

GOODMAN LOGISTICS CENTER WATER SUPPLY ASSESSMENT

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Prepared for

CITY OF EL MONTE

Prepared by

P S O M A S

3 Hutton Centre Drive
Suite 200
Santa Ana, CA 92707
Project No. 2ELM010104

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ABBREVIATIONS/ACRONYMS

AB	Assembly Bill
AF	Acre-feet
AFY	Acre-feet per year
CEQA	California Environmental Quality Act
CGBC	California Green Building Standards Code
CRA	Colorado River Aqueduct
CVP	Central Valley Project
DU	Dwelling Unit
DWR	California Department of Water Resources
EIR	Environmental Impact Report
ET _o	Evapotranspiration
ETAF	Evapotranspiration Adjustment Factor
ETWU	Estimated Total Water Use
FY	Fiscal Year
gpd	Gallons per day
GSP	Groundwater Sustainability Plan
IRP	Integrated Resources Planning
MAF	Million Acre Feet
MAWA	Maximum Applied Water Allowance
Metropolitan, MWD	Metropolitan Water District of Southern California
MGD	Million gallons per day
MWELO	Model Water Efficient Landscape Ordinance
OSY	Operating Safe Yield
RDA	Water Resource Development Assessment
SB	Senate Bill
sf	Square feet
SGCWD	San Gabriel County Water District
SGMA	Sustainable Groundwater Management Plan
SGVMWD, District	San Gabriel Valley Municipal Water District
SWP	State Water Project
SWRCB	State Water Resources Control Board
TAF	Thousand Acre Feet
Three Valleys District	Three Valleys Municipal Water District
Upper District	Upper San Gabriel Valley Municipal Water District
UWMP	Urban Water Management Plan
VOC	Volatile Organic Carbon
WSA	Water Supply Assessment
WSAP	Water Supply Allocation Plan
WSDM	Water Surplus and Drought Management

1 INTRODUCTION

1.1 Proposed Project

The Proposed Project, the Goodman Logistics Center, is a warehouse development including corresponding offices located in the City of El Monte (the City) on a 55.65-acre site. The regional location of the Project is shown on Figure 1-1. The Project site is bounded by Shirley Avenue on the west, Union Pacific Railroad rail tracks to the south, a utility easement/property line along the east running between Shirley Avenue and Arden Drive, and Lower Azusa Road on the north.

The property currently contains approximately 1,036,371 square feet (sf) of unoccupied warehouse buildings that were constructed in approximately 1956. The previous tenant, Vons/Safeway/Albertsons, was active through 2017 and operations wound down in early 2018.

The Proposed Project encompasses the demolition of all existing structures on the site and construction of two new warehouse buildings, each containing office space. The Project site plan and statistics are detailed in Section 3 of this report. The Project is proposed to be completed in 2019 in a single phase.

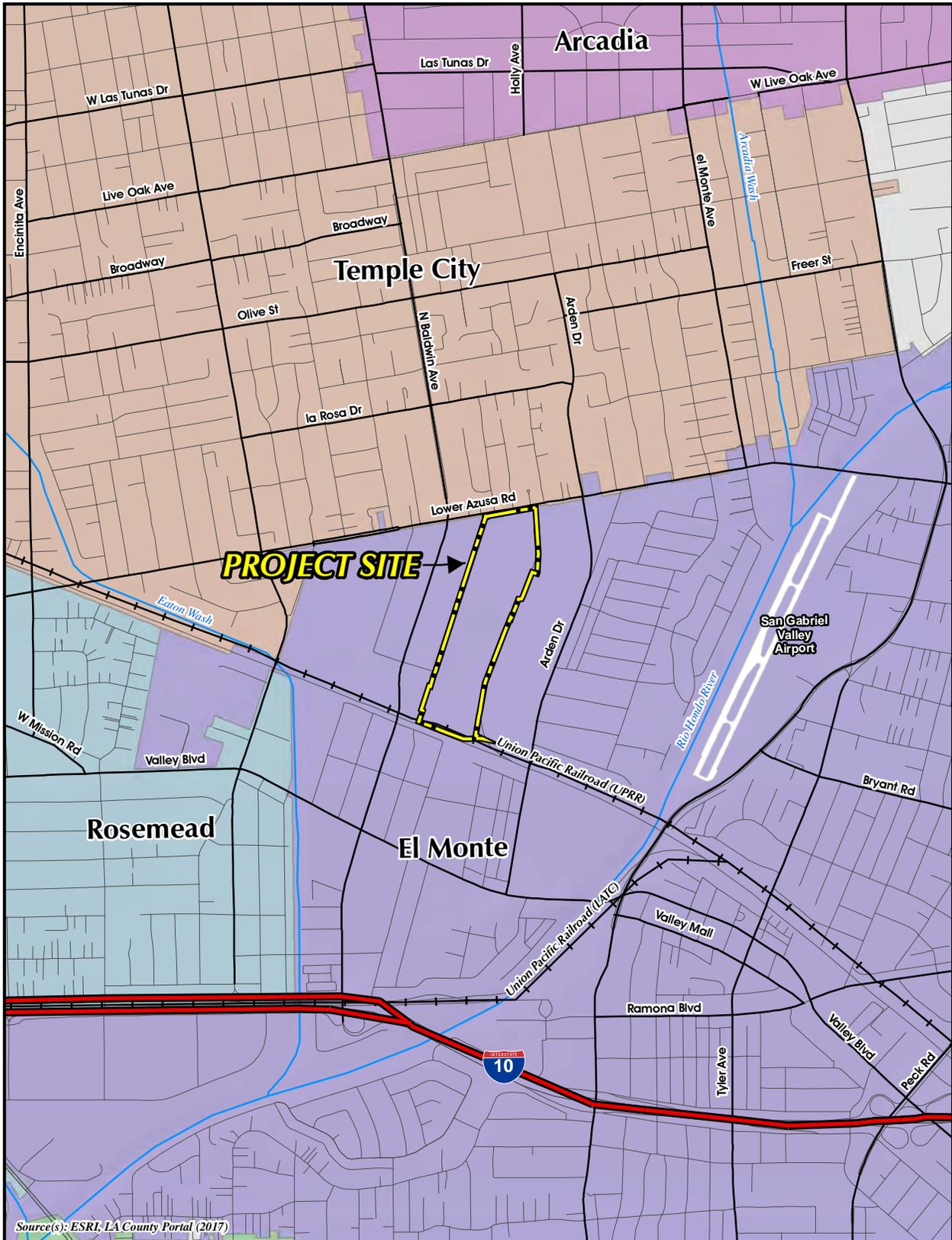
1.2 WSA Purpose

Consistent with the City's General Plan, the potential environmental effects of the Proposed Project will be analyzed in an appropriate California Environmental Quality Act (CEQA) compliance document. The Proposed Project is subject to analysis pursuant to CEQA. The City's General Plan and Zoning Code allow for the redevelopment of properties and the General Plan and EIR address that redevelopment activities would occur throughout the City. After thorough environmental review, the City, serving as the CEQA Lead Agency for the Project pursuant to CEQA Guidelines 15367, will determine the appropriate form of CEQA compliance document to utilize for the Proposed Project.

The City received applications from the developer, GLC El Monte LLC, for Design Review (DR 01-18), Conditional Use Permit (SUP 03-18), and a Development Agreement to allow for the redevelopment of the property located at the southeast corner of the intersection of Lower Azusa Road and Shirley Avenue that the General Plan designates for "Industrial/Business Park (I/BP)" land uses.

The preparation of a Water Supply Assessment (WSA) is required for development "Projects" subject to CEQA review as defined by Water Code Section 10912. The purpose of a WSA is to determine whether total projected water supply is sufficient during normal, single-dry, and multiple-dry year scenarios over the next 20-year projection to meet the demands associated with the Proposed Project in addition to the responsible public water agency's other existing and planned future demands. The responsible public water agency in this case is the City of El Monte.

This WSA has been prepared for the Proposed Project in accordance with sections of the Public Resources Code and California Water Code as referenced in Senate Bill (SB) 610 to show water supply is sufficient to meet water demands of the Proposed Project as well as all other existing and planned future water demands for the City over the next 20 years.



Source(s): ESRI, LA County Portal (2017)

**FIGURE 1-1
PROJECT VICINITY MAP**

2 LEGISLATION

According to the Guidebook for Implementation of Senate Bill (SB) 610 and SB 221 Water Code Section 10912, a “Project” requiring a WSA is defined by any of the following criteria:

1. A proposed residential development of more than 500 dwelling units (DU)
2. A proposed shopping center or business establishment employing more than 1,000 persons or having more than 500,000 square feet (sf) of floor space
3. A proposed commercial office building employing more than 1,000 persons or having more than 250,000 square feet of floor space
4. A proposed hotel or motel, or both, having more than 500 rooms
5. A proposed industrial, manufacturing, or processing plant, or industrial park planned to house more than 1,000 persons, occupying more than 40 acres of land, or having more than 650,000 square feet of floor space
6. A mixed-use project that includes one or more of the projects specified in this subdivision
7. A project that would demand an amount of water equivalent to, or greater than, the amount of water required by a 500 dwelling unit project

The Proposed Project in this case will construct 1,235,340 sf total building area, and per Criteria No. 5, necessitates the preparation of a WSA following the requirements of SB 610.

2.1 SB 610 – Costa – Water Supply Planning

SB 610 was chaptered into law on October 9, 2001. It mandates that a city or county approving certain projects subject to CEQA (i) identify any public water system that may supply water for the project, and (ii) request those public water systems to prepare a specified Water Supply Assessment (WSA). The assessment is to include the following:

1. A discussion of whether the public water system’s total projected water supplies available during normal, single dry, and multiple dry water years during a 20-year projection will meet the projected water demand associated with the proposed project, in addition to the public water system’s existing and planned future uses, including agricultural and manufacturing.
2. The identification of existing water supply entitlements, water rights, or water service contracts relevant to the identified water supply for the proposed project and water received in prior years pursuant to those entitlements, rights, and contracts.
3. A description of the quantities of water received in prior years by the public water system under the existing water supply entitlements, water rights, or water service contracts.

4. A demonstration of water supply entitlements, water rights, or water service contracts by the following means:
 - a. Written contracts or other proof of entitlement to an identified water supply.
 - b. Copies of a capital outlay program for financing the delivery of a water supply that has been adopted by the public water system.
 - c. Federal, state, and local permits for construction of necessary infrastructure associated with delivering the water supply.
 - d. Any necessary regulatory approvals that are required in order to be able to convey or deliver the water supply.
5. The identification of other public water systems or water service contract holders that receive a water supply or have existing water supply entitlements, water rights, or water service contracts, to the same source of water as the public water system.
6. If groundwater is included for the supply for a proposed project, the following additional information is required:
 - a. Review of any information contained in the Urban Water Management Plan (UWMP) relevant to the identified water supply for the proposed project.
 - b. Description of any groundwater basin(s) from which the proposed project will be supplied. Adjudicated basins must have a copy of the court order or decree adopted and a description of the amount of groundwater the public water system has the legal right to pump. For non-adjudicated basins, information on whether the State Department of Water Resources (DWR) has identified the basin as over-drafted or has projected that the basin will become over-drafted if present management conditions continue, in the most current bulletin of DWR that characterizes the condition of the basin, and a detailed description of the efforts being undertaken in the basin to eliminate the long-term overdraft condition.
 - c. Description and analysis of the amount and location of groundwater pumped by the public water system for the past five years from any groundwater basin which the proposed project will be supplied. Analysis should be based on information that is reasonably available, including, but not limited to, historic use records.
 - d. Description and analysis of the amount and location of groundwater projected to be pumped by the public water system from any groundwater basin by which the proposed project will be supplied. Analysis should be based on information that is reasonably available, including, but not limited to, historic use records.
 - e. Analysis of the sufficiency of the groundwater from the basin(s) from which the proposed project will be supplied.

The WSA is to be included in any environmental document prepared for the project. The assessment may include an evaluation of any information included in that environmental document. A determination shall be made whether the projected water supplies will be sufficient to satisfy the demands of the project, in addition to existing and planned future uses.

Additionally, SB 610 requires specific information pertaining to groundwater that is relied upon for water supply. Information must include a description of all water supply projects and programs that may be undertaken to meet total projected water use. SB 610 prohibits eligibility for funds from specified bond acts until the plan is submitted to the State.

2.2 SB 1262 – Sustainable Groundwater Management Act

State Senate Bill 1262 adopted in September 2016 amends Section 66473.7 of the Government Code to require WSAs to address certain elements regarding groundwater sustainability if the project relies in whole or in part on groundwater as a source of supply.

Since the Main San Gabriel Basin has been adjudicated, the portions of SB 1262 that are applicable are as follows:

For a basin for which a court or State Water Resources Control Board has adjudicated the rights to pump groundwater:

- Include the order or decree adopted by the court or the State Water Resources Control Board.

The adjudication documents for the Main Basin are included in Appendix A.

3 PROJECT CHARACTERISTICS

3.1 Proposed Project Location

The Proposed Project, the Goodman Logistics Center, is a warehouse development including corresponding offices located in the City of El Monte on a 55.65-acre site. The Project site is bounded by Shirley Avenue on the west, Union Pacific Railroad rail tracks to the south, a utility easement/property line along the east running between Shirley Avenue and Arden Drive, and Lower Azusa Road on the north. The Proposed Project site location is shown on Figure 3-1.

The property currently contains approximately 1,036,371 square feet (sf) of unoccupied warehouse buildings that were constructed in approximately 1956. The previous tenant, Vons/Safeway/Albertsons, was active through 2017 and wound down operations in early 2018 but was fully operational in 2015 when existing water demands would have been reported in the 2015 Urban Water Management Plans (UWMP). The site has not previously received water service from the City of El Monte so its water demand would not have been included in the City's 2015 UWMP. Its demand would have been included in the 2015 UWMP of the adjacent water purveyors, California American Water Company (CAWC) and Golden State Water Company (GSWC) who provided service at that time. Demand records for the previous tenant from both CAWC and GSWC totaled 25.7 acre-feet per year (AFY) and 23.9 AFY in 2014 and 2015, respectively so one of those values or the fiscal year value which would have been close to the average of the two would have been reported in those agencies' UWMPs as existing demand and included in future year projections as well. Therefore, any demand included in CAWC's and GSWC's UWMP to serve the existing site will be coming off their systems with a corresponding reduction in regional water supply requirements from sources such as the Main San Gabriel Groundwater Basin.

3.2 Proposed Project Characteristics

The Proposed Project encompasses the demolition of all existing structures on the site and construction of two new warehouse buildings, each containing office space. The Project site plan and statistics are shown on Figure 3-2. The water demand-related characteristics of the Project area are shown in Table 3-1.

The development plan includes 1,235,340 sf total building area with 572,240 sf for Building #1 and 663,100 sf for Building #2. The warehouse space will total 1,195,340 sf and the office space will total of 40,000 sf with 20,000 sf of office space per building. The occupant load for each building is estimated at 100 office employees and 200 to 300 warehouse employees. The operation will consist of an upper end of 3 shifts per day with a total of 600 employees per building per day or approximately 1,200 employees (maximum) per day on the site. The building use data will be utilized to generate indoor water demands for the WSA. The landscape demands, also served by potable water, will be estimated based on the landscape area of 227,995 sf provided by the Project's landscape architect. The Project is proposed to be completed in 2019 in a single phase.



**FIGURE 3-1
PROPOSED PROJECT SITE LOCATION**

Table 3-1. Project Characteristics

	Building 1	Building 2	Total
Site Area			
Gross Area in square feet (sf)	1,135,977	1,297,124	2,433,101
Gross Area in acres (ac)	26.08	29.78	55.86
Net Area in square feet (sf)	1,135,542	1,288,786	2,424,328
Net Area in acres (ac)	26.07	29.59	55.65
Building Area (sf)			
Footprint	562,240	653,100	1,215,340
Office - 1st floor	10,000	10,000	20,000
Office - 2nd floor	10,000	10,000	20,000
Warehouse Area	552,240	643,100	1,195,340
Total	572,240	663,100	1,235,340
Employees			
Employees per Building	600	600	1,200
Landscape Area (sf)			
Landscape	77,390	150,605	227,995

3.3 Project Water Demand

The WSA will utilize the net new water demand for the Project site to evaluate if there is sufficient supply to meet demands of the Project as well as all other existing and planned future water demand for the City over the next 20 years. The net new demand for the Project area would typically be the difference between the existing water demand and the estimated new water demand for the site. However, the current site does not have an existing water service from the City and, therefore, there is no existing demand to be subtracted from the Proposed Project demand. All existing warehouses in the Project area will be demolished to make room for the new warehouse development, i.e. Building #1 and Building #2.

Indoor water demand for the Proposed Project was estimated by multiplying estimated unit water use factors for office and warehouse use in gallons per day per thousand square feet (gpd/ksf) by the appropriate building square footage. The Project will be designed to be water-efficient and meet or exceed all current water efficiency standards and regulations. An office use of 60 gpd/ksf was estimated using the Irvine Ranch Water District’s (IRWD) factor from the Water Resources Master Plan. IRWD’s Master Plan utilized water meter records collected over an 8-year period as the basis for determining interior water use factors for non-residential land uses. The vast majority of irrigated non-residential lots in the IRWD service area are served through separate recycled water irrigation meters. As a result, the IRWD Master Plan provides empirical data for indoor water use separate from outdoor use.

Since IRWD did not report a factor for warehouse use, it is estimated based on the Los Angeles County Sanitation District (LACSD) sewer loading criteria for warehousing land use and adjusted for current water efficiency standards. The LACSD loading for warehouse use is 25 gpd/ksf. This value has not been updated to reflect current building code water fixture standards. As such, an

adjusted value of 20 gpd/ksf was utilized assuming a 20% savings achieved by low flow plumbing fixtures. The estimated indoor water use factors and indoor water demand by building use type are summarized in Table 3-2.

Table 3-2. Estimated Indoor Water Use

Building Use	Area (sf)	Unit Water Use (gpd/ksf)	Water Use (gpd)	Water Use (AFY)
Warehouse	1,195,340	20	23,907	27
Office	40,000	60	2,400	3
Total Indoor Water Use	1,235,340		26,307	30

The State Department of Water Resources Model Water Efficient Landscape Ordinance (MWELO) limits potable landscape water irrigation to a Maximum Applied Water Allowance (MAWA) which is calculated in gallons per year as follows based on an Evapotranspiration Adjustment Factor (ETAF) of 0.55 for residential and 0.45 for non-residential use, the total landscaped area (LA) in square-feet, and the local reference evapotranspiration (ETo) rate in inches per year, where 0.62 is a conversion factor.

$$MAWA = (ETAF)(ETo)(0.62)(LA)$$

As the Proposed Project is non-residential, an ETAF of 0.45 would apply. The total landscape area of the Proposed Project area will be 227,995 sf per preliminary landscape plan area takeoffs prepared by Hunter Landscape, Inc., the Project Landscape Architect.

The ETo for the Project area is approximately 49.85 inches based on the closest CIMIS (California Irrigation Management Information System) Station in the City of Monrovia (Station #159). Using the formula above, the MAWA for the Project area is calculated as 3,170,989 gallons per year or 8,688 gallons per day using the maximum allowable ETAF of 0.45. The irrigation demand is conservatively estimated using the MAWA for the WSA. Preliminary landscape plans for the Project call for water efficient landscaping which will result in lower irrigation demands than the MAWA, therefore making these projections conservative.

The estimated water demand for each use and total water demand for the Proposed Project are summarized in Table 3-3. As discussed above in this section and using the average existing site demand of 24.8 AFY, that demand will be coming off CAWC's and GSWC's demand as reported in their 2015 UWMPs and off the regional supply requirement. Therefore even though the total water demand for the Proposed Project, estimated to be 39.2 AFY, will be a new demand on the City of El Monte system, the net new demand on regional water supplies will only be approximately 14.4 AFY (39.2 - 24.8). Based on the Proposed Project phasing this demand will occur starting in 2019.

Table 3-3. Estimated Project Water Use

	Area (sf)	Water Use (gpd)	Water Use (AFY)
Building Area			
Warehouse	1,195,340	23,907	26.8
Office	40,000	2,400	2.7
Building Subtotal	1,235,340	26,307	29.5
Landscape Area			
Total Landscape Area	227,995	8,688	9.7
Total Water Use		34,995	39.2

As a check, the resulting total water use equates to approximately 29 gpd per employee, based on the maximum of 1,200 employees per day. The Environmental Protection Agency documented an average daily water demand in commercial/industrial settings between 20 and 35 gpd per employee. The demand estimate calculated using the above per sf methodology correlates with this range. However, it is felt to be conservative because if there are less employees per day than the maximum the gpd/employee would be higher and the estimate would be on the high end of that range.

4 CITY WATER SYSTEM

4.1 City Water System Characteristics

The City of El Monte is located in the south-central portion of Los Angeles County and occupies an area of 6,200 acres with a current population of approximately 115,000, in which the City’s water department serves about 15 percent of the area within the City limits. The current population of the City’s water service area is approximately 18,000. The City’s current water service area covers approximately 1,142 acres or almost one fifth of the City’s 6,200 acres and approximately 3,500 service connections. The service area boundary is provided in Figure 4-1.

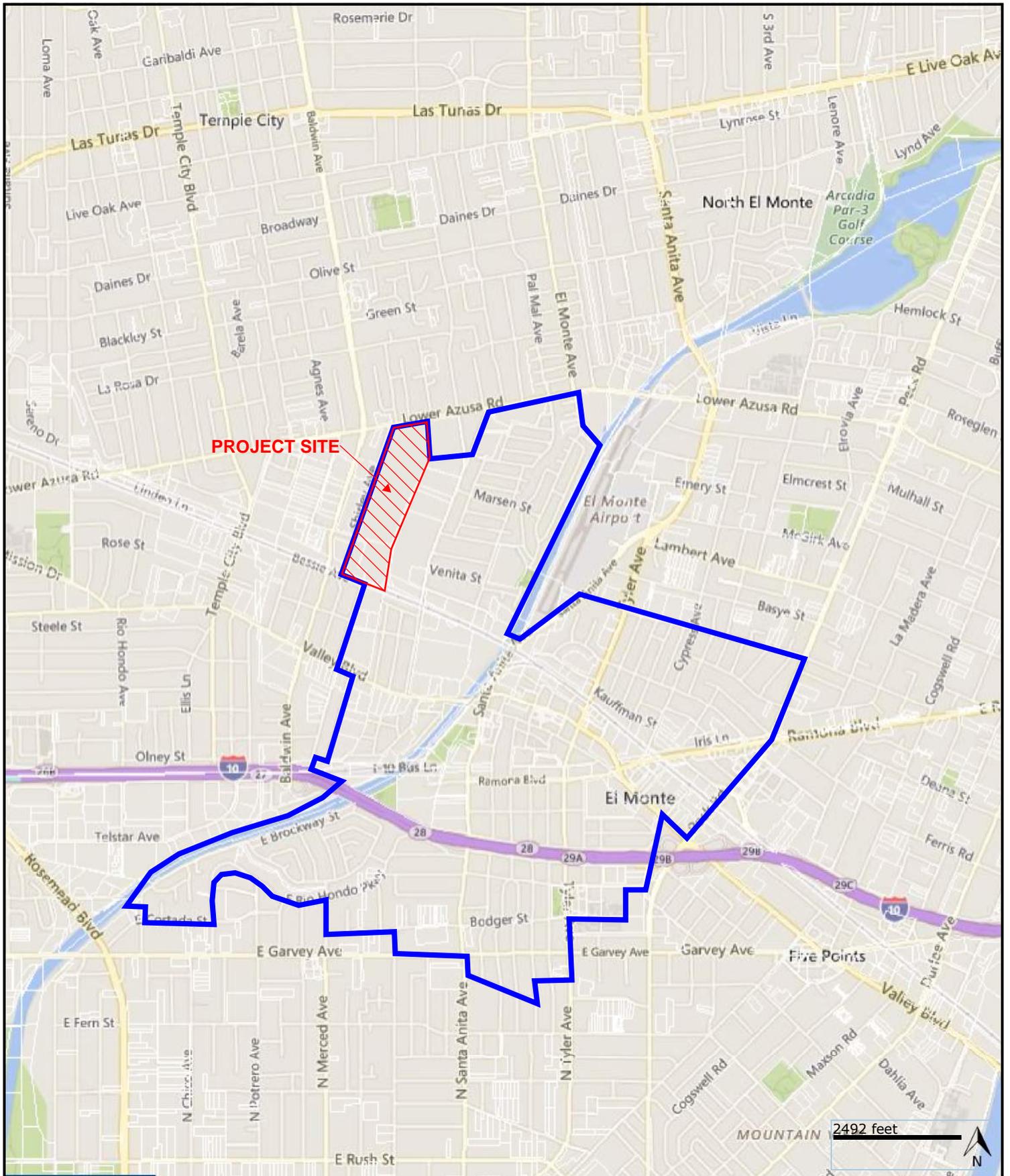
Table 4-1 presents the current and projected population for the service area from 2015 to 2040. The population was calculated using the State Department of Water Resources (DWR) Population Tool. The tool allows a service area boundary to be layered onto census maps to extract partial census block data within the boundary for census years 1990, 2000, and 2010. Population for non-census years, like 2015, is calculated by multiplying the persons per service connection by the number of service connection for any given year. The City’s population is projected to increase to 22,645 by 2035 as reported in the City’s 2015 UWMP, which is an increase of 26.9 percent relative to the population in 2015 as shown in Table 4-1. The same annual increase was used to project 2040 population in this report, which was not included in the 2015 UWMP.

Table 4-1. 2015 and Projected City Population

	2015	2020	2025	2030	2035	2040
Population	17,839	18,925	20,099	21,334	22,645	24,037
% Increase Relative to 2015		6%	13%	20%	27%	35%

The City does not expect significant growth within its service area in the next 20 years; the area is essentially built out with little or no room for expansion. The City projects that much of the growth within its service area will result from an increase in the number of persons per dwelling unit and from re-development of exiting property into residences; i.e. densification. The one exception is planned Transit Oriented Development (TOD), particularly the Gateway project, which is being developed on previously vacant land. The El Monte Transit Village Specific Plan anticipates increased demand by 439 AF above 2015 demands over approximately 20 years through year 2035, based on a WSA prepared for that project in 2007. Also, an additional annual growth rate of approximately 0.2%, as projected by the Southern California Association of Government (SCAG), was included in the City’s 2015 UWMP water demand projections for residential use.

The City’s customers are a mix of primarily single and multi-family residential with numerous commercial and industrial customers. Water service is provided to customers for domestic, irrigation, fire protection and manufacturing process use. The City’s single-family residential and commercial sector make up most of the City’s water use with about 44 percent for single-family residential use and about 35 percent for commercial use. The remainder of the City’s water demand is broken down by multi-family residential sector use of about 18 percent, irrigation use of about 2 percent, and industrial sector use of less than 1 percent.



— WATER SERVICE AREA BOUNDARY

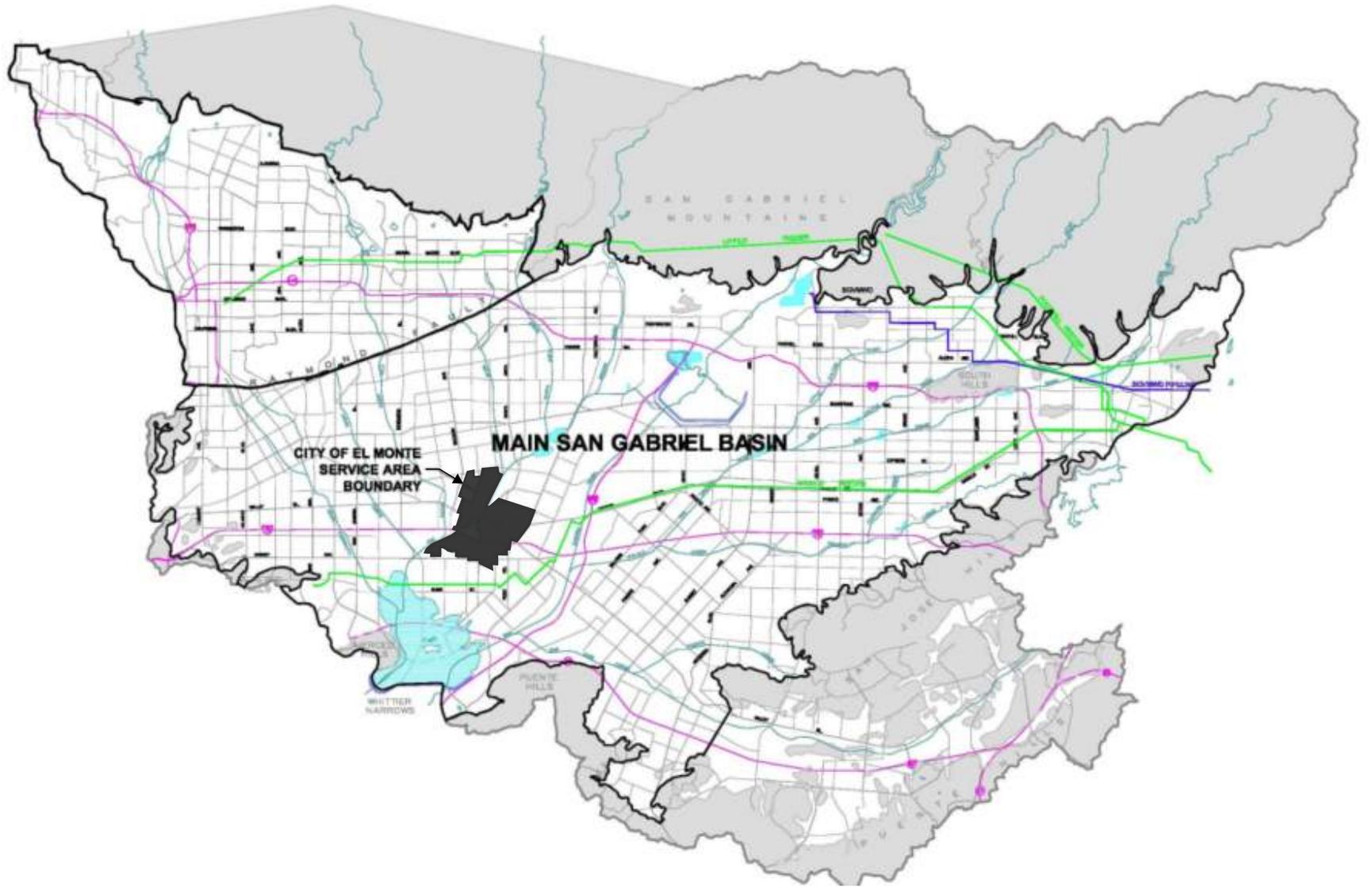
FIGURE 4-1
CITY'S SERVICE AREA BOUNDARY

The City's source of water supply is groundwater from the Main San Gabriel Groundwater Basin (Main San Gabriel Basin or Main Basin) with emergency interconnections with neighboring water agencies. All the water supplied by the City is produced from the Main Basin, which is an adjudicated basin controlled by a Watermaster. There are currently no local or imported surface water sources of supply for the distribution system. Figure 4-2 depicts the City's water service area boundary relative to the Main San Gabriel Basin boundaries.

The City's water department delivers potable water through a pressurized distribution system, which has approximately 40 miles of pipeline ranging from 2 inches to 12 inches in diameter. The City's water system is also comprised of a one million gallon storage tank with three booster pumps, a 200,000 gallon elevated storage tank, six groundwater wells (five active wells), and three emergency connections with neighboring water purveyors.

The City has six wells which can produce groundwater for potable water supply from the Main San Gabriel Basin: Well Nos. 2A, 3, 4, 10, 12, and 13. The City currently utilizes only five of these wells, Well No. 2A, 3, 10, 12, and 13. Due to poor water quality, Well 3 is only operated simultaneously with Well 2A for blending. All groundwater is treated as necessary to meet state and federal drinking water standards and is then pumped directly into the system.

A new source of groundwater production capacity from the Main Basin is scheduled to come online this year providing an average of 600 gpm continuous inflow from three new wells located in the City of Rosemead to the west of El Monte and through a new water treatment facility just to the west of the City.



**FIGURE 4-2
CITY'S BOUNDARY RELATIVE TO
MAIN SAN GABRIEL BASIN**

4.2 City Water Demands

The historic and projected water demand by customer type within the City is shown on Tables 4-2 and 4-3. The average historic water demand from 2001 to 2010 was approximately 901 million gallons (MG) per year, while the average demand for the last five years was approximately 720 MG. The decreased demand can be largely attributed to water conservation efforts and loss of industry in the City. The 2015 water demand was used as the starting point for estimating projected use in the 2015 UWMP. A 0.2% annual growth rate was applied to the single family and multi-family demand to estimate projected use through 2040 based on population projected by SCAG. The Transit Village Specific Plan water use was also included in the UWMP projected demand data but is shown separately in this WSA as more detailed phasing data is currently available for that project. In the UWMP the Transit Village demand was estimated as a 1% growth rate, however, in this WSA the actual demand data from the Specific Plan was utilized, which is slightly higher than 1% of current City demand. An annual growth rate of 0.5% was applied to commercial demand, also based on the assumptions from the 2015 UWMP. Industrial and irrigation use were assumed to remain unchanged into the future.

Table 4-2. Historical City Water Demands

Year	Water Use (MG)						
	2011	2012	2013	2014	2015	2016	2017
Pumped Groundwater	732	761	760	718	696	697	733

Table 4-3. Projected City Water Demand (MG)

	2015	2020	2025	2030	2035	2040
Residential (MF & SF)	383	387	391	395	399	403
Commercial Development	214	219	225	231	236	242
Industrial and Landscape	17	17	17	17	17	17
El Monte Transit Village SP		20	32	87	143	143
Subtotal (Demand)	614	643	665	730	795	805
Warehouse Project		13	13	13	13	13
Losses	82	33	34	37	40	41
Total (Production) MGY	696	689	711	780	848	859
Total (Production) AFY	2136	2114	2183	2393	2603	2635
% Project Demand		2.0%	1.9%	1.8%	1.6%	1.6%

(1) Residential increased at 0.2% per year, commercial at 0.5% per year, and industrial and landscape remained the same per 2015 UWMP.

(2) El Monte Transit Village demand equal to 439 AF or 143 MG over 20 years per Transit Village SP (buildout by 2035).

(3) Losses equal to 5% of demand after year 2015 per 2015 UWMP.

Recent water production data shows 2015 and 2016 water use were similar, however, there was a significant increase in use for 2017, greater than the projected use in the 2015 UWMP through 2030, consistent with Watermaster data for the region likely due to relaxed conservation by consumers. California's 5-year drought was officially declared to be over in April 2017, and it is anticipated that water use will increase some relative to 2015 water use.

Unaccounted water loss within the United States typically ranges from 3 to 10 percent. The amount of unaccounted-for water is determined by subtracting the amount of water billed to the City's customers from the total amount of water produced from City Wells. Based on a comparison of data from 1993 to current, an estimate of unaccounted-for water loss in the City's service averaged about 5 percent. The City's 2015 UWMP projected water loss is taken as 5% of demand, which is assumed as a reasonable goal considering historic water losses and the 2016 meter replacement program.

The 2015 water loss determined in the 2015 UWMP was 82 MG, which is 11.8% of the 696 MG of water produced from the City's wells in 2015. The loss was calculated by subtracting the billed consumption from the water produced according to meters at the well heads. This percentage of loss is high compared to previous years. The reasons for the higher rate of loss are not fully known at this time. However, recent meter testing revealed several 2-inch and smaller meters to be under-recording flow by up to 10%. This is one reason a meter replacement project was initiated. All City meters 2-inch and smaller were replaced from January to April 2016.

Table 4-3 shows the calculated water loss from FY 15/16, which is the most recent 12-month period available. The loss was determined using the American Water Works Association Method. City staff has gone through the Water Loss Technical Assistance Program training offered by the California Water Loss Control Collaborative to meet the requirement of SB 555 of submitting a validated water audit by October 1, 2017. The water loss of 54 MG for FY 15/16 is a marked improvement over the 82 MG for calendar year 2015. At least part of the FY 15/16 captured billed consumption after the new meters were installed. This may explain the decreased water loss.

The UWMP used 2015 water demand as the starting point for determining projected use. The 2015 water demand included a savings of 15.6% for the last six months of 2015, due to conservation efforts, when compared to 2013 use for the same months. Applied to the entire 2015 demand, this would be an annual savings of 7.8%, which was reflected in projected use. This was used as a reasonable estimate of long term water savings and no future water savings beyond that were included in the projected demands.

California's urban water demand has been largely shaped by the efforts to comply with the Water Conservation Act of 2009 (SBx7-7). This law requires all California retail urban water suppliers serving more than 3,000 AFY or 3,000 service connections to achieve a 20 percent water demand reduction (from a historical baseline) by 2020. The City has been actively engaged in efforts to reduce water use in its service area to meet the 2015 interim and the 2020 final water use targets. Meeting this target is critical to ensure the City's eligibility to receive future state water grants and loans. For the 2015 UWMP, the City's 10-year baseline daily per capita water use was 140 gpcd and the City's 5-year baseline daily per capita water use was 141 gpcd. The City's 2015 interim and 2020 final water use targets were determined to be 137 gallons per capita per day (gpcd) and 134 gpcd, respectively. City water use dropped significantly in 2015 to 107 gpcd, which was well

below the City's SBx7-7 2015 interim target of 137 gpcd, and was already below the City's target water use of 134 gpcd set for 2020.

In 2012, the most severe drought in California history began. In April 2015, Governor Brown issued Executive Order B-29-15 that required a collective reduction in statewide urban water use of 25 percent by February 2016, with each agency in the state given a specific reduction target by DWR. On May 9, 2016 Governor Brown issued Executive Order B-37-16 that built on temporary statewide emergency water restrictions to establish longer-term water conservation measures, including permanent monthly water use reporting, new permanent water use standards in California communities and bans on clearly wasteful practices. The drought was officially declared to be over in April 2017, and it is anticipated that water use will increase some relative to 2015 water use. However, it is also anticipated that a great deal of water conservation will remain due to permanent measures that have already been implemented for existing City residences and that will be implemented by new development, i.e. turf removal, conversion to drought resistance landscapes, conversion to more efficient irrigation systems, retrofits to high efficiency clothes washers and toilets, implementation of weather-based irrigation controllers, etc.

The California Green Building Standards Code (CGBC) has a direct impact on new residential and non-residential building and water conservation in the State. The 2016 California Green Building Standards Code, which became effective on January 1, 2017, aims to cut indoor water consumption by 20 to 35 percent from standards in place prior to the adoption of the first CGBC that became effective August 1, 2009, primarily through more efficient indoor water fixtures. The 2016 California Green Building Standards Code also includes outdoor water conservation by reducing the area devoted to high-irrigation use lawns and plants, emphasizing natural drought-tolerant plantings and the installation of irrigation controls that respond to local weather conditions. This is consistent with the MWELo, which was adopted by the State on July 15, 2015. The City adopted Ordinance No. 2884 on June 21, 2016, which is consistent with the State MWELo and included as Appendix B.

