 23' 35" East, and which passes through

the point of beginning of this description; thence North 35° 23' 35" West to the point of beginning.

PARCEL 21:

THAT PORTION OF LOT 1, OF TRACT NO. 9494, IN THE COUNTY OF LOS ANGELES, STATE OF CALIFORNIA, AS SHOWN ON MAP RECORDED IN BOOK 138, PAGES 41 AND 42 OF MAPS, IN THE OFFICE OF THE COUNTY RECORDER OF SAID COUNTY, described as follows:

Commencing at the intersection of the centerline of Walnut Drive and the Southerly prolongation of the centerline of Water Street, as said intersection is shown on said map; thence North 57° 41' 30" East along said centerline of Walnut Drive, a distance of 25.00 feet; thence South 32° 18' 30" East, 20.00 feet to the true point of beginning, said true point of beginning being a point in the Southeasterly line of said Walnut Drive; thence South 40° 22' 19" East, 385.02 feet; thence South 56° 32' 25" East, 209.39 feet; thence South 46° 06' 13" East, 259.08 feet; thence North 3° 17' 44" East, 30.91 feet; thence North 51° 25' 06" East, 122.97 feet; thence North 37° 34' 26" West, 790.70 feet to a point in said Southeasterly line of Walnut Drive; thence South 44° 36' 30" West, 9.69 feet; thence South 57° 41' 30" West, 259.94 feet along said Southeasterly line to the true point of beginning.

EXCEPT that portion of the above described parcel, described as follows:

Commencing at said intersection of the centerline of said Walnut Drive and the Southerly prolongation of said centerline of Water Street; thence North 57° 41' 30" East, along said centerline of Walnut Drive, 101.70 feet; thence South 26° 01' 15" East, 20.12 feet to a point in the Northwesterly line of said Lot No. 1, said last mentioned point being the true point of beginning; thence South 26° 01' 15" East, 57.73 feet; thence South 64° 18' 45" West, 26.30 feet; thence North 26° 01' 15" West, 18.20 feet; thence North 64° 18' 45" East, 16.30 feet; thence North 26° 01' 15" West, 38.43 feet, more or less, to said Northwesterly line of said Lot No. 1: thence North 57° 41' 30" East, 10.06 feet to the true point of beginning.

ALSO EXCEPT that portion described as follows:

That portion of Lot 1, Tract 9494, as per map recorded in Book 138, Pages 41 and 42 of Maps, records of Los Angeles County, California, described as follows: Beginning at the intersection of Walnut Drive, 40 feet wide, and the Southerly prolongation of the centerline of Water Street, as said intersection is shown on said map; thence North 57° 41' 30" East along said centerline of Walnut Drive, 25 feet; thence South 32° 18' 30" East, 20 feet to the Southeasterly line of Walnut Drive; thence South 40° 22' 19" East, 385.02 feet; thence South 56° 32' 25" East, 209.39 feet; thence South 46° 06' 13"

East, 20.59 feet to the true point of beginning; thence North 53° 36' 06" East, 75.29 feet; thence South 79° 50' 53" East, 51.46 feet; thence North 60° 59' 22" East, 69.43 feet; thence South 37° 34' 26" East, 160.36 feet; thence South 51° 25' 06" West, 122.97 feet; thence South 03° 17' 44" West, 30.91 feet; thence North 46° 06' 13" West, 238.49 feet; to the true point of beginning.

EXCEPT therefrom all oil, gas and other hydrocarbon substances and all precious minerals and metals below the depth of 500 feet below the surface of the demised premises, provided further, however, that there shall be no right of surface entry for the purpose of taking any of said reserved substances, as reserved in deed recorded Dec. 23, 1976 as Instrument No. 1973, Official Records.

PARCEL 22:

THAT PORTION OF LOT 1 OF TRACT NO. 9494, IN THE COUNTY OF LOS ANGELES, STATE OF CALIFORNIA, AS SHOWN ON MAP RECORDED IN BOOK 138, PAGES 41 AND 42 OF MAPS, IN THE OFFICE OF THE COUNTY RECORDER OF SAID COUNTY, described as follows:

Commencing at said intersection of the centerline of said Walnut Drive and the Southerly prolongation of said centerline of Water Street; thence North 57° 41' 30" East, along said centerline of Walnut Drive, 101.70 feet; thence South 26° 01' 15" East, 20.12 feet to a point in the Northwesterly line of said Lot No. 1, said

last mentioned point being the true point of beginning; thence South 26° 01' 15" East, 57.73 feet; thence South 64° 18' 45" West, 26.30 feet; thence North 26° 01' 15" West, 18.20 feet; thence North 64° 18' 45" East, 16.30 feet; thence North 26° 01' 15" West, 38.43 feet, more or less, to said Northwesterly line of said Lot No. 1; thence North 57° 41' 30" East, 10.06 feet to the true point of beginning.

EXCEPT therefrom all oil, gas and other hydrocarbon substances and all precious minerals and metals below the depth of 500 feet below the surface of the demised premises, provided further, however, that there shall be no right of surface entry for the purpose of taking any of said reserved substances, as reserved in deed recorded Dec. 23, 1976 as Instrument No. 1973, Official Records.

PARCEL 23:

THAT PORTION OF LOT 1, TRACT 9494, IN THE COUNTY OF LOS ANGELES, STATE OF CALIFORNIA, AS PER MAP RECORDED IN BOOK 138, PAGES 41 AND 42 OF MAPS, RECORDS OF LOS ANGELES COUNTY, CALIFORNIA, described as follows:

Beginning at the intersection of Walnut Drive, 40 feet wide, and the Southerly prolongation of the centerline of Water Street, as said intersection is shown on said map; thence North 57° 41' 30" East along said centerline of Walnut Drive, 25 feet; thence South 32° 18' 30" East,

20 feet to the Southeasterly line of Walnut Drive; thence South 40° 22' 19" East, 385.02 feet; thence South 56° 32' 25" East, 209.39 feet; thence South 46° 06' 13" East, 20.59 feet to the true point of beginning; thence North 53° 36' 06" East, 75.29 feet; thence South 79° 50' 53" East, 51.46 feet; thence North 60° 59' 22" East, 69.43 feet; thence South 37° 34' 26" East, 160.36 feet; thence South 51° 25' 06" West, 122.97 feet; thence South 03° 17' 44" West, 30.91 feet; thence North 46° 06' 13" West, 238.49 feet; to the true point of beginning.

EXCEPT therefrom all oil, gas and other hydrocarbon substances and all precious minerals and metals below the depth of 500 feet below the surface of the demised premises, provided further, however, that there shall be no right of surface entry for the purpose of taking any of said reserved substances, as reserved in deed recorded Dec. 23, 1976 as Instrument No. 1973, Official Records.

PARCEL 24:

THAT PORTION OF LOT 1 OF TRACT 9494, IN THE COUNTY OF LOS ANGELES, STATE OF CALIFORNIA, AS PER MAP RECORDED IN BOOK 138, PAGE 42 OF MAPS, described as follows:

Beginning at the most Easterly corner of said Tract 9494; thence North 37° 54' 50" West, 1580.75 feet along the Northeasterly line of said Tract 9494; to an intersection with the Southeasterly line of 5th Avenue as

shown on County Surveyor's Map No. B 191-4 on file in the office of the Surveyor thence South 59° 21' 45" West, 580.00 feet along said Southeasterly line of 5th Avenue to the true point of beginning; thence continuing South 59° 21' 45" West, 100 feet along said Southeasterly line of 5th Avenue thence South 60° 15' 36" East, 69.02 feet; thence North 59° 21' 45" East, 100.00 feet parallel to said 5th Avenue; thence North 60° 15' 36" West, 69.02 feet to the true point of beginning.

EXCEPT all oil, gas and other hydrocarbon substances and all precious metals and minerals in and under said parcel of land below a depth of 500 feet below the surface, but without right of surface entry, as reserved by Helene M. Airey, a married woman, as her separate property, in deed recorded January 2, 1962 in Book D1465, Page 632, Official Records.

PARCEL 25:

THAT PORTION OF LOT 1, OF TRACT NO. 9494 AS SHOWN ON MAP RECORDED IN BOOK 138, PAGES 41 AND 42 OF MAPS, IN THE OFFICE OF THE RECORDER OF THE COUNTY OF LOS ANGELES, STATE OF CALIFORNIA, described as follows:

Beginning at the most southerly corner of said Lot 1, thence north 33°15'20" west 2,839.91 feet along the southwesterly line of said Lot 1 to its most westerly corner, thence north 0°15'25" west 949.07 feet to a point in the southerly line of Walnut Drive as shown on

said Map of Tract No. 9494, thence south 79°33'18" east 8.19 feet along said southerly line, thence south 57°52'07" west 277.33 feet along the southeasterly line of said Walnut Drive, thence south 40°03'53" east 130.63 feet, thence south 14°54'34" east 102.96 feet, thence south 0°29'27" east 176.27 feet, thence south 15°00'40" west 222.92 feet, thence south 10°18'50" east 203.61 feet, thence south 25°58'50" east 61.94 feet, thence north 88°28'51" east 112.29 feet, thence south 53°22'09" east 54.63 feet, thence south 61°31'19" east 31.66 feet, thence south 69°40'36" west 51.48 feet, thence south 19°00'39" east 629.32 feet, thence south 68°11'14" east 53.85 feet, thence north 64°40'38" east 350.70 feet, thence north 78°38'48" east 446.79 feet, thence south 30°38'15" east 79.92 feet to a point in the northwesterly line of 5th Avenue as shown on County Surveyor's Map No. B-191-4, on file in the office of the Surveyor of said County, said last mentioned point being south 59°21'45" west 1,070.00 feet along said northwesterly line from the intersection of the easterly line of said Lot 1, with said northwesterly line of 5th Avenue, thence north 59°21'45" east 95.86 feet along said northwesterly line, thence north 37°14'13" west 432.36 feet, thence north 87°57'17" west 71.75 feet, thence south 74°59'24" west 328.20 feet, thence south 21°54'58" west 436.31 feet, thence south 64°40'38" west 73.47 feet, thence north 68°11'14" west 18.10 feet, thence north 19°00'39" west 183.50 feet, thence north 68°11'54" east

30.07 feet, thence north 7°42'43" east 253.63 feet, thence south 68°05'48" west 34.51 feet, thence north 21°31'49" west 81.27 feet, thence north 68°05'48" east 80.18 feet, thence north 7°42'43" east 137.27 feet, thence south 69°40'36" west 28.00 feet, thence north 6°58'44" east 71.26 feet, thence north 61°39'59" east 115.61 feet, thence north 24°31'44" east 85.94 feet, thence north 3°17'44" east 49.70 feet, thence south 46°06'13" east 41.74 feet, thence north 52°45'47" east 135.22 feet, thence south 37°14'13" east 1,002.90 feet to a point in said northwesterly line of 5th Avenue, thence south 37°54'50" east 100.81 feet to a point in the southeasterly line of said 5th Avenue, thence north 59°21'45" east 294.14 feet along said last mentioned southeasterly line, thence south 60°15'36" east 69.02 feet, thence north 59°21'45" east 348.12 feet, thence south 65°47'07" east 393.93 feet, thence south 74°10'26" east 200.86 feet to a point in said easterly line of Lot 1, thence south 37°54'50" east 325.00 feet along said easterly line, thence south 86°44'48" west 155.21 feet, thence south 17°55'40" west 71.47 feet, thence south 48°11'01" east 572.93 feet, thence north 34°28'38" east 88.82 feet to a point in said easterly line of Lot 1, said point being north 37°54'50" west 235.00 feet from the most easterly corner of said Lot 1, thence south 37°54'50" east 235.00 feet along said easterly line to said most easterly corner, thence south 53°30'00" west 427.00 feet along the southeasterly line of said Lot 1,

thence north 58°22'28" west 557.19 feet, thence north 52°31'38" west 437.22 feet, thence north 6°08'28" west 158.91 feet, thence north 61°59'26" east 106.47 feet, thence north 40°36'05" west 202.83 feet, thence north 60°03'37" west 182.33 feet, thence north 23°34'32" west 60.01 feet, thence north 60°15'36" west 178.20 feet to a point in said southeasterly line of 5th Avenue, thence south 59°21'45" west 260.00 feet along said last mentioned southeasterly line, thence south 34°28'55" east 110.27 feet, thence south 16°41'57" west 146.16 feet, thence south 37°41'38" west 55.61 feet, thence south 58°59'41" west 473.68 feet, thence south 70°59'39" west 285.57 feet, thence south 11°33'37" west 89.82 feet, thence south 35°45'42" east 475.69 feet, thence north 52°12'14" east 445.46 feet, thence north 61°35'26" east 720.06 feet, thence south 7°47'05" east 93.44 feet, thence south 45°34'52" west 697.24 feet, thence south 54°46'06" west 391.76 feet, thence south 28°29'10" west 146.77 feet, thence south 32°57'39" east 152.56 feet, thence south 37°23'55" east 390.22 feet, thence south 68°51'43" east 107.57 feet, to a point in said southeasterly line of Lot 1, said point being north 52°39'25" east 335.00 feet, along said last mentioned southeasterly line from the point of beginning, thence south 52°39'25" west 335.00 feet to the point of beginning.

EXCEPTING therefrom that portion of said 5th Avenue as shown on said C.S.B. 191-4.

(SAID PARCEL CONTAINS 68.26 ACRES)

PARCEL 26:

THAT PORTION OF THE 33.05 ACRE ALLOTMENT TO JESUS YBARRA, IN THE RANCHO RINCON DE LA BREA IN THE COUNTY OF LOS ANGELES, STATE OF CALIFORNIA, AS SHOWN ON THE PARTITION MAP FILED WITH THE REPORT OF THE REFEREES IN CASE NO. 2168 OF THE DISTRICT COURT OF THE 17TH JUDICIAL DISTRICT IN SAID COUNTY AND STATE, described as follows:

Beginning at a point in the northerly line of said 33.05 acre allotment distant thereon north 74°17'10" east 438.00 feet and north 74°45'25" east 216.00 feet from the most westerly corner of said allotment, said point being the northwesterly corner of the land designated as Lot 5, Parcel "A" on partition map in Case No. 72721 New Probate of the Superior Court; thence continuing along said northerly line north 74°45'25" east 186.60 feet to the most northerly corner of said 33.05 acre allotment, common to a point in the southwesterly line of Tract No. 5579 as shown on map recorded in Book 88 Pages 52 and 53 of Maps, records of said County, said point being the northeast corner of said Lot 5 Parcel "A"; thence south 35°23'35" east along said southwesterly line 440.49 feet, to a point in the northwesterly line of a railroad right of way as shown on map recorded in Book 150 page 86 of Deeds, records of said County, said point being the southeasterly corner of said Lot 5 Parcel "A"; thence westerly along the northerly line of said right of way on a curve concave to the north having a radius of 2,814.90 feet, a distance of 156.09 feet to the end

of said curve; thence tangent to said curve south 86°56'20" west, along the northerly line of said right of way, 305.58 feet to the southwesterly corner of the land designated Lot 4 Parcel "A" on said map in Case No. 72721; thence south 86°56'20" west along the northerly line of the 100 foot right of way of the San Pedro, Los Angeles, and Salt Lake Railroad Company, as described in deed recorded in Book 1505 Page 84 of Deeds, records of said County, 554.07 feet to the easterly line of Water Street in the westerly line of said 33.05 acre allotment; thence north 15°37'50" west along said westerly line to a line parallel with and distant northerly 16.50 feet measured at right angles from the northerly lines of said railroad right of ways; thence along said parallel line north 86°56'20" east to the westerly line of said Lot 5 Parcel "A"; thence along said westerly line north 15°37'50" west to the point of beginning.

PARCEL 27:

THAT PORTION OF LOT 1, OF TRACT NO. 9494, AS SHOWN ON MAP RECORDED IN BOOK 138, PAGES 41 AND 42 OF MAPS, IN THE OFFICE OF THE COUNTY RECORDER OF THE COUNTY OF LOS ANGELES, STATE OF CALIFORNIA, described as follows:

Commencing at the intersection of the center line of Walnut Drive and the southerly prolongation of the center line of Water Street, as said intersection is shown on said Map; thence north 57°41'30" east along said center-line of Walnut Drive a distance of 25.00

feet; thence south 32°18'30" east 20.00 feet to the true point of beginning, said true point of beginning being a point in the southeasterly line of said Walnut Drive; thence south 57°41'30" west 42.00 feet along said southeasterly line; thence south 40°03'53" east 130.63 feet, thence south 14°54'34" east 102.96 feet, thence south 0°29'27" east 176.26 feet, thence south 15°00'40" west 222.92 feet, thence south 10°18'50" east 203.61 feet, thence south 25°58'50" east 61.94 feet, thence north 88°28'51" east 112.28 feet, thence south 53°22'09" east 54.63 feet, thence south 61°31'19" east 31.66 feet, to the beginning of a non-tangent curve having a radius of 177.00 feet and being concave to the northeast, said curve having a radial line which bears north 24°28'28" east, thence southeasterly along said curve a distance of 76.61 feet through a central angle of 24°47'52" to a curve compound to said last mentioned curve, said compound curve having a radius of 257.00 feet and being concave to the northwest, said point of compound curve having a radial line which bears north 0°19'24" west; thence northeasterly along said last mentioned curve a distance of 60.55 feet through a central angle of 13°30'00" to a curve compound to said last mentioned curve, said compound curve having a radius of 64.00 feet and being concave to the northwest, said point of compound curve having a radial line which bears north 13°49'24" west; thence northeasterly along said last mentioned curve a distance of 42.45 feet through a

central angle of 38°00'00" to a curve compound to said last mentioned curve, said compound curve having a radius of 132.00 feet and being concave to the northwest, said point of compound curve having a radial line which bears north 51°49'24" west; thence northeasterly along said last mentioned curve a distance of 64.51 feet through a central angle of 28°00'00" to a point in a line, said line being not tangent to said last mentioned curve, said point having a radial line which bears north 79°49'24" west, thence north 6°58'44" east 71.26 feet, thence north 61°39'59" east 115.61 feet; thence north 24°31'44" east 85.94 feet; thence north 3°17'44" east 49.70 feet, thence north 46°06'13" west 259.08 feet; thence north 56°32'25" west 209.39 feet; thence north 40°22'19" west 385.02 feet to the true point of beginning.

(SAID PARCEL CONTAINS 6.626 ACRES)

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Exhibit H

Edmund F. Airey and Helene M. Airey Property

PARCEL 1:

THAT PORTION OF LOT 1, OF TRACT NO. 9494, AS SHOWN ON MAP RECORDED IN BOOK 138, PAGES 41 AND 42 OF MAPS, IN THE OFFICE OF THE COUNTY RECORDER OF THE COUNTY OF LOS ANGELES, STATE OF CALIFORNIA, described as follows:

Commencing at the intersection of the center line of Walnut Drive and the southerly prolongation of the center line of Water Street, as said intersection is shown on said Map; thence north 57°41'30" east along said center-line of Walnut Drive a distance of 25.00 feet; thence south 32°18'30" east 20.00 feet to the true point of beginning, said true point of beginning being a point in the southeasterly line of said Walnut Drive; thence south 57°41'30" west 42.00 feet along said southeasterly line; thence south 40°03'53" east 130.63 feet, thence south 14°54'34" east 102.96 feet, thence south 0°29'27" east 176.26 feet, thence south 15°00'40" west 222.92 feet, thence south 10°18'50" east 203.61 feet, thence south 25°58'50" east 61.94 feet, thence north 88°28'51" east 112.28 feet, thence south 53°22'09" east 54.63 feet, thence south 61°31'19" east 31.66 feet, to the beginning of a non-tangent curve having a radius of 177.00 feet and being concave to the northeast, said curve having a radial line which bears north 24°28'28" east, thence southeasterly along said curve a distance

of 76.61 feet through a central angle of 24°47'52" to a curve compound to said last mentioned curve, said compound curve having a radius of 257.00 feet and being concave to the northwest, said point of compound curve having a radial line which bears north 0°19'24" west; thence northeasterly along said last mentioned curve a distance of 60.55 feet through a central angle of 13°30'00" to a curve compound to said last mentioned curve, said compound curve having a radius of 64.00 feet and being concave to the northwest, said point of compound curve having a radial line which bears north 13°49'24" west; thence northeasterly along said last mentioned curve a distance of 42.45 feet through a central angle of 38°00'00" to a curve compound to said last mentioned curve, said compound curve having a radius of 132.00 feet and being concave to the northwest, said point of compound curve having a radial line which bears north 51°49'24" west; thence northeasterly along said last mentioned curve a distance of 64.51 feet through a central angle of 28°00'00" to a point in a line, said line being not tangent to said last mentioned curve, said point having a radial line which bears north 79°49'24" west, thence north 6°58'44" east 71.26 feet, thence north 61°39'59" east 115.61 feet; thence north 24°31'44" east 85.94 feet; thence north 3°17'44" east 49.70 feet, thence north 46°06'13" west 259.08 feet; thence north 56°32'25" west 209.39 feet; thence north

/ / /

40°22'19" west 385.02 feet to the true point of beginning.

(SAID PARCEL CONTAINS 6.626 ACRES)

PARCEL 2:

THAT PORTION OF LOT 1 OF TRACT NO. 9494, AS PER MAP RECORDED IN BOOK 138, PAGES 41 AND 42 OF MAPS, IN THE OFFICE OF THE COUNTY RECORDER OF THE COUNTY OF LOS ANGELES, STATE OF CALIFORNIA, described as follows:

Commencing at the intersection of the center line of Walnut Drive and the southerly prolongation of the center line of Water Street, as said intersection is shown on said map; thence north 57°52'17" east, along said center line of Walnut Drive, 101.70 feet; thence south 25°50'28" east 20.12 feet to a point in the northwesterly line of said Lot 1, said last mentioned point being the true point of beginning; thence south 25°50'28" east 57.73 feet; thence south 64°29'32" west 26.30 feet; thence north 25°50'28" west 18.20 feet; thence north 64°29'32" east 16.30 feet; thence north 25°50'28" west 38.43 feet, more or less, to the northwesterly line of said Lot 1; thence north 57°52'17" east 10.06 feet to the true point of beginning.

Dated: MAY 30 1986

Judge of the Superior Court

APPENDIX F

Ordinance No. 0-9-2010
Establishing Mandatory Recycled Water Connection Policy

ORDINANCE NO. 0-9-2010
ROWLAND WATER DISTRICT

SUPERSEDES ORDINANCE NO. 0-7-2005
VACATES ORDINANCE 0-8-2010
ESTABLISHING MANDATORY RECYCLED WATER CONNECTION POLICY

WHEREAS, in order to conserve potable water supplies of the District for uses requiring potable water, in February 2001, the Board of Directors established a Mandatory Recycled Water Connection Policy, and adopted rules and regulations, requiring District customers to connect to the District's recycled water system and use recycled water for irrigation and other appropriate purposes where the connection and use of recycled water could be done at a reasonable cost to the customer; and,

WHEREAS, since the Mandatory Recycled Water Connection Policy and Rules and Regulations Governing Recycled Water Service were revised in July 2005, additional revisions have become necessary due to changes in State law and the regulatory agencies with jurisdiction over recycled water use, and in order to improve the District's procedures and administration of the recycled water program; and,

WHEREAS, the Amended Urban Water Management Plan adopted by the Board of Directors on September 11, 2007, includes the District's plans for expansion of the recycled water system as a means of reducing potable water demand; and,

WHEREAS, the Board desires to offer assistance to existing customers who are required to convert to the use of recycled water by providing conversion services and advancing the cost of conversion subject to the customer's agreement to pay potable water rates for recycled water until the advanced costs are repaid; and

WHEREAS, the Board has determined that the time for requesting a reconsideration of a finding of mandatory conversion or to request a waiver from the requirement of mandatory conversion to recycled water use, after a determination by staff that a customer is required to utilize recycled water, should be shortened, as well as the time for the District to respond to a request for reconsideration or waiver with a final determination, should be shortened to avoid undue delay to the customer's development plans;

WHEREAS, a public hearing was held on September 14, 2010, at which the public was provided an opportunity to present comments and protests concerning the proposed changes to the mandatory recycled water connection policy, and the Board has considered all public comment;

NOW THEREFORE, BE IT RESOLVED by the Board of Directors of the Rowland Water District as follows:

The Board of Director's action approving Ordinance No. 0-8-2010 taken prior to the public hearing is vacated, and Ordinance No. 0-7-2005 Establishing Mandatory Recycled Water Connection Policy is hereby repealed and superseded by the provisions of this Ordinance for the Mandatory Use of Recycled Water.