Future City water demands for FY 2020 through FY 2040 (in 5-year increments) were conservatively projected in the City's 2015 UWMP based on the projected City population and the planned Transit Village. It is conservatively assumed that the demand projections included the 2015 UWMP did not account for the Proposed Project demands as there is no specific mention that they were included (although some of the Proposed Project demand could be included in the 0.5% annual growth for non-residential development). Projected City water demands with the addition of the net Proposed Project demands are shown in Table 4-3. The net Proposed Project demands shown in Table 4-3 are the demands shown in Table 3-3 with 5.0% water loss added. As shown in Table 4-3, the net Proposed Project demands range from 1.6% to 2.0% of the total City water demand from 2025 through 2040.

4.3 City Water Supply

The City relies exclusively on local groundwater and does not purchase imported water. If the City ever did exceed their groundwater allocation from the Main Basin (which has never happened), Metropolitan replacement water is available for purchase from the Watermaster for a Replacement Water Assessment. The Main Basin Judgement also allows parties to enter into temporary transfers (leases) of water rights to acquire additional water rights on an annual basis to reduce the quantity

of production that may be subject to a Replacement Water Assessment. The City’s historical water supply is shown in Table 4-4 for years 2011-2017.

Table 4-4. Historical City Water Supply

Year	Water Production (MG)						
	2011	2012	2013	2014	2015	2016	2017
Pumped Groundwater	732	761	760	718	696	697	733

4.3.1 Groundwater Supply

The information in this section is intended to furnish the information required by Water Code section 10910(f).

The City relies exclusively on local groundwater and does not purchase imported water. As discussed above, if the City ever did exceed their groundwater allocation set annually by the Watermaster via the Operating Safe Yield (OSY) of the Basin, Metropolitan replenishment water is available for purchase from the Watermaster. City groundwater is produced from the Main Basin via five existing active wells and three new wells coming on line later this year, all owned and operated by the City.

4.3.1.1 San Gabriel Main Basin Groundwater

Although, there is no limit on the quantity of water that may be extracted by parties to the Main Basin adjudication, including the City, groundwater production in excess of water rights, or the proportional share (pumper's share) of the OSY, requires purchase of imported replacement water from the Watermaster to recharge the Main Basin.

The City’s water rights to Main Basin groundwater amounts to 1.40888 percent of the OSY of the Basin. The long-term average OSY is about 200,000 acre-feet, although the annual OSY has ranged between 140,000 acre-feet and 240,000 acre-feet. An average OSY of 200,000 AF would provide the City with a pumper’s share of 2,818 AFY. However, for FY 2015, following three years of severe drought, the OSY was established at 150,000 AF, which reduced the City's pumper’s share in the Main Basin to 2,113 AFY (689 MGY). In any given year, if the City produces more than its allocated pumper’s share of Main Basin groundwater (which has never occurred), the City must purchase SWP replacement water, which is used to replenish the Main Basin.

The Main Basin watershed coincides with a portion of the upper San Gabriel River watershed, and underlies most of the San Gabriel Valley. The groundwater basin is bounded by the San Gabriel Mountains to the north, San Jose Hills to the east, Puente Hills to the south, and by a series of hills and the Raymond Fault to the west. The watershed is drained by the San Gabriel River and Rio Hondo, a tributary of the Los Angeles River. The surface area of the basin is approximately 167

square miles and the fresh water storage capacity is estimated to be approximately 8.6 million acre-feet (MAF)¹.

Of that total fresh water storage amount, about 1.1 MAF has been used historically in Main Basin operations. The Main Basin is replenished by stream runoff from the adjacent mountains and hills; by rainfall directly on the surface of the valley floor; subsurface inflow from Raymond Basin and Puente Basin; and by return flow from applied surface water. The Basin is also replenished with imported water. Three municipal water districts overly, or partially overly, the Main Basin: Upper District, SGVMWD, and Three Valleys Municipal Water District (Three Valleys District).

The Baldwin Park Key Well (Key Well) is used as the benchmark for determining how the groundwater supply for the entire Main Basin is trending. Pursuant to the Main Basin Judgment, the Main Basin Watermaster manages the Main Basin to maintain the groundwater level at the Key Well between 200 feet and 250 feet, to the extent possible.

Five consecutive years of below-average rainfall and stormwater runoff resulted in a decrease in the groundwater elevation at the Key Well to 173.6 feet as of June 30, 2016, which was a historic low. During FY 2017, rainfall was about 110 percent of average. However, replenishment of storm runoff was only about 65 percent of average due to the San Gabriel River watershed infiltrating much of the rainfall before it could flow into rivers or channels. In a concerted effort to off-set the lack of stormwater runoff, during FY 2017, the Watermaster and local basin producers coordinated the delivery of about 76,000 acre-feet of untreated imported water for groundwater replenishment. Also, groundwater production totaled about 184,400 acre-feet, which is second lowest production since inception of Watermaster management. Collectively, these actions resulted in a Key Well elevation of 179.4 feet as of June 30, 2017. Although this elevation is about 21 feet below the “low” end of the operating range for the Watermaster, it represents an increase of 5.8 feet from the previous year.

DWR Bulletin 118 does not identify the Main Basin as being in overdraft. The basin is adjudicated, and as such, does not require the preparation of a Groundwater Sustainability Plan (GSP) under the Sustainable Groundwater Management Act (SGMA).

Long Beach Judgement

Under the terms of the Long Beach Judgment, entered on September 24, 1965, the water supply of the San Gabriel River system was divided at Whittier Narrows between San Gabriel Valley upstream and the coastal plain of Los Angeles County downstream. The area downstream from Whittier Narrows (Lower Area), the plaintiffs (City of Long Beach, Central District, and the City of Compton, receive a quantity of usable water annually from the San Gabriel River system comprised of usable surface flow, subsurface flow at Whittier Narrows and water exported to the Lower Area. This annual entitlement is guaranteed by the area upstream of Whittier Narrows (Upper Area), the defendants (24 other producers of groundwater from the San Gabriel Valley), and provision is made for the supply of Make-up Water by the Upper Area for years in which the guaranteed entitlement is not received by the Lower Area.

¹ Upper San Gabriel Valley Municipal Water District-City of Alhambra, et al, Judgement as Amended August, 24, 1989.

Make-up Water is imported water purchased by the Main Basin Watermaster and delivered to agencies in Central District to satisfy obligations under the Long Beach Judgment. The entitlement of the Lower Area varies annually, dependent upon the 10-year average annual rainfall in the San Gabriel Valley for the 10 years ending with the year for which entitlement is calculated.

A three-member Watermaster (River Water Master) was appointed by the Court, one representing the Upper Area parties nominated by and through Upper District, one representing the Lower Area parties nominated by and through the Central District, and one jointly nominated by Upper District and Central District. The River Watermaster administers and enforces the provisions of the Long Beach Judgment. The River Watermaster meets periodically during the year to adopt a budget, to review activities affecting water supply in the San Gabriel River system area, to compile and review data, to make determinations of usable water received by the Lower Area, and to prepare its annual report to the Court. The River Watermaster has rendered annual reports for the water years 1963-64 through 2014-15 and operations of the river system under that Court Judgment and through the administration by the River Watermaster have been satisfactory since its inception.

One major result of the Long Beach Judgment was to leave the Main Basin free to manage its water resources so long as it meets its downstream obligation to the Lower Area under the terms of the Long Beach Judgment. Upper District intervened in the Long Beach case as a defendant to enforce the provisions of a Reimbursement Contract, which was incorporated into the Long Beach Judgment to assure that any Make-up Water obligations under the terms of the Long Beach Judgment would be satisfied.

Main Basin Judgement

Under the terms of the Main San Gabriel Basin Judgment (Main Basin Judgement), entered on January 4, 1973, all rights to the diversion of surface water and production of groundwater within the Main Basin and its relevant watershed were adjudicated. The Main Basin Judgment is administered by a nine-member board called the Main San Gabriel Basin Watermaster (Basin Watermaster). The Basin Watermaster files an annual report on Main Basin operations with the Court. Selected provisions of the Judgment are summarized below.

The prescriptive pumping rights in the Main Basin were adjudicated on the basis of mutual prescription resulting in a specific quantity, in acre-feet, for each producer. Such rights were then converted to a pumper's share, expressed in percent of the aggregate of all prescriptive rights. Each year the producer is allowed to extract, free of Replacement Water assessment, the proportional share (pumper's share) of the OSY. Any producer can extract all the water required for beneficial use. If the extraction is less than the producer's pumper's share, the unused portion of the right in a given fiscal year may be carried over for one fiscal year. The first water produced in the succeeding fiscal year is deemed to be such carried over right. The portion of such extraction, which exceeds the sum of the producer's share of the OSY, or any carry over rights or leased water rights, is assessed at a rate (Replacement Water Assessment), which will purchase one acre-foot of Supplemental Water for each acre-foot of excess production.

The ownership or use of any adjudicated water right may be transferred, assigned, licensed or leased by the owner to other parties to the Judgment after appropriate notice to and approval by Basin Watermaster. There are occasional sales of water rights. Leasing of water rights occurs frequently.

Groundwater Quality

During the late 1970s and early 1980s, significant groundwater contamination was discovered in the Main Basin. The contamination was caused in part by past practices of local industries that had carelessly disposed of industrial solvents referred to as Volatile Organic Compounds (VOCs), as well as by agricultural operations that infiltrated nitrates into the groundwater. Cleanup efforts were undertaken at the local, state, and federal level.

Local water agencies adopted a joint resolution in 1989 regarding water quality issues that stated the Main Basin Watermaster should coordinate local activities aimed at preserving and restoring the quality of groundwater in the Main Basin. The joint resolution also called for a cleanup plan. In 1991, the Court granted the Main Basin Watermaster the authority to control pumping for water quality purposes. Accordingly, the Main Basin Watermaster added Section 28 which requires development of the Five-Year Water Quality and Supply Plan and annual updates, which are submitted to the California Regional Water Quality Control Board, Los Angeles Region.

Section 28 of the Main Basin Watermaster's Rules and Regulations require all producers (including the City) to submit an application to 1) construct a new well, 2) modify an existing well, 3) destroy a well, or 4) construct a treatment facility.

Main Basin Cyclic Storage Agreements

Water delivered to the Main Basin in advance of its requirement is credited to the cyclic storage account with the Main Basin Watermaster, in-lieu of actual delivery of imported water for that purpose. Because water is often stored in cyclic storage for many years before being required as replacement water, the cyclic storage program may be considered an exchange program in that it takes advantage of surplus water and stores it in the Main Basin for future use. Agencies with cyclic storage accounts include SGVMWD, Upper District, Three Valleys District, and Puente Basin Water Agency.

4.3.2 Imported Water

The information in this section is intended to provide the information required by Water Code section 10910(d).

Metropolitan is the wholesale water agency that serves supplemental imported water from northern California through the State Water Project (SWP) and the Colorado River Aqueduct (CRA) to 26 member agencies located in portions of Los Angeles, Orange, Riverside, San Bernardino, San Diego, and Ventura Counties. Upper District is a wholesale water supplier that provides untreated SWP water to replenish groundwater supplies in the Main San Gabriel Basin (Main Basin).

4.3.2.1 Colorado River Supplies

The CRA, which is owned and operated by Metropolitan, transports water from the Colorado River to its terminus at Lake Mathews in Riverside County. The actual amount of water per year that may be conveyed through the CRA to Metropolitan's member agencies is subject to the availability of Colorado River water for delivery.

The CRA includes supplies from the implementation of the Quantification Settlement Agreement (QSA) and related agreements to transfer water from agricultural agencies to urban uses. The 2003 QSA enabled California to implement major Colorado River water conservation and transfer programs, stabilizing water supplies for 75 years and reducing the state's demand on the river to its 4.4 MAF entitlement.

Water from the Colorado River system is available to users in California, Arizona, Colorado, Nevada, New Mexico, Utah, and Wyoming, as well as to Mexico. California is apportioned the use of 4.4 MAF of water from the Colorado River each year plus one-half of any surplus that may be available for use collectively in Arizona, California, and Nevada. Metropolitan has a basic entitlement of 550,000 AFY of Colorado River water, plus surplus water up to an additional 662,000 AFY when the following conditions exist (Metropolitan, 2015 UWMP, June 2016):

- Water unused by the California holders of priorities 1 through 3
- Water saved by the Palo Verde land management, crop rotation, and water supply program
- When the U.S. Secretary of the Interior makes available either one or both:
 - Surplus water
 - Colorado River water apportioned to but unused by Arizona and/or Nevada

Metropolitan has not received surplus water for a number of years. The Colorado River supply faces current and future imbalances between water supply and demand in the Colorado River Basin due to long term drought conditions. Over the period from 2000-2015, there have only been three years when the Colorado River flow has been above average (Metropolitan, 2015 UWMP, June 2016).

Approximately 40 million people rely on the Colorado River system for water with 5.5 million acres of land using Colorado River water for irrigation. Climate change also has the potential to affect future supply and demand as increasing temperatures may increase evapotranspiration from vegetation along with an increase in water loss due to evaporation in reservoirs, therefore reducing the available amount of supply from the Colorado River.

In addition, Metropolitan has appropriated \$9.55 million to upgrade chlorination facilities in the aqueduct and at two additional locations in its system, the outlets of Lakes Mathews and Skinner. It is likely that additional upgrade costs will be incurred for these facilities. Chemical control (chlorination) at Copper Basin Reservoir, Lake Mathews, and the Lake Skinner Outlet costs approximately \$3.0-3.2 million per year depending on the amount of Colorado River water conveyed through the aqueduct.

4.3.2.2 State Water Project Supplies

The SWP consists of a series of pump stations, reservoirs, aqueducts, tunnels, and power plants that supply water from the Sacramento-San Joaquin Delta (Bay Delta) to 29 urban and agricultural agencies throughout California. More than two-thirds of California's residents obtain some of their drinking water from the SWP, which is owned and operated by DWR.

On an annual basis, each of the 29 SWP contractors, including Metropolitan as well as Upper District, request an amount of SWP water based on their anticipated yearly demand. In most cases,

Metropolitan's requested supply is equivalent to its full Table A Amount, currently at 1,911,500 AFY². The full Table A amount is defined as the maximum amount of imported water to be delivered and is specified in the contract between the DWR and the contractor. After receiving the requests, DWR assesses the amount of water supply available based on precipitation, snow pack on northern California watersheds, volume of water in storage, projected carry over storage, and Sacramento-San Joaquin Bay Delta regulatory requirements, which are discussed in more detail in Section 5.

Due to the uncertainty in water supply, contractors are not typically guaranteed their full Table A Amount, but instead a percentage of that amount based on the available supply. Once the percentage is set early in the water year, the agency can count on that amount of supply or more in the coming year. The percentage is typically set conservative and then held or adjusted upwards later in the year based on a reassessment of precipitation, snow pack, etc.

SWP supplies were most recently estimated using the 2015 SWP Delivery Capability Report distributed by DWR in July 2015. The 2015 Delivery Capability Report presents the current DWR estimate of the amount of water deliveries for current conditions and conditions 20 years in the future. These estimates incorporate restrictions on SWP and Central Valley Project (CVP) operations in accordance with the biological opinions of the U.S. Fish and Wildlife Service and National Marine Fisheries Service biological opinions. In addition, these estimates of future capability also reflect potential impacts of climate change and sea level rise.

Under the 2015 Delivery Capability Report with existing conveyance and low outflow requirements scenario, the delivery estimates for the SWP for 2020 conditions as a percentage of Table A amounts are 12 percent, equivalent to 257 TAF for Metropolitan, under a single-dry year (1977) condition and 51 percent, equivalent to 976 TAF for Metropolitan, under the long-term average condition.

4.3.3 Projected City Water Supply

The City has depended only on groundwater supplies from the Main Basin as its existing and planned source of water supply. Although there is no limit on the quantity of water that may be extracted by parties to the Main Basin adjudication, including the City of El Monte, groundwater production in excess of water rights, or the proportional share (pumper's share) of the OSY, requires purchase of imported replacement water to recharge the Main Basin. The City of El Monte has a pumper's share of 1.40888 percent of the OSY. For each of fiscal years (FY) 2014/15, 2015/16, and 2016/17, the OSY was established at 150,000 AF. Therefore, the City of El Monte's pumping right was equal to 689 MG (2,113 AF). For FY 2017/18 the OSY is currently set by the Watermaster at 150,000 AF based on drought conditions, although the Watermaster sets a final OSY in May of each year. If the City pumps more than the allocated amount of water, replacement water must be purchased from the Watermaster to offset demands in excess of the City's water rights. The City currently has 81 MG (249 AF) of carryover water available in FY 2016/17. Any

² Generally, two types of deliveries are assumed for all SWP contractors: Table A and Article 21. Table A Amount is the contractual amount of allocated SWP supply, set by percentage amount annually by DWR; it is scheduled and uninterrupted. Article 21 water refers to the SWP contract provision defining this supply as water that may be made available by DWR when excess flows area available in the Delta (i.e., Delta outflow requirements have been met, SWP storage south of the Delta is full, and conveyance capacity is available beyond that being used for SWP operations and delivery of allocated and scheduled Table A supplies). Article 21 water is made available on an unscheduled and interruptible basis and is typically available only in average to wet years, generally only for a limited time in the later winter.

unused amount of the City’s pumper’s share for any given year can be “carried over” for use in the next FY. To date, it has never been necessary for the City to purchase replacement water.

The City produces groundwater from its five active wells (Well Nos. 2A, 3, 10, 12, and 13) in the Main Basin. Well No. 3 is operated with Well No. 2A for blending. Well No. 4 is inactive and permitted by the Department of Drinking Water (DDW) for “Standby” operation due to high levels of nitrates, and would only be used in an emergency. The City’s wells have pumping capabilities ranging from about 900 gpm to about 3,000 gpm. The total capacity of the City’s wells is about 9,500 gpm (or approximately 15,000 AF per year). An additional well supply of 600 gpm is scheduled to come online this year from three new wells located outside the City’s water service boundary that will be treated and delivered to the City’s service area near the above-ground reservoir.

The actual volume of water available from the Watermaster in 2015 was 794 MG. This is based on an OSY of 150,000 AF for 2015 plus available carryover water from previous years. Projected groundwater supply for this WSA is based on assumptions from the City’s 2015 UWMP. El Monte’s estimated pumper’s share for FY 20/21 is based on a preliminary OSY of 130,000 AF and is 597 MG. However, it is reasonable to expect that the pumper’s share will be adjusted to no less than 689 MG based on the current FY 17/18 OSY of 150,000 AF. For years 2025 and beyond, the available pumper’s share is based on the average OSY for the last five years of 182,000 AF, which included historically dry years. These amounts assume there will be no carryover water available, which is a conservative approach. There are several planned long-term projects that will have a substantial positive impact on groundwater storage and supply in the Main San Gabriel Basin. These include the California WaterFix project to deliver imported water via two tunnels to the Southern California region, which will relieve demand on the Basin and a tertiary treatment project at the Los Angeles Sanitation Districts’ Joint Water Pollution Control Plant in Carson creating groundwater recharge (indirect potable water reuse) throughout the Los Angeles region. The later project will supplement recharge supply in the Basin.

Projected normal year, i.e. non-dry year, supply by source for the City through the year 2040 is shown in Table 4-5. The total supply matches the total projected City demand shown in Table 4-3. Groundwater the City pumps in a given year above their pumper’s share must be replaced. The City can purchase replacement water from the Watermaster for this basin replenishment or could potentially utilize groundwater from a cyclic storage account if it is available from wet year storage.

Table 4-5. Projected Normal City Water Supply (MG)

Supply Sources/Demands	2020	2025	2030	2035	2040
Main Basin Groundwater ^(a)	689	836	836	836	836
Main Basin Replacement Water ^(b)	13	0	0	26	36
Carryover Water ^(c)	0	111	43	0	0
Total Supply	702	725	793	862	872

- (a) 1.40888% of OSY, which is estimated at 130,000 AF for normal water year 2020 and 182,000 AF for normal year 2025 through 2040
- (b) Water purchased to replenish the Main Basin for groundwater the City pumps above its pumper’s share assuming no carryover water is available
- (c) Unused allocation to carry over for future use

5 RELIABILITY OF WATER SUPPLIES

Reliability is a measure of a water system's ability to manage water shortages. Reliability planning requires information about the following: (1) expected frequency and severity of shortages; (2) how additional water management measures are likely to affect the frequency and severity of shortages; and (3) how available contingency measures can reduce the impact of shortages when they occur. The reliability of the City's water supply is currently dependent primarily on the reliability of groundwater and to some degree on imported water supplies available to recharge the basin in wet years as discussed in this section.

5.1 Groundwater Reliability

5.1.1 Main Basin Reliability

In May of each year, the Main Basin Watermaster establishes the OSY for the ensuing fiscal year. This is done on the basis of, among other things, groundwater storage conditions, seasonal rainfall and local water recharge, and water stored in local surface reservoirs. The change in groundwater elevation at the Key Well is representative of changes in groundwater storage in the Main Basin. One foot of elevation change of the groundwater surface at the Key Well is roughly the equivalent of about 8,000 acre-feet of storage. In order to provide sufficient storage capacity in the Main Basin to capture as much of the local water as practicable, the Main Basin Judgment provides that Supplemental Water will not be spread in the main portion of the Basin when the groundwater elevation at the Key Well exceeds 250 feet, and will be spread, insofar as practicable, to maintain that elevation above 200 feet. During the period of management under the Main Basin Judgment the Main Basin was managed to maintain its water levels within the desired range with the exception of the last four years when the level at the Key Well has stayed below 200 feet.

If Main Basin storage is low, as indicated by the Key Well elevation, the OSY is usually lowered so that more replacement water can be purchased to increase Main Basin storage. If Main Basin storage is relatively high, the OSY is usually increased so that replacement water is reduced and Main Basin storage will be beneficially used.

The total fresh water storage capacity of the Main Basin is estimated to be about 8.6 MAF. Of that, only the top 125 feet of storage, or about 1.1 MAF is considered to have been used in historical Basin operations. The highest groundwater elevation (including Cyclic Storage) was recorded at approximately 294 feet in July 1983, while the groundwater elevation reached a historical low of 173.6 feet on September 30, 2016. However, the Key Well elevation was back up to 179.4 feet as of June 30, 2017 as a result of replenishing the Basin with 76,000 AF of untreated imported water and historically low groundwater production in FY 2017.

The Main Basin Watermaster adopted Resolution No. 05-14-263, which established a Water Resource Development Assessment (RDA), that was applied to all production during FY 2015 and FY 2016. The purpose of the RDA is to establish a fund from which untreated imported water may be purchased and delivered to the Basin. It is intended to create a "reservoir" of water that is available to assist in the management of the Basin in the event untreated water is not available in the future as a result of a short-term Statewide emergency.

As a result of the severe 5-year drought, resulting in significant reductions of the quantity of local water replenishment to the Basin, the Watermaster expanded the Supplement Water Reliability Program (RDA) into the Supplemental Water Stormwater Augmentation Program (RDA II) in FY 2017 to help manage Basin water supplies under “worst case” hydrologic conditions, which is assumed to be three consecutive 5-year droughts, using the same hydrologic conditions as the recent FY 2012 through FY 2016 severe drought (total of 15 years of drought).

The new program is intended to purchase imported replenishment water for stormwater augmentation to maintain the Key Well elevation above 180 feet by the end of the tenth year, using Water Resource Development Assessment funds (RDA II). A stabilized Key Well elevation essentially ensures continued Basin water supply to the Basin Producers under the perceived worst case, 15-year sustained drought.

Groundwater management and access to supplemental imported water have allowed water producers in the Main Basin to historically meet water demands, including during single and multiple dry years. The City has historically met all water demands with water supplies from the Main Basin. The San Gabriel Valley is near buildout; therefore, overall water demands are not expected to increase dramatically. Though producers have access to the Main Basin water supplies and replacement water, the Main Basin’s reliability depends on replacement water and RDA requirements being met.

The RDA II Program has an initial RDA II assessment of \$40 per acre-foot on all fiscal year 2016-17 production and is planned to increase to \$175 per acre-foot on all fiscal year 2020-21 production. The Basin Watermaster will use the RDA II funds to purchase untreated imported water to replenish the Basin for the “general benefit” of all Producers within the Basin. Unlike the original RDA (Supplemental Water Replenishment Storage Program), which is a Watermaster pre-purchase of replacement water, the RDA II water will supplement local stormwater replenishment, and have “no right of recovery” using a water right, by any Basin producer.

The Basin Watermaster and Basin producers recognized that prolonged drought conditions will adversely impact untreated imported water availability. Consequently, the Basin Watermaster took proactive measures to increase producer cyclic storage from about 15,000 AF as of the end of June 2010 to 51,000 AF as of June 2017. In addition, the Basin Watermaster, along with the three municipal water districts, collectively have an additional 39,000 AF of imported water in cyclic storage, which can be made available for Basin management. In response to five consecutive years of drought conditions, MWD implemented a “Water Supply Allocation Program” (WSAP) during FY 2016. The WSAP provided an untreated imported water allocation to Upper District of about 25,000 AF and about 4,000 AF to Three Valleys District. Additional untreated imported water requirements, which may be incurred may be deducted from pre-deliveries made by the Basin Watermaster and Basin producers to cyclic storage accounts. As a result of significant precipitation in northern California during the first half of calendar year 2016 and the Governor’s Executive Order declaring an end to the drought, MWD suspended the WSAP for FY 2017.

Total groundwater production for FY 2017 from the Main Basin was 184,400 AF, which is higher than the previous year's production of 173,800 AF, but significantly lower than the 10-year average of 222,000 AF. The decrease in groundwater production over time is primarily the result of increased water conservation at the consumer level. Groundwater production is influenced by a variety of conditions, including population, seasonal precipitation, groundwater contamination, and availability of surface water. Excluding the impacts of seasonal precipitation, groundwater production had experienced a gradual long-term increase, consistent with increasing population. The impacts of groundwater contamination during the 1980s and 1990s resulted in reduced groundwater production, offset by an equal increase of treated imported water purchases. Since the late 1990's groundwater production and treatment facilities have become operational, enabling water purveyors to resume use of groundwater. However, since the late-2000s, there has been a significant decrease in groundwater use (and overall) demand, which is likely the result of increased water conservation by consumers.

5.2 Metropolitan Water District Supply Reliability

Metropolitan acquires water from Northern California via the SWP and from the Colorado River to supply water to most of Southern California. Through the Integrated Resources Plan (IRP) and subsequent updates including the 2015 update, Metropolitan has worked toward identifying and developing water supplies to provide 100 percent reliability. Due to competing needs and uses for all of the water sources and regional water operational issues, Metropolitan has undertaken a number of planning processes: the IRP Process, the Water Surplus and Drought Management (WSDM) Plan, the UWMP, and the WSAP. Combined, these documents provide a framework and guidelines for optimum water planning into the future.

5.2.1 State Water Project

In dry, below-normal conditions, Metropolitan has increased the supplies received from the California Aqueduct by developing flexible Central Valley/SWP storage and transfer programs. For 2014 and 2015, under the pumping restrictions of the SWP, Metropolitan has worked collaboratively with the other SWP contractors to develop numerous voluntary Central Valley/SWP storage and transfer programs. The goal of these storage/transfer programs is to develop additional dry year supplies that can be conveyed through the California Aqueduct during dry hydrologic conditions and regulatory restrictions.

Metropolitan has contractual rights to 65 TAF of flexible storage at Lake Perris (East Branch terminal reservoir) and 154 TAF of flexible storage at Castaic Lake (West Branch terminal reservoir). This storage provides Metropolitan with additional options for managing SWP deliveries to maximize yield. Over multiple dry years, it can provide Metropolitan with 73 TAF of additional supply. In a single-dry year like 1977, it can provide up to 219 TAF of additional supply.

The Bay-Delta's ecosystem is facing challenges caused by a number of factors such as agricultural runoff, predation of native fish species, urban and other discharge, changing ecosystem food supplies, and overall system operation. These and other issues in the Delta have led to reductions in the availability and reliability of water supply deliveries from the SWP.

Metropolitan's Board approved a Delta Action Plan in June 2007 that provides a framework for staff to pursue actions with other agencies and stakeholders to build a sustainable Delta and reduce conflicts between water supply conveyance and the environment. The Delta action plan aims to prioritize immediate short-term actions to stabilize the Delta while an ultimate solution is selected, and mid-term steps to maintain the Delta while a long-term solution is implemented. Currently, Metropolitan is working towards addressing three basin elements: Delta ecosystem restoration, water supply conveyance, and flood control protection and storage development.

In April 2015, the Brown Administration announced California WaterFix, as well as a separate ecosystem restoration effort called California EcoRestore. Together, the California WaterFix and California EcoRestore will make significant contributions toward achieving the coequal goals of providing a more reliable water supply for California and protecting, restoring and enhancing the Delta ecosystem established in the Sacramento-San Joaquin Delta Reform Act of 2009. In addition to enhancing the Delta Ecosystem, there are a number major actions, projects, and programs Metropolitan has undertaken to improve SWP reliability.

5.2.2 Colorado River Aqueduct

According to a report issued by the United States Bureau of Reclamation, future actions must be taken to implement solutions and help resolve the imbalance between water supply and demand in areas that use Colorado River water, such as:

- Resolution of issues related to water conservation, reuse, water banking, and weather modification concepts.
- Costs, permitting, and energy availability issues relating to large-capacity augmentation projects need to be identified and investigated.
- Opportunities to advance and improve the resolution of future climate projections should be pursued.
- Consideration should be given to projects, policies, and programs that provide a wide-range of benefits to water users and healthy rivers for all users.

Metropolitan has identified a number of programs that could be used to achieve the regional long-term development targets for the CRA, which are listed below. For details of these programs, reference Metropolitan's 2015 UWMP, Section 3.

- Imperial Irrigation District/Metropolitan Conservation Program
- Palo Verde Land Management, Crop Rotation, and Water Supply Program
- Management of Metropolitan-Owned Land in Palo Verde
- Southern Nevada Water Authority and Metropolitan Storage and Interstate Release Agreement
- Lower Colorado Water Supply Project
- Lake Mead Storage Program
- Quagga Mussel Control Program

Regarding the Quagga Mussel Control Program, Metropolitan developed a program in 2007 to address the long-term introduction of mussel larvae into the CRA from the lower Colorado River which is now heavily colonized from Lake Mead through Lake Havasu. The Quagga Mussel Control Program consists of surveillance activities and control measures. Surveillance activities are conducted annually alongside regularly scheduled 2-3 week long CRA shutdowns. Control activities consist of continuous chlorination at the outlet of Copper Basin Reservoir (5 miles into the aqueduct), a mobile chlorinator for control of mussels on a quarterly basis at outlet towers and physical removal of mussels from the trash racks at Whitsett Intake Pumping Plant in Lake Havasu.

Since 2007, the CRA has scheduled 2 to 3 week-long shutdowns each year for maintenance and repairs that provide the opportunity for direct inspections for mussels and the additional benefit of desiccating quagga mussels. Recent shutdown inspections have demonstrated that the use of chlorine and regularly scheduled shutdowns effectively control mussel infestation in the CRA since only few and small mussels have been found during these inspections.

5.2.3 Storage

A key component of Metropolitan's water supply capability is the amount of water in Metropolitan's storage facilities. Storage is a major component of Metropolitan's dry-year resource management strategy. Metropolitan's likelihood of having adequate supply capability to meet projected demands, without implementing the Water Supply Allocation Plan (WSAP), is dependent on its storage resources.

In developing the supply capabilities in the 2015 UWMP, Metropolitan assumed the current (2015) storage levels at the start of simulation and used the median storage levels going into each of the five-year increments based on the balances of supplies and demands. Under the median storage conditions, there is an estimated 50 percent probability that storage levels would be higher than the assumption used, and a 50 percent probability that storage levels would be lower than the assumption used.

All storage capability figures shown in Metropolitan's 2015 UWMP reflect actual storage program conveyance constraints. Under some conditions, Metropolitan may choose to implement the WSAP to preserve storage reserves for a future year, instead of using the full supply capability. This can result in impacts at the retail level even under conditions where there may be adequate supply capabilities to meet demands.

5.2.4 Supply Management Strategies

On the regional level, Metropolitan has taken a number of actions to secure a reliable water source for its member agencies. Metropolitan developed a WSAP and has utilized it initially in 2009 to 2010 and a second time starting in 2015 for dealing with potential shortages that took into consideration the impact on retail customers, changes and losses in local supplies, the investment in and development of local resources, and conservation achievements. Additional actions taken by Metropolitan over the past several years have increased spending on conservation, local projects and water supply/reliability enhancements significantly.

This spending plan included expenditures for the improvement of water conveyance facilities, water transfers, and providing financial assistance to member agency's local conservation, recycling, and groundwater clean-up efforts, and this spending plan is continuing. To fund these past and future expenditures on conservation, recycling and other local projects, Metropolitan Tier 1 treated water rates were increased by almost 54% for the 5-year period from January 1, 2009 to January 1, 2014. Over the next two years, this rate increased more modestly by 3.7 and 2.0 percent each year for 2015 and 2016, respectively. And the rates recently approved by Metropolitan for 2017 and 2018 are similar at 3.9 and 3.7 percent, respectively.

5.2.5 Metropolitan Projected Supply Capability

In their 2015 UWMP, Metropolitan estimated supply capability and projected demands for an average (normal) year based on an average of hydrologies for the years 1922-2012; for a single-dry year based on a repeat of the hydrology in the year 1977; and for multiple dry years based on a repeat of the hydrology of 1990-1992. These single and multiple-dry year hydrologies were also used in Metropolitan's 2010 UWMP, 2010 IRP, and 2015 IRP as they historically represent the timing of the least amount of available water resources from the SWP.

Metropolitan developed demand forecasts by first estimating total retail demands for its service area and then factoring out water savings attributed to conservation. Projections of local supplies then were derived using data on current and expected local supply programs and the IRP Local Resource Program Target. The resulting difference between total demands net of conservation and local supplies is the expected regional demands on Metropolitan supplies. These estimates are summarized by category in Table 5-1 for average, single-dry and multiple-dry year water supply scenarios. More detailed information on Metropolitan's forecasts and these tables can be found in their 2015 UWMP. In all scenarios shown in Table 5-1 there is a projected surplus, even without Metropolitan's Supplies under Development and Potential Supplies.

**Table 5-1. Metropolitan Regional Water Demands -
Single-Dry, Multiple-Dry and Average Years (AF)**

Single-Dry Year MWD Supply Capability and Projected Demands (1977 Hydrology)					
Fiscal Year	2020	2025	2030	2035	2040
Capability of Current Supplies	2,584,000	2,686,000	2,775,000	2,905,000	2,941,000
Projected Demands	2,005,000	2,066,000	2,108,000	2,160,000	2,201,000
Projected Surplus	579,000	620,000	667,000	745,000	740,000
Projected Surplus % ^(a)	29%	30%	32%	34%	34%
Supplies under Development	63,000	100,000	316,000	358,000	398,000
Potential Surplus	642,000	720,000	983,000	1,103,000	1,138,000
Potential Surplus % ^(a)	32%	35%	47%	51%	52%
Multiple-Dry Year MWD Supply Capability and Projected Demands (1990-1992 Hydrology)					
Fiscal Year	2020	2025	2030	2035	2040
Capability of Current Supplies	2,103,000	2,154,000	2,190,000	2,242,000	2,260,000
Projected Demands	2,001,000	2,118,000	2,171,000	2,216,000	2,258,000
Projected Surplus	102,000	36,000	19,000	26,000	2,000
Projected Surplus % ^(a)	5%	2%	1%	1%	0.1%
Supplies under Development	43,000	80,000	204,000	245,000	286,000
Potential Surplus	145,000	116,000	223,000	271,000	288,000
Potential Surplus % ^(a)	7%	5%	10%	12%	13%
Average Year MWD Supply Capability and Projected Demands (1922-2012 Hydrology)					
Fiscal Year	2020	2025	2030	2035	2040
Capability of Current Supplies	3,448,000	3,550,000	3,658,000	3,788,000	3,824,000
Projected Demands	1,860,000	1,918,000	1,959,000	2,008,000	2,047,000
Projected Surplus	1,588,000	1,632,000	1,699,000	1,780,000	1,777,000
Projected Surplus % ^(a)	85%	85%	87%	89%	87%
Supplies under Development	63,000	100,000	386,000	428,000	468,000
Potential Surplus	1,651,000	1,732,000	2,085,000	2,208,000	2,245,000
Potential Surplus % ^(a)	89%	90%	106%	110%	110%

(a) As a percentage of projected demand

Source: 2015 Metropolitan UWMP, June 2016.

5.3 Upper District Reliability

The City Water Department is a member of the Upper San Gabriel Valley Municipal Water District (Upper District), which is a member of MWD. Upper District is a wholesale water supplier that provides untreated SWP to replenish groundwater supplies in the Main San Gabriel Basin.

Included in Upper District's service area are 29 member agencies (producers), including the City of El Monte, that deliver water to over 900,000 residents.

The major source of water supply in Upper District's service area is pumped groundwater from the Main Basin by Upper District's customer agencies. Eighty percent of the OSY for the Main Basin is allocated to Upper District's service area producers. Untreated imported water is used for groundwater replacement when extractions are more than Upper District's retail agencies' share of the Main Basin OSY, and for additions to long-term cyclic storage accounts. In addition to untreated imported water for Basin replenishment, Upper District supplies to customer agencies also include recycled water for direct non-potable use and treated imported water for direct potable use. If in a given year, the City needs to pump groundwater above their pumper's share, they can purchase replacement water (water used to replenish the Main Basin) through the Watermaster from Upper District.

The Upper District 2013 IRP assessed the "firm" existing annual water supply volume expected to be available in various hydrologic year types and compared projected water demands to the firm supply. The baseline gap between exiting, firm water supplies and projected demands in year 2035 used in comparing IRP alternatives is approximately 33,000 AFY deficient. This uses an MWD firm water allocation of 36,000 AFY, the exiting recycled water supply of 6,260 AFY, dry year surface water supply of 6,600 AFY, groundwater supply of 123,600 AFY based on an OSY of 152,700 AFY being the 1967 conditions used to develop the Main Basin Judgement, and projected retail demands within the service area boundary of 205,433 AFY.

To address water supply issues, Upper District prepared an IRP to examine both demand-side and supply-side options to meet current and projected water demands in a reliable manner. The IRP was developed as a management approach to phase projects over time when needed and adapt to changing future conditions.

5.4 City of El Monte Water Supply Reliability

The City produces groundwater through its active wells in the Main Basin. The groundwater supply from the Main basin is pumped to the City's facilities and then delivered to the City's customers. In May of each year, the Watermaster sets the OSY for the Basin and the City's annual allocation is 1.04888 percent of the OSY. Groundwater production in excess of those water rights requires purchase of imported replacement water to recharge the Main Basin. The City has never had to purchase replacement water, however, if the OSY continues at 150,000 AF like it has for the last three fiscal years (14/15, 15/16, and 16/17), it is conceivable replacement water will be needed.

Projected groundwater supply for this WSA is based on assumptions from the City's 2015 UWMP. For 2020 it was assumed that the pumper's share will be adjusted to no less than 689 MG based on the current FY 17/18 OSY of 150,000 AF. For years 2025 and beyond, the available pumper's share is based on the average OSY for the last five years of 182,000 AF, which included historically dry years. The amounts assume there will be no carryover water available, which is a conservative approach.

City normal year supplies and demands were discussed and presented in Section 4.2 and 4.3, respectively, and are presented in Table 5-2. It is estimated that the City can meet all projected

demands through the planning period including demands from the Proposed Project using their Main Basin groundwater pumper’s share (1.40888% of OSY) and replacement water for the Main Basin purchased from the Watermaster (SWP allocation, cyclic storage, and/or supplemental water purchases from other SWP contractors).

Table 5-2. City Projected Normal Year Water Supply & Demand (MG)

Supply Sources/Demands	2020	2025	2030	2035	2040
Supply	Normal Year				
Main Basin Groundwater ^(a)	689	836	836	836	836
Main Basin Replacement Water/Carryover Water ^(b)	13	(111)	(43)	26	36
Total Supply	702	725	793	862	872
Demand ^(c)	Normal Year				
Total City Demands ^(d)	689	711	780	848	859
Proposed Project Demand ^(e)	13	13	13	13	13
Total Demand	702	725	793	862	872

- (a) 1.40888% of OSY of 150,000 AF for 2020 and 182,000 AF for 2025 through 2040.
- (b) Water purchased from Upper District to replenish the Main Basin for groundwater the City pumps above its pumper’s share or carryover supply when demand is less than groundwater allocation. Values in parenthesis indicate surplus
- (c) All demands include estimated 5.0% water loss consistent with the 2015 UWMP
- (d) Normal year demand as projected in the City's 2015 UWMP, which is assumed to not include the demands of the Proposed Project
- (e) Proposed Project demand as shown in Table 3-3 with 5.0 % water loss added and conservatively excluding regional water savings due to a decrease in CAWC and GSWC demand projections

Based on the 42-year historic management practices of the Main Basin, the City will have adequate water supply over the next 20 years under single and multiple dry years. The average OSY over the 42-year management period was 196,929 AF. The single driest year was in 1991/92 when the OSY was 140,000 AF. The three driest multiple years used in the City’s 2015 UWMP were in 2013/14, 2014/15, and 2015/16 when the OSY was 180,000 AF, 150,000 AF, and 150,000 AF respectively. Now, the driest multiple years are the most recent three years including 2016/17 with an OSY of 150,000 AF. This WSA utilizes the most recent data for the multiple dry year projections with an OSY of 150,000 AF for all three years. The volume of groundwater allocation available in a single dry year is estimated to equal 643 MG, and in multiple dry years to equal 689 MG for all three years using the City’s allocation of 1.40888 percent of the OSY.

It is estimated that the City can meet all single-dry year and multiple dry year demands including Proposed Project demands through the planning period with the supplies shown in Tables 5-3 and 5-4. The Tables show that additional supply is needed beyond the City’s allocation of the OSY. Replacement water is generally available for purchase from Watermaster to make up for any groundwater shortage. The City may take management actions outlined in the 2015 UWMP in response to a groundwater shortage to eliminate or reduce payment for replacement water. Additionally, the City may choose to enter into a Cyclic Storage Agreement so that it can store imported water in the Main Basin for a period of up to five years to be used to offset a future Replacement Water Requirement.

Table 5-3. City Projected Single-Dry Year Water Supply & Demand (MG)

Supply Sources/Demands	2020	2025	2030	2035	2040
Supply	Single-Dry Year				
Main Basin Groundwater ^(a)	643	643	643	643	643
Main Basin Replacement Water ^(b)	59	82	150	219	229
Total Supply	702	725	793	862	872
Demand ^(c)	Single-Dry Year				
Total City Demands ^(d)	689	711	780	848	859
Proposed Project Demand ^(e)	13	13	13	13	13
Total Demand	702	725	793	862	872

- (a) 1.40888% of OSY for the single driest year in 91/92 of 140,000AF
- (b) Water purchased from Upper District to replenish the Main Basin for groundwater the City pumps above its pumper’s share
- (c) All demands include estimated 5.0% water loss consistent with the 2015 UWMP
- (d) Demand projected based on the City's 2015 UWMP, which is assumed to not include the demands of the Proposed Project and current phasing data for the Transit Village Project
- (e) Proposed Project demand as shown in Table 3-3 with 5.0 % water loss added and conservatively excluding regional water savings due to a decrease in CAWC and GSWC demand projections

Table 5-4. City Projected Multiple-Dry Year Water Supply and Demand (MG)

	Supply Sources/Demand	2020	2025	2030	2035	2040
1st Dry Water Year	Supply					
	Main Basin Groundwater ^(a)	689	689	689	689	689
	Main Basin Replacement Water/Carryover Supply	13	36	104	173	183
	Total Supply	702	725	793	862	872
	Total Demand	702	725	793	862	872
2nd Dry Water Year	Supply					
	Main Basin Groundwater ^(a)	689	689	689	689	689
	Main Basin Replacement Water/Carryover Supply	13	36	104	173	183
	Total Supply	702	725	793	862	872
	Total Demand	702	725	793	862	872
3rd Dry Water Year	Supply					
	Main Basin Groundwater ^(a)	689	689	689	689	689
	Main Basin Replacement Water/Carryover Supply	13	36	104	173	183
	Total Supply	702	725	793	862	872
	Total Demand	702	725	793	862	872

- (a) The OSY is projected to be 150,000 AF based on three driest years, 2014/15 through 2016/17.

6 CONCLUSION

Water demand for the Proposed Project was estimated by multiplying conservative water use factors by the corresponding development use square footage for indoor use and the State's Model Efficient Landscape Ordinance for irrigation use. Proposed Project demands are estimated to increase total City demands by only 1.6% when fully developed through the planning period.

It is estimated that the City can meet all projected normal year, single-dry year, and multiple-dry year demands through the planning period including demands from the Proposed Project using their Main Basin groundwater pumper's share and imported replacement water for the Main Basin purchased from the Watermaster.

The information included in this WSA identifies a sufficient and reliable water supply for the City, now and into the future, including a sufficient water supply for the Proposed Project. These supplies are also sufficient to provide for overall City-wide growth at the rate projected in the City's 2015 UWMP.

7 REFERENCES

The following documents were used, in conjunction with discussions with the City of El Monte, in preparing this water supply assessment:

City of El Monte, *2015 Urban Water Management Plan*, February 2017.

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Upper San Gabriel Valley Municipal Water District, *Integrated Resources Plan*, January 2013.

APPENDIX A
MAIN SAN GABRIEL GROUNDWATER BASIN ADJUDICATION

SUPERIOR COURT OF THE STATE OF CALIFORNIA
FOR THE COUNTY OF LOS ANGELES

UPPER SAN GABRIEL VALLEY
MUNICIPAL WATER DISTRICT

Plaintiff,

vs.

CITY OF ALHAMBRA, et al,

Defendants.

No. 924128

AMENDED JUDGMENT
(and Exhibits Thereto),

Honorable Florence T. Pickard
Assigned Judge Presiding

Original Judgment
Signed and Filed: December 29, 1972;
Entered: January 4, 1973
Book 6741, Page 197

JUDGMENT AS AMENDED AUGUST 24, 1989

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Ralph B. Helm
Suite 214
4605 Lankershim Boulevard
North Hollywood, CA 91602
Telephone (818) 769-2002

Attorney for Watermaster

SUPERIOR COURT OF CALIFORNIA, COUNTY OF LOS ANGELES

UPPER SAN GABRIEL VALLEY)
MUNICIPAL WATER DISTRICT,)
)
Plaintiff,)
)
vs.)
)
CITY OF ALHAMBRA, et al.,)
)
Defendants..)
_____)

No. 924128
AMENDED JUDGMENT
(And Exhibits Thereto)

HONORABLE FLORENCE T. PICKARD
Assigned Judge Presiding
DEPARTMENT 38
August 24, 1989

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13	G.	MISCELLANEOUS PROVISIONS	35
14	52.	Puente Narrows Flow . .(Prior 44).	35
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17		Papers . .(Prior 46)	36
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19	56.	Abandonment of Rights . .(Prior 48).	37
20	57.	Intervention After Judgment . .(Prior 49).	38
21	58.	Judgment Binding on Successors, etc., (Prior 50) .	38
22	59.	Water Rights Permits. (Prior 51).	39
23	60.	Costs . .(Prior 52).	39
24	61.	Entry of Judgment . .(New)	39

EXHIBITS

27 "A" -- Map entitled "San Gabriel River Watershed
28 Tributary to Whittier Narrows"

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Exhibits Continued

- "B" -- Boundaries of Relevant Watershed
- "C" -- Table Showing Base Annual Diversion Rights
of Certain Diverters
- "D" -- Table Showing Rights and Pumper's Share of Each Pumper
- "E" -- Table Showing Production Rights of Each
Integrated Producer
- "F" -- Table Showing Special Category Rights
- "G" -- Table Showing Non-consumptive Users
- "H" -- Watermaster Operating Criteria
- "J" -- Puente Narrows Agreement
- "K" -- Overlying Rights
- "L" -- List of Producers and Their Designees (New)
- "M" -- Watermaster Members, Officers, and Staff Including
Calendar Year 1989 (New)

1 Ralph B. Helm
2 Suite 214
3 4605 Lankershim Boulevard
4 North Hollywood, CA 91602
5 Telephone (818) 769-2002
6
7
8 Attorney for Watermaster

9
10 SUPERIOR COURT OF CALIFORNIA, COUNTY OF LOS ANGELES

11 UPPER SAN GABRIEL VALLEY)
12 MUNICIPAL WATER DISTRICT,) No. 924128
13 Plaintiff,) AMENDED JUDGMENT
14 vs.)
15 CITY OF ALHAMBRA, et al.,)
16 Defendants.) Hearing: August 24, 1989
Department 38, 9:00 A.M.

17 The Petition of the MAIN SAN GABRIEL BASIN WATERMASTER
18 for this AMENDED JUDGMENT herein, came on regularly for hearing
19 in this Court before the HONORABLE FLORENCE T. PICKARD, ASSIGNED
20 JUDGE PRESIDING, on August 24, 1989; Ralph B. Helm appeared as
21 attorney for Watermaster - Petitioner; and good cause appearing,
22 the following ORDER and AMENDED JUDGMENT are, hereby, made:

23 I. INTRODUCTION

24 1. Pleadings, Parties, and Jurisdiction. The complaint
25 herein was filed on January 2, 1968, seeking an adjudication of
26 water rights. By amendment of said complaint and dismissals of
27 certain parties, said adjudication was limited to the Main San
28 Gabriel Basin and its Relevant Watershed. Substantially all

1 defendants and the cross-defendant have appeared herein, certain
2 defaults have been entered, and other defendants dismissed.
3 By the pleadings herein and by Order of this Court, the issues
4 have been made those of a full inter se adjudication of water
5 rights as between each and all of the parties. This Court has
6 jurisdiction of the subject matter of this action and of the
7 parties herein.

8 2. Stipulation for Entry of Judgment. A substantial
9 majority of the parties, by number and by quantity of rights
10 herein Adjudicated, Stipulated for entry of a Judgment in
11 substantially the form of the original Judgment herein.

12 3. Lis Pendens. (New) A Lis Pendens was recorded August
13 20, 1970, as Document 2650, in Official Records of Los Angeles
14 County, California, in Book M 3554, Page 866.

15 4. Findings and Conclusions. (Prior Judgment Section 3)
16 Trial was had before the Court, sitting without a jury, John
17 Shea, Judge Presiding, commencing on October 30, 1972, and
18 Findings of Fact and Conclusions of Law have been entered
19 herein.

20 5. Judgment. (New) Judgment (and Exhibits Thereto),
21 Findings of Fact and Conclusions of Law (and Exhibits thereto),
22 Order Appointing Watermaster, and Initial Watermaster Order were
23 signed and filed December 29, 1972, and Judgment was entered
24 January 4, 1973, in Book 6791, Page 197.

25 6. Intervention After Judgment. (New) Certain defendants
26 have, pursuant to the Judgment herein and the Court's continuing
27 jurisdiction, intervened and appeared herein after entry of
28 Judgment.

1 7. Amendments to Judgment. (New) The original Judgment
2 herein was previously amended on March 29, 1979, by: (1) adding
3 definition (r [1]) thereto, (2) amending definition (bb)
4 therein, (3) adding Exhibit "K" thereto, (4) adding Sections
5 14.5 and 16.5 thereto, and (5) amending Sections 37(b), 37(c),
6 37(d), and Section 47 therein; it was again amended on December
7 21, 1979, by amending Section 38(c) thereof; again amended on
8 February 21, 1980, by amending Section 24 thereof; again amended
9 on September 12, 1980, by amending Sections 35(a), 37(a), and
10 38(a); again amended on December 22, 1987, by adding Section
11 37(e) thereto; and last amended on July 22, 1988 by amending
12 Section 37(e) thereof and Ordering an Amended Judgment herein.

13 8. Transfers. (New) Since the entry of Judgment herein
14 there have been numerous transfers of Adjudicated water rights.
15 To the date hereof, said transfers are reflected in Exhibits
16 "C", "D", and "E".

17 9. Producers and Their Designees. (New) The current
18 status of Producers and their Designees is shown on Exhibit "L".

19 10. Definitions. (Prior Judgment Section 4) As used in
20 this Judgment, the following terms shall have the meanings
21 herein set forth:

22 (a) Base Annual Diversion Right -- The average annual
23 quantity of water which a Diverter is herein found to have the
24 right to Divert for Direct Use.

25 (b) Direct Use --Beneficial use of water other than
26 for spreading or Ground Water recharge.

27 (c) Divert or Diverting -- To take waters of any
28 surface stream within the Relevant Watershed.

- 1 (d) Diverter -- Any party who Diverts.
- 2 (e) Elevation -- Feet above mean sea level.
- 3 (f) Fiscal Year -- A period July 1 through June 30,
4 following.
- 5 (g) Ground Water -- Water beneath the surface of the
6 ground and within the zone of saturation.
- 7 (h) Ground Water Basin -- An interconnected permeable
8 geologic formation capable of storing a substantial Ground Water
9 supply.
- 10 (i) Integrated Producer -- Any party that is both a
11 Pumper and a Diverter, and has elected to have its rights
12 adjudicated under the optional formula provided in Section 18 of
13 this Judgment.
- 14 (j) In-Lieu Water Cost -- The differential between a
15 Producer's non-capital cost of direct delivery of Supplemental
16 Water and the cost of Production of Ground Water (including
17 depreciation on Production facilities) to a particular Producer
18 who has been required by Watermaster to take direct delivery of
19 Supplemental Water in lieu of Ground Water.
- 20 (k) Key Well -- Baldwin Park Key Well, being elsewhere
21 designated as State Well No. 1S/10W-7R2, or Los Angeles County
22 Flood Control District Well No. 3030-F. Said well has a ground
23 surface Elevation of 386.7.
- 24 (l) Long Beach Case -- Los Angeles Superior Court
25 Civil Action No. 722647, entitled, "Long Beach, et al., v. San
26 Gabriel Valley Water Company, et al."
- 27 (m) Main San Gabriel Basin or Basin -- The Ground
28 Water Basin underlying the area shown as such on Exhibit "A".

1 (n) Make-up Obligation -- The total cost of meeting
2 the obligation of the Basin to the area at or below Whittier
3 Narrows, pursuant to the Judgment in the Long Beach Case.

4 (o) Minimal Producer -- Any party whose Production in
5 any Fiscal Year does not exceed five (5) acre feet.

6 (p) Natural Safe Yield -- The quantity of natural water
7 supply which can be extracted annually from the Basin under
8 conditions of long term average annual supply, net of the
9 requirement to meet downstream rights as determined in the Long
10 Beach Case (exclusive of Pumped export), and under cultural
11 conditions as of a particular year.

12 (q) Operating Safe Yield -- The quantity of water
13 which the Watermaster determines hereunder may be Pumped from
14 the Basin in a particular Fiscal Year, free of the Replacement
15 Water Assessment under the Physical Solution herein.

16 (r) Overdraft -- A condition wherein the total annual
17 Production from the Basin exceeds the Natural Safe Yield
18 thereof.

19 (s) Overlying Rights -- (Prior Judgment Section
20 4 (r) [1]) The right to Produce water from the Basin for use
21 on Overlying Lands, which rights are exercisable only on
22 specifically defined Overlying Lands and which cannot be
23 separately conveyed or transferred apart therefrom.

24 (t) Physical Solution -- (Prior Judgment Section 4
25 (s)) The Court decreed method of managing the waters of the
26 Basin so as to achieve the maximum utilization of the Basin and
27 its water supply, consistent with the rights herein declared.

28 (u) Prescriptive Pumping Right -- (Prior Judgment

1 Section 4 (t)) The highest continuous extractions of water by
2 a Pumper from the Basin for beneficial use in any five (5)
3 consecutive years after commencement of Overdraft and prior to
4 filing of this action, as to which there has been no cessation
5 of use by that Pumper during any subsequent period of five (5)
6 consecutive years, prior to the said filing of this action.

7 (v) Produce or Producing -- (Prior Judgment Section 4
8 (u)) To Pump or Divert water.

9 (w) Producer -- (Prior Judgment Section 4 (v)) A
10 party who Produces water.

11 (x) Production -- (Prior Judgment Section 4 (w)) The
12 annual quantity of water Produced, stated in acre feet.

13 (y) Pump or Pumping -- (Prior Judgment Section 4
14 (x)) To extract Ground Water from the Basin by Pumping or any
15 other method.

16 (z) Pumper -- (Prior Judgment Section 4 (y)) Any
17 party who Pumps water.

18 (aa) Pumper's Share -- (Prior Judgment Section 4 (z))
19 A Pumper's right to a percentage of the entire Natural Safe
20 Yield, Operating Safe Yield and appurtenant Ground Water
21 storage.

22 (bb) Relevant Watershed -- (Prior Judgment Section
23 4(aa)) That portion of the San Gabriel River watershed
24 tributary to Whittier Narrows which is shown as such on Exhibit
25 "A", and the exterior boundaries of which are described in
26 Exhibit "B".

27 (cc) Replacement Water -- (Prior Judgment Section 4
28 (bb)) Water purchased by Watermaster to replace:

1 (1) Production in excess of a Pumper's Share of Operating Safe
2 Yield; (2) The consumptive use portion resulting from the
3 exercise of an Overlying Right; and (3) Production in excess of
4 a Diverter's right to Divert for Direct Use.

5 (dd) Responsible Agency -- (Prior Judgment Section 4
6 (cc)) The municipal water district which is the normal and
7 appropriate source from whom Watermaster shall purchase
8 Supplemental Water for replacement purposes under the Physical
9 Solution, being one of the following:

10 (1) Upper District -- Upper San Gabriel
11 Valley Municipal Water District, a member public agency of
12 The Metropolitan Water District of Southern California
13 (MWD).

14 (2) San Gabriel District -- San Gabriel Valley
15 Municipal Water District, which has a direct contract with
16 the State of California for State Project Water.

17 (3) Three Valleys District -- Three Valleys
18 Municipal Water District, formerly, "Pomona Valley
19 Municipal Water District", a member public agency of MWD.

20 (ee) Stored Water -- (Prior Judgment Section 4 (dd))
21 Supplemental Water stored in the Basin pursuant to a contract
22 with Watermaster as authorized by Section 34(m).

23 (ff) Supplemental Water -- (Prior Judgment Section 4
24 (ee)) Nontributary water imported through a Responsible Agency.

25 (gg) Transporting Parties -- (Prior Judgment Section 4
26 (ff)) Any party presently transporting water (i.e., during the
27 12 months immediately preceding the making of the findings
28 herein) from the Relevant Watershed or Basin to an area outside

1 thereof, and any party presently or hereafter having an interest
2 in lands or having a service area outside the Basin or Relevant
3 Watershed contiguous to lands in which it has an interest or a
4 service area within the Basin or Relevant Watershed. Division
5 by a road, highway, or easement shall not interrupt contiguity.
6 Said term shall also include the City of Sierra Madre, or any
7 party supplying water thereto, so long as the corporate limits
8 of said City are included within one of the Responsible Agencies
9 and if said City, in order to supply water to its corporate area
10 from the Basin, becomes a party to this action bound by this
11 Judgment.

12 (hh) Water Level -- (Prior Judgment Section 4 (gg))
13 The measured Elevation of water in the Key Well, corrected for
14 any temporary effects of mounding caused by replenishment or
15 local depressions caused by Pumping.

16 (ii) Year -- (Prior Judgment Section 4 (hh)) A
17 calendar year, unless the context clearly indicates a contrary
18 meaning.

19 11. Exhibits. (Prior Judgment Section 5) The following
20 exhibits are attached to this Judgment and incorporated herein
21 by this reference:

22 Exhibit "A" -- Map entitled "San Gabriel River
23 Watershed Tributary to Whittier Narrows", showing the
24 boundaries and relevant geologic and hydrologic features in
25 the portion of the watershed of the San Gabriel River lying
26 upstream from Whittier Narrows.

27 Exhibit "B" -- Boundaries of Relevant Watershed.

28 Exhibit "C" -- Table Showing Base Annual Diversion

1 Rights of Certain Diverters.

2 Exhibit "D" -- Table Showing Prescriptive Pumping
3 Rights and Pumper's Share of Each Pumper.

4 Exhibit "E" -- Table Showing Production Rights of Each
5 Integrated Producer.

6 Exhibit "F" -- Table Showing Special Category Rights.

7 Exhibit "G" -- Table Showing Non-consumptive Users.

8 Exhibit "H" -- Watermaster Operating Criteria.

9 Exhibit "J" -- Puente Narrows Agreement.

10 Exhibit "K" -- Overlying Rights, Nature of Overlying
11 Right, Description of Overlying Lands to which Overlying
12 Rights are Appurtenant, Producers Entitled to Exercise
13 Overlying Rights and their Respective Consumptive Use
14 Portions, and Map of Overlying Lands.

15 Exhibit "L" -- (New) List of Producers And Their
16 Designees, as of June 1988.

17 Exhibit "M" -- (New) Watermaster Members, Officers
18 and Staff, Including Calendar Year 1989.

19 II. DECREE

20 NOW, THEREFORE, IT IS HEREBY DECLARED, ORDERED, ADJUDGED
21 AND DECREED:

22 A. DECLARATION OF HYDROLOGIC CONDITIONS

23 12. Basin as Common Source of Supply. (Prior Judgment
24 Section 6) The area shown on Exhibit "A" as Main San Gabriel
25 Basin overlies a Ground Water basin. The Relevant Watershed is
26 the watershed area within which rights are herein adjudicated.
27 The waters of the Basin and Relevant Watershed constitute a
28 common source of natural water supply to the parties herein.

1 13. Determination of Natural Safe Yield. (Prior Judgment
2 Section 7) The Natural Safe Yield of the Main San Gabriel Basin
3 is found and declared to be one hundred fifty-two thousand
4 seven-hundred (152,700) acre feet under Calendar Year 1967
5 cultural conditions.

6 14. Existence of Overdraft. (Prior Judgment Section 8)
7 In each and every Calendar Year commencing with 1953, the Basin
8 has been and is in Overdraft.

9 B. DECLARATION OF RIGHTS

10 15. Prescription. (Prior Judgment Section 9) The use of
11 water by each and all parties and their predecessors in interest
12 has been open, notorious, hostile, adverse, under claim of
13 right, and with notice of said overdraft continuously from
14 January 1, 1953 to January 4, 1973. The rights of each party
15 herein declared are prescriptive in nature. The following
16 aggregate consequences of said prescription within the Basin and
17 Relevant Watershed are hereby declared:

18 (a) Prior Prescription. Diversions within the
19 Relevant Watershed have created rights for direct
20 consumptive use within the Basin, as declared and
21 determined in Sections 16 and 18 hereof, which are of
22 equal priority inter se, but which are prior and paramount
23 to Pumping Rights in the Basin.

24 (b) Mutual Prescription. The aggregate Prescriptive
25 Pumping Rights of the parties who are Pumpers now exceed,
26 and for many years prior to filing of this action, have
27 exceeded, the Natural Safe Yield of the Basin. By reason
28 of said condition, all rights of said Pumpers are declared

1 to be mutually prescriptive and of equal priority, inter
2 se.

3 (c) Common Ownership of Safe Yield and Incidents
4 There to. By reason of said Overdraft and mutual Pre-
5 scription, the entire Natural Safe Yield of the Basin, the
6 Operating Safe Yield thereof and the appurtenant rights to
7 Ground Water storage capacity of the Basin are owned by
8 Pumpers in undivided Pumpers' Shares as hereinafter
9 individually declared, subject to the control of
10 Watermaster, pursuant to the Physical Solution herein
11 decreed. Nothing herein shall be deemed in derogation of
12 the rights to spread water pursuant to rights set forth in
13 Exhibit "G".

14 16. Surface Rights. (Prior Judgment Section 10) Certain
15 of the aforesaid prior and paramount prescriptive water rights
16 of Diverters to Divert for Direct Use stream flow within the
17 Relevant Watershed are hereby declared and found in terms of
18 Base Annual Diversion Right as set forth in Exhibit "C". Each
19 Diverter shown on Exhibit "C" shall be entitled to Divert for
20 Direct Use up to two hundred percent (200%) of said Base Annual
21 Diversion Right in any one (1) Fiscal Year; provided that the
22 aggregate quantities of water Diverted in any consecutive ten
23 (10) Fiscal Year period shall not exceed ten (10) times such
24 Diverter's Base Annual Diversion Right.

25 17. Ground Water Rights. (Prior Judgment Section 11) The
26 Prescriptive Pumping Right of each Pumper, who is not an
27 Integrated Producer, and his Pumper's Share are declared as set
28 forth in Exhibit "D".

1 18. Optional Integrated Production Rights. (Prior
2 Judgment Section 12) Those parties listed on Exhibit "E" have
3 elected to be treated as Integrated Producers. Integrated
4 Production Rights have two (2) historical components:

5 (1) a fixed component based upon historic
6 Diversions for Direct Use; and

7 (2) a mutually prescriptive Pumper's Share
8 component based upon Pumping during the period 1953 through
9 1967.

10 Assessment and other Watermaster regulation of the rights of
11 such parties shall relate to and be based upon each such
12 component. So far as future exercise of such rights is
13 concerned, however, the gross quantity of the aggregate right in
14 any Fiscal Year may be exercised, in the sole discretion of such
15 party, by either Diversion or Pumping or any combination or
16 apportionment thereof; provided, that for Assessment purposes
17 the first water Produced in any Fiscal Year (other than "carry-
18 over", under Section 49 hereof) shall be deemed an exercise of
19 the Diversion component, and any Production over said quantity
20 shall be deemed Pumped water, regardless of the actual method of
21 Production.

22 19. Special Category Rights. (Prior Judgment Section 13)
23 The parties listed on Exhibit "F" have water rights in the
24 Relevant Watershed which are not ordinary Production rights.
25 The nature of each such right is as described in Exhibit "F".

26 20. Non-consumptive Practices. (Prior Judgment Section
27 14) Certain Producers have engaged in Water Diversion and
28 spreading practices which have caused such Diversions to have a

1 non-consumptive or beneficial impact upon the aggregate water
2 supply available in the Basin. Said parties, and a statement of
3 the nature of their rights, uses and practices, are set forth in
4 Exhibit "G". The Physical Solution decreed herein, and
5 particularly its provisions for Assessments, shall not apply to
6 such non-consumptive uses. Watermaster may require reports on
7 the operations of said parties.

8 21. Overlying Rights. (Prior Judgment Section 14.5)
9 Producers listed in Exhibit "K" hereto were not parties herein
10 at the time of the original entry of Judgment herein. They have
11 exercised in good faith Overlying Rights to Produce water from
12 the Basin during the periods subsequent to the entry of Judgment
13 herein and have by self-help initiated or maintained appurtenant
14 Overlying Rights. Such rights are exercisable without
15 quantitative limit only on specifically described Overlying Land
16 and cannot be separately conveyed or transferred apart
17 therefrom. As to such rights and their exercise, the owners
18 thereof shall become parties to this action and be subject to
19 Watermaster Replacement Water Assessments under Section 45 (b)
20 hereof, sufficient to purchase Replenishment Water to offset the
21 net consumptive use of such Production and practices. In
22 addition, the gross amount of such Production for such overlying
23 use shall be subject to Watermaster Administrative Assessments
24 under Section 45 (a) hereof and the consumptive use portion of
25 such Production for overlying use shall be subject to
26 Watermaster's In-Lieu Water Cost Assessments under Section
27 45 (d) hereof. The Producers presently entitled to exercise
28 Overlying Rights, a description of the Overlying Land to which

1 Overlying Rights are appurtenant, the nature of use and the
2 consumptive use portion thereof are set forth in Exhibit "K"
3 hereto. Watermaster may require reports and make inspections of
4 the operations of said parties for purposes of verifying the
5 uses set forth in said Exhibit "K", and, in the event of a
6 material change, to redetermine the net amount of consumptive
7 use by such parties as changed in the exercise of such Overlying
8 Rights. Annually, during the first two (2) weeks of June in
9 each Calendar Year, such Overlying Rights Producers shall submit
10 to Watermaster a verified statement as to the nature of the then
11 current uses of said Overlying Rights on said Overlying Lands
12 for the next ensuing Fiscal Year, whereupon Watermaster shall
13 either affirm the prior determination or redetermine the net
14 amount of the consumptive use portion of the exercise of such
15 Overlying Right by said Overlying Rights Producer.

16 C. INJUNCTION

17 22. Injunction Against Unauthorized Production. (Prior
18 Judgment Section 15) Effective July 1, 1973, each and every
19 party, its officers, agents, employees, successors and assigns,
20 to whom rights to waters of the Basin or Relevant Watershed have
21 been declared and decreed herein is ENJOINED AND RESTRAINED from
22 Producing water for Direct Use from the Basin or the Relevant
23 Watershed except pursuant to rights and Pumpers' Shares herein
24 decreed or which may hereafter be acquired by transfer pursuant
25 to Section 55, or under the provisions of the Physical Solution
26 in this Judgment and the Court's continuing jurisdiction,
27 provided that no party is enjoined from Producing up to five (5)
28 acre feet per Fiscal Year.

1 23. Injunction re Non-consumptive Uses. (Prior Judgment
2 Section 16) Each party listed in Exhibit "G", its officers,
3 agents, employees, successors and assigns, is ENJOINED AND
4 RESTRAINED from materially changing said non-consumptive method
5 of use.

6 24. Injunction Re Change in Overlying Use Without Notice
7 Thereof To Watermaster. (Prior Judgment Section 16.5) Each
8 party listed in Exhibit "K", its officers, agents, employees,
9 successors and assigns, is ENJOINED AND RESTRAINED from
10 materially changing said overlying uses at any time without
11 first notifying Watermaster of the intended change of use, in
12 which event Watermaster shall promptly redetermine the
13 consumptive use portion thereof to be effective after such
14 change.

15 25. Injunction Against Unauthorized Recharge. (Prior
16 Judgment Section 17) Each party, its officers, agents,
17 employees, successors and assigns, is ENJOINED AND RESTRAINED
18 from spreading, injecting or otherwise recharging water in the
19 Basin except pursuant to: (a) an adjudicated non-consumptive
20 use, or (b) consent and approval of or Cyclic Storage Agreement
21 with Watermaster, or (c) subsequent order of this Court.

22 26. Injunction Against Transportation From Basin or
23 Relevant Watershed. (Prior Judgment Section 18) Except upon
24 further order of Court, all parties, other than Transporting
25 Parties and MWD in its exercise of its Special Category Rights,
26 to the extent authorized therein, are ENJOINED AND RESTRAINED
27 from transporting water hereafter Produced from the Relevant
28 Watershed or Basin outside the areas thereof. For purposes of

1 this Section, water supplied through a city water system which
2 lies chiefly within the Basin shall be deemed entirely used
3 within the Basin. Transporting Parties are entitled to continue
4 to transport water to the extent that any Production of water by
5 any such party does not violate the injunctive provisions
6 contained in Section 22 hereof; provided that said water shall
7 be used within the present service areas or corporate or other
8 boundaries and additions thereto so long as such additions are
9 contiguous to the then existing service area or corporate or
10 other boundaries; except that a maximum of ten percent (10%) of
11 use in any Fiscal Year may be outside said then existing service
12 areas or corporate or other boundaries.

13 D. CONTINUING JURISDICTION

14 27. Jurisdiction Reserved. (Prior Judgment Section 19)
15 Full jurisdiction, power and authority are retained by and
16 reserved to the Court for purposes of enabling the Court upon
17 application of any party or of the Watermaster, by motion and
18 upon at least thirty (30) days notice thereof, and after hearing
19 thereon, to make such further or supplemental orders or
20 directions as may be necessary or appropriate for interim
21 operation before the Physical Solution is fully operative, or
22 for interpretation, enforcement or carrying out of this
23 Judgment, and to modify, amend or amplify any of the provisions
24 of this Judgment or to add to the provisions thereof consistent
25 with the rights herein decreed. Provided, that nothing in this
26 paragraph shall authorize:

27 (1) modification or amendment of the quantities
28 specified in the declared rights of any party;

1 (2) modification or amendment of the manner of
2 exercise of the Base Annual Diversion Right or Integrated
3 Production Right of any party; or

4 (3) the imposition of an injunction prohibiting
5 transportation outside the Relevant Watershed or Basin as
6 against any Transporting Party transporting in accordance
7 with the provisions of this Judgment or against NWD as to
8 its Special Category Rights.

9 E. WATERMASTER

10 28. Watermaster to Administer Judgment. (Prior Judgment
11 Section 20) A Watermaster comprised of nine (9) persons, to be
12 nominated as hereinafter provided and appointed by the Court,
13 shall administer and enforce the provisions of this Judgment and
14 any subsequent instructions or orders of the Court thereunder.

15 29. Qualification, Nomination and Appointment. (Prior
16 Judgment Section 21) The nine (9) member Watermaster shall be
17 composed of six (6) Producer representatives and three (3)
18 public representatives qualified, nominated and appointed as
19 follows:

20 (a) Qualification. Any adult citizen of the State of
21 California shall be eligible to serve on Watermaster;
22 provided, however, that no officer, director, employee or
23 agent of Upper District or San Gabriel District shall be
24 qualified as a Producer member of Watermaster.

25 (b) Nomination of Producer Representatives. A
26 meeting of all parties shall be held at the regular meeting
27 of Watermaster in November of each year, at the offices of
28 Watermaster. Nomination of the six (6) Producer

1 representatives shall be by cumulative voting, in person or
2 by proxy, with each Producer entitled to one (1) vote for
3 each one hundred (100) acre feet, or portion thereof, of
4 Base Annual Diversion Right or Prescriptive Pumping Right
5 or Integrated Production Right.

6 (c) Nomination of Public Representatives. On or
7 before the regular meeting of Watermaster in November of
8 each year, the three (3) public representatives shall be
9 nominated by the boards of directors of Upper District
10 (which shall select two [2]) and San Gabriel District
11 (which shall select one [1]). Said nominees shall be
12 members of the board of directors of said public districts.

13 (d) Appointment. All Watermaster nominations shall be
14 promptly certified to the Court, which will in ordinary
15 course confirm the same by an appropriate order appointing
16 said Watermaster; provided, however, that the Court at all
17 times reserves the right and power to refuse to appoint, or
18 to remove, any member of Watermaster.

19 30. Term and Vacancies. (Prior Judgment Section 22) Each
20 member of Watermaster shall serve for a one (1) year term
21 commencing on January 1, following his appointment, or until his
22 successor is appointed. In the event of a vacancy on
23 Watermaster, a successor shall be nominated at a special meeting
24 to be called by Watermaster within ninety (90) days (in the case
25 of a Producer representative) or by action of the appropriate
26 district board of directors (in the case of a public
27 representative).

28 31. Quorum. (Prior Judgment Section 23) Five (5) members

1 of the Watermaster shall constitute a quorum for the transaction
2 of affairs of the Watermaster. Action by the affirmative vote
3 of five (5) members shall constitute action by Watermaster,
4 except that the affirmative vote of six (6) members shall be
5 required:

6 (a) to approve the purchase, spreading or injection of
7 water for Ground Water recharge, or

8 (b) to enter in any Agreement pursuant to Section
9 34 (m) hereof.

10 32. Compensation. (Prior Judgment Section 24) Each
11 Watermaster member shall receive compensation of One Hundred
12 Dollars (\$100.00) per day for each day's attendance at meetings
13 of Watermaster or for each day's service rendered as a
14 Watermaster member at the request of Watermaster, together with
15 any expenses incurred in the performance of his duties required
16 or authorized by Watermaster. No member of the Watermaster
17 shall be employed by or compensated for professional services
18 rendered by him to Watermaster, other than the compensation
19 herein provided, and any authorized travel or related expense.

20 33. Organization. (Prior Judgment Section 25) At its
21 first meeting in each year, Watermaster shall elect a chairman
22 and a vice chairman from its membership. It shall also select a
23 secretary, a treasurer and such assistant secretaries and
24 assistant treasurers as may be appropriate, any of whom may, but
25 need not be, members of Watermaster.

26 (a) Minutes. Minutes of all Watermaster meetings
27 shall be kept which shall reflect all actions taken by
28 Watermaster. Draft copies thereof shall be furnished to

1 any party who files a request therefor in writing with
2 Watermaster. Said draft copies of minutes shall constitute
3 notice of any Watermaster action therein reported; failure
4 to request copies thereof shall constitute waiver of
5 notice.

6 (b) Regular Meetings. Watermaster shall hold regular
7 meetings at places and times to be specified in
8 Watermaster's rules and regulations to be adopted by
9 Watermaster. Notice of the scheduled or regular meetings
10 of Watermaster and of any changes in the time or place
11 thereof shall be mailed to all parties who shall have filed
12 a request therefor in writing with Watermaster.

13 (c) Special Meetings. Special meetings of
14 Watermaster may be called at any time by the chairman or
15 vice chairman or by any three (3) members of Watermaster by
16 written notice delivered personally or mailed to each
17 member of Watermaster and to each party requesting notice,
18 at least twenty-four (24) hours before the time of each
19 such meeting in the case of personal delivery, and forty-
20 eight (48) hours prior to such meeting in the case of mail.
21 The calling notice shall specify the time and place of the
22 special meeting and the business to be transacted at such
23 meeting. No other business shall be considered at such
24 meeting.