Section 1 – Policy

It is the objective of the District to continually focus on ways to improve and enhance the quality of service to our customers. In light of this objective, it is the policy of the District that recycled water shall be used within its service area wherever such use is economically justified, financially and technically feasible and is not detrimental to public health, safety, and welfare, and the environment. The District will offer recycled water that is surplus to the needs of the recycled water customers within the District's service area for such uses outside the service area of the District by agreement with the retail water purveyor.

Section 2 – Effective Date

The requirements of this Ordinance shall apply to existing customers of the District and to all applications for new water service to a Qualifying Property received by the District on or after September 15, 2004, (Effective Date) and shall be a condition and requirement for receiving water service from the District.

Section 3 – Recycled Water Use

(a) **Mandatory Use**: The following types of uses shall generally require recycled water: agricultural irrigation, construction use, landscape irrigation, landscape and/or recreation impoundments, and wildlife habitat, these being called "mandatory" types of use. Use of potable water for mandatory recycled water uses shall be prohibited where recycled water is available and offered by the District to the property and the use of recycled water for the mandatory use is economically feasible.

In order for the District to provide District-wide recycled water service in an efficient and economical manner, the District must identify and convert to recycled water service as much of the suitable uses within the District as possible. Where recycled water service is available and economically feasible, the District may require **existing customers** to convert to recycled water for mandatory types of uses being served potable water by the District. The District will require

applicants for new water service to provide for separate recycled systems for mandatory types of uses associated with future development that would otherwise be served potable water, where recycled water service is currently available to the property or planned for the near future. The only exceptions to the use of recycled water shall be based upon a finding by the District that conversion to and use of recycled water would not be economically feasible or that use of recycled water presents a special public health or safety concern.

(b) **Authorized Use**: The user may apply for recycled water service for the following types of uses, where such use does not create an unacceptable risk to public health and safety: commercial use for toilet and urinal flushing and irrigation (including nurseries), and for appropriate industrial process, these being called "authorized" types of use. The District encourages but does not mandate use of recycled water for authorized uses.

(c) **Permitting**: Regardless of the type of condition or use, all prospective users shall successfully complete the use permit application process detailed within the regulations of the District governing the use of recycled water, prior to receiving recycled water.

Section 4 – Recycled Water System Implementation

(a) **General**: The Recycled Water Master Plan will be implemented through several actions, including those listed below.

(b) **Rules and Regulations Governing the Use of Recycled Water**: The District shall adopt, and from time-to-time update and revise rules and regulations governing the distribution and use of recycled water, including specifications for the construction of on-site recycled water facilities.

(c) **Standard Specifications**: The District shall maintain the Standard Specifications for the construction of District owned facilities. These shall include narrative and drawings that may be referenced for incorporation by project-specific construction documents.

(d) **Public Awareness Program**: The District shall conduct a comprehensive recycled water public awareness program.

(e) **Coordination among Agencies**: The District shall continue to examine the potential for a coordinated effort between the District and other regional agencies, to share in the production and utilization of recycled water.

Section 5 – Procedures for Determining Mandatory Recycled Water Service for Existing Potable Water Service Customers

(a) **Existing Potable Water Service**: The District shall make a preliminary determination, based on existing and planned extensions of the recycled water

distribution system, as to which existing potable water customers it is economically feasible to convert to the use of recycled water. The District shall provide notice to the existing customers regarding that determination, and provide information on the cost of conversion and expected savings to the customer from replacing potable water uses with recycled water. The District shall review any customer objections to the proposed conversion to recycled water service; entertain appeals, and provide a waiver if circumstances warrant. The District shall assist customers to complete the application process where waivers have not been granted in accordance with this Ordinance.

(b) **Notice**: Whenever the District has made a preliminary determination that use of recycled water is mandatory or authorized; the District shall provide written notice to the prospective user(s), of the District's preliminary determination. Such notice shall include as a minimum: descriptive information about the planned recycled water system, user responsibilities under the rules and regulations governing the use of recycled water, current recycled water pricing, descriptive information about onsite facilities requirements necessitated by conversion to recycled water, and an explanation of the customer's right to request reconsideration or a waiver.

(c) **Reconsideration and Waiver Process**: Within thirty (30) days from the date of a notice of determination by the District that a customer will be required to convert to recycled water service, the customer may request reconsideration of the determination or waiver of the requirement. The request for reconsideration or waiver must be in writing and specify the reasons for the objection. A request for reconsideration or waiver must be based upon facts indicating that the conversion to recycled water would not be economically feasible, or would present an undue risk to health and safety, or that under the particular circumstances; the requirement of use of recycled water would impose an unreasonable hardship or burden upon the customer. Unless a request for reconsideration or waiver is submitted in a timely manner, the preliminary determination shall be final. District Staff will review the request for reconsideration of waiver and will determine whether the preliminary determination that the use of recycled water is economically feasible should be modified or confirmed, or whether a waiver should be granted due to unreasonable hardship or burden under the particular circumstances. Upon issuance of a final determination, the prospective user(s) may appeal the determination to the General Manager of the District.

(d) **Application and Approval Process:** Unless a waiver is granted, current customers who are notified that recycled water use is mandatory will be required to complete a Recycled Water Use Permit Application. For existing potable water customers, the District will pay the costs of obtaining a permit from the County to modify the customer's on-site system to convert to recycled water use, including the cost of preparing plans showing the modification of the system and payment of the permit fee. Upon issuance of a permit by the County, and commencement of recycled service to the customer's property, the customer will be responsible for complying with the requirements for operating a recycled water system including maintenance of backflow prevention devices and compliance with the

District's Cross-Connection Control Ordinance (Rowland Water District Ordinance No.1-88).

(e) **Cost of Conversion for Recycled Water Use:** A potable water customer, with an existing connection to the District's potable water system, who is required by the District to use recycled water for mandatory uses, shall bear the cost for those modified or additional facilities on the customer's property which are necessary to convert such uses from potable to recycled water. The District shall, at District expense, construct the recycled water service connection to the customer's property and install a recycled water meter. In order to assist existing customers required to convert their on-site water system for recycled water use, the District will offer to make the necessary modifications to the customer's water system, or contract to have the modifications made and cover up to Five Thousand Dollars ($5,000.00) of the cost of modification. All user-owned on-site recycled water systems shall comply with Rowland Water District's Rules and Regulations Governing the use of Recycled Water; California Code of Regulations Title 22, Section 60303 et seq.; and all other statutes, ordinances, regulations and orders of Federal, State and local agencies having regulatory authority over the use of recycled water.

Section 6 – Procedures for Determining that Recycled Water Connection is Mandatory for New Water Service Applicants

(a) **New Water Service Application**: All applicants for new water service from the District shall provide the District, at the time of requesting a new water service installation, all necessary information requested by the District concerning the uses of water through the proposed connection, to enable the District to make a determination whether the proposed development will qualify for mandatory recycled water service. Said information shall be provided on a form supplied by the District and shall include the total area of irrigated landscape, any planned landscape or recreational impoundments, wildlife habitat uses, the total number of toilets and urinals and the projected water usage for any manufacturing or industrial process which is suitable for recycled water.

(b) **Notice:** Upon a determination that an applicant for new water service will be required to connect to the recycled water system, the District shall provide a written notice advising the applicant of the requirements for installation of separate on-site facilities, requirements for extension of the District's distribution mains necessary to connect to the applicant's property, user responsibilities under the rules and regulations governing the use of recycled water, current recycled water pricing, and an explanation of the applicant's right to request reconsideration or a waiver.

(c) **Reconsideration and Waiver Process**: Within thirty (30) days from the date of a notice of determination by the District that an applicant is required to connect to the recycled water system, the applicant may request reconsideration of the determination or waiver of the requirement. The request for reconsideration or

waiver must be in writing and specify the reasons for the objection. A request for reconsideration or waiver must be based upon facts indicating that the use of recycled water for mandatory uses would not be economically feasible, or would present an undue risk to health and safety, or that under the particular circumstances; the requirement of use of recycled water would impose an unreasonable hardship or burden upon the applicant. Unless a request for reconsideration or waiver is submitted in a timely manner, the preliminary determination shall be final. District Staff will review the request for reconsideration or waiver and will determine whether the preliminary determination that the use of recycled water is economically feasible should be modified or confirmed, or whether a waiver should be granted due to unreasonable hardship or burden under the particular circumstances. Upon issuance of a final determination, the prospective user(s) may appeal the determination to the General Manager of the District.

(d) **Application and Approval Process:** Unless a waiver is granted, applicants for new water service who are notified that recycled water use is mandatory will be required to provide the District with a completed Recycled Water Use Permit Application and County Department of Public Health (CDPH) approved plans with letter of authorization for a recycled water system. Applicants will be responsible for complying with all requirements and paying the costs associated with obtaining a permit from the County for operation of a recycled water system, including the cost of preparing plans showing the recycled water system and payment of the permit fee. Upon issuance of a permit by the County, and commencement of recycled service to the applicant's property, the applicant will be responsible for complying with the requirements for operating a recycled water system including maintenance of backflow prevention devices and compliance with the District's Cross-Connection Control Ordinance (Rowland Water District Ordinance No.1-88).

(e) **Temporary Use of Potable Water**: At the discretion of the District, potable water may be made available on a temporary basis until recycled water is available. Before the applicant receives temporary potable water, a recycled water use permit, as required in Section 3(c), must be obtained for on-site services; an inspection of the on-site facilities will be conducted to verify that the facilities have been maintained and are in compliance with the recycled water use permit requirements and District requirements for service. Upon verification of compliance, recycled water shall be served to the parcel for the intended use. If the facilities are not in compliance, the applicant shall be notified of the corrective actions necessary and shall have thirty (30) days to take such actions prior to initiation of enforcement proceedings.

(f) **Cost of Facilities**: Applicants for new water connections, regardless of whether the property was previously developed or is newly developed, will be required to bear the entire cost of those facilities required to accommodate recycled water for all mandatory uses, and, if desired, any authorized uses. All user-owned on-site recycled water systems shall comply with Rowland Water District Rules and Regulations Governing the use of Recycled Water; California Code of

Regulations Title 22, Section 60303 et seq.; and all other statutes, ordinances, regulations and orders of Federal, State and local agencies having regulatory authority over the use of recycled water.

(g) **Extension of Recycled Water Main:** Each Applicant for a new water connection shall be responsible for all costs of constructing a separate recycled water system for mandatory recycled water uses on the property, including the cost of plans and permits required to operate a recycled water system. Applicants will also be required to pay the cost of constructing recycled water lines and appurtenances necessary to connect Applicant's recycled water facilities to the nearest recycled water main of the District. Applicant may be required to bear the cost to extend the District's recycled water system to a point abutting the property boundary, if the District determines that such cost does not make the use of recycled water economically feasible. If the District determines to extend the line from a point on the District's recycled system other than the nearest point to the Applicant's property, or determines to construct a line larger or longer than that needed to provide recycled water service to the property for operational or other reasons, then the additional cost thereof shall be borne 100% by the District. Applicants will be required to deposit in advance the estimated cost of engineering services associated with design of the recycled water system extension necessary to serve the property, and to deposit the estimated cost of construction of the extension, prior to award of a contract.

Section 7 – Pricing of Recycled Water Service:

(a) **Recycled Water Rate:** It is the policy of the District to price recycled water at a sufficient discount from the price of potable water to make the use of recycled water for irrigation and other suitable uses cost effective for new development, and result in savings sufficient to encourage existing customers of the District to convert existing uses to recycled water where appropriate. To accomplish this policy the Board of Directors will set the price of recycled water service at least 15% less than the price of potable water served by the District.

(b) **Recycled Water Meter Charges:** Existing customers and applicants for new water service will be responsible for all applicable meter charges for potable and recycled meters necessary to serve their property.

Section 8 – Financial Assistance to Converting Customers:

As the District expands the recycled water system, it will identify existing customers who would benefit by converting suitable water uses to recycled water service, by the quantity of water used for mandatory and authorized recycled uses, and the proximity of the property to an existing or planned recycled water main. If, after notice of determination to an existing customer that recycled water use is mandatory, the customer requests reconsideration or a waiver based upon unreasonable hardship or economic burden, the District may offer, as an alternative to a waiver, to provide financial assistance to the

customer to make the conversion of the customer's on-site water system to accommodate recycled water. Such assistance may be provided where the cost to the District of providing financial assistance to the customer is outweighed by the benefits to the District and its customers in terms of reduced cost of water supply, conserving potable water for uses requiring potable water and making the most efficient use of the District's recycled water facilities. The terms of the financial assistance will require that the customer continue to pay potable water rates for recycled water until any funds advanced by the District for converting the customer's on-site water system are recovered.

Section 9 – Enforcement

(a) The District may implement all enforcement methods and penalties otherwise provided in the Rules and Regulations Governing the Use of Recycled Water to any violator of the terms of this section.

(b) Water service will not be provided to new applicants for water service from the District unless and until they have complied with the requirements for installation of a recycled water system for mandatory uses and complied with all requirements of the Districts Rules and Regulations.

(c) Where an existing customer has been given notice of a determination that use of recycled water is mandatory and recycled water is available, if after ninety (90) calendar days from the date the applicant is notified in writing of the District's final determination under Section 3 (a) the existing customer has not submitted all required documentation and completed the required on-site conversion work, then, in addition to those penalties set forth subsection (a) above, the District shall impose a surcharge on potable water delivered to the customer which shall be equal to fifty percent (50%) of the District's potable water rate in effect at the time of violation, such surcharge to be included in the customer's billing.

Section 10 – Validity

If any provision of this Ordinance or the application thereof to any person or circumstances is held invalid, the remainder of the Ordinance and the application of such provision to other persons or circumstances shall not be affected thereby.

Section 11 – Severability

If any portion of this Ordinance is for any reason held invalid or unconstitutional by any court of competent jurisdiction, such a portion shall be deemed a separate, distinct, and independent provision, and such holding shall not affect the validity of the remaining portions hereof.

Section 12 – Conflicts

All District Ordinances, Resolutions, or parts of District Ordinances and Resolutions and Rules and Regulations Governing the Use of Recycled Water, in conflict herewith, are hereby repealed.

Section 13 – Incorporation

The terms of Section 3 of this Ordinance are hereby incorporated into the Rules and Regulations Governing the Use of Recycled Water, and such terms are effective as of the date of adoption of this Ordinance.

Section 14 – Definitions

(a) **"Qualifying Property"** shall mean either

1. A parcel or tract for which development is proposed which will be supplied water by Rowland Water District and for which it is economically feasible to provide recycled water service from an existing recycled water line, or a recycled water line which the District plans to have in operation at the time service to the property will be commenced, which has sufficient unused capacity to provide the quantity of recycled water to meet the demand of the proposed use and which meets one or more of the following criteria:

   (i) has a sufficient area which is suitable for irrigation with recycled water, including but not limited to golf courses, landscaped areas, greenbelts, parkways and medians, to justify use of recycled water;

   (ii) the proposed use involves a commercial, or institutional structure or structures which are projected to have water uses which are suitable for recycled water, including flushing of toilets and urinals and landscape irrigation, which combined are sufficient to make the use of recycled water justified; or,

   (iii) The proposed use involves an industrial facility that is projected to use water for a process for which recycled water is suitable, in a quantity sufficient to make the use of recycled water justified.

2. A parcel to which potable water service is already provided by the District, for which the District determines that it is economically feasible to require use of recycled water for mandatory or authorized uses, i.e. that the conversion of appropriate uses to recycled water will result in a cost savings to the customer over potable water use.

(b) **"Irrigated Landscape"** shall mean all areas irrigated including golf courses, parks, greenbelts, parkways, medians and other landscaped areas which are to be irrigated with a permanent irrigation system. Areas which are temporarily irrigated to restore natural vegetation for purposes of preventing erosion after grading shall not be included in calculating Irrigated Landscape.

(c) **"Economically feasible"** shall mean that the Applicant or existing customer will recover the cost of installing an on-site recycled water system or converting an existing system for recycled water use, plus any cost associated with extending the District's recycled water system to the Qualifying Property and otherwise complying with this Ordinance within five (5) years after commencing recycled water service, based on the differential between the estimated cost of using potable water for the authorized uses.

(d) **"Authorized Uses"** shall mean those purposes for which recycled water is authorized to be used under Title 22 Sections 60304-60307 of the California Code of Regulations, including but not limited to irrigation, recreational and landscape impoundments, cooling in manufacturing processes, flushing toilets and urinals, consolidation of backfill, and other appropriate uses. The District encourages but does not require customers to use recycled water for authorized uses except for those uses defined as mandatory herein.

(e) **"On-site recycled water system"** shall mean a recycled water system constructed and owned by the property owner which is physically separated from any potable water system, and complies with the requirements for cross connection control, labeling and protection from human contact set forth in the District's recycled water regulations and all applicable statutes, regulations, ordinances and orders.

Said Ordinance was adopted, on roll call vote, at the regular meeting of the Board of Directors held September 14, 2010, by the following vote:

AYES: Directors Lima, Bellah, Rios, Lu, Lewis
NOES: None
ABSENT: None
ABSTAIN: None

I hereby certify that the foregoing is a true and correct copy of Ordinance No.0-9-2010, adopted by the Board of Directors of the Rowland Water District at its regular meeting held on September 14, 2010.

Anthony J. Lima, President

Ken Deck, Secretary

APPENDIX G

Rules and Regulations Governing Recycled Water Use

ROWLAND WATER DISTRICT

3021 South Fullerton Road
P. O. Box 8460
Rowland Heights, CA 91748
(562) 697-1726
www.rowlandwater.com

RULES AND REGULATIONS GOVERNING RECYCLED WATER SERVICE

These Rules & Regulations are Subject to Periodic Revisions

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SECTION 1

INTRODUCTION AND PURPOSE

1.1 INTRODUCTION

The Rowland Water District (District) has developed a Recycled Water Master Plan to expand its existing recycled water distribution system to substantially expand its recycled water customer base. The ultimate recycled water system will expand the existing supply to over 2,000 acre-feet per year. The District reports to the Los Angeles County Department of Public Health, Environmental Health (LACDPH) on recycled water use within its boundaries. Determination of specific uses to be allowed shall be in accordance with the treatment standards and water quality requirements set forth in the California Code of Regulations, Title 22, Division 4, Chapter 3, sections 60301 through 60355, inclusive (Water Recycling Criteria).

1.2 PURPOSE

The purpose of the "Rules and Regulations Governing Recycled Water Service"(Rules and Regulations) is to establish standard procedures, specifications, and limitations for the safe and orderly development and operation of recycled water facilities and systems within the District's jurisdictional area. The Rules and Regulations cover the administrative, design, construction, and operational requirements for obtaining recycled water service and the use of recycled water in on-site facilities, and aspects of the relationship between customers and the District.

1.3 POLICY

On September 14, 2010 the District's Board of Directors adopted Ordinance No. 0-9-2010, "Ordinance of the Board of Directors of the Rowland Water District Establishing Mandatory Recycled Water Connection Policy" (Mandatory Connection Ordinance). The Mandatory Connection Ordinance (see Attachment A) presents the District's policy on recycled water use and requires the adoption and upkeep of the Rules and Regulations. Among the provisions of the Mandatory Connection Ordinance is a surcharge equal to fifty percent (50%) of the potable water rate, on use of potable water for purposes for which recycled water is mandated, if recycled water is available to a prospective customer and on-site conversion or retrofit is not completed within a stipulated time period.

It is the objective of the District to focus on ways to improve and enhance the quality of service to our customers. In light of this objective, it is the policy of the District that recycled water shall be used within its service area wherever such use is economically justified, financially and technically feasible and is not detrimental to public health, safety, and welfare, or the environment. The District will offer recycled water that is surplus to the needs of recycled water customers within the District's service area, for such uses outside the District by agreement with the retail purveyor.

1.4 SCOPE

It is the intent of the District that recycled water be used in a manner that is in compliance with applicable Federal, State and local statutes, ordinances, regulations, and other requirements and achieve the following.

1.4.1 Promote Conservation

Achieve conservation of potable water supplies by using recycled water to the maximum extent possible for current and future landscape irrigation, agricultural irrigation and industrial process demands.

1.4.2 Prevent Human Consumption/Contact

Prevent direct human consumption of, and contact with, recycled water through:

- Adherence to all applicable rules and regulations
- Posting of identification signs by the customer
- Cross-connection/backflow prevention and testing programs in accordance with District Ordinance No. 1-88 (Cross-Connection Control Ordinance) and Title 17 of the California Code of Regulations
- Properly tagging and color coding recycled water appurtenances

1.4.3 Provide Control and Enforcement

Provide controls over the use of the recycled water system to prevent causing a nuisance or pollution as defined in the California Water Code, and provide provisions for enforcement.

1.5 SEVERABILITY

If any section, subsection, sentence, clause or phrase of the Rules and Regulations is for any reason found to be invalid or unconstitutional, such decision shall not affect the remaining portions of the Rules and Regulations. The District declares that it would have approved the Rules and Regulations by section, subsection, sentence, clause, or phrase irrespective of the fact that any one or more of the sections, subsections, sentences, clauses or phrases be declared invalid or unconstitutional.

1.6 AMENDMENTS

The Rules and Regulations may be amended by District resolution at any regular or special meeting by a simple majority vote of the Board of Directors and without the approval of any customer, operator, or owner. Moreover, any amendments so made shall be deemed incorporated into the Rules and Regulations immediately upon adoption and will be administered as such. The provisions of Title 17 and Title 22 of the California Code of Regulations, including any amendments, or new related State legislation that affects recycled water quality or use shall be deemed immediately incorporated into these Rules and Regulations.

1.7 PRECEDENCE

The Rules and Regulations shall take precedence when they require higher quality material, equipment, design and/or construction methods, or more restrictive operating conditions, than are required by Federal or State law or local governing codes.

1.8 LIABILITY

The District assumes no responsibility for the maintenance and operation of any on-site recycled water system on the customer's side of the water meter with respect to violations of the regulatory agency requirements. The customer can expect a range in the quality of recycled water delivered to the use site due to the varied quality of source water. By accepting recycled water service, the customer acknowledges and agrees that such water is suitable for the customer's particular use(s). The customer should recognize the limitations of applying recycled water to their particular end use(s). The customer assumes all liability and responsibility of every other kind, arising out of the use of recycled water for customer's use(s). By accepting recycled water service from the District, customer agrees to hold the District harmless from any claim, damage or

liability resulting from quantities, quality, time or occasion of delivery, or any other matter related to the maintenance, operation, and service of the customer's on-site facilities.