25 (d) Adjournments. Any meeting of Watermaster may be
26 adjourned to a time and place specified in the order of
27 adjournment. Less than a quorum may so adjourn from time
28 to time. A copy of the order or notice of adjournment

1 shall be conspicuously posted on or near the door of the
2 place where the meeting was held within twenty-four (24)
3 hours after adoption of the order of adjournment.

4 34. Powers and Duties. (Prior Judgment Section 26)

5 Subject to the continuing supervision and control of the Court,
6 Watermaster shall have and may exercise the following express
7 powers, and shall perform the following duties, together with
8 any specific powers, authority and duties granted or imposed
9 elsewhere in this Judgment or hereafter ordered or authorized by
10 the Court in the exercise of its continuing jurisdiction.

11 (a) Rules and Regulations. To make and adopt any and
12 all appropriate rules and regulations for conduct of
13 Watermaster affairs. A copy of said rules and regulations
14 and any amendments thereof shall be mailed to all parties.

15 (b) Acquisition of Facilities. To purchase, lease,
16 acquire and hold all necessary property and equipment;
17 provided, however, that Watermaster shall not acquire any
18 interest in real property in excess of year-to-year tenancy
19 for necessary quarters and facilities.

20 (c) Employment of Experts and Agents. To employ such
21 administrative personnel, engineering, geologic,
22 accounting, legal or other specialized services and
23 consulting assistants as may be deemed appropriate in
24 the carrying out of its powers and to require appropriate
25 bonds from all officers and employees handling Watermaster
26 funds.

27 (d) Measuring Devices, etc. To cause parties,
28 pursuant to uniform rules, to install and maintain in good

1 operating condition, at the cost of each party, such
2 necessary measuring devices or meters as may be
3 appropriate; and to inspect and test any such measuring
4 device as may be necessary.

5 (e) Assessments. To levy and collect all Assessments
6 specified in the Physical Solution.

7 (f) Investment of Funds. To hold and invest any and
8 all funds which Watermaster may possess in investments
9 authorized from time to time for public agencies in the
10 State of California.

11 (g) Borrowing. To borrow in anticipation of receipt
12 of Assessment proceeds an amount not to exceed the annual
13 amount of Assessments levied but uncollected.

14 (h) Purchase of and Recharge with Supplemental Water.
15 To purchase Supplemental Water and to introduce the same
16 into the Basin for replacement or cyclic storage purposes,
17 subject to the affirmative vote of six (6) members of
18 Watermaster.

19 (i) Contracts. To enter into contracts for the
20 performance of any administrative powers herein granted,
21 subject to approval of the Court.

22 (j) Cooperation With Existing Agencies. To act
23 jointly or cooperate with agencies of the United States and
24 the State of California or any political subdivision,
25 municipality or district to the end that the purposes of
26 the Physical Solution may be fully and economically carried
27 out. Specifically, in the event Upper District has
28 facilities available and adequate to accomplish any of the

1 administrative functions of Watermaster, consideration
2 shall be given to performing said functions under contract
3 with Upper District in order to avoid duplication of
4 facilities.

5 (k) Assumption of Make-up Obligation. Watermaster
6 shall assume the Make-up Obligation for and on behalf of
7 the Basin.

8 (m) Water Quality. Water quality in the Basin shall
9 be a concern of Watermaster, and all reasonable steps shall
10 be taken to assist and encourage appropriate regulatory
11 agencies to enforce reasonable water quality regulations
12 affecting the Basin, including regulation of solid and
13 liquid waste disposal.

14 (n) Cyclic Storage Agreements. To enter into
15 appropriate contracts, to be approved by the Court, for
16 utilization of Ground Water storage capacity of the Basin
17 for cyclic or regulatory storage of Supplemental Water by
18 parties and non-parties, for subsequent recovery or
19 Watermaster credit by the storing entity, pursuant to
20 uniform rules and conditions, which shall include provision
21 for:

22 (1) Watermaster control of all spreading or
23 injection and extraction scheduling and procedures for
24 such stored water;

25 (2) calculation by Watermaster of any special
26 costs, damages or burdens resulting from such
27 operations;

28 (3) determination by Watermaster of, and

1 accounting for, all losses in stored water, assuming
2 that such stored water floats on top of the Ground
3 Water supplies, and accounting for all losses of water
4 which otherwise would have replenished the Basin, with
5 priorities being established as between two or more
6 such contractors giving preference to parties over
7 non-parties; and

8 (4) payment to Watermaster for the benefit of the
9 parties hereto of all special costs, damages or
10 burdens incurred (without any charge, rent, assessment
11 or expense as to parties hereto by reason of the
12 adjudicated proprietary character of said storage
13 rights, nor credit or offset for benefits resulting
14 from such storage); provided, that no party shall have
15 any direct interest in or control over such contracts
16 or the operation thereof by reason of the adjudicated
17 right of such party, the Watermaster having sole
18 custody and control of all Ground Water storage rights
19 in the Basin pursuant to the Physical Solution herein,
20 and subject to review of the Court.

21 (o) Notice List. Maintain a current list of party
22 designees to receive notice hereunder, in accordance with
23 Section 54 hereof.

24 35. Policy Decisions -- Procedure. (Prior Judgment
25 Section 27) It is contemplated that Watermaster will exercise
26 discretion in making policy decisions relating to Basin
27 management under the Physical Solution decreed herein. In order
28 to assure full participation and opportunity to be heard for

1 those affected, no policy decision shall be made by Watermaster
2 until thirty (30) days after the question involved has been
3 raised for discussion at a Watermaster meeting and noted in the
4 draft of minutes thereof.

5 36. Reports. (Prior Judgment Section 28) Watermaster
6 shall annually file with the Court and mail to the parties a
7 report of all Watermaster activities during the preceding year,
8 including an audited statement of all accounts and financial
9 activities of Watermaster, summary reports of Diversions and
10 Pumping, and all other pertinent information. To the extent
11 practical, said report shall be mailed to all parties on or
12 before November 1.

13 37. Review Procedures. (Prior Judgment Section 29)
14 Any action, decision, rule or procedure of Watermaster (other
15 than a decision establishing Operating Safe Yield, see Section
16 43[c]) shall be subject to review by the Court on its own motion
17 or on timely motion for an Order to Show Cause by any party, as
18 follows:

19 (a) Effective Date of Watermaster Action. Any order,
20 decision or action of Watermaster shall be deemed to have
21 occurred on the date that written notice thereof is mailed.
22 Mailing of draft copies of Watermaster minutes to the
23 parties requesting the same shall constitute notice to all
24 such parties.

25 (b) Notice of Motion. Any party may, by a regularly
26 noticed motion, petition the Court for review of said
27 Watermaster's action or decision. Notice of such motion
28 shall be mailed to Watermaster and all parties. Unless so

1 ordered by the Court, such petition shall not operate to
2 stay the effect of such Watermaster action.

3 (c) Time for Motion. Notice of motion to review any
4 Watermaster action or decision shall be served and filed
5 within ninety (90) days after such Watermaster action or
6 decision.

7 (d) De Novo Nature of Proceeding. Upon filing of such
8 motion for hearing, the Court shall notify the parties of a
9 date for taking evidence and argument, and shall review de
10 novu the question at issue on the date designated. The
11 Watermaster decision or action shall have no evidentiary
12 weight in such proceeding.

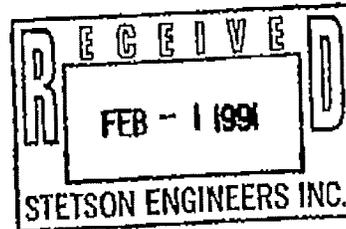
13 (e) Decision. The decision of the Court in such
14 proceeding shall be an appealable Supplemental Order in
15 this case. When the same is final, it shall be binding
16 upon the Watermaster and the parties.

17 F. PHYSICAL SOLUTION

18 38. Purpose and Objective. (Prior Judgment Section 30)
19 Consistent with the California Constitution and the decisions of
20 the Supreme Court, the Court hereby adopts and Orders the
21 parties to comply with this Physical Solution. The purpose and
22 objective of these provisions is to provide a legal and
23 practical means for accomplishing the most economic, long term,
24 conjunctive utilization of surface, Ground Water, Supplemental
25 Water and Ground Water storage capacity to meet the needs and
26 requirements of the water users dependent upon the Basin and
27 Relevant Watershed, while preserving existing equities.

28 39. Need for Flexibility. (Prior Judgment Section 31) In

1 Ralph B. Helm - Bar No. 022004
2 4605 Lankershim Boulevard, #214
3 North Hollywood, CA 91602
4 Telephone (818) 769-2002
5 Attorney for Watermaster - Petitioner
6
7



8 SUPERIOR COURT OF CALIFORNIA, COUNTY OF LOS ANGELES
9

10	UPPER SAN GABRIEL VALLEY	)	No. 924129
)	
11	MUNICIPAL WATER DISTRICT,	)	ORDER AMENDING JUDGMENT TO
		)	EXPAND WATERMASTER'S POWERS
12	Plaintiff,	)	TO INCLUDE MAINTENANCE,
		)	IMPROVEMENT, AND CONTROL OF
13	vs.	)	BASIN WATER QUALITY WITH
		)	ALLOWABLE FUNDING THROUGH
14	CITY OF ALHAMBRA, et al.,	)	IN-LIEU ASSESSMENTS
)	
15	Defendants.	)	Hearing: August 7, 1990
16		)	Department 38, 9:15 A. M.

17 The Petition of the Main San Gabriel Basin Watermaster
18 (Watermaster) for Amendment to Judgment herein to expand its
19 powers to include maintenance, improvement, and control of Basin
20 water quality by controlling pumping in the Basin, with
21 allowable funding for associated costs to be paid through its
22 In-Lieu Assessments, was continued on July 31, 1990, to August
23 7, 1990, when it duly and regularly came on for hearing, at 9:15
24 o'clock A. M. in Department 38 of the above entitled Court, the
25 Honorable FLORENCE T. PICKARD, Assigned Judge Presiding. Ralph
26 B. Helm appeared as Attorney for Watermaster - Petitioner; Wayne
27 K. Lemieux appeared for Defendant, San Gabriel Valley Municipal
28 Water District, in support of the Petition; Fred Vendig, General

1 Counsel, Karen L. Tachiki, Assistant General Counsel, and
2 Victor E. Gleason, Senior Deputy General Counsel, by Victor E.
3 Gleason, appeared for Defendant, The Metropolitan Water District
4 of Southern California, in support of the Petition; Timothy J.
5 Ryan appeared for Defendant, San Gabriel Valley Water Company,
6 in opposition to the Petition; Lagerlof, Senecal, Drescher &
7 Swift, by H. Jess Senecal, appeared for Defendants, Calmat
8 Company, Livingston-Graham, Owl Rock Products, AZ-Two, Inc., and
9 Sully-Miller Contracting Company, in opposition to the Petition;
10 Ira Reiner, Los Angeles County District Attorney, by Jan
11 Chatten-Brown, Special Assistant to the District Attorney,
12 appeared in opposition to the Petition; and Sarah F. Bates and
13 Laurens H. Silver, by Sarah F. Bates, appeared on behalf of
14 Amicus Curiae Sierra Club, in opposition to the Petition.

15 The Court acknowledged receipt and consideration of:
16 letters in support of the Petition by the California Regional
17 Water Quality Control Board - Los Angeles Region and by the
18 State Water Resources Control Board; a copy of a letter
19 addressed to the Attorney for Petitioner, from the US
20 Environmental Protection Agency - Region IX, by Mark J.
21 Klaiman, Assistant Regional Counsel, regarding several matters
22 of federal law which EPA believed might ultimately affect the
23 subject Petition; a letter in opposition to the Petition by East
24 Valleys Organization; and a FAX communication to the Court, in
25 opposition to the Petition, from Congressman Esteban E. Torres,
26 which was not communicated to nor seen by the parties.

27 Members of the public, present in Court, were invited to,
28 and did, present oral testimony during the hearing.

1 Under date of December 10, 1990 the Court entered its
2 Intended Decision Re Amendment To Judgment and, by minute order
3 duly entered and mailed to Counsel for Petitioner, ordered
4 copies thereof mailed forthwith to all appearing parties,
5 including those appearing as friends of the court, and to all
6 other affected parties on the case's current mailing list.

7 A Proof Of Service by mail on December 13, 1990, Of
8 Intended Decision Re Amendment To Judgment, as ordered, has been
9 filed with the Court.

10 Opposition to Petitioner's Proposed Order were filed by
11 Amicus Curiae Sierra Club, Amicus Curiae Los Angeles District
12 Attorney, and by Producer Parties Calmat Co., Livingston-Graham,
13 Owl Rock Products Company, AZ-Two, Inc., and Sully-Miller
14 Contracting Company.

15 Proof being made to the satisfaction of the Court and good
16 cause appearing:

17 IT IS, HEREBY, ORDERED:

18 1. That the Amended Judgment herein be further amended by
19 amending Subsection (j) of Section 10 thereof, Definitions, and
20 Section 40 thereof, Division F, Physical Solution, to read as
21 follows:

22 "10 (j) In-Lieu Water Cost - - The differential between a
23 particular Producer's cost of Watermaster directed produced,
24 treated, blended, substituted, or Supplemental Water delivered
25 or substituted to, for, or taken by, such Producer in-lieu of
26 his cost of otherwise normally Producing a like amount of Ground
27 Water from the Basin.

28 "40. Watermaster Control. (Prior Judgment Section 32)

1 In order to develop an adequate and effective program of Basin
2 management, it is essential that Watermaster have broad
3 discretion in the making of Basin management decisions within
4 the ambit hereinafter set forth. The maintenance, improvement,
5 and control of the water quality and quantity of the Basin,
6 withdrawal and replenishment of supplies of the Basin and
7 Relevant Watershed, and the utilization of the water resources
8 thereof, must be subject to procedures established by
9 Watermaster in implementation of the Physical Solution
10 provisions of this Judgment. Both the quantity and quality of
11 said water resource are thereby preserved and its beneficial
12 utilization maximized.

13 "(a) Watermaster shall develop an adequate and effective
14 program of Basin management. The maintenance, improvement, and
15 control of the water quality and quantity of the Basin,
16 withdrawal and replenishment of supplies of the Basin and
17 Relevant Watershed, and the utilization of the water resources
18 thereof, must be subject to procedures established by
19 Watermaster in implementation of the Physical Solution
20 provisions of this Judgment. All Watermaster programs and
21 procedures shall be adopted only after a duly noticed public
22 hearing pursuant to Sections 37 and 40 of the Amended Judgment
23 herein.

24 "(b) Watermaster shall have the power to control pumping in
25 the Basin by water Producers therein for Basin cleanup and water
26 quality control so that specific well production can be directed
27 as to a lesser amount, to total cessation, as to an increased
28 amount, and even to require pumping in a new location in the

1 Basin. Watermaster's right to regulate pumping activities of
2 Producers shall be subordinate to any conflicting Basin cleanup
3 plan established by the EPA or other public governmental agency
4 with responsibility for ground water management or clean up.

5 "(c) Watermaster may act individually or participate with
6 others to carry on technical and other necessary investigations
7 of all kinds and collect data necessary to carry out the herein
8 stated purposes. It may engage in contractual relations with
9 the EPA or other agencies in furtherance of the clean up of the
10 Basin and enter into contracts with agencies of the United
11 States, the State of California, or any political subdivision,
12 municipality, or district thereof, to the extent allowed under
13 applicable federal or state statutes. Any cooperative agreement
14 between the Watermaster and EPA shall require the approval of
15 the appropriate Agency(s) of the State of California.

16 "(d) For regulation and control of pumping activity in the
17 Basin, Watermaster shall adopt Rules and Regulations and
18 programs to promote, manage and accomplish clean up of the Basin
19 and its waters, including, but not limited to, measures to
20 confine, move, and remove contaminants and pollutants. Such
21 Rules and Regulations and programs shall be adopted only after a
22 duly Noticed Public Hearing by Watermaster and shall be subject
23 to Court review pursuant to Section 37 of the Amended Judgment
24 herein.

25 "(e) Watermaster shall determine whether funds from local,
26 regional, state or federal agencies are available for regulating
27 pumping and the various costs associated with, or arising from
28 such activities. If no public funds are available from local,

1 regional, state, or federal agencies, the costs shall be
2 obtained and paid by way of an In-Lieu Assessment by Watermaster
3 pursuant to Section 10 (j) of the Amended Judgment herein.
4 Provided such In-Lieu Assessments become necessary, the costs
5 shall be borne by all Basin Producers.

6 "(f) Watermaster is a Court empowered entity with limited
7 powers, created pursuant to the Court's Physical Solution
8 Jurisdiction under Article X, Section 2 of the California
9 Constitution. None of the Powers granted herein to Watermaster
10 shall be construed as designating Watermaster a political
11 subdivision of the State of California or authorizing
12 Watermaster to act as 'lead agency' to administer the federal
13 Superfund for clean up of the Basin."

14 2. This Amended Judgment shall continue in full force and
15 effect as hereby Ordered and Amended.

16 Dated: January 29, 1991.

17
18 /s/Florence T. Pickard
19 FLORENCE T. PICKARD
20 Judge of the Superior Court,
21 Specially Assigned
22
23
24
25
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27
28

1 order that Watermaster may be free to utilize both existing and
2 new and developing technological, social and economic concepts
3 for the fullest benefit of all those dependent upon the Basin,
4 it is essential that the Physical Solution hereunder provide for
5 maximum flexibility and adaptability. To that end, the Court
6 has retained continuing jurisdiction to supplement the broad
7 discretion herein granted to the Watermaster.

8 40. Watermaster Control. (Prior Judgment Section 32) In
9 order to develop an adequate and effective program of Basin
10 management, it is essential that Watermaster have broad
11 discretion in the making of Basin management decisions within
12 the ambit hereinafter set forth. Withdrawal and replenishment
13 of supplies of the Basin and Relevant Watershed and the
14 utilization of the water resources thereof, and of available
15 Ground Water storage capacity, must be subject to procedures
16 established by Watermaster in implementation of the provisions
17 of this Judgment. Both the quantity and quality of said water
18 resource are thereby preserved and its beneficial utilization
19 maximized.

20 41. General Pattern of Contemplated Operation. (Prior
21 Judgment Section 33) In general outline (subject to the
22 specific provisions hereafter and to Watermaster Operating
23 Criteria set forth in Exhibit "H"), Watermaster will determine
24 annually the Operating Safe Yield of the Basin and will notify
25 each Pumper of his share thereof, stated in acre feet per Fiscal
26 Year. Thereafter, no party may Produce in any Fiscal Year an
27 amount in excess of the sum of his Diversion Right, if any, plus
28 his Pumper's Share of such Operating Safe Yield, or his

1 Integrated Production Right, or the terms of any Cyclic Storage
2 Agreement, without being subject to Assessment for the purpose
3 of purchasing Replacement Water. In establishing the Operating
4 Safe Yield, Watermaster shall follow all physical, economic, and
5 other relevant parameters provided in the Watermaster Operating
6 Criteria. Watermaster shall have Assessment powers to raise
7 funds essential to implement the management plan in any of the
8 several special circumstances herein described in more detail.

9 42. Basin Operating Criteria. (Prior Judgment Section 34)
10 Until further order of the Court and in accordance with the
11 Watermaster Operating Criteria, Watermaster shall not spread
12 Replacement Water when the water level at the Key Well exceeds
13 Elevation two hundred fifty (250), and Watermaster shall spread
14 Replacement Water, insofar as practicable, to maintain the water
15 level at the Key Well above Elevation two hundred (200).

16 43. Determination of Operating Safe Yield. (Prior
17 Judgment Section 35) Watermaster shall annually determine the
18 Operating Safe Yield applicable to the succeeding Fiscal Year
19 and estimate the same for the next succeeding four (4) Fiscal
20 Years. In making such determination, Watermaster shall be
21 governed in the exercise of its discretion by the Watermaster
22 Operating Criteria. The procedures with reference to said
23 determination shall be as follows:

24 (a) Preliminary Determination. On or before
25 Watermaster's first meeting in April of each year,
26 Watermaster shall make a Preliminary Determination of the
27 Operating Safe Yield of the Basin for each of the
28 succeeding five Fiscal Years. Said determination shall be

1 made in the form of a report containing a summary statement
2 of the considerations, calculations and factors used by
3 Watermaster in arriving at said Operating Safe Yield.

4 (b) Notice and Hearing. A copy of said Preliminary
5 Determination and report shall be mailed to each Pumper and
6 Integrated Producer at least ten (10) days prior to a
7 hearing to be held at Watermaster's regular meeting in May,
8 of each year, at which time objections or suggested
9 corrections or modifications of said determinations shall
10 be considered. Said hearing shall be held pursuant to
11 procedures adopted by Watermaster.

12 (c) Watermaster Determination and Review Thereof.
13 Within thirty (30) days after completion of said hearing,
14 Watermaster shall mail to each Pumper and Integrated
15 Producer a final report and determination of said Operating
16 Safe Yield for each such Fiscal Year, together with a
17 statement of the Producer's entitlement in each such Fiscal
18 Year stated in acre feet. Any affected party, within
19 thirty (30) days of mailing of notice of said Watermaster
20 determination, may, by a regularly noticed motion, petition
21 the Court for an Order to Show Cause for review of said
22 Watermaster finding, and thereupon the Court shall hear
23 such objections and settle such dispute. Unless so ordered
24 by the Court, such petition shall not operate to stay the
25 effect of said report and determination. In the absence of
26 such review proceedings, the Watermaster determination
27 shall be final.

28 44. Reports of Pumping and Diversion. (Prior Judgment

1 Section 36) Each party (other than Minimal Producers) shall
2 file with the Watermaster quarterly, on or before the last day
3 of January, April, July and October, a report on a form to be
4 prescribed by Watermaster showing the total Pumping and
5 Diversion (separately for Direct Use and for non-consumptive
6 use, if any,) of such party during the preceding calendar
7 quarter.

8 45. Assessments -- Purpose. (Prior Judgment Section 37)
9 Watermaster shall have the power to levy and collect Assessments
10 from the parties (other than Minimal Producers, non-consumptive
11 users, or Production under Special Category Rights or Cyclic
12 Storage Agreements) based upon Production during the preceding
13 Fiscal Year. Said Assessments may be for one or more of the
14 following purposes:

15 (a) Watermaster Administration Costs. Within thirty
16 (30) days after completion of the hearing on the
17 Preliminary Determination of the Operating Safe Yield of
18 the Basin and Watermaster's determination thereof, pursuant
19 to Section 43 hereof, Watermaster shall adopt a proposed
20 budget for the succeeding Fiscal Year and shall mail a copy
21 thereof to each party, together with a statement of the
22 level of Administration Assessment levied by Watermaster
23 which will be collected for purposes of raising funds for
24 said budget. Said Assessment shall be uniformly applicable
25 to each acre foot of Production.

26 (b) Replacement Water Costs. Replacement Water
27 Assessments shall be collected from each party on account
28 of such party's Production in excess of its Diversion

1 Rights, Pumper's Share or Integrated Production Right, and
2 on account of the consumptive use portion of Overlying
3 Rights, computed at the applicable rate established by
4 Watermaster consistent with the Watermaster Operating
5 Criteria.

6 (c) Make-Up Obligation. An Assessment shall be
7 collected equally on account of each acre foot of
8 Production, which does not bear a Replacement Assessment
9 hereunder, to pay all necessary costs of Administration and
10 satisfaction of the Make-Up Obligation. Such Assessment
11 shall not be applicable to water Production for an
12 Overlying Right.

13 (d) In-Lieu Water Cost. Watermaster may levy an
14 Assessment against all Pumping to pay reimbursement for In-
15 Lieu Water Costs except that such Assessment shall not be
16 applicable to the non-consumptive use portion of an
17 Overlying Right.

18 (e) Basin Water Quality Improvement. For purposes of
19 testing, protecting or improving the water quality in the
20 Basin, Watermaster may, after a noticed hearing thereon,
21 fix terms and conditions under which it may waive all or
22 any part of its Assessments on such ground water
23 Production and if such Production, in addition to his other
24 Production, does not exceed such Producer's Share or
25 entitlement for that Fiscal Year, such stated Production
26 shall be allowed to be carried over for a part of such
27 Producer's next Fiscal Year's Producer's Share or
28 entitlement. In connection therewith, Watermaster may also

1 waive the provisions of Sections 25, 26 and 57 hereof,
2 relating to Injunction Against Unauthorized Recharge,
3 Injunction Against Transportation From Basin or Relevant
4 Watershed, and Intervention After Judgment, respectively.
5 Nothing in this Judgment is intended to allow an increase
6 in any Producer's annual entitlement nor to prevent
7 Watermaster, after hearing thereon, from entering into
8 contracts to encourage, assist and accomplish the clean up
9 and improvement of degraded water quality in the Basin by
10 non-parties herein. Such contracts may include the
11 exemption of the Production of such Basin water therefor
12 from Watermaster Assessments and, in connection therewith,
13 the waiver of the provisions of Judgment Sections 25, 26,
14 and 57 hereof.

15 46. Assessments -- Procedure. (Prior Judgment Section 38)

16 Assessments herein provided for shall be levied and collected
17 as follows:

18 (a) Levy and Notice of Assessment. Within thirty
19 (30) days of Watermaster's annual determination of
20 Operating Safe Yield of the Basin for each Fiscal Year and
21 succeeding four (4) Fiscal Years, Watermaster shall levy
22 applicable Administration Assessments, Replacement Water
23 Assessments, Make-up Water Assessments and In-Lieu Water
24 Assessments, if any. Watermaster shall give written notice
25 of all applicable Assessments to each party on or before
26 August 15, of each year.

27 (b) Payment. Each Assessment shall be payable, and
28 each party is Ordered to pay the same, on or before

1 September 20, following such Assessment, subject to the
2 rights reserved in Section 37 hereof.

3 (c) Delinquency. Any Assessment which becomes
4 delinquent after January 1, 1980, shall bear interest at
5 the annual prime rate plus one percent (1%) in effect on
6 the first business day of August of each year. Said prime
7 interest rate shall be that fixed by the Bank of America
8 NT&SA for its preferred borrowing customers on said date.
9 Said prime interest rate plus one percent (1%) shall be
10 applicable to any said delinquent Assessment from the due
11 date thereof until paid. Provided, however, in no event
12 shall any said delinquent Assessment bear interest at a
13 rate of less than ten percent (10%) per annum. Such
14 delinquent Assessment and interest may be collected in a
15 Show Cause proceeding herein or any other legal proceeding
16 instituted by Watermaster, and in such proceeding the Court
17 may allow Watermaster its reasonable costs of collection,
18 including attorney's fees.

19 47. Availability of Supplemental Water From Responsible
20 Agencies. (Prior Judgment Section 39) If any Responsible
21 Agency shall, for any reason, be unable to deliver Supplemental
22 Water to Watermaster when needed, Watermaster shall collect
23 funds at an appropriate level and hold them in trust, together
24 with interest accrued thereon, for purchase of such water when
25 available.

26 48. Accumulation of Replacement Water Assessment Proceeds.
27 (Prior Judgment Section 40) In order to minimize fluctuation
28 in Assessments and to give Watermaster flexibility in Basin

1 management, Watermaster may make reasonable accumulations of
2 Replacement Water Assessments. Such moneys and any interest
3 accrued thereon shall only be used for the purchase of
4 Replacement Water.

5 49. Carry-over of Unused Rights. (Prior Judgment Section
6 41) Any Pumper's Share of Operating Safe Yield, and the
7 Production right of any Integrated Producer, which is not
8 Produced in a given Fiscal Year may be carried over and
9 accumulated for one Fiscal Year, pursuant to reasonable rules
10 and procedures for notice and accounting which shall be adopted
11 by Watermaster. The first water Produced in the succeeding
12 Fiscal Year shall be deemed Produced pursuant to such Carry-over
13 Rights.

14 50. Minimal Producers. (Prior Judgment Section 42) In
15 the interest of Justice, Minimal Producers are exempted from the
16 operation of this Physical Solution, so long as such party's
17 annual Production does not exceed five (5) acre feet. Quarterly
18 Production reports by such parties shall not be required, but
19 Watermaster may require, and Minimal Producers shall furnish,
20 specific periodic reports. In addition, Watermaster may conduct
21 such investigation of future operations of any Minimal Producer
22 as may be appropriate.

23 51. Effective Date. (Prior Judgment Section 43) The
24 effective date for commencing accounting and operation under
25 this Physical Solution, other than for Replacement Water
26 Assessments, shall be July 1, 1972. The first Assessment for
27 Replacement Water shall be payable on September 20, 1974, on
28 account of Fiscal Year 1973-74 Production.

1 G. MISCELLANEOUS PROVISIONS

2 52. Puente Narrows Flow. (Prior Judgment Section 44)

3 The Puente Basin is tributary to the Main San Gabriel Basin.
4 All Producers within said Puente Basin have been dismissed
5 herein, based upon the Puente Narrows Agreement (Exhibit "J"),
6 whereby Puente Basin Water Agency agreed not to interfere with
7 surface inflow and to assure continuance of historic subsurface
8 contribution of water to Main San Gabriel Basin. The Court
9 declares said Agreement to be reasonable and fair and in full
10 satisfaction of claims by Main San Gabriel Basin for natural
11 water from Puente Basin.

12 53. San Gabriel District - Interim Order. (Prior Judgment

13 Section 45) San Gabriel District has a contract with the State
14 of California for State Project Water, delivered at Devil Canyon
15 in San Bernardino County. San Gabriel District is HEREBY
16 ORDERED to proceed with and complete necessary pipeline
17 facilities as soon as practical.

18 Until said pipeline is built and capable of delivering a
19 minimum of twenty-eight thousand eight-hundred (28,800) acre
20 feet of State Project water per year, defendant cities of
21 Alhambra, Azusa, and Monterey Park shall pay to Watermaster each
22 Fiscal Year a Replacement Assessment at a uniform rate
23 sufficient to purchase Replenishment Water when available,
24 which rate shall be declared by San Gabriel District.

25 When water is available through said pipeline, San Gabriel
26 District shall make the same available to Watermaster, on his
27 reasonable demand, at said specified rate per acre foot.

28 Interest accrued on such funds shall be paid to San Gabriel

1 District.

2 54. Service Upon and Delivery to Parties of Various
3 Papers. (Prior Judgment Section 46) Service of the Judgment
4 on those parties who have executed the Stipulation for Judgment
5 shall be made by first class mail, postage prepaid, addressed to
6 the Designee and at the address designated for that purpose in
7 the executed and filed counterpart of the Stipulation for
8 Judgment, or in any substitute designation filed with the Court.

9 Each party who has not heretofore made such a designation
10 shall, within thirty (30) days after the Judgment shall have
11 been served upon that party, file with the Court, with proof of
12 service of a copy thereof upon Watermaster, a written
13 designation of the person to whom and the address at which all
14 future notices, determinations, requests, demands, objections,
15 reports and other papers and processes to be served upon that
16 party or delivered to that party are to be so served or
17 delivered.

18 A later substitute designation filed and served in the same
19 manner by any party shall be effective from the date of filing
20 as to the then future notices, determinations, requests,
21 demands, objections, reports and other papers and processes to
22 be served upon or delivered to that party.

23 Delivery to or service upon any party by Watermaster, by
24 any other party, or by the Court, of any item required to be
25 served upon or delivered to a party under or pursuant to the
26 Judgment may be made by deposit thereof (or by copy thereof) in
27 the mail, first class, postage prepaid, addressed to the
28 Designee of the party and at the address shown in the latest

1 designation filed by that party.

2 55. Assignment, Transfer, etc., of Rights. (Prior
3 Judgment Section 47) Any rights Adjudicated herein except
4 Overlying Rights, may be assigned, transferred, licensed or
5 leased by the owners thereof; provided however, that no such
6 assignment shall be complete until the appropriate notice
7 procedures established by Watermaster have been complied with.
8 No water Produced pursuant to rights assigned, transferred,
9 licensed, or leased may be transported outside the Relevant
10 Watershed except by:

11 (1) a Transporting Party, or

12 (2) a successor in interest immediate or mediate to a
13 water system on lands or portion thereof, theretofore
14 served by such a Transporting Party, for use by such
15 successor in accordance with limitations applicable to
16 Transporting Parties, or

17 (3) a successor in interest to the Special Category
18 rights of MWD.

19 The transfer and use of Overlying Rights shall be
20 limited, as provided in Section 21 hereof, as exercisable
21 only on the specifically defined Overlying Lands and they
22 cannot be separately conveyed or transferred apart therefrom.

23 56. Abandonment of Rights. (Prior Judgment Section 48)

24 It is in the interest of reasonable beneficial use of the Basin
25 and its water supply that no party be encouraged to take and use
26 more water in any Fiscal Year than is actually required.

27 Failure to Produce all of the water to which a party is entitled
28 hereunder shall not, in and of itself, be deemed or constitute

1 an abandonment of such party's right, in whole or in part.
2 Abandonment and extinction of any right herein Adjudicated shall
3 be accomplished only by:

4 (1) a written election by the party, filed in this
5 case, or

6 (2) upon noticed motion of Watermaster, and after
7 hearing.

8 In either case, such abandonment shall be confirmed by
9 express subsequent order of this Court.

10 57. Intervention After Judgment. (Prior Judgment Section
11 49) Any person who is not a party or successor to a party and
12 who proposes to Produce water from the Basin or Relevant
13 Watershed, may seek to become a party to this Judgment through a
14 Stipulation For Intervention entered into with Watermaster.
15 Watermaster may execute said Stipulation on behalf of the other
16 parties herein but such Stipulation shall not preclude a party
17 from opposing such Intervention at the time of the Court hearing
18 thereon. Said Stipulation For Intervention must thereupon be
19 filed with the Court, which will consider an order confirming
20 said Intervention following thirty (30) days' notice to the
21 parties. Thereafter, if approved by the Court, such Intervenor
22 shall be a party bound by this Judgment and entitled to the
23 rights and privileges accorded under the Physical Solution
24 herein.

25 58. Judgment Binding on Successors, etc. (Prior Judgment
26 Section 50) Subject to specific provisions hereinbefore
27 contained, this Judgment and all provisions thereof are
28 applicable to and binding upon and inure to the benefit of not

1 only the parties to this action, but as well to their respective
2 heirs, executors, administrators, successors, assigns, lessees,
3 licensees and to the agents, employees and attorneys in fact of
4 any such persons.

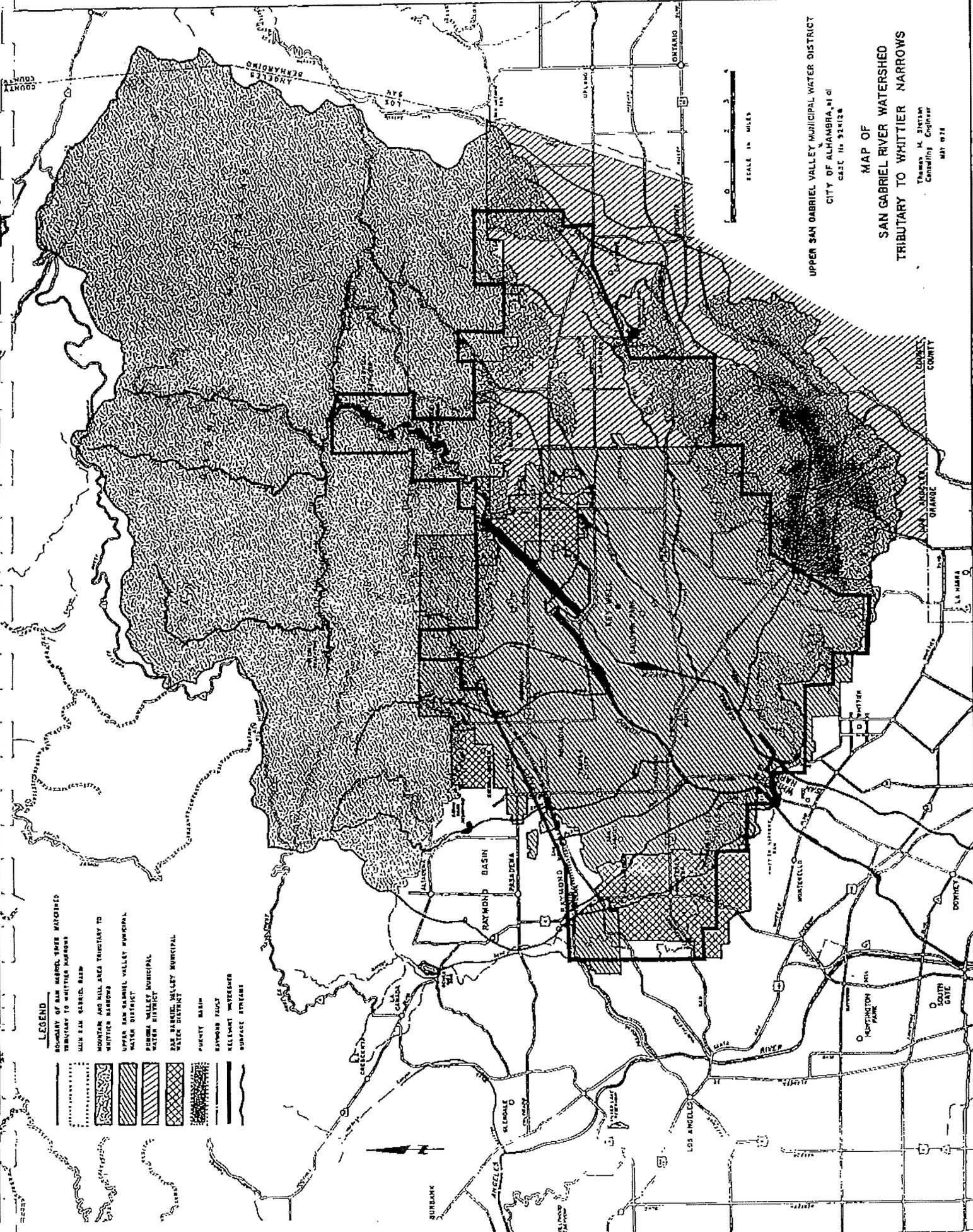
5 59. Water Rights Permits. (Prior Judgment Section 51)
6 Nothing herein shall be construed as affecting the relative
7 rights and priorities between MWD and San Gabriel Valley
8 Protective Association under State Water Rights Permits Nos.
9 7174 and 7175, respectively.

10 60. Costs. (Prior Judgment Section 52) No party shall
11 recover any costs in this proceeding from any other party.

12 61. Entry of Judgment. (New) The Clerk shall enter this
13 Judgment.

14 DATED: August 24, 1989.

15
16 s/ Florence T. Pickard
17 Florence T. Pickard, Judge
18 Specially Assigned
19
20
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28



- LEGEND**
- BOUNDARY OF SAN MARINO, UPPER WATERSHED TRIBUTARY TO WHITTIER NARROWS
 - UPPER SAN GABRIEL BASIN
 - MOUNTAIN AND HILL AREA TRIBUTARY TO WHITTIER NARROWS
 - UPPER SAN GABRIEL VALLEY MUNICIPAL WATER DISTRICT
 - SAN GABRIEL VALLEY MUNICIPAL WATER DISTRICT
 - SAN DIMAS BASIN
 - SAN DIMAS EAST
 - WELLSHAW WATERSHED
 - WINDMILL STREAMS

SCALE IN MILES
0 1 2 3 4

UPPER SAN GABRIEL VALLEY MUNICIPAL WATER DISTRICT
CITY OF ALHAMBRA, HI 01
CASE NO. 512128

MAP OF
SAN GABRIEL RIVER WATERSHED
TRIBUTARY TO WHITTIER NARROWS

Thomas H. Shuman
Consulting Engineer
MAY 1971

Exhibit "B"

BOUNDARIES OF RELEVANT WATERSHED

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

Beginning at the Southwest corner of Section 14, Township 1 North, Range 11 West, San Bernardino Base and Meridian;

Thence Northerly along the West line of said Section 14 to the Northwest corner of the South half of said Section 14;

Thence Easterly along the North line of the South half of Section 14 to the East line of said Section 14;

Thence Northerly along the East line of said Section 14, Township 1 North, Range 11 West and continuing Northerly along the East line of Section 11 to the Northeast corner of said Section 11;

Thence Easterly along the North line of Section 12 to the Northeast corner of said Section 12;

Thence Southerly along the East line of said Section 12 and continuing Southerly along the East line of Section 13 to the Southeast corner of said Section 13, said corner being also the Southwest corner of Section 18, Township 1 North, Range 10 West;

Thence Easterly along the South line of Sections 18, 17, 16 and 15 of said Township 1 North, Range 10 West to the Southwest corner of Section 14;

Thence Northerly along the West line of Section 14 to the Northwest corner of the South half of Section 14;

Thence Easterly along the North line of the South half of Section 14 to the East line of said section;

Thence Northerly along the East line of said Section 14, and continuing Northerly along the West line of Section 12 of said Township 1 North, Range 10 West to the North line of said Section 12;

Thence Easterly along the North line of said Section 12, to the Northeast corner of said Section 12, said corner being also the Southwest corner of Section 6, Township 1 North, Range 9 West;

Thence Northerly along the West line of said Section 6 and continuing Northerly along West line of Sections 31 and 30, Township 2 North, Range 9 West to the Westerly prolongation of the North line of said Section 30;

Thence Easterly along said Westerly prolongation of the North line of said Section 30 and continuing Easterly along the North line of Section 29 to the Northeast corner of said Section 29;

Thence Southerly along the East line of said Section 29 and continuing Southerly along the East line of Section 32, Township 2 North, Range 9 West, and thence continuing Southerly along the East line of Section 5, Township 1 North, Range 9 West to the Southeast corner of said Section 5;

Thence Westerly along the South line of said Section 5 to the Southwest corner of said Section 5, said point being also the Northwest corner of Section 8;

Thence Southerly along the West line of said Section 8 and continuing Southerly along the West line of Section 17, to the Southwest corner of said Section 17, said corner being also the Northwest corner of Section 20;

Thence Easterly along the North line of Sections 20 and 21 to the Northwest corner of Section 22, said corner being also the Southwest corner of Section 15;

Thence Northerly along the West line of said Section 15 to the Northwest corner of the South half of said Section 15;

Thence Easterly along the North line of said South half of Section 15 to the Northeast corner of said South half of Section 15;

Thence Southerly along the East line of Section 15 and continuing Southerly along the East line of Section 22 to the Southeast corner of said Section 22, said point being also the Southwest corner of Section 23;

Thence Easterly along the South line of Sections 23 and 24 to the East line of the West half of said Section 24;

Thence Northerly along said East line of the West half of Section 24 to the North line thereof;

Thence Easterly along said North line of Section 24 to the Northeast corner thereof, said point also being the Northwest corner of Section 19, Township 1 North, Range 8 West;

Thence continuing Easterly along the North line of Section 19 and Section 20 of said Township 1 North, Range 8 West to the Northeast corner of said Section 20;

Thence Southerly along the East line of Sections 20, 29 and 32 of said Township 1 North, Range 8 West to the Southeast corner of said Section 32;

Thence Westerly along the South line of Section 32 to the Northwest corner of the East half of Section 5, Township 1 South, Range 8 West;

Thence Southerly along the West line of the East half of said Section 5 to the South line of said Section 5;

Thence West to the East line of the Northerly prolongation of Range 9 West;

Thence South $67^{\circ} 30'$ West to an intersection with the Northerly prolongation of the West line of Section 27, Township 1 South, Range 9 West;

Thence Southerly along the Northerly prolongation of said West line of Section 27 and continuing Southerly along the West line of Section 27 to the Southwest corner of said Section 27, said point being also the Southeast corner of Section 28;

Thence Westerly along the South line and Westerly projection of the South line of said Section 28 to the Northerly prolongation of the West line of Range 9 West;

Thence Southerly along said prolongation of the West line of Range 9 West to the Westerly prolongation of the North line of Township 2 South;

Thence Westerly along said Westerly prolongation of the North line of Township 2 South, a distance of 8,500 feet;

Thence South a distance of 4,500 feet;

Thence West a distance of 10,700 feet;

Thence South 29° West to an intersection with the Northerly prolongation of the West line of Section 20, Township 2 South, Range 10 West;

Thence Southerly along said Northerly prolongation of the West line of said Section 20 and continuing Southerly along the West line of Section 20 to the Southwest corner of said Section 20;

Thence South a distance of 2,000 feet;

Thence West a distance of two miles, more or less, to an intersection with the East line of Section 26, Township 2 South, Range 11 West;

Thence Northerly along said East line of Section 26 and continuing Northerly along the East line of Section 23, Township 2 South, Range 11 West to the Northeast corner of said Section 23;

Thence Westerly along the North line of said Section 23 to the Northwest corner thereof, said point being also the Southeast corner of Section 15, Township 2 South, Range 11 West;

Thence Northerly and Westerly along the East and North lines, respectively, of said Section 15, Township 2 South, Range 11 West, to the Northwest corner thereof;

Thence continuing Westerly along the Westerly prolongation of said North line of Section 15, Township 2 South, Range 11 West to an intersection with a line parallel to and one mile East of the West line of Range 11 West;

Thence Northerly along said parallel line to an intersection with the Northerly boundary of the City of Pico Rivera as said City of Pico Rivera existed on July 17, 1970;

Thence Westerly along said City boundary to an intersection with the East line of Range 12 West;

Thence Northerly along said East line of Range 12 West to the North line of Township 2 South;

Thence Westerly along the North line of Township 2 South to an intersection with the Southerly prolongation of the East line of the West half of Section 26, Township 1 South, Range 12 West;

Thence Northerly along said Southerly prolongation of said East line of the West half of said Section 26 to the Southeast corner of said West half;

Thence Westerly along the South line of Sections 26, 27 and 28, Township 1 South, Range 12 West, to the Southeast corner of Section 29, Township 1 South, Range 12 West;

Thence Northerly along the East line of said Section 29 to the Northeast corner of the South half of said Section 29;

Thence Westerly along the North line of the South half of said Section 29 to the Northwest corner thereof;

Thence Northerly along the West line of Sections 29, 20, 17 and 8, Township 1 South, Range 12 West;

Thence continuing Northerly along the Northerly prolongation of the West line of Section 8, Township 1 South, Range 12 West to an intersection with the North line of Township 1 South;

Thence Easterly along said North line of Township 1 South to the Northeast corner of Section 3, Township 1 South, Range 12 West;

Thence North $64^{\circ} 30'$ East to an intersection with the West line of Section 23, Township 1 North, Range 11 West;

Thence Northerly along the West line of said Section 23 to the Northwest corner thereof, said point being the Southwest corner of Section 14, Township 1 North, Range 11 West and said point being also the point of beginning.

Exhibit "C"

TABLE
SHOWING BASE
ANNUAL DIVERSION
RIGHTS OF CERTAIN
DIVERTERS

	Base Annual Diversion Right <u>Acre-Feet</u>
Covell, Ralph (Successor to Rittenhouse, Catherine and Rittenhouse, James)	2.12
Maddock, A. G.	3.40
Rittenhouse, Catherine (Transferred to Covell, Ralph)	0
Rittenhouse, James (Transferred to Covell, Ralph)	0
Ruebhausen, Arline (Held in common with Ruebhausen, Victor) (Transferred to City of Glendale)	0
Ruebhausen, Victor (See Ruebhausen, Arline, above)	0
TOTAL	<u>5.52</u>

Exhibit "D"

TABLE
SHOWING PRESCRIPTIVE PUMPING RIGHTS
AND PUMPER'S SHARE OF EACH PUMPER
AS OF JUNE, 1988

<u>Pumper</u>	<u>Prescriptive Pumping Right Acre-feet</u>	<u>Pumper's Share Percent (%)</u>
Adams Ranch Mutual Water Company	100.00	0.05060
A & E Plastik Pak Co., Inc. (Transferred to Industry Properties, Ltd.)	0	0
Alhambra, City of	8,812.05	4.45876
Amarillo Mutual Water Company	709.00	0.35874
Anchor Plating Co., Inc. (Successor to Bodger & Sons) (Transferred to Crown City Plating Co.)	0	0
Anderson, Ray L. and Helen T., Trustees (Successor to Covina-Valley Unified School District)	50.16	0.02538
Andrade, Marcario and Consuelo; and Andrade, Robert and Jayne (Successor to J. F. Isbell Estate, Inc.)	8.36	0.00423
Arcardia, City of (Successor to First National Finance Corporation) (Transferred to City of Monrovia)	9,252.00 60.90 <u>951.00</u> 8,361.90	4.68137 0.03081 <u>0.48119</u> 4.23099
Associated Southern Investment Company (Transferred to Southern California Edison Company)	0	0
AZ-Two, Inc. (Lessee of Southwestern Portland Cement Co.)	0	0
Azusa, City	3,655.99	1.84988
Azusa-Western Inc. (Transferred to Southwestern Portland Cement Co.)	0	0
Bahnsen & Beckman Ind., Inc. (Transferred to Woodland, Richard)	0	0

<u>Pumper</u>	<u>Prescriptive Pumping Right Acre-feet</u>	<u>Pumper's Share %</u>
Bahnsen, Betty M. (Transferred to Dawes, Mary Kay)	0	0
Baldwin Park County Water District (See Valley County Water District)	-	-
Banks, Gale C. (Successor to Doyle, Mr. and Mrs.; and Madruga, Mr. and Mrs.)	50.00	0.02530
Base Line Water Company	430.20	0.21767
Beverly Acres Mutual Water Company	93.00	0.04706
Birenbaum, Max (Held in common with Birenbaum, Sylvia; Schneiderman, Alan; Schneiderman, Lydia; Wigodsky, Bernard; Wigodsky, Estera) (Transferred to City of Whittier)	0	0
Birenbaum, Sylvia (See Birenbaum, Max)	-	-
) Blue Diamond Concrete Materials Div., The Flintkote Company (Transferred to Sully-Miller Contracting Co.)	0	0
Bodger & Sons DBA Bodger Seeds Ltd. (Transferred to Anchor Plating Co., Inc.)	0	0
Botello Water Company	0	0
Burbank Development Company	50.65	0.02563
Cadway, Inc. (Successor to: Corcoran, Jack S. and R. L.)	100.00	0.05060
Corcoran, Jack S. and R. L.)	<u>100.00</u>	<u>0.05060</u>
	200.00	0.10120
Cal Fin (Transferred to Suburban Water Systems)	0	0
California-American Water Company (San Marino System)	7,868.70	3.98144
California Country Club	0	0

<u>Pumper</u>	<u>Prescriptive Pumping Right Acre-feet</u>	<u>Pumper's Share %</u>
California Domestic Water Company (Successor to: Cantrill Mutual Water Company Industry Properties, Ltd. Modern Accent Corporation Fisher, Russell)	11,024.82 42.50 73.50 256.86 <u>19.00</u> 11,416.68	5.57839 0.02150 0.03719 0.12997 <u>0.00961</u> 5.77666
California Materials Company	0	0
Cantrill Mutual Water Company (Transferred to California Domestic Water Co.)	0	0
Cedar Avenue Mutual Water Company	121.10	0.06127
Champion Mutual Water Company	147.68	0.07472
Chronis, Christine (See Polopolus, et al)	-	-
Clayton Manufacturing Company	511.80	0.25896
Collison, E. O.	0	0
Comby, Erma M. (See Wilmott, Erma M.)	-	-
Conrock Company (Formerly Consolidated Rock Products Co.) (Successor to Manning Bros. Rock & Sand Co.)	1,465.35 <u>328.00</u> 1,793.35	0.74144 <u>0.16596</u> 0.90740
Consolidated Rock Products Co. (See Conrock Company)	-	-
Corcoran, Jack S. (Held in common with Corcoran, R. L.) (Transferred to: Cadway, Inc. Cadway, Inc.)	 747.00 100.00 <u>100.00</u> 547.00	 0.37797 0.05060 <u>0.05060</u> 0.27677
Corcoran, R. L. (See Corcoran, Jack S.)	-	-
County Sanitation District No. 18 of Los Angeles County	4.50	0.00228

<u>Pumper</u>	<u>Prescriptive Pumping Right Acre-feet</u>	<u>Pumper's Share %</u>
Covell, et al. (Successor to Rittenhouse, Catherine and Rittenhouse, James) (Held in common with Jobe, Darr; Goedert, Lillian E.; Goedert, Marion W.; Lakin, Kendall R.; Lakin, Kelly R.; Snyder, Harry)	111.05	0.05619
Covina, City of (Transferred to Covina Irrigating Company)	2,507.89	1.26895
(Transferred to Covina Irrigating Company)	1,734.00	0.87737
	<u>300.00</u>	<u>0.15179</u>
	473.89	0.23979
Covina-Valley Unified School District (Transferred to Anderson, Ray)	0	0
Crevolin, A. J.	2.25	0.00114
Crocker National Bank, Executor of the Estate of A. V. Handorf (Transferred to Modern Accent Corp.)	0	0
Cross Water Company (Transferred to City of Industry)	0	0
Crown City Plating Company (Successor to Anchor Plating Co., Inc.)	190.00	0.09614
	<u>10.00</u>	<u>0.00506</u>
	200.00	0.10120
Davidson Optronics, Inc.	22.00	0.01113
Dawes, Mary Kay (Successor to Bahnsen, Betty M.)	441.90	0.22359
Del Rio Mutual Water Company	199.00	0.10069
Denton, Kathryn W., Trustee for San Jose Ranch Company (Transferred to White, June G., Trustee of the June G. White Share of the Garnier Trust)	0	0
Doyle, Mr. and Mrs.; and Madruga, Mr. and Mrs. (Successor to Sawpit Farms, Ltd.) (Transferred to Banks, Gale C.)	0	0
Driftwood Dairy	163.80	0.08288
Duhalde, L. (Transferred to El Monte Union High School District)	0	0

<u>Pumper</u>	<u>Prescriptive Pumping Right Acre-feet</u>	<u>Pumper's Share %</u>
Dunning, George (Held in common with Dunning, Vera H.) (Successor to Vera H. Dunning)	324.00	0.16394
Dunning, Vera H. (Transferred to George Dunning)	-	-
East Pasadena Water Company, Ltd.	1,407.69	0.71227
Eckis, Rollin (Successor to Sawpit Farms, Ltd.) (Transferred to City of Monrovia)	0	0
El Encanto Properties (Transferred to La Puente Valley County Water District)	0	0
El Monte, City of	2,784.23	1.40878
El Monte Cemetary Association	18.50	0.00936
El Monte Union High School District (Successor to Duhalde, L.) (Transferred to City of Whittier)	0	0
Everett, Mrs. Alda B. (Held in common with Everett, W. B., Executor of the Estate of I. Worth Everett)	0	0
Everett, W. B., Executor of the Estate of I. Worth Everett (See Everett, Mrs. Alda B.)	-	-
Faix, Inc. (Successor to Frank F. Pellissier & Sons, Inc.) (Transferred to Faix, Ltd.)	0	0
Faix, Ltd. (Successor to Faix, Inc.)	6,490.00	3.28384
First National Finance Corporation (Transferred to City of Arcadia)	0	0
Fisher, Russell (Held in common with Hauch, Edward and Warren, Clyde) (Transferred to California Domestic Water Company)	0	0

<u>Pumper</u>	<u>Prescriptive Pumping Right Acre-feet</u>	<u>Pumper's Share %</u>
Frank F. Pellissier & Sons, Inc. (Transferred to Faix, Inc.)	0	0
Fruit Street Water Company (Transferred to: Gifford, Brooks, Jr. City of La Verne)	0	0
Gifford, Brooks, Jr. (Successor to: Fruit Street Water Co., Mission Gardens Mutual Water Company) (Transferred to City of Whittier)	0	0
Gilkerson, Frank B. (Transferred to Jobe, Darr)	-	-
Glendora Unified High School District (Transferred to City of Glendora)	0	0
Goedert, Lillian E. (See Covell, et al)	-	-
Goedert, Marion W. (See Covell, et al)	-	-
Graham, William (Transferred to Darr Jobe)	-	-
Green, Walter	71.70	0.03628
Grizzle, Lissa B. (Held in common with Grizzle, Mervin A.; Wilson, Harold R.; Wilson, Sarah C.) (Transferred to City of Whittier)	0	0
Grizzle, Mervin A. (See Grizzle, Lissa B.)	0	0
Hansen, Alice	0.75	0.00038
Hartley, David	0	0
Hauch, Edward (See Fisher, Russell)	0	0
Hemlock Mutual Water Company	166.00	0.08399

<u>Pumper</u>	<u>Prescriptive Pumping Right Acre-feet</u>	<u>Pumper's Share %</u>
Hollenbeck Street Water Company (Transferred to Suburban Water Systems)	0	0
Hunter, Lloyd F. (Successor to R. Wade)	4.40	0.00223
Hydro-Conduit Corporation	0	0
Industry Waterworks System, City of (Successor to Cross Water Company)	1,103.00	0.55810
Industry Properties, Ltd. (Successor to A & E Plastik Pak Co., Inc.) (Transferred to California Domestic Water Co.)	0	0
J. F. Isbell Estate, Inc. (Transferred to Andrade, Macario and Consuelo; and Andrade, Robert and Jayne)	0	0
Jerris, Helen (See Polopolus, et al)	-	-
Jobe, Darr (See Covell, et al)	-	-
Kirklen Family Trust (Formerly Kirklen, Dawn L.) (Held in common with Kirklen, William R.) (Successor to San Dimas-La Verne Recreational Facilities Authority)	375.00 <u>62.50</u> 437.50	0.18974 <u>0.03162</u> 0.22136
Kirklen, Dawn L. (See Kirklen Family Trust)	-	-
Kirklen, William R. (See Kirklen, Dawn L.)	-	-
Kiyan, Hideo (Held in common with Kiyan, Hiro)	30.00	0.01518
Kiyan, Hiro (See Kiyan, Hideo)	-	-
Knight, Kathryn M. (Successor to William Knight)	227.88	0.11530
Knight, William (Transferred to Kathryn M. Knight)	0	0

<u>Pumper</u>	<u>Prescriptive Pumping Right Acre-feet</u>	<u>Pumper's Share %</u>
Lakin, Kelly R. (See Covell, et al)	-	-
Lakin, Kendall R. (See Covell, et al)	-	-
Landeros, John	0.75	0.00038
La Grande Source Water Company (Transferred to Suburban Water Systems)	0	0
Lang, Frank (Transferred to San Dimas-La Verne Recreational Facilities Authority)	0	0
La Puente Cooperative Water Company (Transferred to Suburban Water Systems)	0	0
La Puente Valley County Water District (Successor to El Encanto Properties)	1,097.00 <u>33.40</u> 1,130.40	0.55507 <u>0.01690</u> 0.57197
La Verne, City of (Successor to Fruit Street Water Co.)	250.00 <u>105.71</u> 355.71	0.12650 <u>0.05349</u> 0.17999
Lee, Paul M. and Ruth A.; Nasmyth, Virrginia; Nasmyth, John	0	0
Little John Dairy	0	0
Livingston-Graham, Inc.	1,824.40	0.92312
Los Flores Mutual Water Company (Transferred to City of Monterey Park)	0	0
Loucks, David	3.00	0.00152
Manning Bros. Rock & Sand Co. (Transferred to Conrock Company)	0	0
Maple Water Company	118.50	0.05996
Martinez, Frances Mercy (Held in common with Martinez, Jaime)	0.75	0.00038
Martinez, Jaime (See Martinez, Frances Mercy)	-	-
Massey-Ferguson Company	0	0

<u>Pumper</u>	<u>Prescriptive Pumping Right Acre-feet</u>	<u>Pumper's Share %</u>
Miller Brewing Company	111.01	0.05617
(Successor to: Maechtlen, Estate of J. J. Phillips, Alice B., et al)	151.50 <u>50.00</u>	0.07666 <u>0.02530</u>
	312.51	0.15813
Mission Gardens Mutual Water Company (Transferred to Gifford, Brooks, Jr.)	0	0
Modern Accent Corporation (Successor to Crocker National Bank, Executor of the Estate of A. V. Handorf) (Transferred to California Domestic Water Co.)	0	0
Monterey Park, City of (Successor to Los Flores Mutual Water Co.)	6,677.48 <u>26.60</u>	3.37870 <u>0.01346</u>
	6,704.08	3.39216
Murphy Ranch Mutual Water Company (Transferred to Southwest Suburban Water)	0	0
Naminatsu Farms (Transferred to California Cities Water Company)	0	0
Nick Tomovich & Sons	0.02	0.00001
No. 17 Walnut Place Mutual Water Co. (Transferred to San Gabriel Valley Water Company)	0	0
Orange Production Credit Association	0	0
Owl Rock Products Co.	715.60	0.36208
Pacific Rock & Gravel Co. (Transferred to: City of Whittier Rose Hills Memorial Park Association)	0	0
Park Water Company (Transferred to Valley County Water District)	0	0
Penn, Margaret (See Polopolus, et al)	-	-
Pico County Water District	0.75	0.00038
Polopolus, John (See Polopolus, et al)	-	-

<u>Pumper</u>	<u>Prescriptive Pumping Right Acre-feet</u>	<u>Pumper's Share %</u>
Polopolus, et al (Successor to Polopolus, Steve) (Held in common with Chronis, Christine; Jerris, Helen; Penn, Margaret; Polopolus, John)	22.50	0.01138
Polopolus, Steve (Transferred to Polopolus, et al)	-	-
Rados, Alexander (Held in common with Rados, Stephen and Rados, Walter)	43.00	0.02176
Rados, Stephen (See Rados, Alexander)	-	-
Rados, Walter (See Rados, Alexander)	-	-
Richwood Mutual Water Company	192.60	0.09745
Rincon Ditch Company	628.00	0.31776
Rincon Irrigation Company	314.00	0.15888
Rittenhouse, Catherine (Transferred to Covell, Ralph)	0	0
Rittenhouse, James (Transferred to Covell, Ralph)	0	0
Rose Hills Memorial Park Association (Successor to Pacific Rock & Gravel Co.)	594.00 <u>200.00</u> 794.00	0.30055 <u>0.10120</u> 0.40175
Rosemead Development, Ltd. (Successor to Thompson, Earl W.)	1.00	0.00051
Rurban Homes Mutual Water Company	217.76	0.11018
Ruth, Roy	0.75	0.00038
San Dimas-La Verne Recreational Facilities Authority (Successor to Lang, Frank) (Transferred to Kirklen, Dawn L. and William R.)	0	0
San Gabriel Country Club	286.10	0.14476
San Gabriel County Water District	4,250.00	2.15044

<u>Pumper</u>	<u>Prescriptive Pumping Right Acre-feet</u>	<u>Pumper's Share %</u>
San Gabriel Valley Municipal Water District	0	0
San Gabriel Valley Water Company	16,659.00	8.42920
(Successor to: Vallecito Water Co. No. 17 Walnut Place Mutual Water Co.)	2,867.00 <u>21.50</u>	1.45066 <u>0.01088</u>
	19,547.50	9.89074
Sawpit Farms, Limited (Transferred to: Eckis, Rollin Doyle and Madruga)	0	0
Schneiderman, Alan (See Birenbaum, Max)	-	-
Schneiderman, Lydia (See Birenbaum, Max)	-	-
Security Pacific National Bank, Co-Trustee for the Estate of Winston F. Stoody (See Stoody, Virginia A.) (Transferred to City of Whittier)	0	0
Sierra Madre, City of	0	0
Sloan Ranches	129.60	0.06558
Smith, Charles	0	0
Snyder, Harry (See Covell, et al)	-	-
Sonoco Products Company	311.60	0.15766
South Covina Water Service	992.30	0.50209
Southern California Edison Company (Successor to: Associated Southern Investment Company)	155.25 <u>16.50</u>	0.07855 <u>0.00835</u>
	171.75	0.08690
Southern California Water Company, San Gabriel Valley District	5,773.00	2.92105
South Pasadena, City of	3,567.70	1.80520
Southwest Suburban Water (See Suburban Water Systems)	-	-

<u>Pumper</u>	<u>Prescriptive Pumping Right Acre-feet</u>	<u>Pumper's Share %</u>
Southwestern Portland Cement Company (Successor to Azusa Western, Inc.)	742.00	0.37544
Speedway 605, Inc.	0	0
Standard Oil Company of California	2.00	0.00101
Sterling Mutual Water Company	120.00	0.06072
Stoody, Virginia A., Co-Trustee for the Estate of Winston F. Stoody (See Security Pacific National Bank, Co-Trustee)	-	-
Suburban Water Systems (Formerly Southwest Suburban Water) (Successor to: Hollenbeck Street Water Company La Grande Source Water Company La Puente Cooperative Water Co. Valencia Valley Water Company Victoria Mutual Water Company Cal Fin Murphy Ranch Mutual Water Co.)	20,462.47 646.39 1,078.00 1,210.90 651.50 469.60 118.10 <u>223.23</u> 24,860.19	10.35370 0.32706 0.51545 0.61270 0.32965 0.23761 0.05976 <u>0.11295</u> 12.57888
Sully-Miller Contracting Company (Successor to Blue Diamond Concrete Materials Division, The Flintkote Co.)	1,399.33	0.70804
Sunny Slope Water Company	2,228.72	1.12770
Taylor Herb Garden (Transferred to Covina Irrigating Company)	0	0
Texaco, Inc.	50.00	0.02530
Thompson, Earl W. (Held in common with Thompson, Mary) (Transferred to Rosemead Development, Ltd.)	0	0
Thompson, Mary (See Thompson, Earl W.)	-	-
Tyler Nursery	3.21	0.00162
United Concrete Pipe Corporation (See U. S. Pipe & Foundry Company)	-	-

<u>Pumper</u>	<u>Prescriptive Pumping Right Acre-feet</u>	<u>Pumper's Share %</u>
U. S. Pipe & Foundry Company (Formerly United Concrete Pipe Corporation)	376.00	0.19025
Valencia Heights Water Company	861.00	0.43565
Valencia Valley Water Company (Transferred to Suburban Water Systems)	0	0
Vallecito Water Company (Transferred to San Gabriel Valley Water Company)	0	0
Valley County Water District (Formerly Baldwin Park County Water District) (Successor to Park Water Company)	5,775.00 <u>184.01</u> 5,959.01	2.92206 <u>0.09311</u> 3.01517
Valley Crating Company	0	0
Valley View Mutual Water Company	616.00	0.31169
Via, H. (See Via, H., Trust of)	-	-
Via, H., Trust of (Formerly Via, H.)	46.20	0.02338
Victoria Mutual Water Company (Transferred to Suburban Water Systems)	0	0
Wade, R. (Transferred to Lloyd F. Hunter)	0	0
Ward Duck Company	1,217.40	0.61599
Warren, Clyde (See Fisher, Russell)	-	-
W. E. Hall Company	0.20	0.00010
White, June G., Trustee of the June G. White Share of the Garnier Trust (Successor to Denton, Kathryn W., Trustee for the San Jose Ranch Company)	185.50	0.09386

<u>Pumper</u>	<u>Prescriptive Pumping Right Acre-feet</u>	<u>Pumper's Share %</u>
Whittier, City of (Successor to: Grizzle, Lissa B. Pacific Rock and Gravel Co.) Security Pacific National Bank, Co-Trustee for the Estate of Winston F. Stoady El Monte Union High School District Gifford, Brooks, Jr. Birenbaum, Max)	7,620.23 184.00 208.00 38.70 16.20 198.25 <u>6.00</u> 8,271.38	3.85572 0.09310 0.10524 0.01958 0.00820 0.10031 <u>0.00304</u> 4.18519
Wigodsky, Bernard (See Birenbaum, Max)	-	-
Wigodsky, Estera (See Birenbaum, Max)	-	-
Wilmott, Erma M. (Formerly Comby, Erma M.)	0.75	0.00038
Wilson, Harold R. (See Grizzle, Lissa B.)	-	-
) Wilson, Sarah C. (See Grizzle, Lissa B.)	-	-
Woodland, Frederick G.	-	-
Woodland, Richard (Successor to: Bahnsen and Beckman Ind., Inc.)	<u>840.50</u>	<u>0.42528</u>
Totals for Exhibit "D"	<u>155,800.68</u>	<u>78.83276</u>
Totals from Exhibit "E"	41,833.75 <u>30,626.25</u>	21.16124 <u>19.54431</u>
GRAND TOTALS	<u>197,634.43</u>	<u>100.00000</u>

TABLE
SHOWING PRODUCTION RIGHTS
OF EACH
INTEGRATED PRODUCER
AS OF JUNE 1988

<u>Party</u>	<u>Diversion Component Acre-feet</u>	<u>Prescriptive Pumping Component Acre-feet</u>	<u>Pumping Component Share Percent (%)</u>
Azusa Agricultural Water Company	1,000.00	1,732.20	0.87647
Azusa Foot-Hill Citrus Water Company (Transferred to Monrovia Nursery Company)	0	0	0
Azusa Valley Water Company	2,422.00	8,274.00	4.18652
California-American Water Company (Duarte System)	1,672.00	3,649.00	1.84634
California Cities Water Company (See Southern California Water Company, San Dimas District)	-	-	-
Covina Irrigating Company (Successor to: City of Covina, City of Covina, and Taylor Herb Garden)	2,514.00	4,140.00 1,734.00 300.00 <u>6.00</u> 6,180.00	2.09478 0.87737 0.15179 <u>0.00304</u> 3.12698
Glendora, City of (Successor to: Maechtlen, Estate of J. J., Maechtlen, Trust of P. A., Ruebhausen, Arline, and Glendora Unified High School District)	17.00 18.34 <u>35.34</u>	8,258.00 150.00 50.00 <u>9.00</u> 8,557.00	4.17842 0.07590 0.02530 <u>0.05009</u> 4.32971
Los Angeles, County of	310.00	3,721.30	1.88292
Maechtlen, Estate of J. J. (Transferred to: City of Glendora Miller Brewing Company)	0 <u>0</u>	301.50 -150.00 <u>-151.50</u> 0	0.15256 -0.07590 <u>-0.07666</u> 0

<u>Party</u>	<u>Diversion Componet Acre-feet</u>	<u>Prescriptive Pumping Component Acre-feet</u>	<u>Pumping Component Share %</u>
Maechtlen, Estate of J. J.	1.49	0	0
Maechtlen, Trust of P. A. (Transferred to: City of Glendora Alice B. Phillips, et al)	0.50 <u>-0.50</u> 0	100.50 -50.00 <u>-50.50</u> 0	0.05085 -0.02530 <u>-0.02555</u> 0
The Metropolitan Water District of Southern California	9.59	165.00	0.08349
Monrovia, City of (Successor to: Eckis, Rollin City of Arcadia)	1,098.00 <u>1,098.00</u>	5,042.22 123.00 <u>951.00</u> 6,116.22	2.55129 0.06224 <u>0.48119</u> 3.09472
Monrovia, Nursery Company (Successor to: Azusa Foot-Hill Citrus Co.)	239.50 718.50	0 0	0 0
Phillips, Alice B., et al (Successor to: Maechtlen, Trust of P. A.) (Transferred to: Miller Brewing Company)	0.50 <u>0.50</u>	50.50 -50.00 <u>0.50</u>	0.02530 -0.02530 <u>0.00025</u>
Southern California Water Company (San Dimas Dist.) (Formerly California Cities Water Company) (Successor to: Namimatsu Farms)	500.00 <u>500.00</u>	3,242.53 <u>196.00</u> <u>3,438.53</u>	1.64076 <u>0.09917</u> <u>1.73984</u>
TOTAL for Exhibit "E"	<u>10,520.92</u>	<u>41,833.75</u>	<u>21.16724</u>

Exhibit "F"

TABLE SHOWING
SPECIAL CATAGORY RIGHTS

<u>PARTY</u>	<u>Nature of Right</u>
The Metropolitan Water District of Southern California	<u>Morris Reservoir Storage and Withdrawal</u> (a) A right to divert, store and use San Gabriel River Water, pursuant to Permit No. 7174. (b) Prior and paramount right to divert 72 acre-feet annually to offset Morris Reservoir evaporation and seepage losses and to provide the water supply necessary for presently existing incidental Morris Dam facilities.
Los Angeles County Flood Control District (Now Los Angeles County Department of Public Works)	<u>Puddingstone Reservoir</u> Prior Prescriptive right to divert water from San Dimas Wash for storage in Puddingstone Reservoir in quantities sufficient to offset annual evaporation and seepage losses of the reservoir at approximate elevation 942.

Exhibit "G"

TABLE SHOWING
NON-CONSUMPTIVE USERS

<u>Party</u>	<u>Nature of Right</u>
Covina Irrigating Company Azusa Valley Water Company Azusa Agricultural Water Co. Azusa Foot-Hill Citrus Co. Monrovia Nursery Company	<u>"Committee-of-Nine" Spreading Right</u> To continue to divert water from the San Gabriel River pursuant to the 1888 Settlement, and to spread in spreading grounds within the Basin all water thus diverted without the right to recapture water in excess of said parties' rights as adjudicated in Exhibit "E".
California-American Water Company (Duarte System)	<u>Spreading Right</u> To continue to divert water from the San Gabriel River pursuant to the 1888 Settlement, and to continue to divert water from Fish Canyon and to spread said waters in its spreading grounds in the Basin without the right to recapture water in excess of said party's rights as adjudicated in Exhibit "E".
City of Glendora	<u>Spreading Right</u> To continue to spread the water of Big and Little Dalton Washes, pursuant to License No. 2592 without the right to recapture water in excess of said party's rights as adjudicated in Exhibit "E".
San Gabriel Valley Protective Association	<u>Spreading Right</u> To continue to spread San Gabriel River water pursuant to License Nos. 9991 and 12,209, without the right to recapture said water.
California Cities Water Company	<u>Spreading Right</u> To continue to spread waters from San Dimas Wash without the right to recapture water in excess of said party's rights as adjudicated in Exhibit "E".
Los Angeles County Flood Control District	<u>Temporary storage</u> of storm flow for regulatory purposes; <u>Spreading</u> and conservation for general benefit in streambeds, reservoirs and spreading grounds without the right to recapture said water. <u>Maintenance and operation</u> of dams and other flood control works.

EXHIBIT "H"

WATERMASTER OPERATING CRITERIA

1. Basin Storage Capacity. The highest water level at the end of a water year during the past 40 years was reached at the Key Well on September 30, 1944 (elevation 316). The State of California, Department of Water Resources, estimates that as of that date, the quantity of fresh water in storage in the Basin was approximately 8,600,000 acre-feet. It is also estimated by said Department that by September 30, 1960, the quantity of fresh water in storage had decreased to approximately 7,900,000 acre-feet (elevation 237) at the Key Well).

The lowest water level at the end of a water year during the past 40 years was reached at the Key Well on September 30, 1965 (elevation 209). It is estimated that the quantity of fresh water in storage in the Basin on that date was approximately 7,700,000 acre-feet.

Thus, the maximum utilization of Basin storage was approximately 900,000 acre-feet, occurring between September 30, 1944, and September 30, 1965 (between elevations 316 and 209 at the Key Well). This is not to say that more than 900,000 acre-feet of storage space below the September 30, 1944 water levels cannot be utilized. However, it demonstrates that pumpers have deepened their wells and lowered their pumps so that such 900,000 acre-feet of storage can be safely and economically utilized.

The storage capacity of the Basin between elevations of 200 and 250 at the Key Well represents a usable volume of approximately 400,000 acre-feet of water.

2. Operating Safe Yield and Spreading. Watermaster in determining Operating Safe Yield and the importation of Replacement Water shall be guided by water level elevations in the Basin. He shall give recognition to, and base his operations on, the following general objectives insofar as practicable:

- (a) The replenishment of ground water from sources of supplemental water should not cause excessively high levels of ground water and such replenishment should not cause undue waste of local water supplies.
- (b) Certain areas within the Basin are not at the present time capable of being recharged with supplemental water. Efforts should be made to provide protection to such areas from excessive ground water lowering either through the "in lieu" provisions of the Judgment or by other means.
- (c) Watermaster shall consider and evaluate the long-term consequences on ground water quality, as well as quantity, in determining and establishing Operating Safe Yield. Recognition shall be given to the enhancement of ground water quality insofar as practicable, especially in the area immediately upstream of Whittier Narrows where degradation of water quality may occur when water levels at the Key Well are maintained at or below elevation 200.
- (d) Watermaster shall take into consideration the comparative costs of supplemental and Make-up Water in determining the savings on a present value basis of temporary or permanent lowering or raising of water levels and other economic data and analyses indicating both the short-term and long-term

) propriety of adjusting Operating Safe Yield in order to derive optimum water levels during any period. Watermaster shall utilize the provisions in the Long Beach Judgment which will result in the least cost of delivering Make-up Water.

3. Replacement Water -- Sources and Recharge Criteria. The following criteria shall control purchase of Replacement Water and Recharge of the Basin by Watermaster.

(a) Responsible Agency From Which to Purchase. Watermaster, in determining the Responsible Agency from which to purchase supplemental water for replacement purposes, shall be governed by the following:

(1) Place of Use of Water which is used primarily within the Basin or by cities within San Gabriel District in areas within or outside the Basin shall control in determining the Responsible Agency. For purposes of this subparagraph, water supplied through a municipal water system which lies chiefly within the Basin shall be deemed entirely used within the Basin; and

(2) Place of production of water shall control in determining the Responsible Agency as to water exported from the Basin, except as to use within San Gabriel District.

) Any Responsible Agency may, at the request of Watermaster, waive its right to act as the source for such supplemental water, in which case Watermaster shall be free to purchase such water from the remaining Responsible Agencies which are the most beneficial and appropriate sources; provided, however, that a Responsible Agency shall not

authorize any sale of water in violation of the California Constitution.

(b) Water Quality. Watermaster shall purchase the best quality of supplemental water available for replenishment of the Basin, pursuant to subsection (a) hereof.