1.9 ENFORCEMENT

- The District shall enforce the Rules and Regulations in all matters concerning the use of any recycled water. Each and every condition and requirement with respect to the use, connection, disconnection, reconnection, and/or discontinuance of recycled water and/or recycled water service provided by and set forth in the Rules and Regulations shall apply with equal force and effect to any person(s) or firm, public or private. There shall be no deviation from the Rules and Regulations except upon written authorization by the District's General Manager, who will act at all times within applicable regulatory agency constraints. An appeal procedure shall be provided and action of the Board of Directors shall be final.
- Potable water service will not be provided to applicants for new water service from the District unless and until they have complied with the requirements for installation of a recycled water system for any mandatory uses and complied with applicable requirements of the Rules and Regulations.
- Where an existing customer has been given notice of determination that use of recycled water is mandatory and recycled water is available, if, after a period of time from the date the applicant is notified in writing of the District's final determination under Section 4, the existing customer has not completed required on-site conversion work, then penalties may be imposed in accordance with provisions of Section 8.

1.10 PROTECTION OF PUBLIC HEALTH

The District reserves the right to take any action with respect to the operation of the recycled water system and at such time as it deems proper to safeguard public health. All production, distribution, and use of recycled water shall conform to the requirements of the Water Recycling Criteria. Where not covered more specifically herein, all uses shall conform to the California Department of Public Health (CADPH) Title 22 (2000), "Engineering Report Guidelines (2001)", which are deemed incorporated herein.

1.11 SERVICE AREAS

The Rules and Regulations pertain to recycled water service to lands and/or improvements lying within the jurisdictional boundaries of the District. Rules and Regulations applicable to properties outside the District are subject to agreement with the retail purveyor for the affected user.
Recycled water service shall be provided when related distribution facilities are completed and service becomes available.

1.12 AUTHORIZED USES

The Rules and Regulations limit the application of recycled water to those uses for which the Water Recycling Criteria or other specific State legislation provides requirements. Any of those uses or other uses for which explicit specifications are not provided in the Rules and Regulations can be considered, but must be approved on a case-by-case basis by the District after other appropriate regulatory agencies have granted such approvals, as may be required.

1.13 OTHER GOVERNING AUTHORITY

1.13.1 Los Angeles Basin Plan

The Basin Plan for the area of Los Angeles County within the Los Angeles Regional Water Quality Control Board (RWQCB) jurisdiction provides requirements and guidelines for use of recycled water within the service area with respect to surface waters and ground waters. The Rules and Regulations are based upon the current Basin Plan.

1.13.2 Guidelines for Distribution of Recycled Water

The District has adopted the American Water Works Association (AWWA) "Guidelines for Distribution of Non-potable Water," latest edition, published by the California-Nevada Section of AWWA, as its standards for construction of recycled water systems, which Guidelines are hereby incorporated into the Rules and Regulations by reference.

SECTION 2

DEFINITIONS

The following words and phrases are found in various locations of these Rules and Regulations. Their intent and meaning shall be interpreted as follows:

Air-gap separation: a physical break between a supply pipe and a receiving vessel. The air gap shall be at least double the diameter of the supply pipe, measured vertically above the top rim of the vessel, and in no case less than one inch.

Applicant: an owner, developer, builder, or authorized representative, firm, corporation, association, or agency that applies for recycled water service under the terms of the Rules and Regulations. A successful applicant becomes a recycled water customer.

Application rate: the rate at which water is applied to an irrigation or construction area, expressed in inches per day or gallons per minute per acre.

Approved backflow prevention assembly: a device installed to protect the potable water supply from contamination; this device shall be approved by the University of Southern California - Foundation for Cross-Connection Control and Hydraulic Research, CADPH, LACDPH and the District in conformance with applicable portions of Title 17 of the California Code of Regulations (Title 17).

Approved use: one or more authorized uses of recycled water, mandatory or otherwise, for which the District has issued a Use Permit.

Authorized uses: those purposes for which recycled water is authorized to be used under the Water Recycling Criteria, including but not limited to irrigation, recreational and landscape impoundments, cooling in manufacturing processes, flushing toilets and urinals, consolidation of backfill, and other appropriate uses. The District encourages but does not require customers to use recycled water for authorized uses except for those uses defined as mandatory herein.

ANSI: American National Standards Institute

ASTM: American Society for Testing and Materials.

AWWA: American Water Works Association.

AWWA Guidelines: AWWA's “for Distribution of Non-potable Water,”California-Nevada Section, latest edition, or “for the On-site Retrofit for Facilities Using Disinfected Tertiary Recycled Water,”edition.

AWWA Standards: AWWA's *Standards for Construction Materials*, latest edition.

Board of Directors: the Board of Directors of Rowland Water District.

CADPH: California Department of Public Health, Division of Drinking Water and Environmental Management.

Commercial use: authorized use of recycled water for toilets, urinals, decorative fountains, cooling towers, industrial processes and other permitted applications on commercial sites.

Construction use: authorized use of recycled water to support construction activities such as soil compaction and dust control during grading.

Contractor: the person(s), firm, or corporation entering into a contract with the District, owner, or customer for the performance of work on all or any portion of facilities subject to the Rules and Regulations.

Conversion: changing on-site supply from potable water to recycled water in systems that were originally designed and installed to use potable water (see also "retrofit").

County: County of Los Angeles, State of California.

Cross-connection: any unprotected actual or potential connection between a potable water system and any source or system containing recycled or other non-potable water or a substance that is not or cannot be approved as safe, wholesome, and potable; by-pass arrangements, jumper connections, removable sections, swivel or change-over devices and other devices through which backflow could occur, shall be considered to be cross-connections; cross-connections shall be as defined in Title 17, California Code of Regulations.

Cross-Connection Control Ordinance: Rowland Water District Ordinance No. 1-88.

CSDLAC: County Sanitation Districts of Los Angeles County (see also LACSD).

Customer: any person, group, firm, partnership, corporation, association or agency accepting recycled water from the District's recycled water facilities for use in accordance with the Rules and Regulations.

Design area: a site, with well-defined boundaries, proposed to receive recycled water for an approved use as delineated in an application for a Use Permit.

Design consultant: any person or firm registered with the State as an engineer or landscape architect to provide site layout, landscaping, or irrigation system design services.

Direct overspray: any discharge of water directly onto areas other than that for which the application of recycled water is approved.

Discharge: any release or distribution of recycled water to a use area or disposal site/mechanism (outfall, live stream discharge, municipal sewage system); all discharges of recycled water must be approved by the regulatory agencies.

Discharge Permit: a permit issued by the RWQCB for the discharge of recycled water.

District: Rowland Water District.

Economically feasible: shall mean that the applicant or existing customer will recover the cost of installing an on-site recycled water system or converting an existing system for recycled water use, plus any cost associated with extending the District's recycled water system to the Qualifying Property and otherwise complying with the Mandatory Connection Ordinance within five (5) years after commencing recycled water service, based on the differential between the estimated cost of using potable water for the authorized uses.

Effluent: treated wastewater discharged from a water recycling plant.

General Manager: the General Manager of Rowland Water District.

General public: any person(s) at large who may come in contact with facilities and/or areas where recycled water is approved for use.

GPM: gallons per minute.

HGL: grade line.

Industrial use: authorized use of recycled water for industrial processes such as cooling, flushing, or manufacturing, and other related applications.

Inspection and testing: District will perform regularly scheduled on-site visits with operational

testing accompanied by customer representative. The inspection and testing schedule will be determined by the District. In no circumstance will the interval between inspection and testing of a site be longer than every four years.

Inspector: any person(s) authorized by the District to perform inspection of either on-site or off-site facilities prior to construction, during construction, after construction or during operation.

Installer: a person(s) or firm performing work necessary to construct or install equipment or facilities subject to the Rules and Regulations.

Irrigated landscape: all areas irrigated including golf courses, parks, greenbelts, parkways, medians and other landscaped areas irrigated with a permanent irrigation system. Areas which are temporarily irrigated to restore natural vegetation for purposes of preventing erosion after grading shall not be included in calculating Irrigated Landscape.

LACDPH: Los Angeles County Department of Public Health, Environmental Health.

LACSD: Sanitation Districts of Los Angeles County.

Landscape impoundment: a body of recycled water, which is used for aesthetic enjoyment, landscape irrigation or which otherwise, that serves a function not intended to include public contact.

Mandatory Connection Ordinance: Rowland Water District Ordinance No. 0-9-2010.

Mandatory use: any one or combination of the following types of authorized uses: agricultural irrigation, construction use, landscape irrigation, landscape and/or recreation impoundments, and wildlife habitat use, for which recycled water is generally required by the District.

***MGD*:** million gallons per day.

Non-potable water: water that is not intended for human consumption.

Off-site recycled water system: existing or proposed facilities under the control of the District, from the source of supply to the point of connection with the customer's on-site facilities, up to and including the District's meter and meter box.

Off-site supervisor: a qualified person designated by the District to be responsible for the safe and efficient operation of the District's recycled water distribution system; this person shall be knowledgeable in the construction and operation of recycled water distribution systems and in the application of State and local guidelines, criteria, standards, and regulations governing the use of recycled water.

On-site recycled water system: shall mean a recycled water system constructed and owned by the property owner which is physically separated from any potable water system, and complies with the requirements for cross-connection control, labeling and protection from human consumption or contact set forth in the Rules and Regulations and all applicable statutes, regulations, ordinances and orders.

Operations personnel: any employee of a customer, whether permanent or temporary, or any contracted worker whose regular or assigned work involves the supervision, operation or maintenance of equipment on any portion of on-site facilities using recycled water.

Operator: any person(s) or firm, who by entering into an agreement with a customer is responsible for operating on-site facilities.

Owner: any holder of legal title, contract purchaser, or lessee under a lease with an unexpired term of more than one (1) year, of property for which recycled water service has been requested or established.

Pantone*TM*: color standard system.

Person: any public or private individual, partnership, corporation, agency, or association including homeowner's association.

Plans: the plans, working drawings, detail drawings, specifications, profiles, typical cross sections and supplemental drawings or reproductions thereof that shows locations, character, dimensions or details of the work.

POC: point of connection between on-site and off-site facilities.

Ponding: retention of recycled water on the surface of the ground or other natural or manmade surface that exceeds the surface infiltration rate and that is unable to runoff due to gravity such that a hazard or potential hazard to the public health results.

Potable water: water that conforms to the latest edition of the United States Public Health Service Drinking Water Standards, the California Safe Drinking Water Act, or other applicable standards.

PPC: positive pressure check.

Producer: an agency that produces recycled water.

psi: pounds per square inch.

Purple Book: an aggregate of California health laws related to recycled water, including excerpts from the Health and Safety Codes, Water Code and Titles 22 and 17 of the California Code of Regulations.

PVC: polyvinyl chloride.

Qualifying property: a parcel or tract that exists for which the District provides potable water service and for which it is economically feasible to provide recycled water service; or a parcel or tract for which development is proposed and for which it will be economically feasible to provide recycled water service.

Recycled water: as defined in *Water Recycling Criteria*, water that as a result of treatment of wastewater is suitable for direct beneficial use or a controlled use that otherwise would not occur, with the treatment of wastewater being accomplished in accordance with the criteria set forth therein.

Recreational impoundment: a body of recycled water used for recreational activities including, but not limited to, fishing, boating, and/or swimming, with allowable uses depending on treatment level of the recycled water.

Reduced pressure principle backflow prevention assembly: a backflow prevention device incorporating not less than two check valves, an automatically-operated differential relief valve located between the two check valves, a completely closing shut-off valve on each side of the check valve assembly, equipped with test cocks for testing.

Regulatory agencies: those public agencies having authority to promulgate rules and regulations, issue permits and enforce laws to protect the public health and water quality and having regulatory authority over the District, such as, CADPH, RWQCB, and LACDPH, and others as may be appropriate.

Retrofit: modifying on-site facilities that were originally designed to accommodate potable water use so that they now accommodate recycled water use in compliance with the Rules and Regulations (see also "conversion").

Rules and Regulations: the "Rules and Regulations Governing Recycled Water Service," and addenda thereto, and other rules and regulations referred to and incorporated herein.

Runoff: flow of water along the surface of the ground or other natural or man-made surface, including but not limited to, pedestrian walkways, streets, playground surfaces, and grassy slopes.

RWQCB: Los Angeles Regional Water Quality Control Board (Region 4).

Sanitation Districts of Los Angeles County: See also LACSD

Secondary effluent: wastewater that has been treated to a minimum level of effluent quality based on rules and regulations of the Environmental Protection Agency and defined with respect to biochemical oxygen demand, suspended solids, fecal coliform bacteria, and pH, and is consistent with provisions in *Water Recycling Criteria*.

Service: the furnishing of recycled water to a customer through a metered connection to the on-site recycled water system.

Service connection: the connection between the recycled water distribution system and the customer's on-site recycled water system.

Site Supervisor: a qualified person designated by a recycled water customer and approved by the District to be responsible for the safe and efficient operation of the customer's recycled water system; this person shall be knowledgeable in the construction and operation of recycled water and irrigation systems and in the application of State and local guidelines, criteria, standards and regulations governing the use of recycled water.

Standard specifications: specifications adopted by the District for construction of potable water and recycled water facilities.

State: State of California.

Tenant: any person, group, firm, partnership, corporation, association, or agency that pays rent to occupy and use land or a building.

Tertiary effluent: secondary effluent that has been disinfected and filtered consistent with provisions in *Water Recycling Criteria.*

Treated wastewater: wastewater treated in accordance with the requirements of “Water *Recycling Criteria*."

UL: Underwriter's Laboratory.

UPC: Uniform Plumbing Code.

Use area: the specific area contained within a use site, designated to be served with recycled water through on-site facilities.

Use site: the specific property, containing one or more use areas, designated by the legally recorded tract and lot or parcel map description.

Use Permit: a permit issued by the District to a recycled water service applicant after the satisfactory completion of the service application procedures set forth in the Rules and Regulations; this permit constitutes a service agreement that legally binds the customer to all conditions in the Rules and Regulations and to any and all applicable regulatory agency requirements.

Violation: noncompliance with any condition or conditions of the Rules and Regulations and/or a Use Permit by any person, action or occurrence, whether willfully or by accident.

Water reclamation: the renovation of wastewater to produce a product that is approved for specific beneficial uses by the appropriate regulatory agency.

Water Recycling Criteria: California Code of Regulations, Title 22, Division 4, Chapter 3, sections 60301 through 60355, inclusive.

Water Resources Technician: The Water Resources Technician of Rowland Water District.

Windblown spray: dispersed, airborne recycled water capable of being transmitted through the air by natural or manmade wind to locations other than that for which the direct application of recycled water is approved.

SECTION 3

CUSTOMER PROVISIONS

3.1 APPROVED USE AREAS

Recycled water may only be used for approved uses in areas approved by the District. Approval may be obtained only through the service application procedure contained in the Rules and Regulations. In all cases, approval of a use and use area by the District will be contingent upon satisfaction of the requirements of the District and other applicable regulatory agencies.

The customer shall obtain approval from the District for any proposed change in the character of the use of recycled water.

3.2 DESIGN APPROVAL

Prior to the construction of on-site facilities that will use or receive recycled water, the design of such facilities must be approved by the District. Approval shall be obtained only through the procedure contained in the Rules and Regulations. Approval shall be contingent upon the satisfaction of applicable design requirements, including those contained within the Rules and Regulations.

3.3 RECYCLED WATER SYSTEM RESPONSIBILITY

All off-site distribution facilities are the property of the District and shall be under the management and control of the District. Only authorized employees of the District shall have authority to operate said system and/or property in any manner. The off-site supervisor, designated by the District, shall be responsible for the operation of the off-site distribution systems and for the assessment of water quality as it relates to compliance with requirements of regulatory agencies. The Water Resources Technician is responsible for on-site monitoring and inspection of all customers.

3.4 REQUESTS FOR INFORMATION

Recycled water customers shall provide upon request, written responses to the District, RWQCB, CADPH, LACSD and LACDPH, requests for information to ascertain whether the recycled water customer is complying with the Rules and Regulations.

The District shall, upon request, make available to the customer a report that shows the typical or average quality of recycled water that the customer can expect to be delivered to his use site.

3.5 CONDITIONS OF SERVICE

The District reserves the right to revoke a Use Permit if any of the service conditions contained herein are not satisfied at all times.

3.5.1 Regulatory Conditions

Service to a customer may be terminated at any time the quality of the recycled water does not comply with the requirements of regulatory agencies or at any time the customer's operations do not conform to the Rules and Regulations.

3.5.2 Operational Conditions

Recycled water delivered through a connection to the District's recycled water system will be deemed to have been provided to, and received by, the customer identified in the Use Permit for recycled water service to that connection. Recycled water use may

or may not be subject to the same restrictions as potable water. The District reserves the right to schedule and control the use of recycled water if, in the opinion of the District or designated representative, control and scheduling are necessary.

3.5.3 Other Conditions

The customer shall retain a copy of the Rules and Regulations. The Rules and Regulations shall be maintained available at all times for reference by the operations personnel.

3.6 CONTINGENCY RESERVATIONS

If at any time during the construction or operation of facilities designed to use recycled water real or potential hazards are evidenced, the District reserves the right and has the authority to terminate water service in the interest of protecting the public health, safety and welfare or other elements of the recycled water system. In the event that recycled water service is so terminated, the District may, in the District's sole discretion, but shall not be obligated to, supply water to the affected on-site facilities either temporarily or permanently from the potable water system. The use of potable water would be subject to potable water availability from the District as well as special conditions set by the CADPH, LACDPH, and/or the District.

SECTION 4

PERMITTING PROCESS AND TIMELINE

The permitting process typically includes the following principal steps:

The permitting process typically includes the following principal steps:

- Preliminary Determination Notice
- Reconsideration and Waiver Process
- Final Determination Notice
- Use Permit Application
- Approval of the Applicant's Plans by the County
- Construction
- Inspection
- Issuance of Use Permit
- Commencement of Service

Each of these principal steps is discussed in the following sections and is summarized in Attachment B. The steps vary somewhat depending on whether the prospective recycled water use is a conversion from an existing potable water service or is a new service.

4.1 PROCEDURES FOR EXISTING POTABLE WATER SERVICE CUSTOMERS

4.1.1 Preliminary Determination Notice

The District shall make a preliminary determination, based on existing and planned extensions of the recycled water distribution system, as to which existing potable water customers it is economically feasible to convert to the use of recycled water. Whenever the District has made a preliminary determination that use of recycled water is mandatory, the District shall provide written notice to the prospective customer(s) of the District's preliminary determination. Such notice shall include as a minimum: descriptive information about the planned recycled water system, information on the cost of conversion and expected savings to the customer from replacing potable water uses with recycled water, customer responsibilities under the Rules and Regulations, current recycled water pricing, descriptive information about on-site facilities requirements necessary for conversion to recycled water, and an explanation of the customer's right to request reconsideration or a waiver.

4.1.2 Reconsideration and Waiver Process

Within thirty (30) days of the date of notice of a preliminary determination by the District that a customer will be required to convert to recycled water service, the customer may request reconsideration of the determination or waiver of the requirement. The request for reconsideration or waiver must be in writing and specify the reasons for the objection. A request for reconsideration or waiver must be based upon facts indicating that the conversion to recycled water would not be economically feasible, or would present an undue risk to health and safety, or that under the particular circumstances the requirement of use of recycled water would impose an unreasonable hardship or burden upon the customer. Unless a request for reconsideration or waiver is

submitted in a timely manner, the preliminary determination will be final. District staff will review the request for reconsideration or waiver and will determine whether the preliminary determination that the use of recycled water is economically feasible should be modified or confirmed, or whether a waiver should be granted due to unreasonable hardship or burden under the particular circumstances. Upon issuance of a final determination, the customer may appeal the determination to the General Manager of the District.

4.1.3 Final Determination Notice

The District shall make final determination regarding recycled water service by written notice to the customer. Such notice shall include as a minimum: reference to the preliminary determination notice, indication of specific customer service(s) to be affected by the determination, and the requirement of and timing for on-site facility construction. The date of the final determination notice shall begin a ninety (90) consecutive calendar day time period during which the customer must apply for a Use Permit, complete on-site facility construction and become ready to receive recycled water service.

4.1.4 Use Permit Application

Unless a waiver is granted, current District customers who are notified that recycled water use is mandatory will be required to complete a Recycled Water Use Permit Application form (see Attachment D) provided by the District and obtain a Use Permit from the District. Upon issuance of a Use Permit by the District and commencement of recycled service to the customer's property, the customer will be responsible for complying with the requirements for operating a recycled water system including maintenance of backflow prevention devices and compliance with the Cross-Connection Control Ordinance.

4.1.5 Recycled Water Conversion Costs

A potable water customer, with an existing connection to the District's potable water system, who is required by the District to use recycled water for mandatory uses, shall bear the cost for those modified or additional facilities on the customer's property which are necessary to convert such uses from potable to recycled water. The District will pay the cost of preparing plans, which show the modifications of the system, and processing the plans through LACDPH. The District shall at District expense construct the recycled water service connection to the customer's property and install a recycled water meter.

4.1.6 Financial Assistance to Conversion Customers

As the District expands the recycled water system, it will identify existing customers who would benefit by converting suitable water uses to recycled water service, by the quantity of water used for mandatory and authorized recycled uses, and the proximity of the property to an existing or planned recycled water main. If, after notice of determination to an existing customer that recycled water use is mandatory, the customer requests reconsideration or a waiver based upon unreasonable hardship or economic burden, the District may offer, as an alternative to a waiver, to provide financial assistance to the customer to make the conversion of the customer's on-site water system to accommodate recycled water. Such assistance may be provided where the cost to the District of providing financial assistance to the customer is outweighed by the benefits to the District and its customers in terms of reduced cost of water supply, conserving potable water for uses requiring potable water and making the most efficient use of the District's recycled water facilities. The provision of financial assistance shall be solely in the discretion of the District based upon operational and financial considerations. The District shall not be obligated to offer financial assistance to any customer. The terms of the financial assistance will be based upon the particular circumstances of each case, and may include a requirement

that the customer continue to pay potable water rates for recycled water until any funds advanced by the District for converting the customer's on-site water system are recovered.

4.2 PROCEDURES FOR NEW WATER SERVICE APPLICANTS

4.2.1 Application for New Water Service Installations

Applicants requesting a new water service installation, or modifications to the existing water service connection, shall provide the District with all necessary information concerning the uses of water through the proposed connection. The District will determine whether recycled water is mandatory and suitable for those specific uses and may require additional information it deems necessary. The Applicant will provide the District with a completed Potable/Recycled Water Service Installation Request Form (Attachment C), and any plans or documents that identify the total area of current or projected irrigated landscapes, recreation impoundments, wildlife or domesticated livestock uses, the total number of toilets and urinals, and the projected water demands for any manufacturing or industrial applications suitable for recycled water use. The District will review the application request and determine if the quantity and quality of recycled water can be made available for the development. All fees and costs for providing water service will be determined by the District and due prior to any installation.

The following items are to be provided to the District:

- Completed Potable/Recycled Water Service Installation Request Form (Attachment C).
- Approved Project Plans including Site Plan, Mechanical/Plumbing Plan and Landscape and Irrigation Plan.
- Required fees and deposits – due prior to approval.

4.2.2 Preliminary Determination Notice

Upon the District's preliminary determination that an applicant for new water service will be required to connect to the recycled water system, the District shall provide a written notice advising the applicant of the requirements for installation of separate on-site facilities, requirements for extension of the District's distribution mains necessary to connect to the applicant's property,customer responsibilities under the Rules and Regulations, current recycled water pricing, and an explanation of the applicant's right to request reconsideration or a waiver.