(c) Reclaimed Water. It is recognized that the technology and economic and physical necessity for utilization of reclaimed water is increasing. The purchase of reclaimed water in accordance with the Long Beach Judgment to satisfy the Make-up Obligation is expressly authorized. At the same time, water quality problems involved in the reuse of water within the Basin pose serious questions of increased costs and other problems to the pumpers, their customers and all water users. Accordingly, Watermaster is authorized to gather information, make and review studies, and make recommendations on the feasibility of the use of reclaimed water for replacement purposes; provided that no reclaimed water shall be recharged in the Basin by Watermaster without the prior approval of the court, after notice to all parties and hearing thereon.

4. Replacement Assessment Rates. The Replacement Assessment rates shall be in an amount calculated to allow Watermaster to purchase one acre-foot of supplemental water for each acre-foot of excess Production to which such Assessment applies.

EXHIBIT "J"

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.

Exhibit "J"

"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.

Exhibit "J"

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

Exhibit "J"

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.

Exhibit "J"

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 *Charles T. Hask*
Attorneys for Puente Agency

PUENTE BASIN AGENCY

By *[Signature]*
EDMOND M. BIEDERMAN
President

Approved as to form:

By *Ralph B. Arden*
Attorney for Upper District

UPPER SAN GABRIEL VALLEY
MUNICIPAL WATER DISTRICT

By *Howard H. Hawkins*
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:

[Signature]
Attorney for Walnut District

WALNUT VALLEY WATER DISTRICT

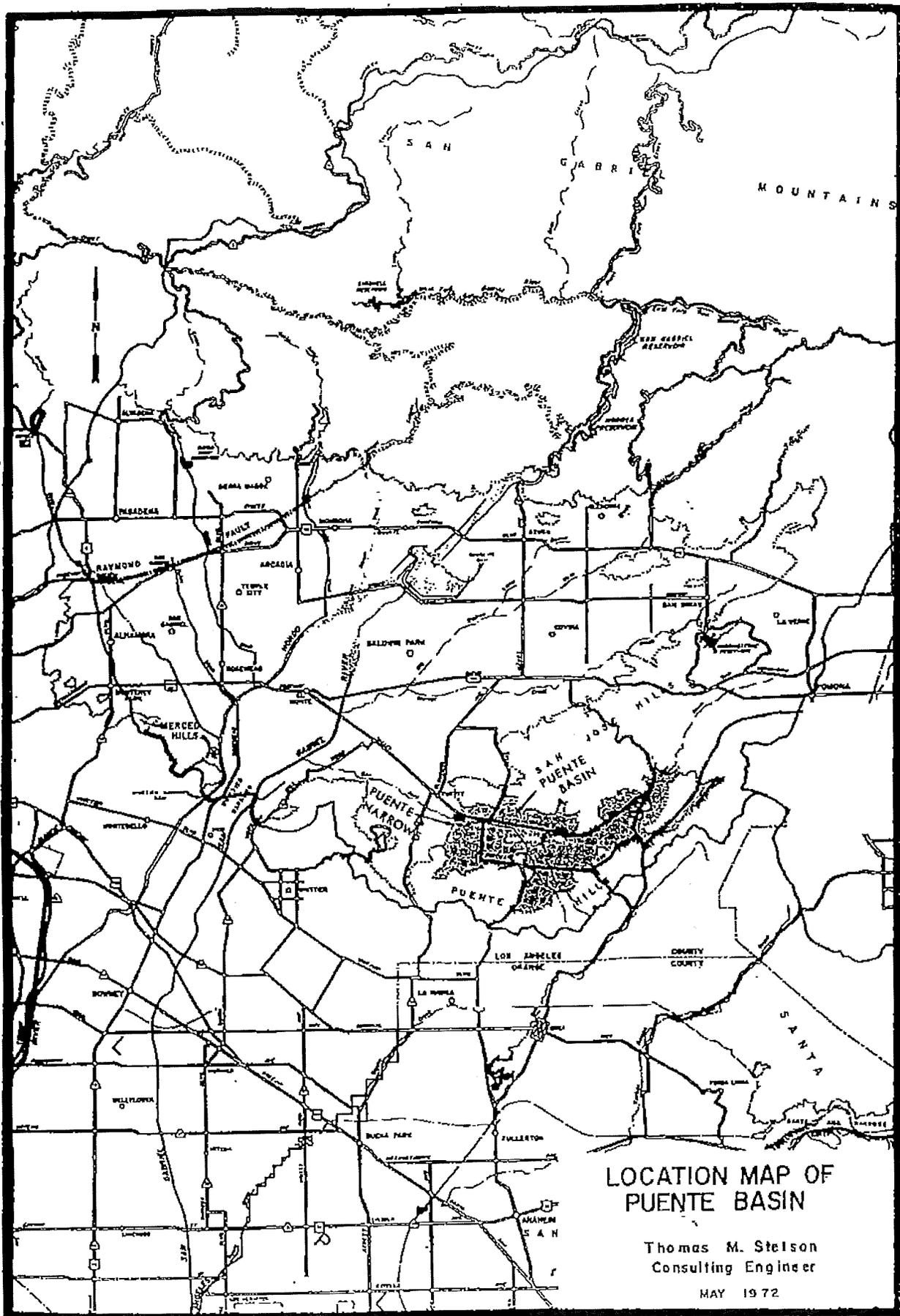
By *[Signature]*
J. P. BOURDET
Vice President

Approved as to form:

[Signature]
Attorneys for Rowland District

ROWLAND AREA COUNTY WATER
DISTRICT

By *[Signature]*
President
Wm. A. Simons

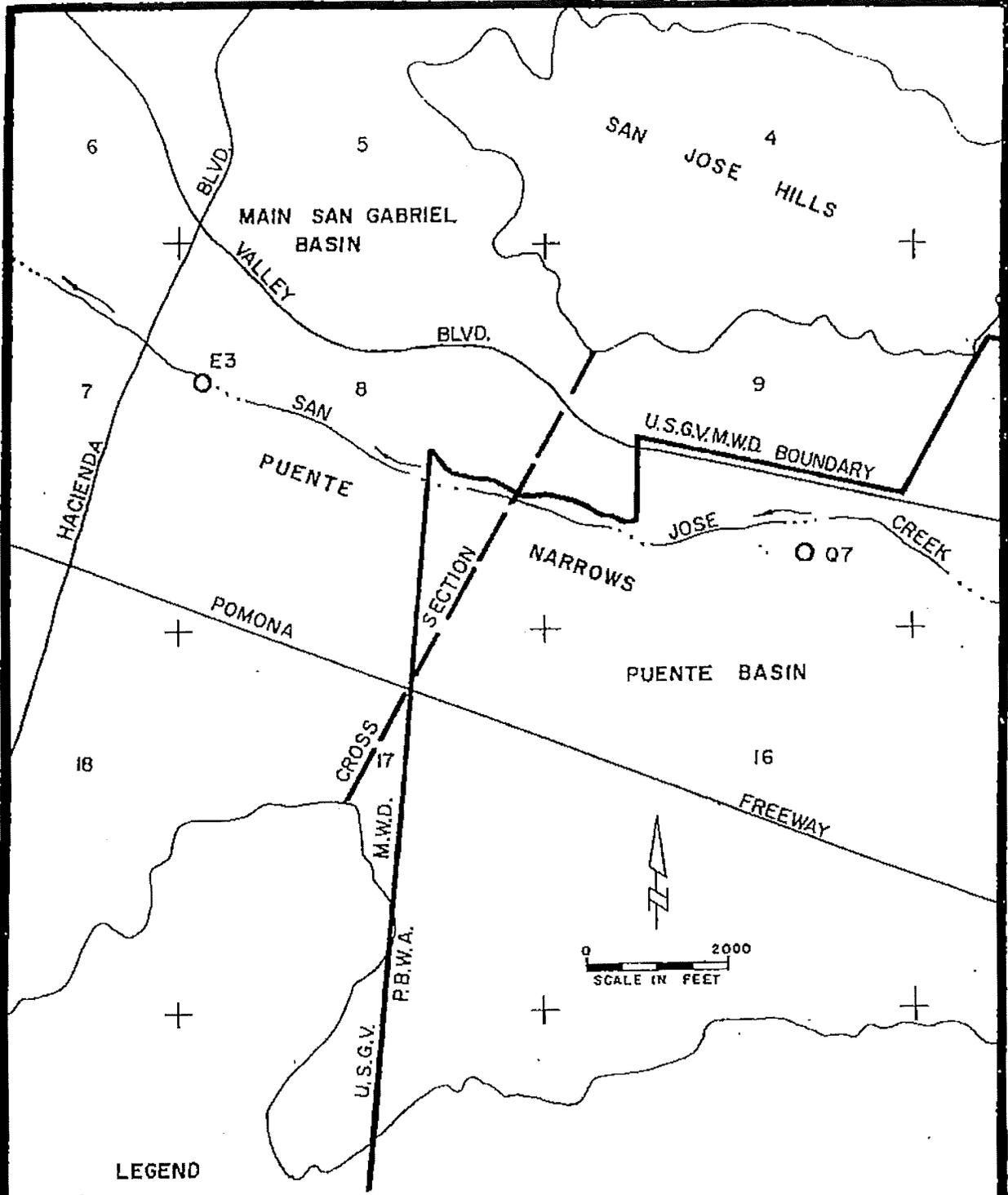


LOCATION MAP OF
PUENTE BASIN

Thomas M. Stelson
Consulting Engineer

MAY 1972

APPENDIX "A"
EXHIBIT "J"



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

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

APPENDIX "C"

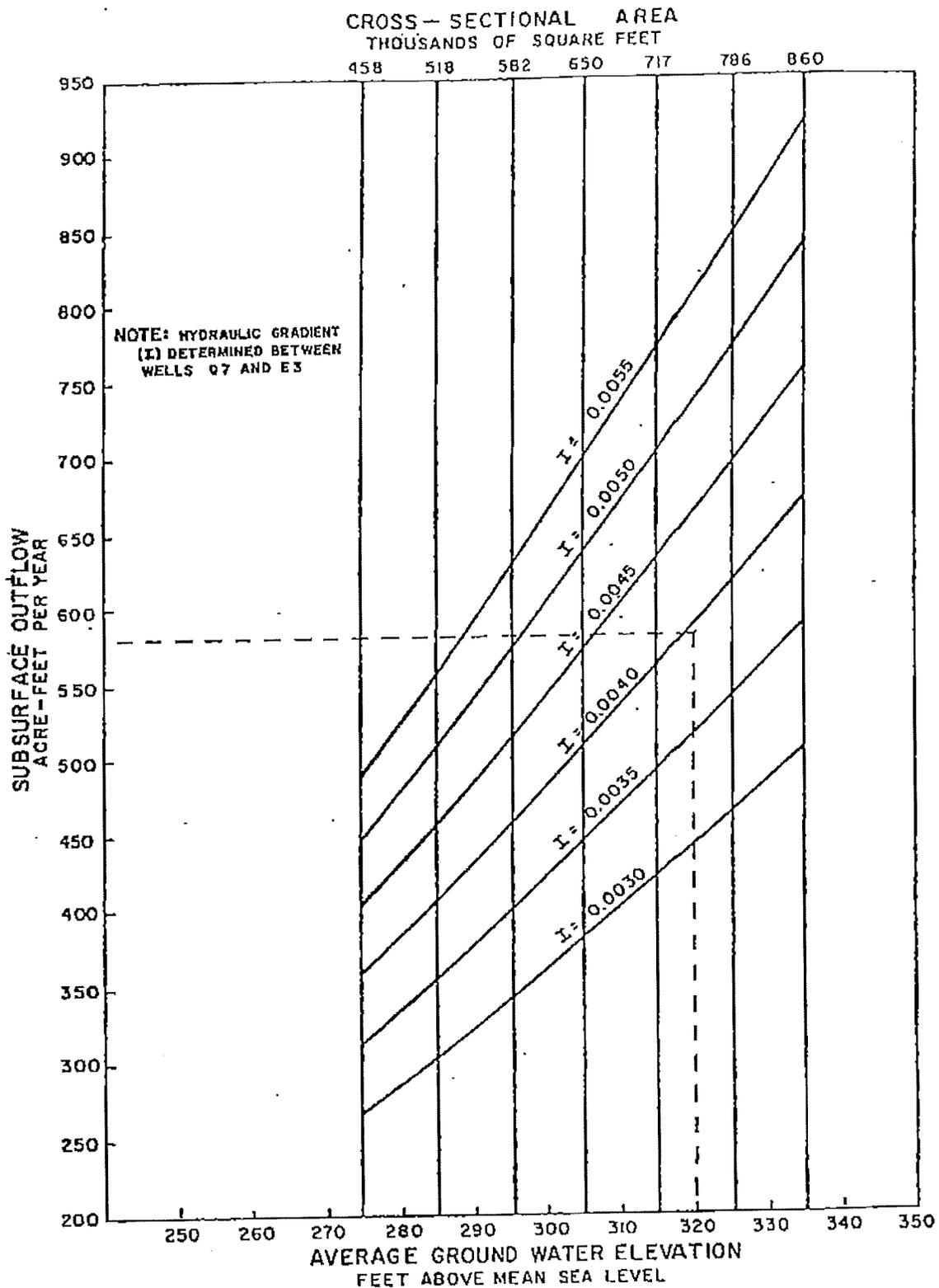
Exhibit "J"

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"

Exhibit "J"



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. Stelson
Consulting Engineer
MAY 1972

EXHIBIT "K"

OVERLYING RIGHTS

I. NATURE OF OVERLYING RIGHT

An "Overlying Right" is the right to Produce water from the Main San Gabriel Basin for use on the overlying lands hereinafter described. Such rights are exercisable without quantitative limit only on said overlying land and cannot be separately conveyed or transferred apart therefrom. The exerciser of such right is assessable by Watermaster as provided in Paragraph 21 of the Amended Judgment herein (prior Paragraph 14.5 of the Judgment herein) and is subject to the other provisions of said Paragraph.

II. OVERLYING LANDS (Description)

The overlying lands to which Overlying Rights are appurtenant are described as follows:

"Those portions of Lots 1 and 2 of the lands formerly owned by W.A. Church, in the Rancho San Francisquito, in the City of Irwindale, County of Los Angeles, State of California, as shown on recorder's filed map No. 509, in the office of the County Recorder of said County, lying northeasterly of the northeasterly line and its southeasterly prolongation of Tract 1888, as shown on map recorded in Book 21 page 183 of Maps, in the office of the County Recorder of said County.

"EXCEPT the portions thereof lying northerly and northwesterly of the center line of Arrow Highway described 'Sixth' and the center line of Live Oak Avenue described 'Third' in a final decree of condemnation, a certified copy of which was recorded August 18, 1933 as Instrument No. 354, in Book 12289, Page 277, Official Records.

"ALSO EXCEPT that portion of said land described in the final decree of condemnation entered in Los Angeles County Superior Court Case No. 805008, a certified copy of which was recorded September 21, 1964, as Instrument No. 3730, in Book D-2634, Page 648, Official Records."

III. PRODUCERS ENTITLED TO EXERCISE OVERLYING RIGHTS AND THEIR RESPECTIVE CONSUMPTIVE USE PORTIONS

The persons entitled to exercise Overlying Rights are both the owners of Overlying Rights and persons and entities licensed by such owners to exercise such Overlying Rights. The persons entitled to exercise Overlying Rights and their respective Consumptive Use portions are as follows:

<u>OWNER PRODUCERS</u>	<u>CONSUMPTIVE USE PORTION</u>
BROOKS GIFFORD, SR. BROOKS GIFFORD, JR. PAUL MNOIAN JOHN MGRDICHIAN J. EARL GARRETT	3.5 acre-feet per year

Present User:
Nu-Way Industries

PRODUCERS UNDER LICENSE

- | | |
|---|-------------------------------|
| A. WILLIAM C. THOMAS
and EVELYN F. THOMAS,
husband and wife, and
MALCOLM K. GATHERER
and JACQUELINE GATHERER,
husband and wife,
doing business by
and through B & B
REDI-I-MIX CONCRETE,
INC., a corporation | 45.6 acre-feet per year |
| B. PRE-STRESS CRANE RIGGING &
TRUCK CO., INC.,
a corporation | <u>1.0</u> acre-foot per year |

Present Users:
Pre-Stress Crane Rigging &
Truck Co., Inc., a corporation

Total 50.1 acre-feet per year

IV. ANNUAL GROSS AMOUNT OF PRODUCTION FROM WHICH CONSUMPTIVE USE PORTIONS WERE DERIVED

183.65 acre-feet

Exhibit "L"

LIST OF PRODUCERS AND THEIR DESIGNEES
June, 1989

<u>Producer Name</u>	<u>Designee</u>
<u>A</u>	
Adams Ranch Mutual Water Company	Goji Iwakiri
Alhambra, City of	T. E. Shollenberger
Amarillo Mutual Water Company	Ester Guadagnolo
Anderson, Ray	Ray Anderson
Andrade, Macario, et al.	Macario R. Andrade
Arcadia, City of	Eldon Davidson
AZ-Two, Inc.	R. S. Chamberlain
Azusa, City of	William H. Redcay
Azusa Ag. Water Company	Robert E. Talley
Azusa Valley Water Company	Edward Heck
<u>B</u>	
Baldwin Park County Water District (See Valley County Water District)	-
Banks, Gale C.	Gale C. Banks
Base Line Water Company	Everett W. Hughes, Jr.
Beverly Acres Mutual Water User's Assn. (Formerly Beverly Acres Mutual Water Co.)	Eloise A. Moore
Burbank Development Company	Darrell A. Wright
<u>C</u>	
Cadway, Inc.	P. Geoffrey Nunn
California-American Water Company (San Marino System)	Andrew A. Krueger
California-American Water Company (Duarte System)	Andrew A. Krueger
California Country Club	Henri F. Pellissier
California Domestic Water Company	P. Geoffrey Nunn
Cedar Avenue Mutual Water Company	Austin L. Knapp

Exhibit "L"

<u>Producer Name</u>	<u>Designee</u>
Champion Mutual Water Company	Margaret Bauwens
Chevron, USA, Inc.	Ms. Margo Bart
Clayton Manufacturing Company	Don Jones
Conrock Company	Gene R. Block
Corcoran Brothers	Ray Corcoran
County Sanitation District No. 18	Charles W. Curry
Covell, et al.	Darr Jobe
Covell, Ralph	Ralph Covell
Covina, City of	Wayne B. Dowdey
Covina Irrigating Company	William R. Temple
Crevolin, A. J.	A. J. Crevolin
Crown City Plating Company	N. G. Gardner
<u>D</u>	
Davidson Optronics, Inc.	James McBride
Dawes, Mary Kay	Mary Kay Dawes
Del Rio Mutual Water Company	Gonzalo Galindo
Driftwood Dairy	James E. Dolan
Dunning, George	George Dunning
<u>E</u>	
East Pasadena Water Company	Robert D. Mraz
El Monte, City of	Robert J. Pinniger
El Monte Cemetery Association	Linn E. Magoffin
<u>F</u>	
Faix, Ltd.	Henri F. Pellissier
<u>G</u>	
Glendora, City of	Arthur E. Cook
Green, Walter	Dr. Walter Green
<u>H</u>	
Hansen, Alice	Alice Hansen

Exhibit "L"

<u>Producer Name</u>	<u>Designee</u>
Hartley, David	David Hartley
Hemlock Mutual Water Company	Bud Selander
Hunter, Lloyd F.	Lloyd F. Hunter
<u>I</u> Industry Waterworks System, City of	Mary L. Jaureguy
<u>K</u> Kiyon Farm Kiyon, Hideo	Mrs. Hideo Kiyon
Kirklen Family Trust	Dawn Kirklen
Knight, Kathryn M.	William J. Knight
<u>L</u> Landeros, John	John Landeros
La Puente Valley County Water District	Mary L. Jaureguy
La Verne, City of	N. Kathleen Hamm
Livingston-Graham	Gary O. Tompkins
Los Angeles, County of	Robert L. Larson
Loucks, David	David Loucks
<u>M</u> Maddock, A. G.	Ranney Draper, Esq.
Maechtlen, Trust of J. J.	Jack F. Maechtlen
Maple Water Company, Inc.	Charles King
Martinez, Francis Mercy	Francis Mercy Martinez
Metropolitan Water District of Southern California	Fred Vendig, Esq.
Miller Brewing Company	Dennis B. Puffer
Mnoian, Paul, et al.	Mal Gatherer
Monrovia, City of	Robert K. Sandwick
Monrovia Nursery	Miles R. Rosedale
Monterey Park, City of	Nels Palm

Exhibit "L"

<u>Producer Name</u>	<u>Designee</u>
<u>N</u> Nick Tomovich & Sons	Nick Tomovich
<u>O</u> Owl Rock Products Company	Peter L. Chiu
<u>P</u> Phillips, Alice B., et al. Pico County Water District Polopolus, et al.	Jack F. Maechtlen Robert P. Fuller Christine Chronis
<u>R</u> Rados Brothers Richwood Mutual Water Company Rincon Ditch Company Rincon Irrigation Company Rose Hills Memorial Park Association Rosemead Development, Ltd. Rurban Homes Mutual Water Company Ruth, Roy	Alexander S. Rados Bonnie Pool K. E. Nungesser K. E. Nungesser Allan D. Smith John W. Lloyd George W. Bucey Roy Ruth
<u>S</u> San Dimas - La Verne Recreational Facilities Authority San Gabriel Country Club San Gabriel County Water District San Gabriel Valley Municipal Water District San Gabriel Valley Water Company Sloan Ranches Sonoco Products Company South Covina Water Service Southern California Edison Company	R. F. Griszka Fran Wolfe Philip G. Crocker Bob Stallings Robert H. Nicholson, Jr. Larry R. Sloan Elaine Corboy Anton C. Garnier S. R. Shermoen

Exhibit "L"

<u>Producer Name</u>	<u>Designee</u>
Southern California Water Company -San Dimas District	J. F. Young
Southern California Water Company -San Gabriel Valley District	J. F. Young
South Pasadena, City of	John Bernardi
Southwestern Portland Cement Company	Dale W. Heineck
Standard Oil Company of California	John A. Wild
Sterling Mutual Water Company	Bennie L. Prowett
Suburban Water Systems	Anton C. Garnier
Sully-Miller Contracting Company	R. R. Munro
Sunny Slope Water Company	Michael J. Hart
<u>T</u> Taylor Herb Garden	Paul S. Taylor
Texaco, Inc.	E. O. Wakefield
Tyler Nursery	James K. Mitsumori, Esq.
<u>U</u> United Concrete Pipe Corporation	Doyle H. Wadley
United Rock Products Corporation	William S. Capps, Esq.
<u>V</u> Valencia Heights Water Company	Herman Weskamp
Valley County Water District (Formerly Baldwin Park County Water District)	Stanley D. Yarbrough
Valley View Mutual Water Company	Robert T. Navarre
Via, H., Trust of	Marverna Parton
<u>W</u> Ward Duck Company	Richard J. Woodland
W. E. Hall Company	Thomas S. Bunn, Jr., Esq.
White, June G., Trustee	June G. Lovelady
Whittier, City of	Neil Hudson
Wilmott, Erma M.	Erma M. Wilmott

Exhibit "M"

WATERMASTER MEMBERS

FOR CALENDAR YEAR 1973

ROBERT T. BALCH (Producer Member), Chairman
LINN E. MAGOFFIN (Producer Member), Vice Chairman
RICHARD L. ROWLAND (Producer Member), Secretary
BOYD KERN (Public Member), Treasurer
WALKER HANNON (Producer Member)
HOWARD H. HAWKINS (Public Member)
M. E. MOSLEY (Producer Member)
CONRAD T. REIBOLD (Public Member)
HARRY C. WILLS (Producer Member)

STAFF

Carl Fossette, Assistant Secretary-Assistant Treasurer
Ralph B. Helm, Attorney
Thomas M. Stetson, Engineer

FOR CALENDAR YEAR 1974

ROBERT T. BALCH (Producer Member), Chairman
LINN E. MAGOFFIN (Producer Member), Vice Chairman
RICHARD L. ROWLAND (Producer Member), Secretary
BOYD KERN (Public Member), Treasurer
WALKER HANNON (Producer Member)
BURTON E. JONES (Public Member)
M. E. MOSLEY (Producer Member)
CONRAD T. REIBOLD (Public Member)
HARRY C. WILLS (Producer Member)

STAFF

Carl Fossette, Assistant Secretary-Assistant Treasurer
Ralph B. Helm, Attorney
Thomas M. Stetson, Engineer

FOR CALENDAR YEAR 1975

ROBERT T. BALCH (Producer Member), Chairman
LINN E. MAGOFFIN (Producer Member), Vice Chairman
HARRY C. WILLS (Producer Member), Secretary
BOYD KERN (Public Member), Treasurer
WALKER HANNON (Producer Member)
BURTON E. JONES (Public Member)
D. J. LAUGHLIN (Producer Member)
M. E. MOSLEY (Producer Member)
CONRAD T. REIBOLD (Public Member)

STAFF

Carl Fossette, Assistant Secretary-Assistant Treasurer
Ralph B. Helm, Attorney
Thomas M. Stetson, Engineer

FOR CALENDAR YEAR 1976

ROBERT T. BALCH (Producer Member), Chairman
LINN E. MAGOFFIN (Producer Member), Vice Chairman
HARRY C. WILLS (Producer Member), Secretary
BOYD KERN (Public Member), Treasurer
WALKER HANNON (Producer Member)
BURTON E. JONES (Public Member)
D. J. LAUGHLIN (Producer Member)
M. E. MOSLEY (Producer Member)
CONRAD T. REIBOLD (Public Member)

STAFF

Jane M. Bray, Assistant Secretary-Assistant Treasurer
Ralph B. Helm, Attorney
Thomas M. Stetson, Engineer

FOR CALENDAR YEAR 1977

ROBERT T. BALCH (Producer Member), Chairman
LINN E. MAGOFFIN (Producer Member), Vice Chairman
HARRY C. WILLS (Producer Member), Secretary
CONRAD T. REIBOLD (Public Member), Treasurer
WALKER HANNON (Producer Member)
BURTON E. JONES (Public Member)
BOYD KERN (Public Member)
D. J. LAUGHLIN (Producer Member)
R. H. NICHOLSON, JR. (Producer Member)

STAFF

Jane M. Bray, Assistant Secretary-Assistant Treasurer)
Ralph B. Helm, Attorney
Thomas M. Stetson, Engineer

FOR CALENDAR YEAR 1978

ROBERT T. BALCH (Producer Member), Chairman
LINN E. MAGOFFIN (Producer Member), Vice Chairman
D. J. LAUGHLIN (Producer Member), Secretary
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BURTON E. JONES (Public Member)
L. E. MOELLER (Producer Member)
R. H. NICHOLSON, JR. (Producer Member)
WILLIAM M. WHITESIDE (Public Member)

STAFF

Jane M. Bray, Assistant Secretary-Assistant Treasurer
Ralph B. Helm, Attorney
Thomas M. Stetson, Engineer

FOR CALENDAR YEAR 1979

LINN E. MAGOFFIN (Producer Member), Chairman
D. J. LAUGHLIN (Producer Member), Vice Chairman
R. H. NICHOLSON, JR. (Producer Member), Secretary
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Thomas M. Stetson, Engineer

FOR CALENDAR YEAR 1980

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CONRAD T. REIBOLD (Public Member), Treasurer
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ROBERT G. BERLIEN (Producer Member)
ANTON C. GARNIER (Producer Member)
TRAVIS L. MANNING (Public Member)
L. E. MOELLER (Producer Member)

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Ralph B. Helm, Attorney
Thomas M. Stetson, Engineer

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STAFF

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Ralph B. Helm, Attorney
Thomas M. Stetson, Engineer

FOR CALENDAR YEAR 1982

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L. E. MOELLER (Producer Member)
ALFRED F. WITTIG (Public Member)

STAFF

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Thomas M. Stetson, Engineer

FOR CALENDAR YEAR 1983

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Ralph B. Helm, Attorney
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FOR CALENDAR YEAR 1984

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ALFRED R. WITTIG (Public Member)

STAFF

Jane M. Bray, Assistant Secretary-Assistant Treasurer
Ralph B. Helm, Attorney
Thomas M. Stetson, Engineer

FOR CALENDAR YEAR 1985

LINN E. MAGOFFIN (Producer Member), Chairman
R. H. NICHOLSON, JR. (Producer Member), Vice Chairman
ROBERT G. BERLIEN (Producer Member), Secretary
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ROBERT T. BALCH (Producer Member)
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L. E. MOELLER (Producer Member)
ALFRED R. WITTIG (Public Member)

STAFF

Jane M. Bray, Assistant Secretary-Assistant Treasurer
Ralph B. Helm, Attorney
Thomas M. Stetson, Engineer

FOR CALENDAR YEAR 1986

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R. H. NICHOLSON, JR. (Producer Member), Vice Chairman
ROBERT G. BERLIEN (Producer Member), Secretary
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DONALD F. CLARK (Public Member)
L. E. MOELLER (Producer Member)
REGINOLD A. STONE (Producer Member)
ALFRED R. WITTIG (Public Member)

STAFF

Jane M. Bray, Assistant Secretary-Assistant Treasurer
Ralph B. Helm, Attorney
Thomas M. Stetson, Engineer

FOR CALENDAR YEAR 1987

LINN E. MAGOFFIN (Producer Member), Chairman
REGINALD A. STONE (Producer Member), Vice Chairman
L. E. MOELLER (Producer Member), Secretary
ALFRED R. WITTIG (Public Member), Treasurer
ROBERT T. BALCH (Producer Member)
GERALD J. BLACK (Producer Member)
DONALD F. CLARK (Public Member)
EDWARD R. HECK (Producer Member)
JOHN E. MAULDING (Public Member)

STAFF

Robert G. Berlien, Assistant Secretary-Assistant Treasurer
Ralph B. Helm, Attorney
Thomas M. Stetson, Engineer

FOR CALENDAR YEAR 1988

LINN E. MAGOFFIN (Producer Member), Chairman
REGINALD A. STONE (Producer Member), Vice Chairman
L. E. MOELLER (Producer Member), Secretary
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ROBERT T. BALCH (Producer Member)
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JOHN E. MAULDING (Public Member)

STAFF

Robert G. Berlien, Assistant Secretary-Assistant Treasurer
Ralph B. Helm, Attorney
Thomas M. Stetson, Engineer

FOR CALENDAR YEAR 1989

LINN E. MAGOFFIN (Producer Member), Chairman
REGINALD A. STONE (Producer Member), Vice Chairman
GERALD G. BLACK (Producer Member), Secretary
ALFRED R. WITTIG (Public Member), Treasurer
ROBERT T. BALCH (Producer Member) *
DONALD F. CLARK (Public Member)
EDWARD R. HECK (Producer Member)
BURTON E. JONES (Public Member)
NELS PALM (Producer Member) **
THOMAS E. SCHOLLENBERGER (Producer Member)

STAFF

Robert G. Berlien, Assistant Secretary-Assistant Treasurer
Ralph B. Helm, Attorney
Thomas M. Stetson, Engineer

* DECEASED APRIL 25, 1989

** Appointed August 24, 1989, for the balance of the calendar year term, to replace deceased member, Robert T. Balch.

APPENDIX B
CITY OF EL MONTE ORDINANCE NO. 2884 – WATER
EFFICIENCY/MWELO

ORDINANCE NO. 2884

AN ORDINANCE OF THE CITY COUNCIL OF THE CITY OF EL MONTE AMENDING CHAPTER 17.11 (WATER EFFICIENCY) OF TITLE 17 (ZONING) OF THE EL MONTE MUNICIPAL CODE TO REFLECT THE UPDATED MODEL WATER EFFICIENT LANDSCAPE ORDINANCE FROM THE CALIFORNIA DEPARTMENT OF WATER RESOURCES

WHEREAS, the City of El Monte (the "City") codifies its water efficiency regulations in Chapter 17.11 (Water Efficiency) of Title 17 (Zoning) of the El Monte Municipal Code; and

WHEREAS, the City's Water Efficiency Ordinance is based upon the State of California Model Water Efficiency Landscape Ordinance ("MWELo") produced by the State of California Department of Water Resources ("DWR"); and

WHEREAS, the City Council adopted Ordinance No. 2751 (Code Amendment No. 730) on January 19, 2010 to reflect DWR updates to the MWELo based upon Assembly Bill 1881 requirements; and

WHEREAS, on January 17, 2014, Governor Jerry Brown proclaimed a State of Emergency throughout California due to severe drought conditions, and, on April 25, 2014, Governor Brown proclaimed a continued State of Emergency due to the ongoing drought; and

WHEREAS, on April 1, 2015, Governor Brown issued Executive Order B-29-15 ("EO B-29-15") directing the State Water Resources Control Board to impose restrictions to achieve a statewide twenty-five percent (25%) reduction in potable urban water usage; and

WHEREAS, EO B-29-15 also directed the DWR to revise the MWELo by July 15, 2015 to increase water efficiency for new and rehabilitated landscapes; and

WHEREAS, on September 9, 2015, the California Water Commission (the "CWC") adopted the finalized revisions to the MWELo, which provides standards for more efficient irrigation systems, greywater usage, onsite stormwater capture, and a limit on the portion of landscaping that can be covered in turf; and

WHEREAS, the CWC allows the new MWELo requirements to take effect by default as of February 1, 2016 and adopt a local Ordinance after such time, which is the strategy being employed by the City; and

WHEREAS, the Planning Commission conducted a duly noticed public hearing on April 12, 2016 concerning the prospective recommendation set forth herein at which evidence, both written and oral, was presented; and

WHEREAS, the City Council public hearing was noticed in accordance with the requirements set forth in Government Code sections 65090 and 65091.

NOW, THEREFORE, THE CITY COUNCIL OF THE CITY OF EL MONTE, CALIFORNIA DOES HEREBY ORDAIN AS FOLLOWS:

SECTION 1. The recitals above are true and correct and incorporated herein by reference.

SECTION 2. Subsections (1) and (2) of Subsection (b) of Section 17.11.010 (Purpose) of Chapter 17.11 (Water Efficiency) of Title 17 (Zoning) of the El Monte Municipal Code are amended to read as follows:

Section 17.11.010 – Purpose.

(b)

- (1) promote the values and benefits of landscaping practices that integrate and go beyond the conservation and efficient use of water;
- (2) establish a structure for planning, designing, installing, maintaining and managing water efficient landscapes in new construction and rehabilitated projects by encouraging the use of a watershed approach that requires cross-sector collaboration of industry, government and property owners to achieve the many benefits possible;

SECTION 2. Section 17.11.010 (Purpose) of Chapter 17.11 (Water Efficiency) of Title 17 (Zoning) of the El Monte Municipal Code is amended by the addition of Subsection (c), which shall read as follows:

Section 17.11.010 – Purpose.

- (c) Landscapes that are planned, designed, installed, managed and maintained with the watershed based approach can improve California's environmental conditions and provide benefits and realize sustainability goals. Such landscapes will make the urban environment resilient in the face of climatic extremes. Consistent with the legislative findings and purpose of the Ordinance, conditions in the urban setting will be improved by:
- (1) Creating the conditions to support life in the soil by reducing compaction, incorporating organic matter that increases water retention, and promoting productive plant growth that leads to more carbon storage, oxygen production, shade, habitat and esthetic benefits.
 - (2) Minimizing energy use by reducing irrigation water requirements, reducing reliance on petroleum based fertilizers and pesticides, and planting climate appropriate shade trees in urban areas.
 - (3) Conserving water by capturing and reusing rainwater and graywater wherever possible and selecting climate appropriate plants that need minimal supplemental water after establishment.
 - (4) Protecting air and water quality by reducing power equipment use and landfill disposal trips, selecting recycled and locally sourced materials, and using compost, mulch and efficient irrigation equipment to prevent erosion.
 - (5) Protecting existing habitat and creating new habitat by choosing local native plants, climate adapted non-natives and avoiding invasive plants. Utilizing integrated pest management with least toxic methods as the first course of action.

SECTION 3. Section 17.11.020 (Applicability) of Chapter 17.11 (Water Efficiency) of Title 17 (Zoning) of the El Monte Municipal Code is amended in its entirety to read as follows:

Section 17.11.020 – Applicability.

- (a) After December 1, 2015, and consistent with Executive Order No. B-29-15, this ordinance shall apply to all of the following landscape projects:

- (1) new construction projects with an aggregate landscape area equal to or greater than 500 square feet requiring a building or landscape permit, plan check or design review;
 - (2) rehabilitated landscape projects with an aggregate landscape area equal to or greater than 2,500 square feet requiring a building or landscape permit, plan check, or design review;
 - (3) existing landscapes limited to Sections 17.11.220, 17.11.230, and 17.11.240; and
 - (4) cemeteries. Recognizing the special landscape management needs of cemeteries, new and rehabilitated cemeteries are limited to Sections 17.11.080, 17.11.150, and 17.11.160; and existing cemeteries are limited to Sections 17.11.220, 17.11.230, and 17.11.240.
- (b) For local land use agencies working together to develop a regional water efficient landscape ordinance, the reporting requirements of this ordinance shall become effective December 1, 2015 and the remainder of this ordinance shall be effective no later than February 1, 2016.
- (c) Any project with an aggregate landscape area of 2,500 square feet or less may comply with the performance requirements of this ordinance or conform to the prescriptive measures contained in Appendix D.
- (d) For projects using treated or untreated graywater or rainwater captured on site, any lot or parcel within the project that has less than 2500 sq. ft. of landscape and meets the lot or parcel's landscape water requirement (Estimated Total Water Use) entirely with treated or untreated graywater or through stored rainwater captured on site is subject only to Appendix D section (5). This ordinance does not apply to:
- (1) registered local, state or federal historical sites;
 - (2) ecological restoration projects that do not require a permanent irrigation system;
 - (3) mined-land reclamation projects that do not require a permanent irrigation system; or
 - (4) existing plant collections, as part of botanical gardens and arboreturns open to the public.

SECTION 4. Section 17.11.030 (Definitions) of Chapter 17.11 (Water Efficiency) of Title 17 (Zoning) of the El Monte Municipal Code is amended in its entirety to read as follows:

Section 17.11.030 – Definitions.

The terms used in this ordinance have the meaning set forth below:

- (a) "applied water" means the portion of water supplied by the irrigation system to the landscape.
- (b) "automatic irrigation controller" means a timing device used to remotely control valves that operate an irrigation system. Automatic irrigation controllers are able to self-adjust and schedule irrigation events using either evapotranspiration (weather-based) or soil moisture data.
- (c) "backflow prevention device" means a safety device used to prevent pollution or contamination of the water supply due to the reverse flow of water from the irrigation system.