4.2.3 Reconsideration and Waiver Process

Within thirty (30) days of the date of notice of a preliminary determination by the District that an applicant is required to connect to the recycled water system, the applicant may request reconsideration of the determination or waiver of the requirement. The request for reconsideration or waiver must be in writing and specify the reasons for the objection. A request for reconsideration or waiver must be based upon facts indicating that the use of recycled water for mandatory uses would not be economically feasible, or would present an undue risk to health and safety, or that under the particular circumstances the requirement of use of recycled water would impose an unreasonable hardship or burden upon the applicant. Unless a request for reconsideration or waiver is submitted in a timely manner, the preliminary determination shall be final. District staff will review the request for reconsideration or waiver and will determine whether the preliminary determination that the use of recycled water is economically feasible should be modified or confirmed, or whether a waiver should be granted due to unreasonable hardship or burden under the particular circumstances. Upon issuance of a final determination, the prospective customer may appeal the determination to the General Manager of the District.

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4.2.4 Final Determination Notice

The District shall make final determination regarding recycled water service by written notice to the applicant. Such notice shall include as a minimum: reference to the preliminary determination notice, indication of specific prospective applicant service(s) to be affected by the determination, and the requirement of and timing for on-site facility construction. The date of the final determination notice shall begin a negotiated time period during which the applicant must obtain the Use Permit, complete on-site facility construction and become ready to receive recycled water service.

4.2.5 Use Permit Application

Unless a waiver is granted, applicants who are notified that recycled water use is mandatory will be required to complete a Recycled Water Use Permit Application form (see Attachment D) provided by the District and obtain a Use Permit from the District. Upon issuance of a Use Permit by the District and commencement of recycled service to the applicant's property, the applicant will be responsible for complying with the requirements for operating a recycled water system including maintenance of backflow prevention devices and compliance with the Cross-Connection Control Ordinance.

4.2.6 Temporary Use of Potable Water

At the discretion of the District, potable water may be made available on a temporary basis until recycled water is available. Before the applicant receives temporary potable water, a Use Permit must be obtained for on-site service. Before the applicant switches to recycled water service, an inspection of the on-site facilities will be conducted to verify that the facilities have been maintained and are in compliance with the Use Permit and the Rules and Regulations. Upon verification of compliance, recycled water shall be served to the parcel for the intended use. If the facilities are not in compliance, the applicant shall be notified of the corrective actions necessary and shall have thirty (30) days to take such actions prior to initiation of enforcement proceedings.

No recycled or potable water use from off-site to on-site facilities is allowed for sites being designed for potable or recycled water until all water meters, meter boxes, and backflow prevention assemblies have been installed, tested, and inspected. On-site cross-connection testing must be completed to the satisfaction of the District prior to any meter releases. The District shall be contacted to turn on the water service angle stop to facilitate the testing of the backflow assemblies for testing purposes only. Backflow assembly test results are to be submitted to the Inspector. Special considerations can only be made by the Water Resources Technician.

4.2.7 Cost of Facilities

Applicants for new water connections, regardless of whether the property was previously developed or is newly developed, will be required to bear the entire cost of those facilities necessary to accommodate recycled water for all mandatory uses, and, if desired, any other authorized uses. All customer-owned on-site recycled water systems shall comply with the Rules and Regulations, the Water Recycling Criteria, and all other statutes, ordinances, regulations and orders of Federal, State and local agencies having regulatory authority over the use of recycled water.

4.2.8 Extension of Recycled Water Main

Each applicant for a new water connection shall be responsible for all costs of constructing a separate recycled water system for mandatory recycled water uses on the property, including the cost of plan preparation and processing required for a recycled water system. Applicants will also be required to pay the cost of constructing

recycled water lines and appurtenances necessary to connect the applicant's recycled water facilities to the nearest recycled water main of the District. The applicant may be required to bear the cost to extend the recycled water system of the District's to a point abutting the property boundary if the District determines that such cost does not make the use of recycled water economically infeasible. If the District determines to extend the line from a point on the District's recycled system other than the nearest point to the applicant's property, or determines to construct a line larger or longer than that needed to provide recycled water service to the property for operational or other reasons, then the additional cost thereof shall be borne entirely by the District. Applicants will be required to deposit in advance the estimated cost of engineering services associated with design of the recycled water system extension necessary to serve the property, and to deposit the estimated cost of construction of the extension, prior to award of a contract.

4.3 USE PERMIT

4.3.1 Requirements

The customer or applicant who has obtained a Use Permit shall comply with the terms and conditions of the Use Permit, the Rules and Regulations, and any additional and future requirements prescribed by the District or other agencies governing recycled water service.

4.3.2 Permit Force

The Use Permit shall become effective upon completion of construction of the on-site project and inspection and final approval by the involved regulatory agencies. The Use Permit shall constitute a binding agreement between the District and the customer.

4.3.3 Permit Availability

A copy of the current Use Permit must be on file at the customer's office and available for review at all times.

4.3.4 Permit Life

The Use Permit shall remain in effect indefinitely, but may be temporarily or permanently revoked if:

- A change of identity of the customer occurs and the customer has not notified the District via the Recycled Water Use Permit Application form (see Attachment D) of the impending change thirty (30) consecutive calendar days prior to the change.
- A change of operator occurs and the customer has not notified the District via the Recycled Water Use Permit Application form (see Attachment D) of the pending change thirty (30) consecutive calendar days prior to the change
- A change of recycled water use occurs inconsistent with the Use Permit
- A violation occurs and results in termination of service

A newly completed Recycled Water Use Permit Application form (see Attachment D) must be submitted to the District to reinstate a Use Permit that has been cancelled. In the event a Use Permit is revoked due to violation of the Rules and Regulations, recycled water service to the customer will be terminated and the customer's use of potable water will be subject to the surcharge set forth in Section 8.

4.4 DESIGN AND CONSTRUCTION SUBMITTALS AND RECORDS

4.4.1 Facility Layout Documents

A location drawing shall be submitted by the customer to the District and approved by the District prior to commencing any installation of facilities. This drawing shall indicate the exact boundaries of the site of the proposed recycled water use at a scale that includes the site and the nearest paved surface street.

4.4.2 System Design Documents

The following information shall be submitted to and approved by the District prior to commencing any construction:

Plans and Specifications - Two copies of the plans, details and specifications (20-scale), signed by the design engineer or landscape architect (for the construction of the irrigation system), shall be submitted to the District for review and approval. All drinking fountains, permanent tables, potable water lines, water meters, backflow prevention assemblies, play areas, hardscape, ball field layouts, etc. shall be shown on the plans. Plans shall include a vicinity index map and shall include major street crossings and point of connection street names. Title sheet shall show Tract and Lot number. Plans shall include irrigation system design, notes, appurtenance details and legends without separate attachments.

Materials and Equipment Criteria - A legend showing the pertinent data for the materials used in the system shall be recorded on the plans. The legend shall include a pipe schedule listing pipe sizes and type of materials of construction, and all related appurtenances including their size, model number and description. Provide a detail for the installation of all proposed appurtenances and controller timing charts showing maximum hours of operation.

Call-Outs - Backflow prevention assemblies, meters, vaults, quick couplers, hose bibs, all potable water lines, exterior drinking fountains and other facilities shall be shown and called out on the plans. If no backflow prevention assemblies, potable water lines, exterior drinking fountains or other facilities are present in the design area, then it shall be specifically stated on the plans that none exists.

Standard Notes - as minimum, standard notes that are to be listed on the plans are as follows. Some notes may not apply to all recycled water uses. Additional notes may be added, as appropriate.

1. The design, installation, identification and use of all on-site potable, fire protection, and recycled water systems shall conform to all State of California, County of Los Angeles, AWWA, and District rules, regulations, guidelines, articles and codes regarding the design, installation, identification, use and maintenance of on-site systems and protection of the public's health. The Contractor shall have a copy of these plans and the Standard Specifications on the job at all times.

2. No construction shall take place without all required approvals and signatures on the plans.

3. The District shall be furnished with two (2) copies of the approved construction plans prior to starting construction. A pre-construction meeting shall be held on the jobsite prior to the start of construction.

4. The Inspector shall be notified two days (48 hours) prior to construction, or any inspection.

5. All water meters and related appurtenances shall be installed and inspected per District specifications before any water use can take place.

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6. On-site Separation Requirements:

Horizontal Separation: The pressurized recycled water piping shall maintain a ten (10) foot horizontal separation at all times from all potable water piping and/or a parallel sanitary sewer system. If a 10-foot horizontal separation is not possible, special construction requirements shall be considered. Common trench construction is prohibited.

Vertical Separation: The pressurized recycled water piping shall maintain a minimum one foot vertical separation at all times from all pressurized potable water piping and/or a sanitary sewer system. The pressurized recycled water piping shall be installed one foot below all pressurized potable water piping and one foot above all sanitary sewer systems. If a one foot vertical separation is not possible, special construction requirements shall be considered.

7. Quick coupling valves on recycled water irrigation mainlines shall be removed at the end of the maintenance period unless specifically approved by the District to remain in place. If the quick coupling valves are required to be removed, the manner of removal shall be determined by the District.

8. Adjust all recycled water irrigation sprinkler, impact and rotor heads to minimize direct overspray, windblown spray, ponding and runoff, onto non-irrigated areas.

9. Any deviations from the signed and approved set of plans must be approved in writing prior to installation by the design consultant and the District. Any revision must be submitted to the design consultant and the District for approval. Failure to comply will result in a "stop work notice."

10. Final recycled water irrigation coverage tests must be performed and passed before a final release will be issued. Direct overspray, windblown spray, ponding and runoff onto non-irrigated areas are prohibited.

11. Cross-connection tests shall be performed on all on-site water systems, including potable, fire protection, and recycled water, as determined by the District prior to the use of recycled water. All cross-connection tests must be performed and approved before a final release will be issued.

12. The entire on-site recycled water system and its appurtenances, as well as other related on-site facilities and appurtenances, shall be inspected and reviewed by the District. Final inspections/site reviews must be performed and approved by the District before a final release will be issued.

13. Recycled water irrigation system hours of operation are limited to between 9:00 p.m. and 6:00 a.m. unless directed otherwise by the District.

14. The following information must be submitted to The District before a final release will be issued:

    a. One complete set of District-approved record plans.

    b. Completed District backflow investigation and test reports for all backflow prevention assemblies on site.

15. Failure to comply with any of the prior provisions and/or any other provisions of the Rules and Regulations will place the system in violation of the Rules and Regulations and will result in a “stop work notice” and/or termination of service until appropriate corrective steps have been taken.

16. The applicant shall install internal, external, or in-line anti-drain valves as necessary in recycled water irrigation systems to prevent low-head drainage.

4.4.3 Final Record Drawings and Documents

Final Record drawings shall be approved by the District as follows before a request for regular service start-up is made. Some items may not apply to all recycled water uses.

Recording Changes - All changes in the work constituting departures from the original design drawings, including changes in pressure and non-pressure lines, number or location of spray heads, bubbler or drip systems shall be accurately recorded on one set of drawings. At the end of each working day, the contractor shall record all work accomplished for that day on the set of drawings in red ink. The final set of record drawings shall be professionally drafted in ink for future photo processing and reproduction. The red line copy shall be available to District upon request.

Dimensioning - All dimensions shall be taken from two permanent points of reference such as buildings, monuments, sidewalks, curbs or pavements.

Specific Call-Outs - The locations of the following items shall be shown:

- POCs
- Routing of irrigation supply lines
- Gate valves
- Sprinkler control valves
- Quick coupling valves
- Routing of control wires
- Irrigation controllers
- Remote control valves
- Irrigation-related appurtenances

Record Drawings - For the purpose of reference, record drawings shall be available at all times.

Irrigation Control Charts - Shall be prepared and submitted with the record drawings, and approved by the District before formal request for service start-up is made. The chart submittals shall include the following:

- Three 11"x16" controller charts shall be provided for each point of connection supplied showing the system area covered by the controller.
- Each chart shall be a reduced record drawing of the system. The final controller sequence shall be clearly legible at the reduction chosen.
- Each chart shall show the area of coverage for each station with colored areas.

4.4.4 Establishing a Temporary Service Connection

Prior to regular service, a temporary service connection may be used to supply recycled water to on-site facilities to permit testing of all or a portion of the facilities

during installation. The Inspector shall be notified at least 24 hours in advance of such intended use of recycled water.

Except as provided above for testing, no recycled water connections from off-site to on-site facilities are allowed for sites being served potable water until cross-connection testing is satisfactorily completed and all backflow prevention assemblies have been installed, tested and inspected. Test results are to be submitted to the Inspector. Special considerations may be made by the Water Resources Technician.

4.4.5 Final On-site Facilities Inspection

Before final acceptance, the District and the Contractor's superintendent or foreman, will make a final inspection of all work to check the following items:

1. Final site review.

2. Final irrigation coverage test has been performed.

3. Cross-connection testing has been performed and passed.

4. The information requested in the Standard Notes has been submitted to the District.

The District will issue a completed recycled water certification form and Use Permit upon successful completion of final inspection. The Use Permit must be obtained within 90 days following the service connection establishment, otherwise service will be discontinued.

4.5 REPORTING

Certain reporting or notification between the parties involved with the use of recycled water may be conducted in person or by telephone.

4.5.1 The District

The following information shall be submitted in writing by the District to the customer upon request and relates to ongoing recycled water service:

- The quantity of recycled water consumed by the customer.
- The typical or average quality of recycled water delivered to the customer.
- A recycled water monitoring report for the site.

4.5.2 Customer

The customer shall report any non-compliance that may endanger health or the environment. Any such information shall be provided orally to the District immediately after the customer becomes aware of the circumstances. A written submission shall also be provided within five days of the time the customer becomes aware of the circumstances. The written submission shall contain a description of the noncompliance and its cause; the period of noncompliance, including exact dates and times, and if the noncompliance has not been corrected; the anticipated time it is expected to continue; and steps taken or planned to reduce, eliminate, and prevent recurrence of the noncompliance. The District, or an authorized representative, may waive the written report on a case-by-case basis if the oral report has been received within 24 hours. The following occurrences(s) must be reported to the District within 24 hours:

- Any unplanned or uncontrolled discharge of recycled water resulting from water line breaks, malfunctioning control system, or any other

circumstances.

- Discharge of recycled water outside of the approved use area due to runoff, direct spray, overspray or windblown spray.

- Discharge of recycled water at a construction site in an unapproved manner or in an unapproved area.

- Due to the potential threat to the public water supply, discovery of a cross connection must be reported immediately to the District.

4.6 UPGRADES AND ALTERATIONS TO ON-SITE WATER SYSTEMS

Upgrades or alterations to on-site recycled, non-potable, and potable water systems on recycled water use sites must be inspected and approved by the District. Prior to commencement of new work, existing record drawings must be revised and submitted to the District for approval. Any upgrades or alterations made to an on-site recycled water system or potable water system on recycled water use sites that are not inspected or do not follow stated notification procedures place the owner and on-site system in violation of the Rules and Regulations. Any upgrade or alterations performed and backfilled without District inspection shall be exposed at the owner's expense for inspection and compliance determination. Penalties may apply, including, but not limited to, termination of service.

4.7 REPAIRS TO ON-SITE WATER SYSTEMS

Repairs to on-site recycled, non-potable, and potable water systems on recycled water use sites must be inspected by and completed to the satisfaction of the District. The District must be notified immediately when a repair is made. Any repairs performed and backfilled without District inspection shall be immediately exposed at the owner's expense for inspection and compliance determination. Any on-site repairs that are not immediately inspected or do not follow stated notification procedures place the owner and irrigation system in violation of the Rules and Regulations. Penalties may apply, including, but not limited to, termination of service.

SECTION 5

TECHNICAL REQUIREMENTS FOR ON-SITE RECYCLED WATER FACILITIES

5.1 IRRIGATION SYSTEMS

5.1.1 Design Responsibility

The design of an on-site irrigation system that will use recycled water, including the preparation of plans and construction specifications, shall be under the responsibility of a qualified design consultant.

5.1.2 Provisions for Recycled Water

In those areas where recycled water is not immediately available for use when the area is ready for construction, an approved backflow prevention assembly shall be required for any potable water use. This assembly shall be provided, installed, and tested at least annually by the customer. All maintenance of the on-site backflow prevention assembly shall be the responsibility of the customer. In those cases where the District uses a master backflow prevention assembly at the inter-tie between the recycled water distribution system and the potable water system, the District may waive the requirement for the customer to install an on-site approved backflow prevention assembly.

Only the District, or the customer in accordance with District's requirements and under the approval and inspection of the District, shall remove said backflow prevention assembly and make the connection to the recycled water distribution system when recycled water becomes available. At such time, if the District removed the assembly, District shall return the assembly to the customer. The District shall determine all points of connection to the District's off-site facilities.

Backflow prevention assemblies are not required on recycled water irrigation systems after service has begun with recycled water. However, backflow prevention assemblies may be required on irrigation systems using recycled water, on a case-by-case basis as determined by the District. Backflow prevention assemblies required by the District on recycled water systems shall be clearly identified by painting the assemblies Pantone 522 color and/or installed in protective enclosures. The District shall notify the customer and it is the customer's responsibility to test these recycled water backflow prevention assemblies annually with the appropriate equipment, used only for recycled water backflow prevention assemblies.

5.1.3 Service Line

District reserves the right to specify the amount, size, and location and/or type of all off-site facilities. The recycled water service lines shall be extended to a location in compliance with the District's standard drawings or a curb line of the customer's property abutting upon a public street, highway, road or utility easement in which recycled water mains are installed.

5.1.4 Service Pressure

The pressure zone/hydraulic grade line shall be as provided by the District. The design consultant must prepare and submit a hydraulic worksheet indicating hydraulic constraints. When off-site system pressures are inadequate or exceed demands, the addition of booster pumps and/or pressure regulators shall be the responsibility of the owner.

5.1.5 Design Application Rates

The on-site irrigation system shall be designed to apply irrigation water in a manner compatible with the infiltration rates of the soil types within the approved use area. Evidence that infiltration rates have been assessed shall be included with the design. Where varying soil types are present to the extent that they cannot be adequately addressed by separate zones, the design of the irrigation system shall be compatible with the lowest infiltration rate present.

5.1.6 System Layout

- The irrigation system shall be designed based on peak-application rate requirements to prevent discharge onto areas that are not approved for use. Adjustable arc, adjustable radius sprinklers with anti-drain/check valves shall be used adjacent to roadways, boundary lines, and hardscape to confine the discharge from the irrigation system to the design area. Recycled water leaving the planting areas, whether by direct overspray, ponding, runoff, or windblown spray, shall be minimized. A drainage device under control of the owner shall be installed at the toe of slope draining to single family residential lots. Drainage devices must stand-alone; slope drainage devices shall not be tied into any other drainage systems, e.g., private systems for single-family lots.

- The irrigation system design shall avoid spray patterns that include obstructions that tend to concentrate recycled water to produce ponding and/or runoff, such as direct or indirect spraying against structures or objects.

- No common trenching with other utilities of any kind is permitted.

- The District reserves the right to limit the area of land under one ownership or homeowner's association to be supplied by one recycled water service connection and corresponding meter.

- No service connection will be made for the purpose of supplying two or more parcels through a common service even though the premises may be in the same ownership. When a parcel is divided into two or more lots, separate service connections must be established for each lot to which service is provided. More than one residential unit on a single parcel, including apartments, duplexes and lots with houses at the front and rear may be served through a single service if application is made by the owner or other person who assumes full responsibility for the payment of all charges to the account of the service. Service to multiple residential units on a single parcel will be classified as “Multi-Family Residential Service” and billed at the District’s established rates for such service. Violation of the rule prohibiting service to more than one parcel through a single service connection shall be cause for discontinuance of service through the service connection upon 30 days written notice to the original applicant to correct the violation. This regulation does not apply to service under separate contract with a water provider.

- For properties of the same customer, irrigation systems shall be allowed to cross roads, streets, or other public rights-of-way to serve medians and slopes along streets. For properties under the ownership and control of other parties, a recorded easement shall be mandatory. A copy shall be issued to the District.

- All recycled water used on any property must pass through the meter. Customers shall be held responsible and charged for all recycled water passing through the water meters.

- On-site separation requirements:

  Horizontal Separation: The pressurized recycled water piping shall maintain a ten (10) foot horizontal separation at all times from all potable water piping and/or a parallel sanitary sewer system. If a 10-foot horizontal separation is not possible, special construction requirements shall be considered. Common trench construction is prohibited.

  Vertical Separation: The pressurized recycled water piping shall maintain a minimum one-foot vertical separation at all times from all pressurized potable water piping and/or a sanitary sewer system. The pressurized recycled water piping shall be installed one foot below all pressurized potable water piping and one foot above all sanitary sewer systems. If a one-foot vertical separation is not possible, special construction requirements shall be considered.

5.1.7 System Control Devices

Every newly constructed recycled water service line shall be equipped with an angle stop on the inlet side of the meter and ball valve on the discharge side of the meter, located within District maintained meter boxes. The angle stop is to be used only by District personnel to control the recycled water supply through the water service line. The ball valve can be used by the customer to control the recycled water supply through the water service line. If the angle stop, ball valve, meter box, meter lid, or automatic meter reader equipment is damaged by the customer to an extent requiring repair or replacement, then the customer shall bear full financial responsibility for repair and replacement.

5.2 CONSTRUCTION WATER FACILITIES

5.2.1 Service Connections

Service connections for the construction use of recycled water may be provided by the District at locations as convenient as practicable to the customer, but at the discretion of the District. The service shall include a valved connection to a recycled water distribution main and water meter whose capacity shall be determined by the District from information supplied by the customer in the application for recycled water service. The meter shall be supplied and installed by the District.

5.2.2 On-site Distribution Facilities

Transmission lines for conveying recycled water from the metered service connection to a storage container or water distribution vehicle shall be of adequate size and structural integrity to ensure that leaks or ruptures will not occur in the course of normal construction activity. The customer shall provide these lines. Lines crossing construction roadways or other areas receiving regular vehicular traffic must be buried to a depth of at least 18 inches for pipes less than 2-inch diameter or a minimum of 24 inches deep if pipe diameter is 2 inches or greater. All lines shall be sleeved with Class 200 pipe twice the diameter of the transmission line. Rigid pipe able to withstand the planned vehicular loads shall be employed for such installations. All piping and appurtenances shall be identified as recycled water to the satisfaction of the District.

5.2.3 Storage Facilities

Recycled water storage tanks and distribution vehicles shall be of adequate design and structural integrity to ensure that leaks or ruptures will not occur in the course of normal use. The customer shall provide these tanks or ponds. All storage ponds and any storage tanks not supported more than six feet above ground-level shall be

contained within a fence or other enclosure that will restrict access by the general public to these facilities at all times when operations personnel are not present. Outlet control with positive shut-off shall be provided at each storage facility with mandatory District approved air gaps. All storage tanks and distribution vehicles shall be identified as recycled water to the satisfaction of the District.

All recycled water storage facilities owned and/or operated by the customer shall be protected against erosion, overland runoff, and other impacts resulting from a 100-year frequency 24-hour storm, and protected against 100-year frequency peak stream flows.

5.2.4 Distribution Vehicles

Vehicles used for distributing recycled water for soil compaction and dust control shall be provided with adequate tanks and plumbing systems to ensure that leaks and ruptures will not occur in the course of normal use. A District-approved air gap is mandatory. Control valves shall be provided such that the recycled water can be applied in a controlled fashion for the approved use area and completely retained during transit in all other areas. Spray heads or nozzles shall be provided and configured such that the discharge is uniformly distributed and runoff, ponding, or windblown overspray conditions minimized.

5.2.5 Identification

All meters, valves, piping, storage tanks, pipe stands, water burros, and impoundments utilizing recycled water shall be identified as recycled water to the satisfaction of the District.

5.3 NON-IRRIGATION SYSTEM FACILITIES

All industrial, commercial and other non-irrigation recycled water system facilities shall conform to the technical guidelines as stipulated for irrigation and construction water systems noted above. Additionally, specific supplemental facility design requirements may be applied by the District and/or LACDPH on a case-by-case basis.

5.4 PROTECTIVE MEASURES

The following provisions are to protect the potable water supplies against cross-connections with the customer's recycled water system. These provisions are in addition to, not in lieu of, the controls and requirements of other regulatory agencies. These provisions are in accordance with Title 17. The Rules and Regulations are intended to protect the potable water supplies and are not intended to provide protection of customers from the hazards of cross-connections within their own property.

Approved backflow prevention assemblies on the potable water services to the property, as required in the Rules and Regulations, shall be provided, installed, tested, and maintained by the customer at customer expense. These assemblies shall be located on the property served immediately downstream of the meter and shall not be on District facilities. All devices used shall be readily accessible for testing and maintenance and no device shall be submerged or exposed to recycled water, direct overspray, or runoff at any time.

During application for recycled water service, the applicant must provide sufficient information, including plumbing and building plans, to enable the District to determine the level of backflow protection required. The proper backflow protection, as determined by the District and approved by LACDPH and other appropriate regulatory agencies, shall then be installed, inspected, and tested before recycled water service is provided.

The customer shall notify the District not less than 30 days prior to a change of use regarding potable or recycled water, customer, Site Supervisor, owner, tenant, or operator. District will then reassess the level of protection required. Any and all proposed alterations or upgrades to existing on-site water facilities must be reported to and approved by the District prior to the proposed change.

At their discretion, representatives of the District, and any regulatory agency having jurisdiction may conduct surveys of property where the District provides water service. These surveys are to determine if any actual or potential cross-connections exist. The customer shall provide full cooperation including manpower in facilitating these surveys.

Where protection is required, backflow protection in accordance with Title 17 and approved by LACDPH for potable water supplies shall be provided as follows:

- Each District water service connection that supplies potable water to a parcel having a recycled water supply shall be protected against backflow from the parcel into the potable water to the satisfaction of the District.

- Backflow protection may be required at parcels where there has been a history of cross-connection violation prior to recycled water supply being re-established.

Water meters used for recycled water service shall be tagged, color-coded, or otherwise distinguished as such in accordance with AWWA Guidelines. These meters shall not be interchanged or used for potable water service after repairs and/or meter testing has been performed.

SECTION 6

CONSTRUCTION SPECIFICATIONS FOR ON-SITE RECYCLED WATER FACILITIES

The following details for customer construction specifications that are use specific, such as for irrigation, are intended as examples of current use practice, and are not intended to preclude other approved uses, which may require case-by-case specifications.

6.1 GENERAL CONDITIONS

All construction work for on-site recycled water facilities shall be in conformance with the Rules and . Work is to begin only after the contractor, installer, or customer has obtained approval in the form of signed plans or revisions for recycled water use from the District (issued a Use Permit) and LACDPH.

6.1.1 Trade Names or Approved Equivalents

The contractor shall be permitted to supply any of the specified materials or to offer for approval by the design consultant and the District equivalent materials in accordance with the appropriate section of the Rules and Regulations.

6.1.2 Permits and Licenses

Except as otherwise provided, the contractor shall procure all permits and licenses, pay all charges and fees, and give all notices necessary and incidental to the due and lawful prosecution of the work.

6.1.3 Liability

Neither the District, its employees and officers, members of the Board of Directors, nor authorized agents shall be personally responsible for any liability arising out of the work performed. The customer shall procure and maintain for the duration of the construction period certificates of general liability insurance and workmanship insurance in forms and amendments approved by the District and naming the District, and all the prior individuals as additional insures.

6.1.4 Loss and Damage

Neither the District, nor authorized representatives thereof shall be answerable or accountable in any manner for any loss or damage that may happen to the work or any part thereof; or for any material or equipment used in performing the work; or for injury or damage to any person(s), either workmen or the public; or for damage to the owner's or customer's property or improvements, or for damage to adjoining property from any cause whatsoever during the progress of the work or at any time before or after final acceptance.

6.1.5 Legal Responsibility

The Contractor shall keep fully informed of all laws, ordinances and regulations that in any manner affect those engaged or employed in the work or the materials used in the work, or that in any way affect the conduct of the work, and of all such orders and decrees of bodies or tribunals having any jurisdiction or authority over the same. If any discrepancy or inconsistency is discovered in the plans, drawings, specifications, or other documents in relation to any such law, ordinance, regulations, order, or decree, the contractor shall forthwith report the same to the design consultant and the District in writing.

The contractor shall observe and comply with and shall cause all of the contractor's agents and employees to observe and comply with all such existing and future laws, ordinances, resolutions, regulations, orders and decrees, and shall protect and indemnify the District, its employees and officers, members of the Board of Directors, and authorized agents against any claim or liability arising from or based on the violation of any such law, ordinance, regulation, order or decree, whether by the contractor or contractor's employees.

The contractor shall also indemnify and save the District, its employees and officers, members of the Board of Directors, and authorized agents harmless from all costs, losses, expenses, damages, attorneys' fees, and other costs of defense that the District may incur with respect to or on account of the work, and with respect to the failure, neglect or refusal of contractor to faithfully perform the work and all of contractor's obligations under the contract. Such costs, expenses, and damages shall include all costs incurred by the District to defend against any claims, stop notices or lawsuits based thereon in which the District is made a party

The contractor shall observe the rules and regulations of the State, Department of Industrial Relations, Division of Industrial Safety, and, in particular, rules and regulations relating to shoring of trenches and excavations. All work shall be done in accordance with all directives, provisions and requirements pertaining to the method and manner of performing the work, in accordance with Cal/OSHA latest amendment or revision.

The contractor shall provide a job foreman present during working hours that can communicate effectively with District personnel both orally and in writing.

6.1.6 Inspection Authority

District shall at all times have access to all on-site work during construction and shall be furnished with such information as it may desire regarding location of facilities, the progress, workmanship and character of materials used in the work.

District shall have the authority to notify the customer of an apparent failure on the part of the contractor to carry out orders given or to perform any provisions of the plans or specifications. Upon its confirmation of the apparent failure, the customer shall be obligated to require the contractor to suspend the work wholly or in part. The contractor shall immediately comply with the written order of the District to suspend the work wholly or in part. Dependent on the nature of the non-compliance, it may require immediate action by the contractor via verbal order with a written order following. The work shall be resumed when methods or defective work are corrected as ordered and approved in writing by the District. Failure to comply with requests of the District will prevent further work, termination of all potable water and recycled water, and the final release of the entire project.

6.1.7 Potable Water System Identification

Where potable water service is provided to sites with recycled water service, the potable water system must have identification as required by the District.

6.2 MATERIAL SPECIFICATIONS

6.2.1 Facilities and Equipment Identification

Colors and materials used for the identification of all recycled water pipe, appurtenances, equipment, storage facilities, and approved use areas shall be in accordance with the latest edition of the AWWA Guidelines and the Purple Book. The AWWA Guidelines and the Purple Book describe the wording required for identification signs for approved use areas, storage facilities, and construction equipment. All recycled water distribution equipment, storage facilities, and approved use areas shall

be identified as such. Identification requirements pertain to all recycled water facilities and potable water facilities (including those used for irrigation) that are used on the same site or adjacent to sites using recycled water.

Identification for piping (including recycled water hoses), control valves, and all other recycled or potable water facilities shall include tags, labels, or other methods as directed by the District. For site identification, “recycled water in use” signs shall be posted at each point of entry to the site (i.e., trail, walkway, vehicular access) as directed by the Inspector.

6.2.2 Irrigation Systems

District rules, regulations, specifications, and details shall take precedence in any and all conflicts as determined by the District.

- Piping

  Piping and piping materials shall conform in all respects to the requirements in the Rules and , and as a minimum shall conform to the latest requirements of the AWWA and UPC standards for the type, size, class, and installation requirements of pipe being used. Design consultant shall verify all ANSI, AWWA and ASTM standards and references.

  Pressure Supply Line - All on-site recycled water piping shall be installed in accordance with the AWWA and UPC standards and all other local governing codes, rules, and regulations. All piping shall be continuously and permanently marked with the manufacturer's name or trademark, nominal size, and schedule or class indicating the pressure rating.

- District Detail Drawings

  Use of all District details shall be mandatory where such details are applicable and available. Any details required that are not provided by the District shall be approved on a case-by-case basis by the District.

6.2.3 Construction Water Facilities

- Piping

  All piping employed for the transmission of recycled water for construction purposes shall be in serviceable condition and free from leaks and structural faults. All joints shall be structurally sound and free from leaks.

- Valves
  All valves employed with facilities using recycled water for construction purposes shall be in serviceable condition, provide positive shutoff, and be free from leaks.

- Storage Tanks
  All storage tanks used for recycled water, whether fixed or mounted on distribution vehicles, shall be structurally sound and free from leaks. Approved air gaps are mandatory.

6.2.4 Non-Irrigation System Facilities

All industrial, commercial and other non-irrigation recycled water system facilities shall conform to the material specifications as stipulated for irrigation and construction water systems noted above. Additionally, specific supplemental specifications for materials may be applied by the District and/or LACDPH on a case-by-case basis.

6.3 CONSTRUCTION METHODS

6.3.1 Irrigation Systems

- Valve and System Control Device Installations

  All on-site valves, valve boxes, valve markers and power supplies shall be installed in accordance with the requirements in the Rules and and local building codes.

- Separation from Other Utilities

  Separation between on-site recycled water lines and sanitary sewers and potable water lines shall be established in accordance with the latest requirements set forth by the CADPH and LACDPH, but not less than the separations described in the AWWA Guidelines and Section 5 of the Rules and Regulations. Common trenching with other utilities or any other systems is strictly prohibited.

- Laying Pipe

  Recycled water lines 1½ inches and less in diameter below grade shall be buried with a cover of at least 18 inches. Recycled water pipelines 2 inches and greater shall be buried with a cover of at least 24 inches or 36 inches when potable water is used onsite. Pipe trenches shall be backfilled with clean material containing no rocks and debris that can damage the pipe.

  Recycled water lines laid above grade shall be protected from thrust motion if such protection is determined to be required by the Inspector.

6.3.2 Construction Water Facilities

- Valve Installations

  All valves installed along the recycled water transmission pipeline and not attached to a rigid structure shall be protected from thrust motion if such protection is determined to be required by the Inspector. To achieve such protection, metal stakes with wire or plumbers tape lashes shall be installed at all such valves. Alternative methods of protection from thrust motion may be approved by the Inspector.

- Laying Pipe
  Recycled water lines laid above grade shall be protected from thrust motion if such protection is determined to be required by the Inspector

- Water Trucks
  Trucks must be identified as carrying recycled water and not suitable for drinking. The feed pipe to the truck must be permanently attached and have an air gap to the tank.

- Storage Tank Installations
  All recycled water storage tanks shall be erected only on level ground. Provisions shall be made to prevent differential settling of the tank supporting structure. Approved air gaps are mandatory.

6.3.3 Non-Irrigation System Facilities

All industrial, commercial and other non-irrigation recycled water system facilities shall conform to the methods of construction as stipulated for irrigation and construction water systems noted above. Additionally, specific supplemental construction

methodologies and on-site practices may be required by the District and/or LACDPH on a case-by-case basis.

6.4 INSPECTION

Inspection of the work shall not relieve the contractor of any obligations to complete the work as prescribed by the applicable specifications. Defective work shall be made good and unsuitable materials may be rejected notwithstanding the fact that such defective work, unsuitable materials, or materials not as specified on the approved plans have been previously overlooked by the Inspector and accepted. The installation and inspection of unsuitable materials or materials not as specified on the approved plans shall not be construed as acceptance, and modification to these specifications shall only be made by the District in writing.

6.4.1 Irrigation Systems

- Construction Schedule

  If required by the District, the contractor shall submit a schedule to the District outlining his proposed construction operation. The contractor shall conform to the Rules and Regulations regarding prior notification for inspection and deviations from the approved schedule.

- Notification and Approvals

  All work shall be subject to inspection and approval. The contractor shall give due notice to the Inspector in advance of backfilling so that proper inspection may be provided. Unless the District expressly states otherwise, the contractor shall give a minimum of 48 hours notice prior to backfilling any and all work for which inspection is required, whether for materials or construction work.

- Inspection Intervals

  All work shall be subject to inspection by the District and shall be left open and uncovered until approved by the District. Potholing of piping is strictly prohibited.

  The contractor shall not proceed with any subsequent phase of work until the previous phase has been inspected and approved by the Inspector. Record drawings must be updated daily prior to inspection.

- Final Inspection

  Following the completion of all construction work and the submittal and approval of record documents, calibration reports, certificates, and installation approvals, the Contractor shall request final inspection of the work. This request shall include the scheduling of the operational testing.

  Before final acceptance, the District, accompanied by the Contractor's superintendent or foreman, will make a final inspection of all work.

6.4.2 Construction Water Facilities

- Construction Schedule

  The operator shall give the District a construction schedule prior to initiation of construction work.

- Notification and Approvals

  Unless the District expressly states otherwise, the operator in advance of any and all inspection requirements shall give a minimum of 48 hours notice, whether for materials or installation work.

- Final Inspection

  The operator shall request final inspection of the work. Prior to use of recycled water, District approval must be obtained. Signage, labels, and air gap on truck tank must be installed. The Use Permit must be on-site and in vehicle.

6.4.3 Non-Irrigation System Facilities

All industrial, commercial and other non-irrigation recycled water system facilities shall conform to the terms of inspection as stipulated for irrigation and construction water systems noted above. Additionally, specific supplemental inspection procedures may be required by the District and/or LACDPH on a case-by-case basis.

6.5 REVIEW AND TESTING

6.5.1 Irrigation Systems

- Materials
  The contractor shall furnish the District with such information, as it may desire, regarding the character and quality of materials used. When requested by District, the contractor shall submit a certification that the product meets the requirements of these specifications.

  All pipe and accessories shall be carefully inspected by the District and contractor for damage in transit. Any damaged or degraded pipe or fittings delivered and unloaded at trench-site shall be rejected and removed immediately by the contractor from the site of the work.

6.5.2 Construction Water Facilities

- Materials

  The contractor shall furnish the District such information, as the District may request, regarding the character or quality of materials used.
  Installed Piping Systems

  Installed piping systems shall be subjected to a leak test administered by the Inspector with the cooperation of the contractor. Before testing, the pipe and valves shall be staked if such protection from thrust motion has been determined to be required by the engineer or inspector. Any noticeable leaks shall be stopped and defective materials shall be replaced. Valves shall be operated during the test period.

- Operational Testing

  Prior to final acceptance by the District, all construction facilities shall be required to successfully pass an operational test as administered by the design consultant in the presence of the Inspector. The leak test for installed piping systems in conjunction with a leak test of all storage tank installations shall constitute the operational test.

  Any required corrections shall be noted in the form of a punch list and submitted to the contractor by the District for correction. Service startup

shall not be authorized until all corrections are made to the satisfaction of the District.

6.5.3 Non-Irrigation System Facilities

All industrial, commercial and other non-irrigation recycled water system facilities shall conform to the terms for review and testing as stipulated for irrigation and construction water systems noted above. Additionally, specific supplemental on-site review and testing procedures may be required by the District and/or LACDPH on a case-by-case basis.

6.6 RETROFITS AND CONVERSIONS

6.6.1 Retrofit to Recycled Water Use

Prior to conversion of an existing on-site system from potable water to recycled water use, the existing system shall be assessed by the District to determine whether it is suitable for use as a recycled system. To the extent practicable, the owner shall provide the District with a diagram showing, in detail, the size, composition and location of all components and materials comprising the system to be retrofitted. The District shall review the diagram or other documentation describing the on-site facilities and make a physical inspection of the system to determine what alterations, additions and other measures are necessary to bring the system into acceptable compliance with the Rules and Regulations. After District approval, LACDPH shall also review and approve all conversions in accordance with the Use Permit application process in the Rules and Regulations. No existing on-site potable water facilities shall be connected to or be incorporated within the recycled water system without the District and other regulatory agency testing and approval. As a minimum, the retrofit of a potable water system to a recycled water system shall require:

- Identification of all existing on-site above-grade pressure pipelines, valves, and appurtenances.
- Installation of an approved air gap or backflow prevention assembly devices in accordance with requirements of the Rules and Regulations and subject to cross-connection control tests required in order to prevent cross-connections with or contamination of a potable water system at any location where it is proposed to retain a connection to a potable system.
- Performance of dye test or pressure tests to determine existence of cross-connections with all on-site potable water systems.
- Submittal of as-built record drawings package.
- Completion and submittal of Attachments C and D

6.6.2 Conversion from Recycled Water Use

If, due to on-site failure of the recycled water system, or use violations, the District terminates recycled water service to the site, and the customer elects to convert on-site facilities from a recycled water supply to a potable or other water supply, it shall be the responsibility of the customer to perform conversion, unless determined otherwise by the District. Prior to District approval, the LACDPH shall review and approve all such conversions. As part of the conversion effort, the customer shall:

- Install approved backflow prevention assemblies on all potable, or other water meter connections.
- Remove any/all special recycled water quick couplers and be responsible for replacement with quick couplers approved for potable water systems.

- Notify all on-site personnel involved.
- Remove all recycled water identification labels/signs, tags, and tapes where possible. Change out branded valve box lids, to the satisfaction of the District.
- Provide required disinfection of all recycled water systems as mandated by appropriate regulatory agencies.

SECTION 7

OPERATIONAL REQUIREMENTS FOR ON-SITE RECYCLED WATER USE

The following details for customer operational requirements that are use specific, such as for irrigation, are intended as examples of current use practice, and are not intended to preclude other approved uses, which may require case-by-case specifications.

7.1 SPECIFIC LIMITATIONS

7.1.1 Runoff Conditions

Conditions that directly or indirectly cause runoff outside of/or within the approved use area, whether by design, construction practice, or system operation, shall be minimized.

7.1.2 Ponding Conditions

Conditions that directly or indirectly cause a ponding condition outside of or within the approved use area, whether by design, construction practice, or system operation, shall be minimized. Temporary ponding in a vegetated area caused by draining of system or meter testing is allowed in District specified areas with prior District approval.

7.1.3 Direct Overspray Conditions

Any discharge of water directly onto areas other than that within the approved use area is strictly prohibited.

7.1.4 Windblown Overspray Conditions

Conditions that directly or indirectly permit windblown spray to pass outside of the approved use area, whether by design, construction practice, or system operation, shall be minimized.

7.1.5 Unapproved Uses

Use of recycled water for any purposes other than those explicitly approved in a Use Permit issued by the District and without the prior knowledge and approval of the District is strictly prohibited.

7.1.6 Disposal In Unapproved Areas

Disposal of recycled water for any purposes, including approved uses, in areas other than those explicitly approved in the Use Permit issued by the District and without the prior knowledge and approval of the District, is strictly prohibited. Discharge of water from flushing or draining of the recycled system shall be done either at the approved use area and in a manner that does not create ponding or runoff conditions, or to a sanitary sewer manhole, with the approval of the agency responsible for operation of the sanitary sewer. In no case shall the discharge of recycled water to a sanitary sewer cause the sewer to overflow or otherwise create a public health hazard or nuisance.

7.1.7 Cross-Connections

Cross-connections, permanent or temporary, resulting from the use of recycled water or from the physical presence of a recycled water service, whether by design, construction practice, or system operation, are strictly prohibited.

7.1.8 Unprotected Drinking Fountains

Any drinking fountain located within the approved use area designated by the Use Permit shall be protected from contact with recycled water. Lack of such protection, whether by design, construction practice, or system operation, is strictly prohibited.

7.1.9 Unprotected Public Facilities

Facilities that may be used by the general public, or on-site personnel, including but not limited to eating areas, eating surfaces/benches, pools, spas, hardscape, and playground equipment/play areas, and located within the approved use area designated by the Use Permit, shall be protected from contact with recycled water. Lack of such protection is prohibited until review and concurrence by the District, CADPH, and LACDPH on a case-by-case basis.

7.1.10 Hose Bibbs

Installation of hose bibbs on any on-site system that presently operates or is designed to operate with recycled water, regardless of the hose bibb construction or identification, is strictly prohibited.

7.1.11 Fire Hydrants

Use or installation of fire hydrants on any site that presently operates or is designed to operate with recycled water, regardless of the fire hydrant construction or identification, requires prior written approval by the District.

7.1.12 Hours of Operation

Irrigation with recycled water is restricted to particular hours that vary for the following application areas:

- Turf areas and center street medians
- Slopes and groundcover/shrub areas
- Golf courses

Hours of operation are from 9:00 p.m. to 6:00 a.m. unless otherwise approved by the District. The District may change specific times of operation for certain customers to meet District operational requirements.

Avoidance of potential human contact with recycled water shall take precedence over recycled watering schedules. Irrigation system runtimes shall be adjusted to minimize potential human contact with recycled water, on an individual lateral system basis. The District shall require specific run times and durations where there is a history of human contact.

7.1.13 Water/Garden Hoses and Hose Appurtenances

Water/garden hoses and hose appurtenances utilizing recycled water shall be identified: “Recycled/Reclaimed Water – Do Not Drink”. These hoses shall only be used for recycled water use. Use of these hoses for potable water use is strictly prohibited.

7.2 IRRIGATION SYSTEMS

7.2.1 Supervision

On-site irrigation systems at each use area under the customer's control shall be

under the management of the Site Supervisor designated by the customer or the operator and approved by the District. Site Supervisors shall be responsible for the installation, operation, and maintenance of the irrigation system; enforcement of the Rules and Regulations; prevention of potential hazards and cross-connections; and maintenance of the recycled water system plans in record drawing form, including location of any on-site potable water features and facilities. The Site Supervisor, in the event of a contamination to the public potable water supply, shall be responsible for immediate notification to the District.

The Site Supervisor or representative shall check all appurtenances on the on-site irrigation system to ensure proper operation, and perform a coverage test of the system at least quarterly. The owner shall keep records of quarterly on-site testing using the On-site Recycled Water Testing form (see Attachment E) for District review. Records must be kept on file for a minimum of five years.

The Site Supervisor or representative shall be available during normal working hours at an address listed with the District for the purpose of hosting an inspection tour or for discussing operational aspects of the system. The Site Supervisor shall be able to effectively communicate with District personnel orally and in writing. The Site Supervisor or representative shall be available via telephone at a number listed with the District for emergency off-hours contact on the Recycled Water Use Permit Application form (see Attachment D). Where necessary, keys and/or lock combinations shall be issued to the District to provide access upon request.

7.2.2 Operator Certification Submittal

Once the customer has selected the operator of an on-site recycled water system, the selected operator must complete a recycled water operators' certification process. District shall evaluate this submittal and advise the operator of the need for any additional information or action. Operators must attend a training session coordinated by the District and LACSD prior to receiving operation certification or within 180 consecutive calendar days after certification, as training sessions are scheduled.
If the customer selects a new operator during the course of service, the Use Permit must be updated via the Recycled Water Use Permit Application form (see Attachment D), which shall be submitted by the new operator to the District. The District shall update all Use Permits to confirm information accuracy.

7.2.3 Temporary Service Connection

A temporary service connection may be provided for on-site construction testing purposes. The temporary service connection consists of the permanent service connections and meter plus any backflow prevention assemblies, if required.