- (d) "Certificate of Completion" means the document required under Section 17.11.130.
- (e) "certified irrigation designer" means a person certified to design irrigation systems by an accredited academic institution, a professional trade organization or other program such as the US Environmental Protection Agency's WaterSense irrigation designer certification program and Irrigation Association's Certified Irrigation Designer program.
- (f) "certified landscape irrigation auditor" means a person certified to perform landscape irrigation audits by an accredited academic institution, a professional trade organization or other program such as the US Environmental Protection Agency's WaterSense irrigation auditor certification program and Irrigation Association's Certified Landscape Irrigation Auditor program.
- (g) "check valve" or "anti-drain valve" means a valve located under a sprinkler head, or other location in the irrigation system, to hold water in the system to prevent drainage from sprinkler heads when the sprinkler is off.
- (h) "common interest developments" means community apartment projects, condominium projects, planned developments, and stock cooperatives per Civil Code Section 1351.
- (i) "compost" means the safe and stable product of controlled biologic decomposition of organic materials that is beneficial to plant growth.
- (j) "conversion factor (0.62)" means the number that converts acre-inches per acre per year to gallons per square foot per year.
- (k) "distribution uniformity" means the measure of the uniformity of irrigation water over a defined area.
- (l) "drip irrigation" means any non-spray low volume irrigation system utilizing emission devices with a flow rate measured in gallons per hour. Low volume irrigation systems are specifically designed to apply small volumes of water slowly at or near the root zone of plants.
- (m) "ecological restoration project" means a project where the site is intentionally altered to establish a defined, indigenous, historic ecosystem.
- (n) "effective precipitation" or "usable rainfall" (Eppt) means the portion of total precipitation which becomes available for plant growth.
- (o) "emitter" means a drip irrigation emission device that delivers water slowly from the system to the soil.
- (p) "established landscape" means the point at which plants in the landscape have developed significant root growth into the soil. Typically, most plants are established after one or two years of growth.
- (q) "establishment period of the plants" means the first year after installing the plant in the landscape or the first two years if irrigation will be terminated after establishment. Typically, most plants are established after one or two years of growth. Native habitat mitigation areas and trees may need three to five years for establishment.
- (r) "Estimated Total Water Use" (ETWU) means the total water used for the landscape as described in Section 17.11.080.

- (s) "ET adjustment factor" (ETAF) means a factor of 0.55 for residential areas and 0.45 for non-residential areas, that, when applied to reference evapotranspiration, adjusts for plant factors and irrigation efficiency, two major influences upon the amount of water that needs to be applied to the landscape. The ETAF for a new and existing (non-rehabilitated) Special Landscape Areas shall not exceed 1.0. The ETAF for existing non-rehabilitated landscapes is 0.8.
- (t) "evapotranspiration rate" means the quantity of water evaporated from adjacent soil and other surfaces and transpired by plants during a specified time.
- (u) "flow rate" means the rate at which water flows through pipes, valves and emission devices, measured in gallons per minute, gallons per hour, or cubic feet per second.
- (v) "flow sensor" means an inline device installed at the supply point of the irrigation system that produces a repeatable signal proportional to flow rate. Flow sensors must be connected to an automatic irrigation controller, or flow monitor capable of receiving flow signals and operating master valves. This combination flow sensor/controller may also function as a landscape water meter or submeter.
- (w) "friable" means a soil condition that is easily crumbled or loosely compacted down to a minimum depth per planting material requirements, whereby the root structure of newly planted material will be allowed to spread unimpeded.
- (x) "Fuel Modification Plan Guideline" means guidelines from a local fire authority to assist residents and businesses that are developing land or building structures in a fire hazard severity zone.
- (y) "graywater" means untreated wastewater that has not been contaminated by any toilet discharge, has not been affected by infectious, contaminated, or unhealthy bodily wastes, and does not present a threat from contamination by unhealthful processing, manufacturing, or operating wastes. "Graywater" includes, but is not limited to, wastewater from bathtubs, showers, bathroom washbasins, clothes washing machines, and laundry tubs, but does not include wastewater from kitchen sinks or dishwashers. Health and Safety Code Section 17922.12.
- (z) "hardscapes" means any durable material (pervious and non-pervious).
- (aa) "hydrozone" means a portion of the landscaped area having plants with similar water needs and rooting depth. A hydrozone may be irrigated or non-irrigated.
- (bb) "infiltration rate" means the rate of water entry into the soil expressed as a depth of water per unit of time (e.g., inches per hour).
- (cc) "invasive plant species" means species of plants not historically found in California that spread outside cultivated areas and can damage environmental or economic resources. Invasive species may be regulated by county agricultural agencies as noxious species. Lists of invasive plants are maintained at the California Invasive Plant Inventory and USDA invasive and noxious weeds database.
- (dd) "irrigation audit" means an in-depth evaluation of the performance of an irrigation system conducted by a Certified Landscape Irrigation Auditor. An irrigation audit includes, but is not limited to: inspection, system tune-up, system test with distribution uniformity or emission uniformity, reporting overspray or runoff that causes overland flow, and preparation of an irrigation schedule. The audit must be conducted in a manner consistent with the

Irrigation Association's Landscape Irrigation Auditor Certification program or other U.S. Environmental Protection Agency "Watersense" labeled auditing program.

- (ee) "irrigation efficiency" (IE) means the measurement of the amount of water beneficially used divided by the amount of water applied. Irrigation efficiency is derived from measurements and estimates of irrigation system characteristics and management practices. The irrigation efficiency for purposes of this ordinance are 0.75 for overhead spray devices and 0.81 for drip systems.
- (ff) "irrigation survey" means an evaluation of an irrigation system that is less detailed than an irrigation audit. An irrigation survey includes, but is not limited to: inspection, system test, and written recommendations to improve performance of the irrigation system.
- (gg) "irrigation water use analysis" means an analysis of water use data based on meter readings and billing data.
- (hh) "landscape architect" means a person who holds a license to practice landscape architecture in the state of California Business and Professions Code, Section 5615.
- (ii) "landscape area" means all the planting areas, turf areas, and water features in a landscape design plan subject to the Maximum Applied Water Allowance calculation. The landscape area does not include footprints of buildings or structures, sidewalks, driveways, parking lots, decks, patios, gravel or stone walks, other pervious or non-pervious hardscapes, and other non-irrigated areas designated for non-development (e.g., open spaces and existing native vegetation).
- (jj) "landscape contractor" means a person licensed by the state of California to construct, maintain, repair, install, or subcontract the development of landscape systems.
- (kk) "Landscape Documentation Package" means the documents required under Section 17.11.070.
- (ll) "landscape project" means total area of landscape in a project as defined in "landscape area" for the purposes of this ordinance, meeting requirements under Section 17.11.050.
- (mm) "landscape water meter" means an inline device installed at the irrigation supply point that measures the flow of water into the irrigation system and is connected to a totalizer to record water use.
- (nn) "lateral line" means the water delivery pipeline that supplies water to the emitters or sprinklers from the valve.
- (oo) "local agency" means a city or county, including a charter city or charter county, that is responsible for adopting and implementing the ordinance. The local agency is also responsible for the enforcement of this ordinance, including but not limited to, approval of a permit and plan check or design review of a project.
- (pp) "local water purveyor" means any entity, including a public agency, city, county, or private water company that provides retail water service.
- (qq) "low volume irrigation" means the application of irrigation water at low pressure through a system of tubing or lateral lines and low-volume emitters such as drip, drip lines, and bubblers. Low volume irrigation systems are

specifically designed to apply small volumes of water slowly at or near the root zone of plants.

- (rr) "main line" means the pressurized pipeline that delivers water from the water source to the valve or outlet.
- (ss) "master shut-off valve" is an automatic valve installed at the irrigation supply point which controls water flow into the irrigation system. When this valve is closed water will not be supplied to the irrigation system. A master valve will greatly reduce any water loss due to a leaky station valve.
- (tt) "Maximum Applied Water Allowance" (MAWA) means the upper limit of annual applied water for the established landscaped area as specified in Section 17.11.080. It is based upon the area's reference evapotranspiration, the ET Adjustment Factor, and the size of the landscape area. The Estimated Total Water Use shall not exceed the Maximum Applied Water Allowance. Special Landscape Areas, including recreation areas, areas permanently and solely dedicated to edible plants such as orchards and vegetable gardens, and areas irrigated with recycled water are subject to the MAWA with an ETAF not to exceed 1.0. $MAWA = (ET_o) (0.62) [(ETAF \times LA) + ((1-ETAF) \times SLA)]$
- (uu) "median" is an area between opposing lanes of traffic that may be unplanted or planted with trees, shrubs, perennials, and ornamental grasses.
- (vv) "microclimate" means the climate of a small, specific area that may contrast with the climate of the overall landscape area due to factors such as wind, sun exposure, plant density, or proximity to reflective surfaces.
- (ww) "mined-land reclamation projects" means any surface mining operation with a reclamation plan approved in accordance with the Surface Mining and Reclamation Act of 1975.
- (xx) "mulch" means any organic material such as leaves, bark, straw, compost, or inorganic mineral materials such as rocks, gravel, or decomposed granite left loose and applied to the soil surface for the beneficial purposes of reducing evaporation, suppressing weeds, moderating soil temperature, and preventing soil erosion.
- (yy) "new construction" means, for the purposes of this ordinance, a new building with a landscape or other new landscape, such as a park, playground, or greenbelt without an associated building.
- (zz) "non-residential landscape" means landscapes in commercial, institutional, industrial and public settings that may have areas designated for recreation or public assembly. It also includes portions of common areas of common interest developments with designated recreational areas.
- (aaa) "operating pressure" means the pressure at which the parts of an irrigation system are designed by the manufacturer to operate.
- (bbb) "overhead sprinkler irrigation systems" or "overhead spray irrigation systems" means systems that deliver water through the air (e.g., spray heads and rotors).
- (ccc) "overspray" means the irrigation water which is delivered beyond the target area.
- (ddd) "parkway" means the area between a sidewalk and the curb or traffic lane. It may be planted or unplanted, and with or without pedestrian egress.

- (eee) "permit" means an authorizing document issued by local agencies for new construction or rehabilitated landscapes.
- (fff) "pervious" means any surface or material that allows the passage of water through the material and into the underlying soil.
- (ggg) "plant factor" or "plant water use factor" is a factor, when multiplied by ETo, estimates the amount of water needed by plants. For purposes of this ordinance, the plant factor range for very low water use plants is 0 to 0.1, the plant factor range for low water use plants is 0.1 to 0.3, the plant factor range for moderate water use plants is 0.4 to 0.6, and the plant factor range for high water use plants is 0.7 to 1.0. Plant factors cited in this ordinance are derived from the publication "Water Use Classification of Landscape Species". Plant factors may also be obtained from horticultural researchers from academic institutions or professional associations as approved by the California Department of Water Resources (DWR).
- (hhh) "project applicant" means the individual or entity submitting a Landscape Documentation Package required under Section 17.11.070, to request a permit, plan check, or design review from the local agency. A project applicant may be the property owner or his or her designee.
- (iii) "rain sensor" or "rain sensing shutoff device" means a component which automatically suspends an irrigation event when it rains.
- (jjj) "record drawing" or "as-built" means a set of reproducible drawings which show significant changes in the work made during construction and which are usually based on drawings marked up in the field and other data furnished by the contractor.
- (kkk) "recreational area" means areas, excluding private single family residential areas, designated for active play, recreation or public assembly in parks, sports fields, picnic grounds, amphitheaters or golf course tees, fairways, roughs, surrounds and greens.
- (lll) "recycled water," "reclaimed water," or "treated sewage effluent water" means treated or recycled waste water of a quality suitable for nonpotable uses such as landscape irrigation and water features. This water is not intended for human consumption.
- (mmm) "reference evapotranspiration" or "ETo" means a standard measurement of environmental parameters which affect the water use of plants. ETo is expressed in inches per day, month, or year as represented in Appendix A, and is an estimate of the evapotranspiration of a large field of four- to seven-inch tall, cool-season grass that is well watered. Reference evapotranspiration is used as the basis of determining the Maximum Applied Water Allowances so that regional differences in climate can be accommodated.
- (nnn) "Regional Water Efficient Landscape Ordinance" means a local Ordinance adopted by two or more local agencies, water suppliers and other stakeholders for implementing a consistent set of landscape provisions throughout a geographical region. Regional ordinances are strongly encouraged to provide a consistent framework for the landscape industry and applicants to adhere to.
- (ooo) "rehabilitated landscape" means any relandscaping project that requires a permit, plan check, or design review, meets the requirements of Section 17.11.020, and the modified landscape area is equal to or greater than 2,500 square feet.

- (ppp) "residential landscape" means landscapes surrounding single or multifamily homes.
- (qqq) "run off" means water which is not absorbed by the soil or landscape to which it is applied and flows from the landscape area. For example, run off may result from water that is applied at too great a rate (application rate exceeds infiltration rate) or when there is a slope.
- (rrr) "soil moisture sensing device" or "soil moisture sensor" means a device that measures the amount of water in the soil. The device may also suspend or initiate an irrigation event.
- (sss) "soil texture" means the classification of soil based on its percentage of sand, silt, and clay.
- (ttt) "Special Landscape Area" (SLA) means an area of the landscape dedicated solely to edible plants, recreational areas, areas irrigated with recycled water, or water features using recycled water.
- (uuu) "sprinkler head" or "spray head" means a device which delivers water through a nozzle.
- (vvv) "static water pressure" means the pipeline or municipal water supply pressure when water is not flowing.
- (www) "station" means an area served by one valve or by a set of valves that operate simultaneously.
- (xxx) "swing joint" means an irrigation component that provides a flexible, leak-free connection between the emission device and lateral pipeline to allow movement in any direction and to prevent equipment damage.
- (yyy) "submeter" means a metering device to measure water applied to the landscape that is installed after the primary utility water meter.
- (zzz) "turf" means a ground cover surface of mowed grass. Annual bluegrass, Kentucky bluegrass, Perennial ryegrass, Red fescue, and Tall fescue are cool-season grasses. Bermudagrass, Kikuyugrass, Seashore Paspalum, St. Augustinegrass, Zoysiagrass, and Buffalo grass are warm-season grasses.
- (aaaa) "valve" means a device used to control the flow of water in the irrigation system.
- (bbbb) "water conserving plant species" means a plant species identified as having a very low or low plant factor.
- (cccc) "water feature" means a design element where open water performs an aesthetic or recreational function. Water features include ponds, lakes, waterfalls, fountains, artificial streams, spas, and swimming pools (where water is artificially supplied). The surface area of water features is included in the high water use hydrozone of the landscape area. Constructed wetlands used for on-site wastewater treatment or stormwater best management practices that are not irrigated and used solely for water treatment or stormwater retention are not water features and, therefore, are not subject to the water budget calculation.
- (dddd) "watering window" means the time of day irrigation is allowed.
- (eeee) "WUCOLS" means the Water Use Classification of Landscape Species published by the University of California Cooperative Extension and the Department of Water Resources 2014.

SECTION 5. Section 17.11.040 (Provisions for New Construction of Rehabilitated Landscapes) of Chapter 17.11 (Water Efficiency) of Title 17 (Zoning) of the El Monte Municipal Code is amended in its entirety to read as follows:

Section 17.11.040 – Provisions for New Construction of Rehabilitated Landscapes.

A local agency may designate by mutual agreement, another agency, such as a water purveyor, to implement some or all of the requirements contained in this ordinance. Local agencies may collaborate with water purveyors to define each entity's specific responsibilities relating to this ordinance.

SECTION 6. Section 17.11.080 (Water Efficient Landscape Worksheet) of Chapter 17.11 (Water Efficiency) of Title 17 (Zoning) of the El Monte Municipal Code is amended in its entirety to read as follows:

Section 17.11.080 – Water Efficient Landscape Worksheet.

- (a) A project applicant shall complete the Water Efficient Landscape Worksheet in Appendix B which contains information on the plant factor, irrigation method, irrigation efficiency, and area associated with each hydrozone. Calculations are then made to show that the evapotranspiration adjustment factor (ETAF) for the landscape project does not exceed a factor of 0.55 for residential areas and 0.45 for non-residential areas, exclusive of Special Landscape Areas. The ETAF for a landscape project is based on the plant factors and irrigation methods selected. The Maximum Applied Water Allowance is calculated based on the maximum ETAF allowed (0.55 for residential areas and 0.45 for non-residential areas) and expressed as annual gallons required. The Estimated Total Water Use (ETWU) is calculated based on the plants used and irrigation method selected for the landscape design. ETWU must be below the MAWA.
- (1) In calculating the Maximum Applied Water Allowance and Estimated Total Water Use, a project applicant shall use the ETo values from the Reference Evapotranspiration Table in Appendix A. For geographic areas not covered in Appendix A, use data from other cities located nearby in the same reference evapotranspiration zone, as found in the CIMIS Reference Evapotranspiration Zones Map, Department of Water Resources, 1999.
- (b) Water budget calculations shall adhere to the following requirements:
- (1) The plant factor used shall be from WUCOLS or from horticultural researchers with academic institutions or professional associations as approved by the California Department of Water Resources (DWR). The plant factor ranges from 0 to 0.1 for very low water using plants, 0.1 to 0.3 for low water use plants, from 0.4 to 0.6 for moderate water use plants, and from 0.7 to 1.0 for high water use plants.
- (2) All water features shall be included in the high water use hydrozone and temporarily irrigated areas shall be included in the low water use hydrozone.
- (3) All Special Landscape Areas shall be identified and their water use calculated as shown in Appendix B.
- (4) ETAF for new and existing (non-rehabilitated) Special Landscape Areas shall not exceed 1.0.

SECTION 7. Subsection (1) of Subsection (a) of Section 17.11.090 (Soil Management Report) of Chapter 17.11 (Water Efficiency) of Title 17 (Zoning) of the El Monte Municipal Code is amended to read as follows:

Section 17.11.090 – Soil Management Report.

(1) Submit soil samples to a laboratory for analysis and recommendations.

(A) Soil sampling shall be conducted in accordance with laboratory protocol, including protocols regarding adequate sampling depth for the intended plants.

(B) The soil analysis shall include:

1. soil texture;
2. infiltration rate determined by laboratory test or soil texture infiltration rate table;
3. pH;
4. total soluble salts;
5. sodium;
6. percent organic matter; and
7. recommendations.

(C) In projects with multiple landscape installations (i.e. production home developments) a soil sampling rate of 1 in 7 lots or approximately 15% will satisfy this requirement. Large landscape projects shall sample at a rate equivalent to 1 in 7 lots.

SECTION 8. Section 17.11.100 (Landscape Design Plan) of Chapter 17.11 (Water Efficiency) of Title 17 (Zoning) of the El Monte Municipal Code is amended in its entirety to read as follows:

Section 17.11.100 – Landscape Design Plan.

(a) For the efficient use of water, a landscape shall be carefully designed and planned for the intended function of the project. A landscape design plan meeting the following design criteria shall be submitted as part of the Landscape Documentation Package.

(1) Plant Material.

(A) Any plant may be selected for the landscape, providing the Estimated Total Water Use in the landscape area does not exceed the Maximum Applied Water Allowance. Methods to achieve water efficiency shall include one or more of the following:

1. protection and preservation of native species and natural vegetation;
2. selection of water-conserving plant, tree and turf species, especially local native plants;
3. selection of plants based on local climate suitability, disease and pest resistance;

4. selection of trees based on applicable local tree ordinances or tree shading guidelines, and size at maturity as appropriate for the planting area; and
 5. selection of plants from local and regional landscape program plant lists.
 6. selection of plants from local Fuel Modification Plan Guidelines.
- (B) Each hydrozone shall have plant materials with similar water use, with the exception of hydrozones with plants of mixed water use, as specified in Section 17.11.110(a)(2)(D).
- (C) Plants shall be selected and planted appropriately based upon their adaptability to the climatic, geologic, and topographical conditions of the project site. Methods to achieve water efficiency shall include one or more of the following:
1. use the Sunset Western Climate Zone System which takes into account temperature, humidity, elevation, terrain, latitude, and varying degrees of continental and marine influence on local climate;
 2. recognize the horticultural attributes of plants (i.e., mature plant size, invasive surface roots) to minimize damage to property or infrastructure [e.g., buildings, sidewalks, power lines]; allow for adequate soil volume for healthy root growth; and
 3. consider the solar orientation for plant placement to maximize summer shade and winter solar gain.
- (D) Turf is not allowed on slopes greater than 25% where the toe of the slope is adjacent to an impermeable hardscape and where 25% means 1 foot of vertical elevation change for every 4 feet of horizontal length (rise divided by run x 100 = slope percent).
- (E) High water use plants, characterized by a plant factor of 0.7 to 1.0, are prohibited in street medians.
- (F) A landscape design plan for projects in fire-prone areas shall address fire safety and prevention. A defensible space or zone around a building or structure is required per Public Resources Code Section 4291(a) and (b). Avoid fire-prone plant materials and highly flammable mulches. Refer to the local Fuel Modification Plan guidelines.
- (G) The use of invasive plant species, such as those listed by the California Invasive Plant Council, is strongly discouraged.
- (H) The architectural guidelines of a common interest development; which include community apartment projects, condominiums, planned developments, and stock cooperatives, shall not prohibit or include conditions that have the effect of prohibiting the use of low-water use plants as a group.
- (2) Water Features
- (A) Recirculating water systems shall be used for water features.
 - (B) Where available, recycled water shall be used as a source for decorative water features.

- (C) Surface area of a water feature shall be included in the high water use hydrozone area of the water budget calculation.
 - (D) Pool and spa covers shall be used when pool or spa is not in use to minimize the loss of water due to evaporation.
- (3) Soil Preparation, Mulch and Amendments
- (A) Prior to the planting of any materials, compacted soils shall be transformed to a friable condition. On engineered slopes, only amended planting holes need meet this requirement.
 - (B) Soil amendments shall be incorporated according to recommendations of the soil report and what is appropriate for the plants selected (see Section 17.11.090).
 - (C) For landscape installations, compost at a rate of a minimum of four cubic yards per 1,000 square feet of permeable area shall be incorporated to a depth of six inches into the soil. Soils with greater than 6% organic matter in the top 6 inches of soil are exempt from adding compost and tilling.
 - (D) A minimum three inch (3") layer of mulch shall be applied on all exposed soil surfaces of planting areas except in turf areas, creeping or rooting groundcovers, or direct seeding applications where mulch is contraindicated. To provide habitat for beneficial insects and other wildlife, up to 5 % of the landscape area may be left without mulch. Designated insect habitat must be included in the landscape design plan as such.
 - (E) Stabilizing mulching products shall be used on slopes that meet current engineering standards.
 - (F) The mulching portion of the seed/mulch slurry in hydro-seeded applications shall meet the mulching requirement.
 - (G) Organic mulch materials made from recycled or post-consumer shall take precedence over inorganic materials or virgin forest products unless the recycled post-consumer organic products are not locally available. Organic mulches are not required where prohibited by local Fuel Modification Plan Guidelines or other applicable local ordinances.
- (b) The landscape design plan, at a minimum, shall:
- (1) delineate and label each hydrozone by number, letter, or other method;
 - (2) identify each hydrozone as low, moderate, high water, or mixed water use. Temporarily irrigated areas of the landscape shall be included in the low water use hydrozone for the water budget calculation;
 - (3) identify recreational areas;
 - (4) identify areas permanently and solely dedicated to edible plants;
 - (5) identify areas irrigated with recycled water;
 - (6) identify type of mulch and application depth;
 - (7) identify soil amendments, type, and quantity;
 - (8) identify type and surface area of water features;
 - (9) identify hardscapes (pervious and non-pervious);

- (10) identify location, and installation details, and 24-hour retention or infiltration capacity of any applicable stormwater best management practices that encourage on-site retention and infiltration of stormwater. Project applicants shall refer to the local agency or regional Water Quality Control Board for information on any applicable stormwater technical requirements. Stormwater best management practices are encouraged in the landscape design plan and examples are provided in Section 17.11.190.
- (11) identify any applicable rain harvesting or catchment technologies, as discussed in Section 17.11.190 and their 24-hour retention or infiltration capacity;
- (12) identify any applicable graywater discharge piping, system components and area(s) of distribution;
- (13) contain the following statement: "I have complied with the criteria of the ordinance and applied them for the efficient use of water in the landscape design plan"; and
- (14) bear the signature of a licensed landscape architect, licensed landscape contractor, or any other person authorized to design a landscape. (See Sections 5500.1, 5615, 5641, 5641.1, 5641.2, 5641.3, 5641.4, 5641.5, 5641.6, 6701, 7027.5 of the Business and Professions Code, Section 832.27 of Title 16 of the California Code of Regulations, and Section 6721 of the Food and Agriculture Code.)

SECTION 9. Subsection (a) of Section 17.11.110 (Irrigation Design Plan) of Chapter 17.11 (Water Efficiency) of Title 17 (Zoning) of the El Monte Municipal Code is amended to read as follows:

Section 17.11.110 – Irrigation Design Plan.

(a) This section applies to landscaped areas requiring permanent irrigation, not areas that require temporary irrigation solely for the plant establishment period. For the efficient use of water, an irrigation system shall meet all the requirements listed in this section and the manufacturers' recommendations. The irrigation system and its related components shall be planned and designed to allow for proper installation, management, and maintenance. An irrigation design plan meeting the following design criteria shall be submitted as part of the Landscape Documentation Package.

(1) System

(A) Landscape water meters, defined as either a dedicated water service meter or private submeter, shall be installed for all non-residential irrigated landscapes of 1,000 sq. ft. but not more than 5,000 sq.ft. (the level at which *Water Code* 535 applies) and residential irrigated landscapes of 5,000 sq. ft. or greater. A landscape water meter may be either:

- 1. a customer service meter dedicated to landscape use provided by the local water purveyor; or
- 2. a privately owned meter or submeter.

(B) Automatic irrigation controllers utilizing either evapotranspiration or soil moisture sensor data utilizing non-volatile memory shall be required for irrigation scheduling in all irrigation systems.

- (C) If the water pressure is below or exceeds the recommended pressure of the specified irrigation devices, the installation of a pressure regulating device is required to ensure that the dynamic pressure at each emission device is within the manufacturer's recommended pressure range for optimal performance.
1. If the static pressure is above or below the required dynamic pressure of the irrigation system, pressure-regulating devices such as inline pressure regulators, booster pumps, or other devices shall be installed to meet the required dynamic pressure of the irrigation system.
 2. Static water pressure, dynamic or operating pressure, and flow reading of the water supply shall be measured at the point of connection. These pressure and flow measurements shall be conducted at the design stage. If the measurements are not available at the design stage, the measurements shall be conducted at installation.
- (D) Sensors (rain, freeze, wind, etc.), either integral or auxiliary, that suspend or alter irrigation operation during unfavorable weather conditions shall be required on all irrigation systems, as appropriate for local climatic conditions. Irrigation should be avoided during windy or freezing weather or during rain.
- (E) Manual shut-off valves (such as a gate valve, ball valve, or butterfly valve) shall be required, as close as possible to the point of connection of the water supply, to minimize water loss in case of an emergency (such as a main line break) or routine repair.
- (F) Backflow prevention devices shall be required to protect the water supply from contamination by the irrigation system. A project applicant shall refer to the applicable local agency code (i.e., public health) for additional backflow prevention requirements.
- (G) Flow sensors that detect high flow conditions created by system damage or malfunction are required for all on non-residential landscapes and residential landscapes of 5000 sq. ft. or larger.
- (H) Master shut-off valves are required on all projects except landscapes that make use of technologies that allow for the individual control of sprinklers that are individually pressurized in a system equipped with low pressure shut down features.
- (I) The irrigation system shall be designed to prevent runoff, low head drainage, overspray, or other similar conditions where irrigation water flows onto non-targeted areas, such as adjacent property, non-irrigated areas, hardscapes, roadways, or structures.
- (J) Relevant information from the soil management plan, such as soil type and infiltration rate, shall be utilized when designing irrigation systems.
- (K) The design of the irrigation system shall conform to the hydrozones of the landscape design plan.
- (L) The irrigation system must be designed and installed to meet, at a minimum, the irrigation efficiency criteria as described in Section 17.11.080 regarding the Maximum Applied Water Allowance.

- (M) All irrigation emission devices must meet the requirements set in the American National Standards Institute (ANSI) standard, American Society of Agricultural and Biological Engineers'/International Code Council's (ASABE/ICC) 802-2014 "Landscape Irrigation Sprinkler and Emitter Standard. All sprinkler heads installed in the landscape must document a distribution uniformity low quarter of 0.65 or higher using the protocol defined in ASABE/ICC 802-2014.
- (N) It is highly recommended that the project applicant or local agency inquire with the local water purveyor about peak water operating demands (on the water supply system) or water restrictions that may impact the effectiveness of the irrigation system.
- (O) In mulched planting areas, the use of low volume irrigation is required to maximize water infiltration into the root zone.
- (P) Sprinkler heads and other emission devices shall have matched precipitation rates, unless otherwise directed by the manufacturer's recommendations.
- (Q) Head to head coverage is recommended. However, sprinkler spacing shall be designed to achieve the highest possible distribution uniformity using the manufacturer's recommendations.
- (R) Swing joints or other riser-protection components are required on all risers subject to damage that are adjacent to hardscapes or in high traffic areas of turfgrass.
- (S) Check valves or anti-drain valves are required on all sprinkler heads where low point drainage could occur.
- (T) Areas less than eight (10) feet in width in any direction shall be irrigated with subsurface irrigation or other means that produces no runoff or overspray.
- (U) Overhead irrigation shall not be permitted within 24 inches of any non-permeable surface. Allowable irrigation within the setback from non-permeable surfaces may include drip, drip line, or other low flow non-spray technology. The setback area may be planted or unplanted. The surfacing of the setback may be mulch, gravel, or other porous material. These restrictions may be modified if:
 - 1. the landscape area is adjacent to permeable surfacing and no runoff occurs; or
 - 2. the adjacent non-permeable surfaces are designed and constructed to drain entirely to landscaping; or
 - 3. the irrigation designer specifies an alternative design or technology, as part of the Landscape Documentation Package and clearly demonstrates strict adherence to irrigation system design criteria in Section 17.11.110 (a)(1)(IH). Prevention of overspray and runoff must be confirmed during the irrigation audit.
- (V) Slopes greater than 25% shall not be irrigated with an irrigation system with a application rate exceeding 0.75 inches per hour. This restriction may be modified if the landscape designer specifies an alternative design or technology, as part of the Landscape Documentation Package, and clearly demonstrates no runoff or erosion will occur. Prevention of runoff and erosion must be confirmed during the irrigation audit.

(2) Hydrozone

- (A) Each valve shall irrigate a hydrozone with similar site, slope, sun exposure, soil conditions, and plant materials with similar water use.
- (B) Sprinkler heads and other emission devices shall be selected based on what is appropriate for the plant type within that hydrozone.
- (C) Where feasible, trees shall be placed on separate valves from shrubs, groundcovers, and turf to facilitate the appropriate irrigation of trees. The mature size and extent of the root zone shall be considered when designing irrigation for the tree.
- (D) Individual hydrozones that mix plants of moderate and low water use, or moderate and high water use, may be allowed if:
 - 1. plant factor calculation is based on the proportions of the respective plant water uses and their plant factor; or
 - 2. the plant factor of the higher water using plant is used for calculations.
- (E) Individual hydrozones that mix high and low water use plants shall not be permitted.
- (F) On the landscape design plan and irrigation design plan, hydrozone areas shall be designated by number, letter, or other designation. On the irrigation design plan, designate the areas irrigated by each valve, and assign a number to each valve. Use this valve number in the Hydrozone Information Table (see Appendix B Section A). This table can also assist with the irrigation audit and programming the controller.

SECTION 10. Subsection (a) of Section 17.11.130 (Certificate of Completion) of Chapter 17.11 (Water Efficiency) of Title 17 (Zoning) of the El Monte Municipal Code is amended to read as follows:

Section 17.11.130 – Certificate of Completion.

- (a) The certificate of completion (see Appendix C for a sample certificate) shall include the following six (6) elements:
 - (1) project information sheet that contains:
 - (A) date;
 - (B) project name;
 - (C) project applicant name, telephone, and mailing address;
 - (D) project address and location; and
 - (E) property owner name, telephone, and mailing address;
 - (2) certification by either the signer of the landscape design plan, the signer of the irrigation design plan, or the licensed landscape contractor that the landscape project has been installed per the approved Landscape Documentation Package;
 - (A) where there have been significant changes made in the field during construction, these “as-built” or record drawings shall be included with the certification;

- (B) a diagram of the irrigation plan showing hydrozones shall be kept with the irrigation controller for subsequent management purposes.
- (3) irrigation scheduling parameters used to set the controller (see Section 17.11.140);
- (4) landscape and irrigation maintenance schedule (see Section 17.11.150);
- (5) irrigation audit report (see Section 17.11.160); and soil analysis report, if not submitted with Landscape Documentation Package, and documentation verifying implementation of soil report recommendations (see Section 17.11.090).

SECTION 11. Section 17.11.150 (Landscape and Irrigation Maintenance Schedule) of Chapter 17.11 (Water Efficiency) of Title 17 (Zoning) of the El Monte Municipal Code is amended in its entirety to read as follows:

Section 17.11.150 – Landscape and Irrigation Maintenance Schedule.

- (a) Landscapes shall be maintained to ensure water use efficiency. A regular maintenance schedule shall be submitted with the Certificate of Completion.
- (b) A regular maintenance schedule shall include, but not be limited to, routine inspection; auditing, adjustment and repair of the irrigation system and its components; aerating and dethatching turf areas; topdressing with compost, replenishing mulch; fertilizing; pruning; weeding in all landscape areas, and removing and obstructions to emission devices. Operation of the irrigation system outside the normal watering window is allowed for auditing and system maintenance.
- (c) Repair of all irrigation equipment shall be done with the originally installed components or their equivalents or with components with greater efficiency.
- (d) A project applicant is encouraged to implement established landscape industry sustainable Best Practices for all landscape maintenance activities.

SECTION 12. Subsections (b), (c), and (d) of Section 17.11.150 (Landscape and Irrigation Maintenance Schedule) of Chapter 17.11 (Water Efficiency) of Title 17 (Zoning) are amended to read as follows:

Section 17.11.150 – Landscape and Irrigation Maintenance Schedule.

- (b) A regular maintenance schedule shall include, but not be limited to, routine inspection; auditing, adjustment and repair of the irrigation system and its components; aerating and dethatching turf areas; topdressing with compost, replenishing mulch; fertilizing; pruning; weeding in all landscape areas, and removing and obstructions to emission devices. Operation of the irrigation system outside the normal watering window is allowed for auditing and system maintenance.
- (c) Repair of all irrigation equipment shall be done with
- (d) A project applicant is encouraged to implement established landscape industry sustainable Best Practices or environmentally-friendly practices for all landscape maintenance activities.

SECTION 13. Section 17.11.160 (Irrigation Audit, Irrigation Survey, and Irrigation Water Use Analysis) of Chapter 17.11 (Water Efficiency) of Title 17 (Zoning) is amended in its entirety to read as follows:

Section 17.11.160 – Irrigation Audit, Irrigation Survey, and Irrigation Water Use Analysis.

- (a) All landscape irrigation audits shall be conducted by a local agency landscape irrigation auditor or a third party certified landscape irrigation auditor. Landscape audits shall not be conducted by the person who designed the landscape or installed the landscape.
- (b) In large projects or projects with multiple landscape installations (i.e. production home developments) an auditing rate of 1 in 7 lots or approximately 15% will satisfy this requirement.
- (c) For new construction and rehabilitated landscape projects installed after December 1, 2015, as described in Section 17.11.020:
 - (1) the project applicant shall submit an irrigation audit report with the Certificate of Completion to the local agency that may include, but is not limited to: inspection, system tune-up, system test with distribution uniformity, reporting overspray or run off that causes overland flow, and preparation of an irrigation schedule, including configuring irrigation controllers with application rate, soil types, plant factors, slope, exposure and any other factors necessary for accurate programming;
 - (2) the local agency shall administer programs that may include, but not be limited to, irrigation water use analysis, irrigation audits, and irrigation surveys for compliance with the Maximum Applied Water Allowance

SECTION 14. Section 17.11.170 (Irrigation Efficiency) of Chapter 17.11 (Water Efficiency) of Title 17 (Zoning) is amended in its entirety to read as follows:

Section 17.11.170 – Irrigation Efficiency.

- (a) For the purpose of determining Estimated Total Water Use, average irrigation efficiency is assumed to be 0.75 for overhead spray devices and 0.81 for drip system devices.

SECTION 15. Section 17.11.180 (Recycled Water) of Chapter 17.11 (Water Efficiency) of Title 17 (Zoning) is amended in its entirety to read as follows:

Section 17.11.180 – Recycled Water.

- (a) The installation of recycled water irrigation systems shall allow for the current and future use of recycled water,
- (b) All recycled water irrigation systems shall be designed and operated in accordance with all applicable local and State laws.
- (c) Landscapes using recycled water are considered Special Landscape Areas. The ET Adjustment Factor for new and existing (non-rehabilitated) Special Landscape Areas shall not exceed 1.0.

SECTION 16. Chapter 17.11 (Water Efficiency) of Title 17 (Zoning) is amended by the addition of new Section 17.11.186 (Graywater Systems), which shall read as follows:

Section 17.11.186 – Graywater Systems.

- (a) Graywater systems promote the efficient use of water and are encouraged to assist in on-site landscape irrigation. All graywater systems shall conform to the California Plumbing Code (Title 24, Part 5, Chapter 16) and any applicable local ordinance standards. Refer to Section 17.11.020(d) for the applicability of this ordinance to landscape areas less than 2,500 square feet with the Estimated Total Water Use met entirely by graywater.

SECTION 17. Section 17.11.190 (Stormwater Management) of Chapter 17.11 (Water Efficiency) of Title 17 (Zoning) is renamed and amended in its entirety to read as follows

Section 17.11.190 – Stormwater Management and Rainwater Retention.

- (a) Stormwater management practices minimize runoff and increase infiltration which recharges groundwater and improves water quality. Implementing stormwater best management practices into the landscape and grading design plans to minimize runoff and to increase on-site rainwater retention and infiltration are encouraged.
- (b) Project applicants shall refer to the local agency or Regional Water Quality Control Board for information on any applicable stormwater technical requirements/ordinances
- (c) All planted landscape areas are required to have friable soil to maximize water retention and infiltration. Refer to Section 17.11.100(a)(3).
- (d) It is strongly recommended that landscape areas be designed for capture and infiltration capacity that is sufficient to prevent runoff from impervious surfaces (i.e. roof and paved areas) from either: the one inch, 24-hour rain event or (2) the 85th percentile, 24-hour rain event, and/or additional capacity as required by any applicable local, regional, state or federal regulation.
- (e) It is recommended that storm water projects incorporate any of the following elements to improve on-site storm water and dry weather runoff capture and use:
 - Grade impervious surfaces, such as driveways, during construction to drain to vegetated areas.
 - Minimize the area of impervious surfaces such as paved areas, roof and concrete driveways.
 - Incorporate pervious or porous surfaces (e.g., gravel, permeable pavers or blocks, pervious or porous concrete) that minimize runoff.
 - Direct runoff from paved surfaces and roof areas into planting beds or landscaped areas to maximize site water capture and reuse.
 - Incorporate rain gardens, cisterns, and other rain harvesting or catchment systems.
 - Incorporate infiltration beds, swales, basins and drywells to capture storm water and dry weather runoff and increase percolation into the soil.
 - Consider constructed wetlands and ponds that retain water, equalize excess flow, and filter pollutants.