7.2.4 Service Startup

Following final District inspection and certification of the project, the customer shall request regular service startup. District shall begin regular service within five working days of approval of service startup.

7.2.5 Confinement of Irrigation

The customer shall be responsible for maintaining and controlling the system in order to minimize human contact, prevent human consumption of recycled water, and to control and eliminate direct spray, overspray, ponding and runoff. The customer shall be responsible for any subsequent uses of the recycled water.

7.2.6 Dye Testing/Pressure Testing

In order to determine the existence of any cross-connections or backflow conditions into the potable water system, acceptable tracer dyes may periodically be introduced

into the recycled water system by the District where feasible, and/or the District may perform a pressure test where the recycled system is isolated and pressure is bled off.

7.2.7 Contamination

In the event of contamination or pollution of a potable water system due to a cross connection or other failure, CADPH, LACDPH and the District shall be immediately notified, so that appropriate measures will be taken to correct the problem. The Site Supervisor shall submit a written report explaining the contamination within five working days.

7.2.8 Maintenance

A preventive maintenance program designed to ensure the continued operation of all system elements within the requirements of the Rules and Regulations shall be evidenced by the customer using the On-site Recycled Water Testing form (see Attachment E) for District review. Records must be kept on file for a minimum of five years.

7.3 CONSTRUCTION WATER FACILITIES

7.3.1 Supervision

The operation and surveillance of the construction water facility at each use area under the customer's control shall be under the management of a Site Supervisor designated by the customer or the operator and approved by the District. Site Supervisors shall be responsible for the installation, operation, and maintenance of the on-site facility, equipment, enforcement of the Rules and Regulations, and prevention of cross-connections and potential hazards. The Site Supervisor or representative shall be available via telephone at numbers listed with the District for contact during working hours and after hours.

7.3.2 Identifying Equipment

All equipment and facilities using recycled water shall be identified per District specifications.

7.3.3 Application Control

Recycled water used for the purpose of soil compaction and dust control shall not be stored or applied in a manner that causes runoff, ponding, windblown overspray conditions, or discharge in any way onto unapproved areas. If such conditions occur, the method of application shall be altered to correct them and prevent any further ponding, runoff, or windblown spray onto unapproved areas. Control valves on the water distribution vehicles and other controlling devices shall be properly employed to prevent the application of recycled water outside the approved use area onto surfaces including, but not limited to, street pavements, sidewalks, and drainage courses.

7.3.4 Maintenance

The customer shall establish a preventive maintenance program designed to ensure the continued operation of all system elements within the requirements of the Rules and Regulations. Written records of maintenance activities shall be kept by the customer and open to inspection by the District.

7.3.5 Reuse of Equipment

Any equipment, such as tanks, water trucks, temporary piping or valves and portable pumps that have been used with recycled water shall be drained, cleaned and disinfected before removal from the approved use area to another job site. This

disinfection and cleaning shall ensure the protection of the public health in the event of any reuse of such equipment with higher quality water. Methods of disinfection shall be approved by the District or the appropriate regulatory agency, and the disinfection process shall be performed in the presence of a person designated by the District's Water Resources Technician. When storage tanks or distribution vehicle tanks are provided with an inlet air gap whose configuration is approved by the LACDPH, such on-site disinfection shall not be required.

7.4 NON-IRRIGATION SYSTEM FACILITIES

All industrial, commercial and other non-irrigation recycled water system customers shall also conform to the specific prohibitions and operational requirements as stipulated for irrigation and construction water systems. Additionally, specific supplemental operational and maintenance requirements may be mandated on a case-by-case basis as described below.

7.4.1 Supervision and Surveillance

It is the responsibility of the customer to provide surveillance and supervision of said recycled water system in manner that assures compliance at all times with the Rules and Regulations. The customer shall designate a Site Supervisor with the approval of the District to provide liaison. This person shall be available to the District at all times and shall have the authority to carry out any requirements of the District with regard to the operation of the customer's recycled water system. The District must be notified immediately of any change in this position. The District shall provide periodic inspections of the customer's system and report all violations to the appropriate regulatory agency in accordance with applicable procedures that have been established by law, code, permit or practice.

7.4.2 Annual Inspection and Monitoring

The District shall annually monitor the operation of the customer's recycled water system by performing a visual inspection. This inspection shall be in conjunction with the annual testing for cross-connections. This inspection shall include at a minimum, the visual inspection of all backflow prevention devices, pump rooms, exposed piping, pipe galleries, valves, pressure reducing stations, points of connection, signs, labeling, tags etc. The Site Supervisor's maintenance records shall be inspected to review all maintenance since the last inspection. The District reserves the right to make unannounced inspections of the facility.

Should a cross-connection be discovered during the inspection, the recycled water service will immediately be locked off. Service will not be re-established until the cross-connection has been eliminated.

Upon completion of the inspection, a Visual Inspection Report Form will be signed and dated by both the Site Supervisor and the District. The original shall be maintained by the District with copies going to the Site Supervisor and any required regulatory agency.

7.4.3 System Modifications

No modifications shall be made to any recycled water system or potable water system where dual systems exist, by the customer, without the prior approval of the District. This includes modifications to the approved plans, or to an operational system. Detailed plans of any modifications should be submitted to the District and the modifications inspected by the District prior to their being placed in operation.
Emergency modifications or repairs can be made by the customer to the recycled water system without prior approval of the District to prevent contamination, damage or a public health hazard. As soon as possible the customer shall notify the District of such emergency modifications and file a written report.

7.4.4 System Maintenance

Prior to any non-irrigation recycled water system being activated, an Emergency Cross-Connection Response Plan and a comprehensive maintenance program must be developed by the customer and approved by the District. A comprehensive maintenance program must include inspections, testing, notification procedures, education, and accurate records keeping. Maintenance is to be performed by qualified persons under the direction of a Site Supervisor. No repairs or modifications are to be made to the recycled or potable water systems without the knowledge and consent of the Site Supervisor. The maintenance program shall insure the proper operation of the buildings water system(s). In buildings where both recycled water and potable water are present, annual inspections and testing is required to insure no cross-connections exist. Backflow prevention devices located on site require quarterly inspections and annual testing. Accurate records must be maintained of all maintenance, inspections and tests performed upon the water system(s). Practicing a comprehensive maintenance program will help insure system compliance.

7.4.5 Personnel Training

The non-irrigation system customer is required to train all operations personnel in the proper use of recycled water. Any training program should include but not be limited to the following:

Operations personnel must be aware that recycled water although highly treated, is non-potable.

- Good personal hygiene must be followed.
- At no time shall recycled water be used for human consumption.
- Operations personnel must understand that working with recycled water is safe provided that good common sense is used and applicable regulations are followed.
- Operations personnel must understand that there is never to be a direct connection between the recycled water system and the potable water system.

All new employees shall be trained in the proper use of recycled water and supervisory personnel should be held accountable to insure that employees are not using recycled water in a careless manner.

7.4.6 Contamination and Emergency Response Procedures

Unauthorized Discharge – It is responsibility of the customer to report to the District all system failures that result in an unauthorized discharge of recycled water. An immediate oral report followed by a written report is required.

Contamination of Drinking Water – In the event of contamination of the potable water system due to a cross-connection on the customer's premises, the District shall be immediately notified by the customer. The customer is to immediately invoke an Emergency Cross-Connection Response Plan as follows:

A. In the event that a cross-connection is detected by the on-site supervisor, the District, or representatives of CADPH or LACDPH, the following shall be implemented immediately.

1. Eliminate the cross-connection.

2. Collect water samples from the potable water system and perform a 24-hour bacteriological analysis. Water samples should be collected from the closest acceptable point to the cross-connection. If the bacteriological analysis is positive follow the procedure for a backflow incident outlined in "B" below.

3. Notify the District by phone. This notification is to be followed by a written notice within 24 hours. The written notice is to include an explanation of the nature of the cross-connection, date and time discovered, and the steps taken to mitigate the cross-connection(s).

B. In the event that a backflow incident is suspected or occurs the following procedures shall be implemented immediately.

1. Notify the District by phone. This notification is to be followed by a written notice within 24 hours. The written notice is to include an explanation of the nature of the cross-connection, date and time discovered, and the steps taken to mitigate the cross-connection(s).

2. Keep the potable water system pressurized and post "Do Not Drink" signs at all potable water fixtures and outlets.

3. Immediately shut down the recycled water supply to the facility at the meter.

4. Drain the recycled water system.

5. Identify the cause and location of backflow and eliminate the cross-connection.

6. Pressurize the recycled water system.

7. Chlorinate the potable water system maintaining a chlorine residual of at least 50 mg/L for 24 hours.

8. Flush the potable water system after 24 hours and perform standard bacteriological analysis.

9. If test results are acceptable obtain final approval from the District before removing signs.

7.5 TESTING AND INSPECTION

Systems constructed to immediately begin using recycled water or systems constructed for recycled water use, but will be using potable water in the interim until recycled water becomes available in the area, are required to successfully pass cross-connection control testing in order to continue water service. A final release letter will be issued when these testing and other District requirements are met. No potable water other than for testing and no buildings or facilities using potable water, shall be utilized or occupied until all cross-connection control testing and final inspection requirements have been performed and passed.

Any use site receiving recycled water and potable water shall be required to successfully pass routine inspection and cross-connection control testing in order to continue to receive potable, recycled water and sewer service.
For sites adjacent to recycled water use sites, cross-connection control testing and site inspections may be required on a case-by-case basis, to ensure the protection of the public water supply and public heath.

7.5.1 Schedule

The District will inspect and test at least every four years each site utilizing recycled water and potable water for compliance with District, State, and County regulations governing use of recycled water on-site. Sites with public exposure will be tested more frequently.

Any site where the period of time since the last inspection exceeds inspection interval established by the District by more than sixty (60) consecutive calendar days will be subject to recycled water service termination if the delay is a result of lack of cooperation or coordination of the owner or their representatives.

Any recycled water site where recycled water service has been discontinued for a period of thirty (30) consecutive calendar days, or has exceeded the previous inspection and testing schedule established by the District will be required to perform an inspection and cross-connection testing prior to and in conjunction with regular service start-up. No recycled water shall be utilized on-site without the testing being performed.

7.5.2 Procedures

The On-site Recycled Water Testing form (see Attachment E) includes a non-exhaustive list of standard inspection procedures. The District reserves the right to add to or alter testing procedures as necessary. Testing will review all on-site POCs to verify proper identification and proper backflow protection with current test reporting as required by the District and CADPH.

7.6 MAINTENANCE RECORDS

The Site Supervisor or representative shall assess the on-site recycled water system quarterly to ensure full compliance with all current regulations governing use of recycled water. The Site Supervisor or representative of the use site shall maintain records for the quarterly assessment during the routine inspection and testing by the District and keep them on file for District review upon request. If the forms are not available for District review upon request, the District may terminate the recycled water service and reconnection fees will apply to restore recycled water service.

SECTION 8

VIOLATIONS AND PENALTIES

8.1 DETERMINATION

The District reserves the right to determine whether a violation of the Rules and Regulations has resulted from any action and/or occurrence that are the responsibility of the customer. Insofar as violation of the Rules and Regulations constitutes violation of any regulatory agency requirement, the District makes its determination on behalf of the concerned agency(s). However, this determination and any consequential penalties levied by the District do not limit the penalties or other enforcement actions which may be imposed by other regulatory agencies for the same violation.

8.2 VIOLATIONS

Violations shall include those actions and/or occurrences that directly cause noncompliance with any one of the specific operational limitations as listed in the Rules and Regulations, such as runoff conditions, ponding conditions, direct and windblown overspray conditions, unapproved uses, disposal in unapproved areas, cross-connections, unprotected drinking fountains, unprotected public facilities, hose bibbs, fire hydrants, and hours of operation. However, by definition, noncompliance with any condition or conditions of the Rules and Regulations or Use Permit, whether willfully or by accident, shall constitute a violation. Pursuant to Section 35424 of the California Water Code, any violation of the Rules and Regulations is a misdemeanor.

Customer reporting requirements in the event of a violation are outlined in Section 4.

8.3 CORRECTIVE ACTION

Any person, firm, corporation, association, or agency found to be violating any provision of the Rules and Regulations or the terms and conditions of the Use Permit, or applicable State or local statutes, regulations, ordinances, or other requirements shall be served by the District with written notice stating the nature of the violation and providing a reasonable time limit for the satisfactory correction thereof. The offender shall, within the period of time stated in such notice, permanently cease all violations. Notwithstanding correction of the violation by the customer, the District may impose penalties or take other enforcement actions pursuant to any other provision of the Rules and Regulations.

8.4 PENALTIES PRIOR TO ISSUANCE OF THE USE PERMIT

8.4.1 Existing Potable Water Service Being Converted to Recycled Water Use

If after ninety (90) consecutive calendar days from the date of the District's final determination notice, the prospective customer has not completed required on-site retrofit construction work, then, in addition to any other penalties set forth in the Rules and Regulations, the District may impose a surcharge equal to fifty percent (50%) of its potable water rate in effect at the time of violation. If imposed, this surcharge will be included in the customer's monthly billing, and will continue until the customer has complied with the Rules and Regulations to the District’s satisfaction.

8.4.2 Recycled Water Service Temporarily Using Potable Water

Where recycled water is available in off-site facilities, and where temporary use of potable water has been approved by the District for a recycled water service, if after thirty (30) consecutive calendar days from the date of the District's corrective action notice, the prospective customer has not completed required on-site facility corrective actions and achieved compliance, then, in addition to any other penalties set forth in the Rules and Regulations, the District may impose a surcharge equal to fifty percent

(50%) of its potable water rate in effect at the time of violation. Such surcharge will be imposed on the service requiring compliance, will be included in the customer's monthly billing for that service, and will continue until the customer has complied with the Rules and Regulations to the District's satisfaction.

8.4.3 Penalty for Lack of Inspection During Installation

Any work not inspected by the District shall be required to be exposed for District inspection, at the owner's expense. Failure to comply with this requirement will result in termination of potable and/or recycled water. (Reconnection fees shall apply.) Service shall only be restored when, in the opinion of the District, the inspection requirements have been met.

8.5 PENALTIES AFTER ISSUANCE OF THE USE PERMIT

Failure to permanently cease all violations within the time stated shall result in revocation of the Use Permit by the District and termination of water, sewer, and/or recycled water service. Violations regarding any one service may result, at the sole discretion of the Board of Directors or General Manager, in termination of any combination of or all water, sewer, and recycled water service in the following manner.

8.5.1 Interim Revocation

In cases where the serious nature of the violations described above require immediate action, the Board of Directors or General Manager may, in the sole discretion of the Board of Directors or General Manager, immediately revoke a Use Permit on an interim basis and thereupon cease water, and/or recycled water service, subject to a timely decision on permanent revocation of the Use Permit pursuant to a public hearing as provided herein.

8.5.2 Permanent Revocation

Permanent revocation of a Use Permit shall occur only subsequent to a public hearing held in the manner hereinafter provided. The applicant, owner, or customer shall be given written notice ten (10) consecutive calendar days prior to a hearing on the possible permanent revocation of any Use Permit by the District. The notice shall specify the grounds of the proposed revocation of any such Use Permit in reasonable detail. It may but need not describe suggested corrective action acceptable to the District. Notice may be delivered personally to the applicant, owner, or customer or it may be given by depositing such in the United States mail with postage prepaid, addressed to the applicant, owner, or customer either at the current address of record. Any such action to permanently revoke a Use Permit shall be effective ten (10) consecutive calendar days after notice of the Board of Director's decision and shall be either personally delivered to the applicant, owner, or customer or placed in the United States mail, postage prepaid, addressed to the applicant, owner, or customer in the manner hereinabove specified.

In the alternative to such action, the District may establish a fifty percent (50%) surcharge on the continuation of water, and/or recycled water service by the District until such time as the applicant, owner, or customer has taken action to comply with all of the hereinabove described requirements for obtaining service from the District in its reasonable discretion. The foregoing provisions of the Rules and Regulations are a requirement of any Use Permit, and any application for recycled water service therefore shall be subject to such provisions. The Board of Directors, if it deems such to be in the best interest of the District, may on an interim basis or otherwise waive or modify any of the foregoing.

8.6 APPEAL

The customer may appeal the determination of the District to the Board of Directors. Such appeal must be presented in writing to the General Manager for presentation to the Board of Directors at one of its regular meetings. The appeal shall state the conditions that have been determined to be a violation and the customer's opinion to the contrary. The action of the Board of Directors shall be final.

8.7 SERVICE RECONNECTION

Any request to reestablish service subsequent to the revocation of a permit and the termination of water, and/or recycled water service shall be in the manner prescribed for initially obtaining service from the District, which may include the collection of a security deposit. However, in addition, the District may, in its discretion, require that an agreement including any special conditions and financial security conditioned upon compliance with the Rules and Regulations be provided in an amount, manner, and for a period of time as determined by the Board of Directors.

ADOPTED, SIGNED AND APPROVED:
On September 14, 2010
By Anthony J. Lima, President
Board of Directors

ATTEST:
KEN DECK
Secretary and General Manager

APPENDIX H

Emergency Preparedness Guidelines

ROWLAND WATER DISTRICT
EMERGENCY PREPAREDNESS GUIDELINES

The following is an outline of basic procedures for the Rowland Water District during major service emergencies. This is just an outline from which a comprehensive emergency plan should be developed.

Water system operations during an emergency may be divided into three phases:

1. Phase A - Initial measures upon onset of an emergency
2. Phase B - Operations under continuing and major emergencies
3. Phase C - Decisions and Implementation

PHASE A
Initial Measures Upon Onset of an Emergency

Initial steps that must be taken at the onset of an emergency under the direction of the Manager:

1. Receive and forward first news of an emergency.
2. Make an initial assessment of damages and needs.
3. Take emergency measures.
4. Prepare for operations under a continuing and major emergency.

1. Receive and forward first news of emergency.

1.1 Be open to news from different sources.
News of an emergency may come by way of trouble reports or notification of abnormal conditions. The sources may be:
- -- District personnel
- -- Customers
- -- Members of the public
- -- Other agencies
- -- Unexpected sources and rumors

1.2 Keep in mind different means of communications. Messages may be coming in, or may be forwarded, via:
- -- Telephone
- -- Radio
- -- Messengers

1.3 Maintain proper documentation.
Confusion and delays at a later time can be avoided by properly noting all information received and forwarded.

1.4 Shift to emergency operations.

-- Notify all District personnel – depending on nature of emergency, some personnel will not be available.

1.5 Remain aware of what can go wrong.

Manager and office staff must remind themselves that everything may not be as it appears:

-- The emergency nature of a message may not be recognized. (Treat all messages as potentially crucial—suppress optimism.)
-- Some messages may contain more rumor than fact. (Verify all information as time permits.)
-- Messages are incorrectly or incompletely noted or forwarded. (Again, verify as time permits.)
-- Book of addresses containing listings of key personnel, supplies, and agencies may not be up-to-date.

2. Making an Initial Assessment of Damages and Needs

A quick response can reduce the ultimate dimensions of an emergency. The following is a checklist for possible actions by the Manager and his staff.

2.1 Notify key personnel.

Duty Man:

-- Call Manager
-- Call Director of Operations
-- Call Office Supervisor

Director of Operations:

As situation indicates, have the following notified and, if necessary, called to the main office:

-- Manager
-- Repair Crews
-- Metermen
-- Office personnel to facilitate communications and public information
-- Contractor's repair crew – District Engineer

2.2 Assess the status of water service system.

Operating Personnel – Report on:

-- Status of reservoirs and pumps
-- Rates of flow (inflow and outflow, including estimates for known leaks)
-- Quality of water
-- Anything that is <u>not</u> normal to the network

Director of Operations:
-- Send out one or more inspection crews to check and verify conditions via radio link

Crew:
-- Check, verify, and report conditions via radio link
-- Valve off major leaks

Manager and Director of Operations:
-- Confer (in one location or via radio link)
-- Make an initial assessment of the status of the system
-- Issue Water Quality Emergency Notification, if necessary

2.3 Assess the status of water service in relation to adjacent water agencies and emergency services.
-- Notify fire department of any shutoff made or planned
-- Reconnect mains in case of fire even though there may be leaks (unless losses are excessive)

Determine if adjacent water districts can offer help in the form of:
-- Water
-- Personnel
-- Expertise
-- Equipment and supplies
-- Other assistance

If the Rowland Water District is able to offer help to other districts, notify the Los Angeles County and the Office of Disaster Preparedness. Be careful not to contribute to an overloading of the communication links.

Make a quick assessment of what assistance may be available from other public works agencies in the way of personnel, equipment, etc.

Determine if emergency agencies (fire, etc.) and other public services (sewer, etc.) will require water or other assistance from the District. More thorough assessment to be carried out later.

2.4 Notify Los Angeles County Sheriff of emergency.
If the Sheriff wants to cordon off a disaster area, request admission for all Emergency assistance units. Stress the fact that private contractors and other agencies not directly related to the District may very likely be called upon for assistance.

3. Taking Immediate Emergency Measures

As a result of information received or of the initial assessments, any combination of the following actions may be required:

3.1 Determine who else needs to be utilized – call up

3.2 Shut off mains and/or repair mains and apparatus in case of damage.
Direct the complete or partial shutoff of water service if there is an extensive loss of water and if a shutoff would prevent continuous loss.
Notify fire department.

Initiate emergency repairs by ordering available crews directly to troubled areas.

3.3 Coordinate with other agencies and initiate mutual aid. See California Master Mutual Aid Agreement.

Initiate transfer of water to or from adjacent water agencies as necessary.
Initiate transfer of other resources to or from adjacent public works or emergency agencies.

4. Preparing for Operations Under a Continuing and Major Emergency

This stage is reached when it is clear on the basis of initial assessment that a major emergency exists. A major emergency is considered to be one in which:

A. Substantial mutual assistance is required (to be received or to be given), or
B. Restoration of service to a majority of users is not expected for at least a week.

4.1 Establish emergency headquarters:

The office of the Rowland Water District should be the emergency headquarters and communications center. If this facility is not usable, the Director of Operations' truck should be the first alternate location.

4.2 Prepare a communications center.

The location should be as given above. Provide facilities for handling large volumes of incoming messages, for forwarding messages, and for answering requests for information.

4.3 Clearly identify means of contacting Director of Operations' mobile unit, or establish field headquarters.

Make sure employees are aware of their responsibilities.

PHASE B
Operations under Continuing and Major Emergencies

The following measures shall be instituted under the overall direction of the Manager:

5. Arrange District Board Meeting and establish liaison with other agencies
6. Make continuing assessments
7. Prepare suitable restoration measures
8. Prepare suitable water allocation measures

These activities set the stage for possible policy actions and ultimate decisions by the District Board.

5. Communicating with the City of Industry, West Covina and With Other Agencies

5.1 Arrange for meeting with City Engineer:
- -- Set up meeting, if only for informational purposes
- -- Notify members of the District Board of Directors
- -- Consult rules governing public notification, length of notice, etc.

5.2 Establish liaison with other agencies – City of Pomona, Joint Water Line, Suburban, Walnut Valley Water District, La Habra Heights County Water District, La Puente Valley County Water District.

Even if no immediate need exists, it is advisable to establish liaison as soon as possible in anticipation of a worsening situation within or outside the District. Thus one can determine early on who can be reached and who can give assistance.

Establish liaison with other water districts:
- -- Contact adjacent water agencies
- -- Contact County Water Authorities
- -- Contact Metropolitan Water District, Three Valleys Municipal Water District and Joint Water Line Commission

Establish liaison with other agencies of necessary:
- -- Public works and health agencies
- -- State Water Quality Board
- -- Emergency agencies
- -- Fire departments
- -- Military services
- -- Los Angeles County Sheriff

6. Making Continuing Assessments

The needs for water and for repairs are to be assessed so that water allocations and restoration of service can be carried out on a priority basis.

6.1 Assess the state of the water supply:

- -- Amount of water stored in reservoirs
- -- Rate of flow of water being received
- -- Rate of flow of water being delivered, including water lost to leaks
- -- Quality of water
- -- Status of pumping equipment

6.2 Assess the need for repairs.
Note that physical damage may have occurred in the service area itself even though first reports may have pointed only to damage outside the service area.

Determine who may not be getting water:

- -- Identify on map the locations of system breaks and faults
- -- Estimate number of customers affected in each location

Verify which users with critical needs are not receiving water:

- -- Check messages received
- -- Check critical user list against map
- -- Verify critical needs through contacts to be made by office staff

Assess other damages.

Fallen trees, land slides, etc., may hold up restoration operations:

- -- Request field crews to report major obstructions
- -- Note locations on map

Check information with Manager and Director of Operations.

Incoming messages may indicate trouble spots which Manager has not identified:

- -- Dispatch crews to investigate

6.3 In case of damage locally.
Identify restoration alternatives for each failure, along with resources needed:

- -- Temporary measures: bypass with pumping or without; use of water trucks; and potable water trailers
- -- Enduring measures; repairs, or new designs and construction

Notify Civiltec Engineers and pipeline contractors.

The following factors might indicate a need for assistance from consultants and/or contractors:

-- Damage to reservoirs
-- Widespread or major breaks
-- Insufficient management personnel
-- Need for special expertise
-- Need for repair of equipment and facilities

Assess resources available from other water districts and available elsewhere:

-- Personnel and skills
-- Equipment
-- Supplies

6.4 Assess the need for water.

-- Estimate current daily demand of water under normal conditions
-- Estimate number of customers who are connected and how much water they might need
-- Estimate number of customers whose supply is interrupted and how much water they might need
-- Determine how much water can be supplied to users whose services are intact
-- Determine how much water can be trucked to users whose services are damaged or disconnected
-- If water is of low quality, determine impact of low quality on amount of water used
-- Determine what customers (such as warehouses, schools, and factories) can be shut off

6.5 Anticipated requests for water and other services from other districts.

Other district's needs must be anticipated because total water balance may be affected:

-- Identify existing flows to other districts
-- Check incoming messages – districts may already have called for assistance

Contact adjacent districts – their requests for assistance may not have been made yet.
Contact Los Angeles County Fire Department.
Fire and rescue units may have been notified of needs in other districts.

7. <u>Proposing Suitable Restoration Measures</u>

7.1 Establish priorities among needed repairs.

7.2 Establish repair schedule.

7.3 Determine type, duration, and cost of external assistance required for restoration.

7.4 Determine what assistance can be given to other districts in the form of personnel, equipment, or supplies. Check relevant agreements.

8. Proposing Suitable Water Allocation Measures

8.1 Establish priority among water users.

8.2 Establish a water delivery schedule, reflecting the increase in water drawn as repairs progress.

8.3 Determine how much water trucking is required and for how long.

8.4 Determine how much water needs to be imported, its source, its duration, and its cost.

8.5 Determine how much water can be made available to other districts, and when. Check relevant agreements.

PHASE C
Administrative Decisions and Implementation

Decisions regarding priorities for restoration of service and priorities are implemented by the Manager and the Director of Operations.

Involved are:

9. Deciding on and implementing mutual aid
10. Setting restoration priorities and schedule
11. Setting emergency water allocations
12. Invoking ordinances
13. Announcing emergency measures to the public
14. Monitoring compliance

9. Deciding on and Implementing Mutual Aid

The Manager and Director of Operations may request aid from other districts or agencies, or they may decide to give aid, under existing mutual aid agreements. Aid measures that go beyond existing agreements require approval by the Board of Directors. The Board is to be consulted if extensive outlays are expected.

10. Establishing Restoration Schedule and Priorities

10.1 Approve priorities and schedule for long term restoration (action by the Board of Directors may be required).

10.2 Dispatch crews according to restoration schedule.

10.3 Revise restoration schedule as necessary.
- -- Monitor progress for repairs
- -- Add new information as it is received

10.4 Replace temporary measures with permanent repairs as resources become available.

11. Setting Emergency Water Allocations

11.1 Approval of any water allocation (rationing) measures which go beyond previously approved guidelines require action by the Board of Directors.

11.2 Implement water allocation measures.

12. Invoking Ordinances

12.1 Check ordinances which may apply

12.2 Assess the need for new ordinances

12.3 Obtain decisions from the Board of Directors

13. Announcing Emergency Measures

It is assumed that the State Water Quality Emergency Notification Plan will have been initiated if necessary. If notification is required but no steps have been taken so far, combine the operations below with those laid out for the State Water Quality Emergency Notification Plan.

13.1 Prepare public announcements and release schedule.

13.2 Seek Board approval for departures from procedure.

13.3 Arrange for announcements via news and entertainment media.

13.4 Distribute handbills to users.

13.5 Mobilize extraordinary communications if necessary (sound trucks, helicopter).

13.6 Offer assistance to water users:

-- Arrange for scouts or students to help consumers read water meters

-- Arrange for meetings or door-to-door visits to instruct users in proper use of water saving devices

14. Monitoring Compliance

14.1 Check outflow of water.

-- Operating personnel to check flow and report flow conditions to headquarters

14.2 Distribute citation books to all field personnel.

14.3 Check compliance in the field, primarily with the help of people hired for emergency.

APPENDIX I

2009-2010 CUWCC Report

The fields in red are required.

Agency name: ROWLAND WATER DISTRICT

Reporting unit name (District name): ROWLAND WATER DISTRICT

Reporting unit number: 191

Primary contact:

First name: ROSE

Last name: PEREA

Email: rperea@rowlandwater.com

You must enter the reporting unit number that we have on record for your agency. Click here to open a table to obtain this number.

Base Year Data

Link to FAQs

Reporting Unit Base Year

What is your reporting period? Calendar

Base Year 2008

BMP 1.3 Metering

Number of unmetered accounts in Base Year 0

BMP 3.1 & BMP 3.2 & BMP 3.3 Residential Programs

Number of Single Family Customers in Base Year 11,557

Number of Multi Family Units in Base Year 417

BMP 3.4 WaterSense Specification (WSS) Toilets

Number of Single Family Housing Units constructed prior to 1992 1039

Number of Multi Family Units prior to 1992 2060

Average number of toilets per single family household 2

Average number of toilets per multi family household 1.5

Five year average resale rate of single family households 4.46

Five-year average resale rate of multi family households 9.02

Average number of persons per single family household 5

Average number of persons per multi family household 3

BMP 4.0 & BMP 5.0 CII & Landscape

Total water use (in Acre Feet) by CII accounts 5252.79

Number of accounts with dedicated irrigation meters 30

Number of CII accounts without meters or with Mixed Use Meters 0

Number of CII accounts 1,122

Comments:

The fields in red are required.

Agency name: ROWLAND WATER DISTRICT

Division name (Reporting unit): ROWLAND WATER DISTRICT

Reporting unit number: 191

Primary contact:

First name: ROSE

Last name: PEREA

Email: rperea@rowlandwater.com

CUWCC

WATER SOURCES

2009

Service Area Population: 58000

Potable Water

Own Supply Source Name	AF/YEAR	Water Supply Type	Water Supply Description
		Other	
		Other	
		Other	
		Other	
		Other	
		Other	
		Other	
		Other	
		Other	
		Other	
		Other	

Imported Supply Source Name	AF/YEAR	Water Supply Type	Water Supply Description
METROPOLITAN WATER DISTRIC	11,793.70	Other	POTABLE
		Other	
		Other	
		Other	
		Other	
		Other	
		Other	
		Other	
		Other	
		Other	
		Other	

Exported Water Name	AF/YEAR	Where Exported?

The fields in red are required.

Agency name: ROWLAND WATER DISRICT

Division name (Reporting unit): ROWLAND WATER DISTRICT

Reporting unit number: 191

Primary contact:

First name: ROSE

Last name: PEREA

Email: rperea@rowlandwater.com

CUWCC

2009

Service Area Population: 58000

Non- Potable Water

If you select Other for type, enter

Own Supply Source Name	AF/YEAR	Water Supply Type	Water Supply Description
Well 1 Pumping Facility	367.80	Groundwater	
		Select a water type.	
		Select a water type.	
		Select a water type.	
		Select a water type.	
		Select a water type.	
		Select a water type.	
		Select a water type.	
		Select a water type.	
		Select a water type.	
		Select a water type.	

Imported Supply Source Name	AF/YEAR	Water Supply Type	Water Supply Description
WALNUT VALLEY WATER DIST.	114.60	Recycled Non Potable	
		Select a water type.	
		Select a water type.	
		Select a water type.	
		Select a water type.	
		Select a water type.	
		Select a water type.	
		Select a water type.	
		Select a water type.	
		Select a water type.	
		Select a water type.	
		Select a water type.	

Exported Water Name	AF/YEAR	Where Exported? such as groundwater recharge, retail,

The fields in red are required.

Agency name: ROWLAND WATER DISTRICT

Division name (Reporting unit): ROWLAND WATER DISTRICT

Reporting unit number: 191

Primary contact:

First name: ROSE

Last name: PEREA

Email: rperea@rowlandwater.com

CUWCC

Water Uses 2009

Potable Water Billed

Make sure to enter numbers in AF/Year.

Customer Type	Meter Accounts	Metered Water Delivered	Un-metered Accounts	Un-metered Water Delivered	Description
Single-Family	11,541.00	5,626.72			
Multi-Family	398.00	1,202.40			
Commercial	1,150.00	4,731.03			Commercial/Institutional
Dedicated Irrigation	42.00	265.54			
Agricultural					
Other	449.00	20.30			
Other					
Other					
Other					
Other					
Other					
Other					
Other					

Potable Water Un-Billed

Customer Type	Meter Accounts	Metered Water Delivered	Un-metered Accounts	Un-metered Water Delivered	Description
Other					
Other					
Other					
Other					
Other					
Other					
Other					
Other					
Other					
Other					
Other					
Other					
Other					

The fields in red are required.

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Email: rperea@rowlandwater.com

CUWCC

Water Uses 2009

Non-Potable Billed

Customer Type	Meter Accounts	Metered Water Delivered	Un-metered Accounts	Un-metered Water Delivered	Description
Agricultural	51.00	393.45			IRRIGATION-RECYCLED
Other					
Other					
Other					
Other					
Other					
Other					
Other					
Other					
Other					
Other					
Other					
Other					

Non-Potable Un-Billed

Customer Type	Meter Accounts	Metered Water Delivered	Un-metered Accounts	Un-metered Water Delivered	Description
Other					
Other					
Other					
Other					
Other					
Other					
Other					
Other					
Other					
Other					
Other					
Other					
Other					

The fields in red are required.

Agency name: ROWLAND WATER DISTRICT

Reporting unit name (District name): ROWLAND WATER DISTRICT

Reporting unit number: 191

Primary contact:

First name: ROSE

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Email: rperea@rowlandwater.com

You must enter the reporting unit number that we have on record for your agency. Click here to open a table to obtain this number.

Link to FAQs

2009

BMP 1.1 Operations Practices

Comments:

See the complete MOU: View MOU

See the coverage requirements for this BMP:

Conservation Coordinator

Conservation Coordinator (•) Yes ( ) No

Contact Information

First Name	ROSE
Last Name	PEREA
Title	RESOURCE ANALYST
Phone	(562) 597-1726
Email	rperea@rowlandwater.com

Note that the contact information may be the same as the primary contact information at the top of the page. If this is your case, excuse the inconvenience but please enter the information again.

Water Waste Prevention

Water Agency shall do one or more of the following:

a. Enact and enforce an ordinance or establish terms of service that prohibit water waste
b. Enact and enforce an ordinance or establish terms of service for water efficient design in new development
c. Support legislation or regulations that prohibit water waste
d. Enact an ordinance or establish terms of service to facilitate implementation of water shortage response measures
e. Support local ordinances that prohibit water waste
f. Support local ordinances that establish permits requirements for water efficient design in new

To document this BMP, provide the following:

a. A description of, or electronic link to, any ordinances or terms of service
b. A description of, or electronic link to, any ordinances or requirements adopted by local jurisdictions or regulatory agencies with the water agency's service area.
c. A description of any water agency efforts to cooperate with other entities in the adoption or enforcement of local requirement
d. description of agency support positions with respect to adoption of legislation or regulations

You can show your documentation by providing files, links (web addresses), and/or entering a description.

File name(s): Email files to natalie@cuwcc.org

Web address(s) URL: comma-separated list

Enter a description: ORDINANCE NO. 0-5-2009 ESTABLISHING A WATER CONSERVATION AND WATER SHORTAGE CONTINGENCY PLAN

The fields in red are required.

Agency name: ROWLAND WATER DISTRICT

Reporting unit name (District name) ROWLAND WATER DISTRICT

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Last name: PEREA

Email: rperea@rowlandwater.com

You must enter the reporting unit number that we have on record for your agency. Click here to open a table to obtain this number.

Link to FAQs

View MOU

2009 BMP 1.2 Water Loss Control

Did your agency complete a pre-screening system audit in 2009? Yes ○ No ◉

If yes, answer the following:

Determine metered sales in AF:

Definition: other accountable uses not included in metered sales, such as unbilled water use, fire suppression, etc. → Determine system verifiable uses AF:

Determine total supply into the system in AF:

Does your agency keep necessary data on file to verify the answers above? Yes ○ No ○

Did your agency complete a full-scale system water audit during 2009? Yes ○ No ◉

Does your agency maintain in-house records of audit results or the completed AWWA worksheet for the completed audit which could be forwarded to CUWCC? Yes ○ No ◉

Did your agency operate a system leak detection program? Yes ○ No ◉

Comments:

The fields in red are required.

Agency name: ROWLAND WATER DISTRICT

Reporting unit name (District name): ROWLAND WATER DISTRICT

Reporting unit number: 191

Primary contact:

First name: ROSE

Last name: PEREA

Email: rperea@rowlandwater.com

You must enter the reporting unit number that we have on record for your agency. Click here to open a table to obtain this number.

BMP 1.3 Metering with Commodity

Link to FAQs

See the complete MOU: View MOU

See the coverage requirements for this BMP:

Implementation

Does your agency have any unmetered service connections? ○ Yes ◉ No

If YES, has your agency completed a meter retrofit plan? ○ Yes ○ No

Enter the number of previously unmetered accounts fitted with meters during reporting year:

Are all new service connections being metered? ◉ Yes ○ No

Are all new service connections being billed volumetrically? ◉ Yes ○ No

Has your agency completed and submitted electronically to the Council a written plan, policy or program to test, repair and replace meters? ○ Yes ◉ No

Please Fill Out The Following Matrix

Account Type	# Metered Accounts	# Metered Accounts Read	# Metered Accounts Billed by Volume	Billing Frequency Per Year	# of estimated bills/yr
Single-Family	11,541	11,541	11,541	Other	18
Multi-Family	398	398	398	Other	18
Commericial	1,150	1,150	1,150	Other	18
Dedicated Irrigatic	42	42	42	Other	18
Other	449	449	449	Other	18
Other	51	51	51	Other	18
Other				Other	
Other				Other	
Other				Other	
Other				Other	

Number of CII Accounts with Mixed-use Meters: 0

Number of CII Accounts with Mixed-use Meters Retrofitted with Dedicated Irrigation Meters during Reporting Period: 0

Feasibility Study

Has your agency conducted a feasibility study to assess the merits of a program to provide incentives to switch mixed-use accounts to dedicated landscape meters? ○ Yes ◉ No

If YES, please fill in the following information:

A. When was the Feasiblity Study conducted

B. Email or provide a link to the feasibility study (or description of):

File name(s): Email files to natalie@cuwcc.org Enter the file name here e.g. WaterWastePreventionOrdinanc

Web address(s) URL: comma-separated list Enter the URL to your documentation.

General Comments about BMP 1.3:

Accounts are billed either monthly or bimonthly. Those billed monthly will generate 1

The fields in red are required.

Agency name: ROWLAND WATER DISTRICT

Reporting unit name (District name): ROWLAND WATER DISTRICT

Reporting unit number: 191

Primary contact:

First name: ROSE

Last name: PEREA

Email: rperea@rowlandwater.com

You must enter the reporting unit number that we have on record for your agency. Click here to open a table to obtain this number.

CUWCC

2009

Link to FAQs

View MOU

BMP 1.4 Retail Conservation Pricing

If you are reporting more rate structures than this form allows, add the structures to a spreadsheet and send the file to natalie@cuwcc.org.

Implementation (Water Rate Structure)

Enter the Water Rate Structures that are assigned to the majority of your customers, by customer class

Rate Structure	Customer Class	Total Revenue Commodity Charges	Total Revenue Customer Meter/Service (Fixed Charges)
Increasing Block	Single-Family	4,738,562.00	2,300,278.00
Uniform	Multi-Family	944,626.00	272,473.00
Uniform	Commercial	3,502,877.00	734,921.00
Uniform	Dedicated Irrigation	211,100.00	42,721.00
Uniform	Other	23,609.00	331,241.00
Uniform	Other	257,060.00	35,535.00
Select a Rate Struc	Other		

Implementation Option (Conservation Pricing Option)

- (•) Use Annual Revenue As Reported
- ( ) Use Canadian Water & Wastewater Association Rate Design Model

If CWWA is select, enter the file name and email the spreadsheet to natalie@cuwcc.org

Retail Waste Water (Sewer) Rate Structure by Customer Class

Agency Provide Sewer Service ( ) Yes (•) No

Select the Retail Waste Water(Sewer) Rate Structure assigned to the majority of your customers within a specific customer class.

Rate Structure	Customer Class	Total Revenue Commodity Charges	Total Revenue Customer Meter/Service (Fixed Charges)
Select a Rate Struc	Other		
Select a Rate Struc	Other		
Select a Rate Struc	Other		
Select a Rate Struc	Other		
Select a Rate Struc	Other		
Select a Rate Struc	Other		
Select a Rate Struc	Other		

Comments:

Other ($23,609.) includes construction, fire service, street sweeper. Other ($257,06(

The fields in red are required.

Agency name: ROWLAND WATER DISTRICT

Reporting unit name (District name): ROWLAND WATER DISTRICT

Reporting unit number: 191

Primary contact:

First name: ROSE

Last name: PEREA

Email: rperea@rowlandwater.com

Click here to open a table that displays your agency name reporting unit name and reporting unit number. Please ensure that you enter the correct information.

CUWCC

Link to FAQs

2009

BMP 2.1 Public Outreach - Retail Reporting

View MOU

Is a Wholesale Agency Performing Public Outreach?

Are there one or more wholesale agencies performing public outreach which can be counted to help your agency comply with the BMP? (•) Yes ( ) No

Enter the name(s) of the wholesale agency (comma delimited)

METROPOLITAN WATER DISTRICT
THREE VALLEYS MUNICIPAL WATER DISTRICT

Is your agency performing public outreach?

Report a minimum of 4 water conservation related contacts your agency had with the public during the year.

Public Information Programs List

Did at least one contact take place during each quarter of the reporting year? ☑

Number of Public Contacts	Public Information Programs
13,500	Newsletter articles on conservation
13,500	Flyers and/or brochures (total copies), bill stuffers, messages printed on bill, information packets
164,770	General water conservation information
13,500	Website
	Select a public contact

Contact with the Media

Are there one or more wholesale agencies performing media outreach which can be counted to help your agency comply with the BMP? ( ) Yes (•) No

Enter the name(s) of the wholesale agency (comma delimited)

OR Retail Agency (Contacts with the Media)

Did at least one contact take place during each quarter of the reporting year? ☐

Media Contacts List

Number of Media Contacts	Did at least one contact take place during each quarter of the reporting year?	Media Contact Types
	Select a type of media contact	
	Select a type of media contact	
	Select a type of media contact	
	Select a type of media contact	
	Select a type of media contact	
	Select a type of media contact	

Is a Wholesale Agency Performing Website Updates?

Did one or more CUWCC wholesale agencies agree to assume your agency's responsibility for meeting the requirements of and for CUWCC reporting of this BMP? ○Yes ⊙No

Enter the name(s) of the wholesale agency (comma delimited)

Is Your Agency Performing Website Updates?

Enter your agency's URL (website address): www.rowlandwater.com

Describe a minimum of four water conservation related updates to your agency's website that took place during the year:

Conservation newsletter posted to the website; School conservation programs posted to the website, Conservation Grant Programs posted to website; Teacher conservation workshops posted to website; conservation/water restrictions updated to the website.

Did at least one Website Update take place during each quarter of the reporting year? ⊙Yes ○No

Public Outreach Annual Budget

Enter budget for public outreach programs. You may enter total budget in a single line or brake the budget into discrete categories by entering many rows. Please indicate if personnel costs are included in the entry.

Category	Amount		Personnel Costs Included? If yes, check the box.	Comments	
Conservation	$25,000				
Public Relations	$15,000				

Comments:

Public Outreach, general water conservation information (164,770) includes: National Theater for Children(2770), Conservation Message Board at the Quakes Ba

The fields in red are required.

Agency name: ROWLAND WATER DISTRICT

Reporting unit name (District name) ROWLAND WATER DISTRICT

Reporting unit number: 191

Primary contact:

First name: ROSE

Last name: PEREA

Email: rperea@rowlandwater.com

Click here to open a table that displays your agency name reporting unit name and reporting unit number. Please ensure that you enter the correct information.

CUWCC

Link to FAQs

2009

BMP 2.1 Public Outreach Cont'd

View MOU

Public Outreach Expenses

Enter expenses for public outreach programs. Please include the same kind of expenses you included in the question related to your budget (Section 2.1.7, above). For example, if you included personnel costs in the budget entered above, be sure to include them here as well.

Expense Category	Expense Amount	Personnel Costs Included?
	$32,717.47	☐ If yes, check the check box.
		☐
		☐
		☐

Additional Public Information Program

Please report additional public information contacts. List these additional contacts in order of how your agency views their importance / effectiveness with respect to conserving water, with the most important/ effective listed first (where 1 = most important).

Were there additional Public Outreach efforts? ○ Yes ⊙ No

Public Outreach Additional Information

Public Information Programs	Importance

Social Marketing Programs

Branding

Does your agency have a water conservation "brand," "theme" or mascot? ○ Yes ⊙ No

Describe the brand, theme or mascot.

Market Research

Have you sponsored or participated in market research to refine your message? ○ Yes ⊙ No

Market Research Topic

Brand Message

Brand Mission Statement

Community Committees

Do you have a community conservation committee? ○ Yes ⊙ No

Enter the names of the community committees:

Training

Training Type	# of Trainings	# of Attendees	Description of Other

Social Marketing Expenditures

Public Outreach Social Marketing Expenses

Expense Category	Expense Amount	Description

Partnering Programs - Partners

Name	Type of Program
☐ CLCA?	
☐ Green Building Programs?	
☐ Master Gardeners?	
☐ Cooperative Extension?	
☐ Local Colleges?	
☐ Other	

☐ Retail and wholesale outlet; name(s) and type(s) of programs:

Partnering Programs - Newsletters

Number of newsletters per year

Number of customers per year

Partnering with Other Utilities

Describe other utilities your agency partners with, including electrical utilities

Conservation Gardens

Describe water conservation gardens at your agency or other high traffic areas or new

Landscape contests or awards

Describe water wise landscape contest or awards program conducted by your agency

Comments:

The fields in red are required.

Agency name: ROWLAND WATER DISTRICT

Reporting unit name (District name): ROWLAND WATER DISTRICT

Reporting unit number: 191

Primary contact:

First name: ROSE

Last name: PEREA

Email: rperea@rowlandwater.com

Click here to open a table that displays your agency name reporting unit name and reporting unit number. Please ensure that you enter the correct information.

CUWCC

Link to FAQs

2009

BMP 2.2 School Education Programs, Retail Agencies

View MOU

School Programs

Is your agency implementing school programs which can be counted to help another agency comply with this BMP? ○Yes ⊙No

Enter Wholesaler Names, separated by commas:

☑ Materials meet state education framework requirements?

Description of Materials: Project Wet Teachers Workshop-Classroom Workbook and Teacher's guide with conservation materials provided

☑ Materials distributed to K-6 Students?

Description of materials distributed to K-6 Students: Conservation coloring books and workbooks, rulers, pencils, bookmarks all with conservation messages.

Number of students reached: 27,000

☑ Materials distributed to 7-12 Students?

Description of materials distributed to 7-12 Students: Pencils, rulers, water bottles, sponges, water wheels, hose nozzles, showerheads

Number of Distribution: 1,500

Annual budget for school education program:

Description of all other water supplier education programs: No separate annual budget for school education programs; these are included in the "conservation budget".

School Program Activities

Classroom presentations:

Number of presentations: 5 — Number of attendees: 150

Large group assemblies:

Number of presentations: 11 — Number of attendees: 3000

Children's water festivals or other events:

Number of presentations: 0 — Number of attendees:

Cooperative efforts with existing science/water education programs (various workshops, science fair awards or judging) and follow-up:

Number of presentations: — Number of attendees:

Other methods of disseminating information (i.e. themed age-appropriate classroom loaner kits):

Description

Number distributed

Staffing children's booths at events & festivals:

Number of booths: 2 | Number of attendees: 1000

Water conservation contests such as poster and photo:

Description: MWD Annual Poster Contest and Water Education Water Awareness (WEWAC) PSA-Video Contest

Number distributed: 800

Offer monetary awards/funding or scholarships to students:

Number Offered: 15 | Total Funding: 7500

Teacher training workshops:

Number of presentations: 1 | Number of attendees: 50

Fund and/or staff student field trips to treatment facilities, recycling facilities, water conservation gardens, etc.:

Number of tours or field trips: 1 | Number of participants: 30

College internships in water conservation offered:

Number of internships: 0 | Total funding:

Career fairs/workshops:

Number of presentations: 0 | Number of attendees:

Additional program(s) supported by agency but not mentioned above:

Description

Number of events (if applicable) | Number of participants

Total reporting period budget expenditures for school education programs (include all agency costs):

Comments

The fields in red are required.

Agency name: ROWLAND WATER DISTRICT

Division name (Reporting unit): ROWLAND WATER DISTRICT

Reporting unit number: 191

Primary contact:

First name: ROSE

Last name: PEREA

Email: rperea@rowlandwater.com

CUWCC

WATER SOURCES

2010

Service Area Population: 58000

Potable Water

Own Supply Source Name	AF/YEAR	Water Supply Type	Water Supply Description
		Other	
		Other	
		Other	
		Other	
		Other	
		Other	
		Other	
		Other	
		Other	
		Other	
		Other	

Imported Supply Source Name	AF/YEAR	Water Supply Type	Water Supply Description
METROPOLITAN WATER DISTRIC	10,990.00	Other	POTABLE
		Other	
		Other	
		Other	
		Other	
		Other	
		Other	
		Other	
		Other	
		Other	
		Other	

Exported Water Name	AF/YEAR	Where Exported?

The fields in red are required.

Agency name: ROWLAND WATER DISTRICT

Division name (Reporting unit): ROWLAND WATER DISTRICT

Reporting unit number: 191

Primary contact:

First name: ROSE

Last name: PEREA

Email: rperea@rowlandwater.com

Water Uses 2010

Potable Water Billed

Make sure to enter numbers in AF/Year.

Customer Type	Meter Accounts	Metered Water Delivered	Un-metered Accounts	Un-metered Water Delivered	Description
Single-Family	11,630.00	4,859.58			
Multi-Family	400.00	1,150.25			
Commercial	1,257.00	4,390.20			Commercial/Institutional
Other	486.00	12.56			Construction,Fire Service,Street Sweep
Other					
Other					
Other					
Other					
Other					
Other					
Other					
Other					
Other					

Potable Water Un-Billed

Customer Type	Meter Accounts	Metered Water Delivered	Un-metered Accounts	Un-metered Water Delivered	Description
Other					
Other					
Other					
Other					
Other					
Other					
Other					
Other					
Other					
Other					
Other					
Other					
Other					

The fields in red are required.

Agency name: ROWLAND WATER DISTRICT

Division name (Reporting unit): ROWLAND WATER DISTRICT

Reporting unit number: 191

Primary contact:

First name: ROSE

Last name: PEREA

Email: rperea@rowlandwater.com

CUWCC

2010

Service Area Population: 58000

Non- Potable Water

Own Supply Source Name	AF/YEAR	Water Supply Type	If you select Other for type, enter Water Supply Description
Kearn Creek Pumping Facility	417.00	Groundwater	
		Select a water type.	
		Select a water type.	
		Select a water type.	
		Select a water type.	
		Select a water type.	
		Select a water type.	
		Select a water type.	
		Select a water type.	
		Select a water type.	
		Select a water type.	

Imported Supply Source Name	AF/YEAR	Water Supply Type	Water Supply Description
WALNUT VALLEY WATER DISTRI	19.30	Recycled Non Potable	
CITY OF INDUSTRY	86.50	Recycled Non Potable	
		Select a water type.	
		Select a water type.	
		Select a water type.	
		Select a water type.	
		Select a water type.	
		Select a water type.	
		Select a water type.	
		Select a water type.	
		Select a water type.	

Exported Water Name	AF/YEAR	Where Exported? such as groundwater recharge, retail,

The fields in red are required.

Agency name: ROWLAND WATER DISTRICT

Division name (Reporting unit): ROWLAND WATER DISTRICT

Reporting unit number: 191

Primary contact:

First name: ROSE

Last name: PEREA

Email: rperea@rowlandwater.com

CUWCC

Water Uses 2010

Non-Potable Billed

Customer Type	Meter Accounts	Metered Water Delivered	Un-metered Accounts	Un-metered Water Delivered	Description
Agricultural	72.00	757.77			Includes landscape irrigation-recycled
Other					
Other					
Other					
Other					
Other					
Other					
Other					
Other					
Other					
Other					
Other					
Other					

Non-Potable Un-Billed

Customer Type	Meter Accounts	Metered Water Delivered	Un-metered Accounts	Un-metered Water Delivered	Description
Other					
Other					
Other					
Other					
Other					
Other					
Other					
Other					
Other					
Other					
Other					
Other					
Other					

The fields in red are required.

Agency name: ROWLAND WATER DISTRICT

Reporting unit name (District name): ROWLAND WATER DISTRICT

Reporting unit number: 191

Primary contact:

First name: ROSE

Last name: PEREA

Email: rperea@rowlandwater.com

You must enter the reporting unit number that we have on record for your agency. Click here to open a table to obtain this number.

Link to FAQs

2010

BMP 1.1 Operations Practices

Comments:

See the complete MOU: View MOU

See the coverage requirements for this BMP:

Conservation Coordinator

Conservation Coordinator (•) Yes ( ) No

Contact Information

First Name	ROSE
Last Name	PEREA
Title	RESOURCE ANALYST
Phone	562-697-1726
Email	rperea@rowlandwater.com

Note that the contact information may be the same as the primary contact information at the top of the page. If this is your case, excuse the inconvenience but please enter the information again.

Water Waste Prevention

Water Agency shall do one or more of the following:

a. Enact and enforce an ordinance or establish terms of service that prohibit water waste
b. Enact and enforce an ordinance or establish terms of service for water efficient design in new development
c. Support legislation or regulations that prohibit water waste
d. Enact an ordinance or establish terms of service to facilitate implementation of water shortage response measures
e. Support local ordinances that prohibit water waste
f. Support local ordinances that establish permits requirements for water efficient design in new

To document this BMP, provide the following:

a. A description of, or electronic link to, any ordinances or terms of service
b. A description of, or electronic link to, any ordinances or requirements adopted by local jurisdictions or regulatory agencies with the water agency's service area.
c. A description of any water agency efforts to cooperate with other entities in the adoption or enforcement of local requirement
d. description of agency support positions with respect to adoption of legislation or regulations

You can show your documentation by providing files, links (web addresses), and/or entering a description.

File name(s): Email files to natalie@cuwcc.org

Web address(s) URL: comma-separated list

Enter a description: ORDINANCE NO. 0-5-2009 ESTABLISHING A WATER CONSERVATION AND WATER SHORTAGE CONTINGENCY PLAN

The fields in red are required.

Agency name: ROWLAND WATER DISTRICT

Reporting unit name (District name): ROWLAND WATER DISTRICT

Reporting unit number: 191

Primary contact:

First name: ROSE

Last name: PEREA

Email: rperea@rowlandwater.com

You must enter the reporting unit number that we have on record for your agency. Click here to open a table to obtain this number.

Link to FAQs

View MOU

2010 BMP 1.2 Water Loss Control

AWWA Water Audit

Agency to complete a Water Audit & Balance Using The AWWA Software ⦿ Yes ○ No

Email to natalie@cuwcc.org - Worksheets (AWWA Water Audit). Enter the name of the file below:

Water Audit Validity Score from AWWA spreadsheet: 94

Agency Completed Training In The AWWA Water Audit Method ○ Yes ⦿ No

Agency Completed Training In The Component Analysis Process ○ Yes ⦿ No

Completed/Updated the Component Analysis (at least every 4 years)? ○ Yes ⦿ No

Component Analysis Completed/Updated Date

Water Loss Performance

Agency Repaired All Reported Leaks & Breaks To The Extent Cost Effective ⦿ Yes ○ No

Recording Keeping Requirements:

Date/Time Leak Reported	Leak Location
Type of Leaking Pipe Segment or Fitting	Leak Running Time From Report to Repair
Leak Volume Estimate	Cost of Repair

Agency Located and Repaired Unreported Leaks to the Extent Cost Effective ⦿ Yes ○ No

Type of Program Activities Used to Detect Unreported Leaks

1.Annual water system audits and water balance reconcilation 2.SCADA system sensor calibration 3.Large/small meter testing & replacement 4. High consumption rpts. for comcl. & residential custs. 5.Residential water audit 6.Flushing

Annual Summary Information

Complete the following table with annual summary information (required for reporting years 2-5 only)

Total Leaks Repaired	Economic Value Of Real Loss	Economic Value Of Apparent Loss	Miles Of System Surveyed For Leaks	Pressure Reduction Undertaken for loss reduction	Cost Of Interventions	Water Saved (AF/Year)
45		$309,116.40	150 miles			

Comments:

Pressure Reduction Undertaken for Loss Reduction: None
Cost of Intervention: Built into our salary structure since all detection and repairs are completed by staff.
Water Saved: Unable to determine.

The fields in red are required.

Agency name: ROWLAND WATER DISTRICT

Reporting unit name (District name): ROWLAND WATER DISTRICT

Reporting unit number: 191

Primary contact:

First name: ROSE

Last name: PEREA

Email: rperea@rowlandwater.com

You must enter the reporting unit number that we have on record for your agency. Click here to open a table to obtain this number.

BMP 1.3 Metering with Commodity 2010

Link to FAQs

See the complete MOU: View MOU

See the coverage requirements for this BMP:

Implementation

Does your agency have any unmetered service connections? ○ Yes ◉ No

If YES, has your agency completed a meter retrofit plan? ○ Yes ◉ No

Enter the number of previously unmetered accounts fitted with meters during reporting year:

Are all new service connections being metered? ◉ Yes ○ No

Are all new service connections being billed volumetrically? ◉ Yes ○ No

Has your agency completed and submitted electronically to the Council a written plan, policy or program to test, repair and replace meters? ○ Yes ◉ No

Please Fill Out The Following Matrix

Account Type	# Metered Accounts	# Metered Accounts Read	# Metered Accounts Billed by Volume	Billing Frequency Per Year	# of estimated bills/yr
Single-Family	11,630	11,630	11,630	Other	18
Multi-Family	400	400	400	Other	18
Commericial	1,257	1,257	1,257	Other	18
Dedicated Irrigatic	43	43	43	Other	18
Other	486	486	486	Other	18
Other	72	72	72	Other	18
Other				Other	
Other				Other	
Other				Other	
Other				Other	

Number of CII Accounts with Mixed-use Meters: 0

Number of CII Accounts with Mixed-use Meters Retrofitted with Dedicated Irrigation Meters during Reporting Period: 0

Feasibility Study

Has your agency conducted a feasibility study to assess the merits of a program to provide incentives to switch mixed-use accounts to dedicated landscape meters? ○ Yes ◉ No

If YES, please fill in the following information:

A. When was the Feasiblity Study conducted

B. Describe, upload or provide an electronic link to the Feasibility Study Upload File

File name(s): Email files to natalie@cuwcc.org

Web address(s) URL: comma-separated list

Comments:

Accounts are billed either monthly or bi-monthly. Monthly bills are generated 12/yr; b

The fields in red are required.

Agency name: ROWLAND WATER DISTRICT

Reporting unit name (District name): ROWLAND WATER DISTRICT

Reporting unit number: 191

Primary contact:

First name: ROSE

Last name: PEREA

Email: rperea@rowlandwater.com

You must enter the reporting unit number that we have on record for your agency. Click here to open a table to obtain this number.

CUWCC

2010

Link to FAQs

View MOU

BMP 1.4 Retail Conservation Pricing

If you are reporting more rate structures than this form allows, add the structures to a spreadsheet and send the file to natalie@cuwcc.org.

Implementation (Water Rate Structure)

Enter the Water Rate Structures that are assigned to the majority of your customers, by customer class

Rate Structure	Customer Class	Total Revenue Commodity Charges	Total Revenue Customer Meter/Service (Fixed Charges)
Increasing Block Se	Single-Family	5,131,330.00	2,508,251.00
Uniform	Multi-Family	1,059,386.00	317,372.00
Uniform	Commercial	3,797,957.00	871,603.00
Uniform	Dedicated Irrigation	222,777.00	54,767.00
Uniform	Other	17,043.00	343,341.00
Uniform	Other	345,125.00	59,185.00
Select a Rate Struc	Other		

Implementation Option (Conservation Pricing Option)

- (•) Use Annual Revenue As Reported
- ( ) Use Canadian Water & Wastewater Association Rate Design Model

If CWWA is select, enter the file name and email the spreadsheet to natalie@cuwcc.org

Retail Waste Water (Sewer) Rate Structure by Customer Class

Agency Provide Sewer Service ( ) Yes ( ) No

Select the Retail Waste Water(Sewer) Rate Structure assigned to the majority of your customers within a specific customer class.

Rate Structure	Customer Class	Total Revenue Commodity Charges	Total Revenue Customer Meter/Service (Fixed Charges)
Select a Rate Struc	Other		
Select a Rate Struc	Other		
Select a Rate Struc	Other		
Select a Rate Struc	Other		
Select a Rate Struc	Other		
Select a Rate Struc	Other		
Select a Rate Struc	Other		

Comments:

Other ($17,043.) includes construction, fire service, street sweeper. Other ($345

The fields in red are required.

Agency name: ROWLAND WATER DISTRICT

Reporting unit name (District name): ROWLAND WATER DISTRICT

Reporting unit number: 191

Primary contact:

First name: ROSE

Last name: PEREA

Email: rperea@rowlandwater.com

Click here to open a table that displays your agency name reporting unit name and reporting unit number. Please ensure that you enter the correct information.

CUWCC

Link to FAQs

2010

BMP 2.1 Public Outreach - Retail Reporting

View MOU

Is a Wholesale Agency Performing Public Outreach?

Are there one or more wholesale agencies performing public outreach which can be counted to help your agency comply with the BMP? ◉ Yes ○ No

Enter the name(s) of the wholesale agency (comma delimited)

METROPOLITAN WATER DISTRICT
THREE VALLEYS MUNICIPAL WATER DISTRICT

Is your agency performing public outreach?

Report a minimum of 4 water conservation related contacts your agency had with the public during the year.

Public Information Programs List

Did at least one contact take place during each quarter of the reporting year? ☐

Number of Public Contacts	Public Information Programs
13,500	Newsletter articles on conservation
13,500	Flyers and/or brochures (total copies), bill stuffers, messages printed on bill, information packets
163,270	General water conservation information
13,500	Website
	Select a public contact

Contact with the Media

Are there one or more wholesale agencies performing media outreach which can be counted to help your agency comply with the BMP? ○ Yes ◉ No

Enter the name(s) of the wholesale agency (comma delimited)

OR Retail Agency (Contacts with the Media)

Did at least one contact take place during each quarter of the reporting year? ☐

Media Contacts List

Number of Media Contacts	Did at least one contact take place during each quarter of the reporting year?	Media Contact Types
	Select a type of media contact	
	Select a type of media contact	
	Select a type of media contact	
	Select a type of media contact	
	Select a type of media contact	
	Select a type of media contact	

Is a Wholesale Agency Performing Website Updates?

Did one or more CUWCC wholesale agencies agree to assume your agency's responsibility for meeting the requirements of and for CUWCC reporting of this BMP? ○Yes ⊙No

Enter the name(s) of the wholesale agency (comma delimited)

Is Your Agency Performing Website Updates?

Enter your agency's URL (website address): www.rowlandwater.com

Describe a minimum of four water conservation related updates to your agency's website that took place during the year:

Conservation newsletter posted to the website; conservation messages scroll through on home page; school conservation programs posted to the website; conservation grant programs posted to the website; teacher conservation workshops posted to the website; conservation/water restrictions updated to the website.

Did at least one Website Update take place during each quarter of the reporting year? ⊙Yes ○No

Public Outreach Annual Budget

Enter budget for public outreach programs. You may enter total budget in a single line or brake the budget into discrete categories by entering many rows. Please indicate if personnel costs are included in the entry.

Category	Amount		Personnel Costs Included? If yes, check the box.	Comments	
Conservation	$25,000				
Public Relations	$20,000				

Comments:

Public outreach, general water conservation information (163,270) includes: National Theatre for Children (2,770); Conservation Message Board at Quakes Stadiu

The fields in red are required.

Agency name: ROWLAND WATER DISTRICT

Reporting unit name (District name) ROWLAND WATER DISTRICT

Reporting unit number: 191

Primary contact:

First name: ROSE

Last name: PEREA

Email: rperea@rowlandwater.com

Click here to open a table that displays your agency name reporting unit name and reporting unit number. Please ensure that you enter the correct information.

CUWCC

Link to FAQs

2010

BMP 2.1 Public Outreach Cont'd

View MOU

Public Outreach Expenses

Enter expenses for public outreach programs. Please include the same kind of expenses you included in the question related to your budget (Section 2.1.7, above). For example, if you included personnel costs in the budget entered above, be sure to include them here as well.

Expense Category	Expense Amount	Personnel Costs Included?	
	$17,195.00	☐	If yes, check the check box.
		☐	
		☐	
		☐	

Additional Public Information Program

Please report additional public information contacts. List these additional contacts in order of how your agency views their importance / effectiveness with respect to conserving water, with the most important/ effective listed first (where 1 = most important).

Were there additional Public Outreach efforts? ○ Yes ⊙ No

Public Outreach Additional Information

Public Information Programs	Importance

Social Marketing Programs

Branding

Does your agency have a water conservation "brand," "theme" or mascot? ○ Yes ⊙ No

Describe the brand, theme or mascot.

Market Research

Have you sponsored or participated in market research to refine your message? ○ Yes ⊙ No

Market Research Topic

Brand Message

Brand Mission Statement

Community Committees

Do you have a community conservation committee? ○ Yes ⊙ No

Enter the names of the community committees:

Training

Training Type	# of Trainings	# of Attendees	Description of Other

Social Marketing Expenditures

Public Outreach Social Marketing Expenses

Expense Category	Expense Amount	Description

Partnering Programs - Partners

Name	Type of Program
☐ CLCA?	
☐ Green Building Programs?	
☐ Master Gardeners?	
☐ Cooperative Extension?	
☐ Local Colleges?	
☐ Other	

☐ Retail and wholesale outlet; name(s) and type(s) of programs:

Partnering Programs - Newsletters

Number of newsletters per year

Number of customers per year

Partnering with Other Utilities

Describe other utilities your agency partners with, including electrical utilities

Conservation Gardens

Describe water conservation gardens at your agency or other high traffic areas or new

Landscape contests or awards

Describe water wise landscape contest or awards program conducted by your agency

Comments:

The fields in red are required.

Agency name: ROWLAND WATER DISTRICT

Reporting unit name (District name): ROWLAND WATER DISTRICT

Reporting unit number: 191

Primary contact:

First name: ROSE

Last name: PEREA

Email: rperea@rowlandwater.com

Click here to open a table that displays your agency name reporting unit name and reporting unit number. Please ensure that you enter the correct information.

CUWCC

Link to FAQs

2010

BMP 2.2 School Education Programs, Retail Agencies

View MOU

School Programs

Is your agency implementing school programs which can be counted to help another agency comply with this BMP? ○Yes ⊙No

Enter Wholesaler Names, separated by commas:

☑ Materials meet state education framework requirements?

Description of Materials: Project Wet Teachers Workshop-Classroom Workbook and Teacher's Guide with conservation materials provided

☑ Materials distributed to K-6 Students?

Description of materials distributed to K-6 Students: Conservation coloring books and workbooks, rulers, pencils, bookmarks, all with conservation messages/tips.

Number of students reached: 27,000

☑ Materials distributed to 7-12 Students?

Description of materials distributed to 7-12 Students: Pencils, rulers, water bottles, sponges, water wheels, hose nozzles and showerheads

Number of Distribution: 1,500

Annual budget for school education program:

Description of all other water supplier education programs: No separate annual budget for school education programs; these are included in the "conservation budget".

School Program Activities

Classroom presentations:

Number of presentations: 5 — Number of attendees: 150

Large group assemblies:

Number of presentations: 11 — Number of attendees: 3000

Children's water festivals or other events:

Number of presentations: 02 — Number of attendees:

Cooperative efforts with existing science/water education programs (various workshops, science fair awards or judging) and follow-up:

Number of presentations: — Number of attendees:

Other methods of disseminating information (i.e. themed age-appropriate classroom loaner kits):

Description

Number distributed

Staffing children's booths at events & festivals:

Number of booths: 2 | Number of attendees: 1000

Water conservation contests such as poster and photo:

Description: MWD annual Poster Contest and Water Education Water Awareness (WEWAC) PSA-Video Contest

Number distributed: 800

Offer monetary awards/funding or scholarships to students:

Number Offered: 15 | Total Funding: 7500

Teacher training workshops:

Number of presentations: 1 | Number of attendees: 50

Fund and/or staff student field trips to treatment facilities, recycling facilities, water conservation gardens, etc.:

Number of tours or field trips: 1 | Number of participants: 30

College internships in water conservation offered:

Number of internships: 0 | Total funding:

Career fairs/workshops:

Number of presentations: 0 | Number of attendees:

Additional program(s) supported by agency but not mentioned above:

Description

Number of events (if applicable) | Number of participants

Total reporting period budget expenditures for school education programs (include all agency costs):

Comments

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Suite 475
Walnut Creek, CA 94596

(925) 974-2500
(925) 974-2533