SECTION 18. Section 17.11.200 (Public Education) of Chapter 17.11 (Water Efficiency) of Title 17 (Zoning) is amended in its entirety to read as follows

Section 17.11.200 – Public Education.

- (a) Publications. Education is a critical component to promote the efficient use of water in landscapes. The use of appropriate principles of design, installation, management and maintenance that save water is encouraged in the community.
 - (1) A local agency or water supplier/purveyor shall provide information to owners of permitted renovations and new, single-family residential homes regarding the design, installation, management, and maintenance of water efficient landscapes based on a water budget.

(b) Model Homes. All model homes that are landscaped shall use signs and written information to demonstrate the principles of water efficient landscapes described in this ordinance.

(1) Signs shall be used to identify the model as an example of a water efficient landscape featuring elements such as hydrozones, irrigation equipment, and others that contribute to the overall water efficient theme. Signage shall include information about the site water use as designed per the local ordinance; specify who designed and installed the water efficient landscape; and demonstrate low water use approaches to landscaping such as using native plants, graywater systems, and rainwater catchment systems.

(2) Information shall be provided about designing, installing, managing, and maintaining water efficient landscapes.

SECTION 19. Section 17.11.220 (Provisions for Existing Landscapes) of Chapter 17.11 (Water Efficiency) of Title 17 (Zoning) is amended in its entirety to read as follows

Section 17.11.220 – Provisions for Existing Landscapes.

(a) A local agency may, by mutual agreement, designate another agency, such as a water purveyor, to implement some or all of the requirements contained in this ordinance. Local agencies may collaborate with water purveyors to define each entity's specific responsibilities relating to this ordinance.

SECTION 20. Subsection (a) of Section 17.11.230 (Irrigation Audit, Irrigation Survey, and Irrigation Water Use Analysis) of Chapter 17.11 (Water Efficiency) of Title 17 (Zoning) is amended in its entirety to read as follows

Section 17.11.230 – Irrigation Audit, Irrigation Survey, and Irrigation Water Use Analysis.

(a) This Section 17.11.230 shall apply to all existing landscapes that were installed before December 1, 2015 and are over one acre in size:

(1) For all landscapes in Section 17.11.230(a) that have a water meter, the local agency shall administer programs that may include, but not be limited to, irrigation water use analyses, irrigation surveys, and irrigation audits to evaluate water use and provide recommendations as necessary to reduce landscape water use to a level that does not exceed the Maximum Applied Water Allowance for existing landscapes. The Maximum Applied Water Allowance for existing landscapes shall be calculated as: $MAWA = (0.8) (ET_o)(LA)(0.62)$.

(2) For all landscapes in Section 17.11. 230(a), that do not have a meter, the local agency shall administer programs that may include, but not be limited to, irrigation surveys and irrigation audits to evaluate water use and provide recommendations as necessary in order to prevent water waste.

SECTION 21. Section 17.11.250 (Effective Participation) of Chapter 17.11 (Water Efficiency) of Title 17 (Zoning) is amended in its entirety to read as follows

Section 17.11.250 – Effective Participation.

(a) A local agency may consider Effective Precipitation (25% of annual precipitation) in tracking water use and may use the following equation to calculate Maximum Applied Water Allowance: $MAWA = (ET_o - Eppt) (0.62) [(0.55 \times LA) + (0.45 \times SLA)]$ for residential areas. $MAWA = (ET_o - EPPT) (0.62) [(0.45 \times LA) + (0.55 \times SLA)]$ for non-residential areas.

SECTION 22. Chapter 17.11 (Water Efficiency) of Title 17 (Zoning) is amended by the addition of new Section 17.11.260 (Reporting), which shall read as follows:

Section 17.11.260 – Reporting.

- (a) Local agencies shall report on implementation and enforcement by December 31, 2015. Local agencies responsible for administering individual ordinances shall report on their updated ordinance, while those agencies developing a regional ordinance shall report on their existing ordinance. Those agencies crafting a regional ordinance shall also report on their new ordinance by March 1, 2016. Subsequently, reporting for all agencies will be due by January 31st of each year. Reports shall be submitted to the Department of Water Resources.
- (b) The local agencies are to address the following:
- (1) State whether you are adopting a single agency ordinance or a regional agency alliance ordinance, and the date of adoption or anticipated date of adoption.
 - (2) Define the reporting period. The reporting period shall commence on December 1, 2015 and the end on December 28, 2015. For local agencies crafting regional ordinances with other agencies, there shall be an additional reporting period commencing on February 1, 2016 and ending on February 28, 2016. In subsequent years, all local agency reporting will be for the calendar year.
 - (3) State if using a locally modified Water Efficient Landscape Ordinance (WELO) or the MWELO. If using a locally modified WELO, how is it different than MWELO, is it at least as efficient as MWELO, and are there any exemptions specified?
 - (4) State the entity responsible for implementing the ordinance.
 - (5) State number and types of projects subject to the ordinance during the specified reporting period.
 - (6) State the total area (in square feet or acres) subject to the ordinance over the reporting period, if available.
 - (7) Provide the number of new housing starts, new commercial projects, and landscape retrofits during the reporting period.
 - (8) Describe the procedure for review of projects subject to the ordinance.
 - (9) Describe actions taken to verify compliance. Is a plan check performed; if so, by what entity? Is a site inspection performed; if so, by what entity? Is a post-installation audit required; if so, by whom?
 - (10) Describe enforcement measures.
 - (11) Explain challenges to implementing and enforcing the ordinance.
 - (12) Describe educational and other needs to properly apply the ordinance.

SECTION 23. Appendix A of Chapter 17.11 (Water Efficiency) of Title 17 (Zoning) is deleted and replaced by the following Appendix A, which shall read as follows:

Appendix A - Reference Evapotranspiration (ET_o) Table*

County and City	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Annual ET _o
ALAMEDA													
Fremont	1.5	1.9	3.4	4.7	5.4	6.3	6.7	6.0	4.5	3.4	1.8	1.5	47.0
Livermore	1.2	1.5	2.9	4.4	5.9	6.6	7.4	6.4	5.3	3.2	1.5	0.9	47.2
Oakland	1.5	1.5	2.8	3.9	5.1	5.3	6.0	5.5	4.8	3.1	1.4	0.9	41.8
Oakland Foothills	1.1	1.4	2.7	3.7	5.1	6.4	5.8	4.9	3.6	2.6	1.4	1.0	39.6
Pleasanton	0.8	1.5	2.9	4.4	5.6	6.7	7.4	6.4	4.7	3.3	1.5	1.0	46.2
Union City	1.4	1.8	3.1	4.2	5.4	5.9	6.4	5.7	4.4	3.1	1.5	1.2	44.2
ALPINE													
Markleeville	0.7	0.9	2.0	3.5	5.0	6.1	7.3	6.4	4.4	2.6	1.2	0.5	40.6
AMADOR													
Jackson	1.2	1.5	2.8	4.4	6.0	7.2	7.9	7.2	5.3	3.2	1.4	0.9	48.9
Shanandoah Valley	1.0	1.7	2.9	4.4	5.6	6.8	7.9	7.1	5.2	3.6	1.7	1.0	48.8
BUTTE													
Chico	1.2	1.8	2.9	4.7	6.1	7.4	8.5	7.3	5.4	3.7	1.7	1.0	51.7
Durham	1.1	1.8	3.2	5.0	6.5	7.4	7.8	6.9	5.3	3.6	1.7	1.0	51.1
Gridley	1.2	1.8	3.0	4.7	6.1	7.7	8.5	7.1	5.4	3.7	1.7	1.0	51.9
Oroville	1.2	1.7	2.8	4.7	6.1	7.6	8.5	7.3	5.3	3.7	1.7	1.0	51.5
CALAVERAS													
San Andreas	1.2	1.5	2.8	4.4	6.0	7.3	7.9	7.0	5.3	3.2	1.4	0.7	48.8
COLUSA													
Colusa	1.0	1.7	3.4	5.0	6.4	7.6	8.3	7.2	5.4	3.8	1.8	1.1	52.8
Williams	1.2	1.7	2.9	4.5	6.1	7.2	8.5	7.3	5.3	3.4	1.6	1.0	50.8
CONTRA COSTA													
Brentwood	1.0	1.5	2.9	4.5	6.1	7.1	7.9	6.7	5.2	3.2	1.4	0.7	48.3
Concord	1.1	1.4	2.4	4.0	5.5	5.9	7.0	6.0	4.8	3.2	1.3	0.7	43.4
Courtland	0.9	1.5	2.9	4.4	6.1	6.9	7.9	6.7	5.3	3.2	1.4	0.7	48.0
Martinez	1.2	1.4	2.4	3.9	5.3	5.6	6.7	5.6	4.7	3.1	1.2	0.7	41.8
Moraga	1.2	1.5	3.4	4.2	5.5	6.1	6.7	5.9	4.6	3.2	1.6	1.0	44.9
Pittsburg	1.0	1.5	2.8	4.1	5.6	6.4	7.4	6.4	5.0	3.2	1.3	0.7	45.4
Walnut Creek	0.8	1.5	2.9	4.4	5.6	6.7	7.4	6.4	4.7	3.3	1.5	1.0	46.2
DEL NORTE													
Crescent City	0.5	0.9	2.0	3.0	3.7	3.5	4.3	3.7	3.0	2.0	0.9	0.5	27.7
EL DORADO													
Camino	0.9	1.7	2.5	3.9	5.9	7.2	7.8	6.8	5.1	3.1	1.5	0.9	47.3
FRESNO													
Clovis	1.0	1.5	3.2	4.8	6.4	7.7	8.5	7.3	5.3	3.4	1.4	0.7	51.4
Coalinga	1.2	1.7	3.1	4.6	6.2	7.2	8.5	7.3	5.3	3.4	1.6	0.7	50.9
Firebaugh	1.0	1.8	3.7	5.7	7.3	8.1	8.2	7.2	5.5	3.9	2.0	1.1	55.4
FivePoints	1.3	2.0	4.0	6.1	7.7	8.5	8.7	8.0	6.2	4.5	2.4	1.2	60.4
Fresno	0.9	1.7	3.3	4.8	6.7	7.8	8.4	7.1	5.2	3.2	1.4	0.6	51.1
Fresno State	0.9	1.6	3.2	5.2	7.0	8.0	8.7	7.6	5.4	3.6	1.7	0.9	53.7
Friant	1.2	1.5	3.1	4.7	6.4	7.7	8.5	7.3	5.3	3.4	1.4	0.7	51.3
Kerman	0.9	1.5	3.2	4.8	6.6	7.7	8.4	7.2	5.3	3.4	1.4	0.7	51.2
Kingsburg	1.0	1.5	3.4	4.8	6.6	7.7	8.4	7.2	5.3	3.4	1.4	0.7	51.6
Mendota	1.5	2.5	4.6	6.2	7.9	8.6	8.8	7.5	5.9	4.5	2.4	1.5	61.7
Orange Cove	1.2	1.9	3.5	4.7	7.4	8.5	8.9	7.9	5.9	3.7	1.8	1.2	56.7
Panoche	1.1	2.0	4.0	5.6	7.8	8.5	8.3	7.3	5.6	3.9	1.8	1.2	57.2
Parlier	1.0	1.9	3.6	5.2	6.8	7.6	8.1	7.0	5.1	3.4	1.7	0.9	52.0

Appendix A - Reference Evapotranspiration (ETo) Table*

County and City	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Annual ETo
FRESNO													
Reedley	1.1	1.5	3.2	4.7	6.4	7.7	8.5	7.3	5.3	3.4	1.4	0.7	51.3
Westlands	0.9	1.7	3.8	6.3	8.0	8.6	8.6	7.8	5.9	4.3	2.1	1.1	58.8
GLENN													
Oriand	1.1	1.8	3.4	5.0	6.4	7.5	7.9	6.7	5.3	3.9	1.8	1.4	52.1
Willows	1.2	1.7	2.9	4.7	6.1	7.2	8.5	7.3	5.3	3.6	1.7	1.0	51.3
HUMBOLDT													
Eureka	0.5	1.1	2.0	3.0	3.7	3.7	3.7	3.7	3.0	2.0	0.9	0.5	27.5
Ferndale	0.5	1.1	2.0	3.0	3.7	3.7	3.7	3.7	3.0	2.0	0.9	0.5	27.5
Garberville	0.6	1.2	2.2	3.1	4.5	5.0	5.5	4.9	3.8	2.4	1.0	0.7	34.9
Hoopla	0.5	1.1	2.1	3.0	4.4	5.4	6.1	5.1	3.8	2.4	0.9	0.7	35.6
IMPERIAL													
Brawley	2.8	3.8	5.9	8.0	10.4	11.5	11.7	10.0	8.4	6.2	3.5	2.1	84.2
Calipatria/Mulberry	2.4	3.2	5.1	6.8	8.6	9.2	9.2	8.6	7.0	5.2	3.1	2.3	70.7
El Centro	2.7	3.5	5.6	7.9	10.1	11.1	11.6	9.5	8.3	6.1	3.3	2.0	81.7
Holtville	2.8	3.8	5.9	7.9	10.4	11.6	12.0	10.0	8.6	6.2	3.5	2.1	84.7
Meloland	2.5	3.2	5.5	7.5	8.9	9.2	9.0	8.5	6.8	5.3	3.1	2.2	71.6
Palo Verde II	2.5	3.3	5.7	6.9	8.5	8.9	8.6	7.9	6.2	4.5	2.9	2.3	68.2
Seeley	2.7	3.5	5.9	7.7	9.7	10.1	9.3	8.3	6.9	5.5	3.4	2.2	75.4
Westmoreland	2.4	3.3	5.3	6.9	8.7	9.6	9.6	8.7	6.9	5.0	3.0	2.2	71.4
Yuma	2.5	3.4	5.3	6.9	8.7	9.6	9.6	8.7	6.9	5.0	3.0	2.2	71.6
INYO													
Bishop	1.7	2.7	4.8	6.7	8.2	10.9	7.4	9.6	7.4	4.8	2.5	1.6	68.3
Death Valley Jct	2.2	3.3	5.4	7.7	9.8	11.1	11.4	10.1	8.3	5.4	2.9	1.7	79.1
Independence	1.7	2.7	3.4	6.6	8.5	9.5	9.8	8.5	7.1	3.9	2.0	1.5	65.2
Lower Haiwee Res.	1.8	2.7	4.4	7.1	8.5	9.5	9.8	8.5	7.1	4.2	2.6	1.5	67.6
Oasis	2.7	2.8	5.9	8.0	10.4	11.7	11.6	10.0	8.4	6.2	3.4	2.1	83.1
KERN													
Arvin	1.2	1.8	3.5	4.7	6.6	7.4	8.1	7.3	5.3	3.4	1.7	1.0	51.9
Bakersfield	1.0	1.8	3.5	4.7	6.6	7.7	8.5	7.3	5.3	3.5	1.6	0.9	52.4
Bakersfield/Bonanza	1.2	2.2	3.7	5.7	7.4	8.2	8.7	7.8	5.7	4.0	2.1	1.2	57.9
Bakersfield/Greenlee	1.2	2.2	3.7	5.7	7.4	8.2	8.7	7.8	5.7	4.0	2.1	1.2	57.9
Belridge	1.4	2.2	4.1	5.5	7.7	8.5	8.6	7.8	6.0	3.8	2.0	1.5	59.2
Blackwells Corner	1.4	2.1	3.8	5.4	7.0	7.8	8.5	7.7	5.8	3.9	1.9	1.2	56.6
Buttonwillow	1.0	1.8	3.2	4.7	6.6	7.7	8.5	7.3	5.4	3.4	1.5	0.9	52.0
China Lake	2.1	3.2	5.3	7.7	9.2	10.0	11.0	9.8	7.3	4.9	2.7	1.7	74.8
Delano	0.9	1.8	3.4	4.7	6.6	7.7	8.5	7.3	5.4	3.4	1.4	0.7	52.0
Famoso	1.3	1.9	3.5	4.8	6.7	7.6	8.0	7.3	5.5	3.5	1.7	1.3	53.1
Grapevine	1.3	1.8	3.1	4.4	5.6	6.8	7.6	6.8	5.9	3.4	1.9	1.0	49.5
Inyokern	2.0	3.1	4.9	7.3	8.5	9.7	11.0	9.4	7.1	5.1	2.6	1.7	72.4
Isabella Dam	1.2	1.4	2.8	4.4	5.8	7.3	7.9	7.0	5.0	3.2	1.7	0.9	48.4
Lamont	1.3	2.4	4.4	4.6	6.5	7.0	8.8	7.6	5.7	3.7	1.6	0.8	54.4
Lost Hills	1.6	2.2	3.7	5.1	6.8	7.8	8.7	7.8	5.7	4.0	2.1	1.6	57.1
McFarland/Kern	1.2	2.1	3.7	5.6	7.3	8.0	8.3	7.4	5.6	4.1	2.0	1.2	56.5
Shafter	1.0	1.7	3.4	5.0	6.6	7.7	8.3	7.3	5.4	3.4	1.5	0.9	52.1
Taft	1.3	1.8	3.1	4.3	6.2	7.3	8.5	7.3	5.4	3.4	1.7	1.0	51.2
Tehachapi	1.4	1.8	3.2	5.0	6.1	7.7	7.9	7.3	5.9	3.4	2.1	1.2	52.9
KINGS													
Caruthers	1.6	2.5	4.0	5.7	7.8	8.7	9.3	8.4	6.3	4.4	2.4	1.6	62.7

Appendix A - Reference Evapotranspiration (ET_o) Table*

County and City	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Annual ET _o
KINGS													
Corcoran	1.6	2.2	3.7	5.1	6.8	7.8	8.7	7.8	5.7	4.0	2.1	1.6	57.1
Hanford	0.9	1.5	3.4	5.0	6.6	7.7	8.3	7.2	5.4	3.4	1.4	0.7	51.5
Kettleman	1.1	2.0	4.0	6.0	7.5	8.5	9.1	8.2	6.1	4.5	2.2	1.1	60.2
Lemoore	0.9	1.5	3.4	5.0	6.6	7.7	8.3	7.3	5.4	3.4	1.4	0.7	51.7
Stratford	0.9	1.9	3.9	6.1	7.8	8.6	8.8	7.7	5.9	4.1	2.1	1.0	58.7
LAKE													
Lakeport	1.1	1.3	2.6	3.5	5.1	6.0	7.3	6.1	4.7	2.9	1.2	0.9	42.8
Lower Lake	1.2	1.4	2.7	4.5	5.3	6.3	7.4	6.4	5.0	3.1	1.3	0.9	45.4
LASSEN													
Buntingville	1.0	1.7	3.5	4.9	6.2	7.3	8.4	7.5	5.4	3.4	1.5	0.9	51.8
Ravendale	0.6	1.1	2.3	4.1	5.6	6.7	7.9	7.3	4.7	2.8	1.2	0.5	44.9
Susanville	0.7	1.0	2.2	4.1	5.6	6.5	7.8	7.0	4.6	2.8	1.2	0.5	44.0
LOS ANGELES													
Burbank	2.1	2.8	3.7	4.7	5.1	6.0	6.6	6.7	5.4	4.0	2.6	2.0	51.7
Claremont	2.0	2.3	3.4	4.6	5.0	6.0	7.0	7.0	5.3	4.0	2.7	2.1	51.3
El Dorado	1.7	2.2	3.6	4.8	5.1	5.7	5.9	5.9	4.4	3.2	2.2	1.7	46.3
Glendale	2.0	2.2	3.3	3.8	4.7	4.8	5.7	5.6	4.3	3.3	2.2	1.8	43.7
Glendora	2.0	2.5	3.6	4.9	5.4	6.1	7.3	6.8	5.7	4.2	2.6	2.0	53.1
Gorman	1.6	2.2	3.4	4.6	5.5	7.4	7.7	7.1	5.9	3.6	2.4	1.1	52.4
Hollywood Hills	2.1	2.2	3.8	5.4	6.0	6.5	6.7	6.4	5.2	3.7	2.8	2.1	52.8
Lancaster	2.1	3.0	4.6	5.9	8.5	9.7	11.0	9.8	7.3	4.6	2.8	1.7	71.1
Long Beach	1.8	2.1	3.3	3.9	4.5	4.3	5.3	4.7	3.7	2.8	1.8	1.5	39.7
Los Angeles	2.2	2.7	3.7	4.7	5.5	5.8	6.2	5.9	5.0	3.9	2.6	1.9	50.1
Monrovia	2.2	2.3	3.8	4.3	5.5	5.9	6.9	6.4	5.1	3.2	2.5	2.0	50.2
Palmdale	2.0	2.6	4.6	6.2	7.3	8.9	9.8	9.0	6.5	4.7	2.7	2.1	66.2
Pasadena	2.1	2.7	3.7	4.7	5.1	6.0	7.1	6.7	5.6	4.2	2.6	2.0	52.3
Pearblossom	1.7	2.4	3.7	4.7	7.3	7.7	9.9	7.9	6.4	4.0	2.6	1.6	59.9
Pomona	1.7	2.0	3.4	4.5	5.0	5.8	6.5	6.4	4.7	3.5	2.3	1.7	47.5
Redondo Beach	2.2	2.4	3.3	3.8	4.5	4.7	5.4	4.8	4.4	2.8	2.4	2.0	42.6
San Fernando	2.0	2.7	3.5	4.6	5.5	5.9	7.3	6.7	5.3	3.9	2.6	2.0	52.0
Santa Clarita	2.8	2.8	4.1	5.6	6.0	6.8	7.6	7.8	5.8	5.2	3.7	3.2	61.5
Santa Monica	1.8	2.1	3.3	4.5	4.7	5.0	5.4	5.4	3.9	3.4	2.4	2.2	44.2
MADERA													
Chowchilla	1.0	1.4	3.2	4.7	6.6	7.8	8.5	7.3	5.3	3.4	1.4	0.7	51.4
Madera	0.9	1.4	3.2	4.8	6.6	7.8	8.5	7.3	5.3	3.4	1.4	0.7	51.5
Raymond	1.2	1.5	3.0	4.6	6.1	7.6	8.4	7.3	5.2	3.4	1.4	0.7	50.5
MARIN													
Black Point	1.1	1.7	3.0	4.2	5.2	6.2	6.6	5.8	4.3	2.8	1.3	0.9	43.0
Novato	1.3	1.5	2.4	3.5	4.4	6.0	5.9	5.4	4.4	2.8	1.4	0.7	39.8
Point San Pedro	1.1	1.7	3.0	4.2	5.2	6.2	6.6	5.8	4.3	2.8	1.3	0.9	43.0
San Rafael	1.2	1.3	2.4	3.3	4.0	4.8	4.8	4.9	4.3	2.7	1.3	0.7	35.8
MARIPOSA													
Coulterville	1.1	1.5	2.8	4.4	5.9	7.3	8.1	7.0	5.3	3.4	1.4	0.7	48.8
Mariposa	1.1	1.5	2.8	4.4	5.9	7.4	8.2	7.1	5.0	3.4	1.4	0.7	49.0
Yosemite Village	0.7	1.0	2.3	3.7	5.1	6.5	7.1	6.1	4.4	2.9	1.1	0.6	41.4
MENDOCINO													
Fort Bragg	0.9	1.3	2.2	3.0	3.7	3.5	3.7	3.7	3.0	2.3	1.2	0.7	29.0
Hopland	1.1	1.3	2.6	3.4	5.0	5.9	6.5	5.7	4.5	2.8	1.3	0.7	40.9

Appendix A - Reference Evapotranspiration (ET _o) Table*													
County and City	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Annual ET _o
MENDOCINO													
Point Arena	1.0	1.3	2.3	3.0	3.7	3.9	3.7	3.7	3.0	2.3	1.2	0.7	29.6
Sanel Valley	1.0	1.6	3.0	4.6	6.0	7.0	8.0	7.0	5.2	3.4	1.4	0.9	49.1
Ukiah	1.0	1.3	2.6	3.3	5.0	5.8	6.7	5.9	4.5	2.8	1.3	0.7	40.9
MERCED													
Kesterson	0.9	1.7	3.4	5.5	7.3	8.2	8.6	7.4	5.5	3.8	1.8	0.9	55.1
Los Banos	1.0	1.5	3.2	4.7	6.1	7.4	8.2	7.0	5.3	3.4	1.4	0.7	50.0
Merced	1.0	1.5	3.2	4.7	6.6	7.9	8.5	7.2	5.3	3.4	1.4	0.7	51.5
MODOC													
Modoc/Alturas	0.9	1.4	2.8	3.7	5.1	6.2	7.5	6.6	4.6	2.8	1.2	0.7	43.2
MONO													
Bridgeport	0.7	0.9	2.2	3.8	5.5	6.6	7.4	6.7	4.7	2.7	1.2	0.5	43.0
MONTEREY													
Arroyo Seco	1.5	2.0	3.7	5.4	6.3	7.3	7.2	6.7	5.0	3.9	2.0	1.6	52.6
Castroville	1.4	1.7	3.0	4.2	4.6	4.8	4.0	3.8	3.0	2.6	1.6	1.4	36.2
Gonzales	1.3	1.7	3.4	4.7	5.4	6.3	6.3	5.9	4.4	3.4	1.9	1.3	45.7
Greenfield	1.8	2.2	3.4	4.8	5.6	6.3	6.5	6.2	4.8	3.7	2.4	1.8	49.5
King City	1.7	2.0	3.4	4.4	4.4	5.6	6.1	6.7	6.5	5.2	2.2	1.3	49.6
King City-Oasis Rd.	1.4	1.9	3.6	5.3	6.5	7.3	7.4	6.8	5.1	4.0	2.0	1.5	52.7
Long Valley	1.5	1.9	3.2	4.1	5.8	6.5	7.3	6.7	5.3	3.6	2.0	1.2	49.1
Monterey	1.7	1.8	2.7	3.5	4.0	4.1	4.3	4.2	3.5	2.8	1.9	1.5	36.0
Pajaro	1.8	2.2	3.7	4.8	5.3	5.7	5.6	5.3	4.3	3.4	2.4	1.8	46.1
Salinas	1.6	1.9	2.7	3.8	4.8	4.7	5.0	4.5	4.0	2.9	1.9	1.3	39.1
Salinas North	1.2	1.5	2.9	4.1	4.6	5.2	4.5	4.3	3.2	2.8	1.5	1.2	36.9
San Ardo	1.0	1.7	3.1	4.5	5.9	7.2	8.1	7.1	5.1	3.1	1.5	1.0	49.0
San Juan	1.8	2.1	3.4	4.6	5.3	5.7	5.5	4.9	3.8	3.2	2.2	1.9	44.2
Soledad	1.7	2.0	3.4	4.4	5.5	5.4	6.5	6.2	5.2	3.7	2.2	1.5	47.7
NAPA													
Angwin	1.8	1.9	3.2	4.7	5.8	7.3	8.1	7.1	5.5	4.5	2.9	2.1	54.9
Carneros	0.8	1.5	3.1	4.6	5.5	6.6	6.9	6.2	4.7	3.5	1.4	1.0	45.8
Oakville	1.0	1.5	2.9	4.7	5.8	6.9	7.2	6.4	4.9	3.5	1.6	1.2	47.7
St Helena	1.2	1.5	2.8	3.9	5.1	6.1	7.0	6.2	4.8	3.1	1.4	0.9	44.1
Yountville	1.3	1.7	2.8	3.9	5.1	6.0	7.1	6.1	4.8	3.1	1.5	0.9	44.3
NEVADA													
Grass Valley	1.1	1.5	2.6	4.0	5.7	7.1	7.9	7.1	5.3	3.2	1.5	0.9	48.0
Nevada City	1.1	1.5	2.6	3.9	5.8	6.9	7.9	7.0	5.3	3.2	1.4	0.9	47.4
ORANGE													
Irvine	2.2	2.5	3.7	4.7	5.2	5.9	6.3	6.2	4.6	3.7	2.6	2.3	49.6
Laguna Beach	2.2	2.7	3.4	3.8	4.6	4.6	4.9	4.9	4.4	3.4	2.4	2.0	43.2
Santa Ana	2.2	2.7	3.7	4.5	4.6	5.4	6.2	6.1	4.7	3.7	2.5	2.0	48.2
PLACER													
Auburn	1.2	1.7	2.8	4.4	6.1	7.4	8.3	7.3	5.4	3.4	1.6	1.0	50.6
Blue Canyon	0.7	1.1	2.1	3.4	4.8	6.0	7.2	6.1	4.6	2.9	0.9	0.6	40.5
Colfax	1.1	1.5	2.6	4.0	5.8	7.1	7.9	7.0	5.3	3.2	1.4	0.9	47.9
Roseville	1.1	1.7	3.1	4.7	6.2	7.7	8.5	7.3	5.6	3.7	1.7	1.0	52.2
Soda Springs	0.7	0.7	1.8	3.0	4.3	5.3	6.2	5.5	4.1	2.5	0.7	0.7	35.4
Tahoe City	0.7	0.7	1.7	3.0	4.3	5.4	6.1	5.6	4.1	2.4	0.8	0.6	35.5
Truckee	0.7	0.7	1.7	3.2	4.4	5.4	6.4	5.7	4.1	2.4	0.8	0.6	36.2

Appendix A - Reference Evapotranspiration (ETo) Table*													
County and City	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Annual ETo
PLUMAS													
Portola	0.7	0.9	1.9	3.5	4.9	5.9	7.3	5.9	4.3	2.7	0.9	0.5	39.4
Quincy	0.7	0.9	2.2	3.5	4.9	5.9	7.3	5.9	4.4	2.8	1.2	0.5	40.2
RIVERSIDE													
Beaumont	2.0	2.3	3.4	4.4	6.1	7.1	7.6	7.9	6.0	3.9	2.6	1.7	55.0
Blythe	2.4	3.3	5.3	6.9	8.7	9.6	9.6	8.7	6.9	5.0	3.0	2.2	71.4
Cathedral City	1.6	2.2	3.7	5.1	6.8	7.8	8.7	7.8	5.7	4.0	2.1	1.6	57.1
Coachella	2.9	4.4	6.2	8.4	10.5	11.9	12.3	10.1	8.9	6.2	3.8	2.4	88.1
Desert Center	2.9	4.1	6.4	8.5	11.0	12.1	12.2	11.1	9.0	6.4	3.9	2.6	90.0
Elsinore	2.1	2.8	3.9	4.4	5.9	7.1	7.6	7.0	5.8	3.9	2.6	1.9	55.0
Indio	3.1	3.6	6.5	8.3	10.5	11.0	10.8	9.7	8.3	5.9	3.7	2.7	83.9
La Quinta	2.4	2.8	5.2	6.5	8.3	8.7	8.5	7.9	6.5	4.5	2.7	2.2	66.2
Mecca	2.6	3.3	5.7	7.2	8.6	9.0	8.8	8.2	6.8	5.0	3.2	2.4	70.8
Oasis	2.9	3.3	5.3	6.1	8.5	8.9	8.7	7.9	6.9	4.8	2.9	2.3	68.4
Palm Desert	2.5	3.4	5.3	6.9	8.7	9.6	9.6	8.7	6.9	5.0	3.0	2.2	71.6
Palm Springs	2.0	2.9	4.9	7.2	8.3	8.5	11.6	8.3	7.2	5.9	2.7	1.7	71.1
Rancho California	1.8	2.2	3.4	4.8	5.6	6.3	6.5	6.2	4.8	3.7	2.4	1.8	49.5
Rancho Mirage	2.4	3.3	5.3	6.9	8.7	9.6	9.6	8.7	6.9	5.0	3.0	2.2	71.4
Ripley	2.7	3.3	5.6	7.2	8.7	8.7	8.4	7.6	6.2	4.6	2.8	2.2	67.8
Salton Sea North	2.5	3.3	5.5	7.2	8.8	9.3	9.2	8.5	6.8	5.2	3.1	2.3	71.7
Temecula East II	2.3	2.4	4.1	4.9	6.4	7.0	7.8	7.4	5.7	4.1	2.6	2.2	56.7
Thermal	2.4	3.3	5.5	7.6	9.1	9.6	9.3	8.6	7.1	5.2	3.1	2.1	72.8
Riverside UC	2.5	2.9	4.2	5.3	5.9	6.6	7.2	6.9	5.4	4.1	2.9	2.6	56.4
Winchester	2.3	2.4	4.1	4.9	6.4	6.9	7.7	7.5	6.0	3.9	2.6	2.1	56.8
SACRAMENTO													
Fair Oaks	1.0	1.6	3.4	4.1	6.5	7.5	8.1	7.1	5.2	3.4	1.5	1.0	50.5
Sacramento	1.0	1.8	3.2	4.7	6.4	7.7	8.4	7.2	5.4	3.7	1.7	0.9	51.9
Twitchell Island	1.2	1.8	3.9	5.3	7.4	8.8	9.1	7.8	5.9	3.8	1.7	1.2	57.9
SAN BENITO													
Hollister	1.5	1.8	3.1	4.3	5.5	5.7	6.4	5.9	5.0	3.5	1.7	1.1	45.1
San Benito	1.2	1.6	3.1	4.6	5.6	6.4	6.9	6.5	4.8	3.7	1.7	1.2	47.2
San Juan Valley	1.4	1.8	3.4	4.5	6.0	6.7	7.1	6.4	5.0	3.5	1.8	1.4	49.1
SAN BERNARDINO													
Baker	2.7	3.9	6.1	8.3	10.4	11.8	12.2	11.0	8.9	6.1	3.3	2.1	86.6
Barstow NE	2.2	2.9	5.3	6.9	9.0	10.1	9.9	8.9	6.8	4.8	2.7	2.1	71.7
Big Bear Lake	1.8	2.6	4.6	6.0	7.0	7.6	8.1	7.4	5.4	4.1	2.4	1.8	58.6
Chino	2.1	2.9	3.9	4.5	5.7	6.5	7.3	7.1	5.9	4.2	2.6	2.0	54.6
Crestline	1.5	1.9	3.3	4.4	5.5	6.6	7.8	7.1	5.4	3.5	2.2	1.6	50.8
Lake Arrowhead	1.8	2.6	4.6	6.0	7.0	7.6	8.1	7.4	5.4	4.1	2.4	1.8	58.6
Lucerne Valley	2.2	2.9	5.1	6.5	9.1	11.0	11.4	9.9	7.4	5.0	3.0	1.8	75.3
Needles	3.2	4.2	6.6	8.9	11.0	12.4	12.8	11.0	8.9	6.6	4.0	2.7	92.1
Newberry Springs	2.1	2.9	5.3	8.4	9.8	10.9	11.1	9.9	7.6	5.2	3.1	2.0	78.2
San Bernardino	2.0	2.7	3.8	4.6	5.7	6.9	7.9	7.4	5.9	4.2	2.6	2.0	55.6
Twentynine Palms	2.6	3.6	5.9	7.9	10.1	11.2	11.2	10.3	8.6	5.9	3.4	2.2	82.9
Victorville	2.0	2.6	4.6	6.2	7.3	8.9	9.8	9.0	6.5	4.7	2.7	2.1	66.2
SAN DIEGO													
Chula Vista	2.2	2.7	3.4	3.8	4.9	4.7	5.5	4.9	4.5	3.4	2.4	2.0	44.2
Escondido SPV	2.4	2.6	3.9	4.7	5.9	6.5	7.1	6.7	5.3	3.9	2.8	2.3	54.2
Miramar	2.3	2.5	3.7	4.1	5.1	5.4	6.1	5.8	4.5	3.3	2.4	2.1	47.1

Appendix A - Reference Evapotranspiration (ET_o) Table*

County and City	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Annual ET _o
SAN DIEGO													
Oceanside	2.2	2.7	3.4	3.7	4.9	4.6	4.6	5.1	4.1	3.3	2.4	2.0	42.9
Otay Lake	2.3	2.7	3.9	4.6	5.6	5.9	6.2	6.1	4.8	3.7	2.6	2.2	50.4
Pine Valley	1.5	2.4	3.8	5.1	6.0	7.0	7.8	7.3	6.0	4.0	2.2	1.7	54.8
Ramona	2.1	2.1	3.4	4.6	5.2	6.3	6.7	6.8	5.3	4.1	2.8	2.1	51.6
San Diego	2.1	2.4	3.4	4.6	5.1	5.3	5.7	5.6	4.3	3.6	2.4	2.0	46.5
Santee	2.1	2.7	3.7	4.5	5.5	6.1	6.6	6.2	5.4	3.8	2.6	2.0	51.1
Torrey Pines	2.2	2.3	3.4	3.9	4.0	4.1	4.6	4.7	3.8	2.8	2.0	2.0	39.8
Warner Springs	1.6	2.7	3.7	4.7	5.7	7.6	8.3	7.7	6.3	4.0	2.5	1.3	56.0
SAN FRANCISCO													
San Francisco	1.5	1.3	2.4	3.0	3.7	4.6	4.9	4.8	4.1	2.8	1.3	0.7	35.1
SAN JOAQUIN													
Farmington	1.5	1.5	2.9	4.7	6.2	7.6	8.1	6.8	5.3	3.3	1.4	0.7	50.0
Lodi West	1.0	1.6	3.3	4.3	6.3	6.9	7.3	6.4	4.5	3.0	1.4	0.8	46.7
Manteca	0.9	1.7	3.4	5.0	6.5	7.5	8.0	7.1	5.2	3.3	1.6	0.9	51.2
Stockton	0.8	1.5	2.9	4.7	6.2	7.4	8.1	6.8	5.3	3.2	1.4	0.6	49.1
Tracy	1.0	1.5	2.9	4.5	6.1	7.3	7.9	6.7	5.3	3.2	1.3	0.7	48.5
SAN LUIS OBISPO													
Arroyo Grande	2.0	2.2	3.2	3.8	4.3	4.7	4.3	4.6	3.8	3.2	2.4	1.7	40.0
Atascadero	1.2	1.5	2.8	3.9	4.5	6.0	6.7	6.2	5.0	3.2	1.7	1.0	43.7
Morro Bay	2.0	2.2	3.1	3.5	4.3	4.5	4.6	4.6	3.8	3.5	2.1	1.7	39.9
Nipomo	2.2	2.5	3.8	5.1	5.7	6.2	6.4	6.1	4.9	4.1	2.9	2.3	52.1
Paso Robles	1.6	2.0	3.2	4.3	5.5	6.3	7.3	6.7	5.1	3.7	2.1	1.4	49.0
San Luis Obispo	2.0	2.2	3.2	4.1	4.9	5.3	4.6	5.5	4.4	3.5	2.4	1.7	43.8
San Miguel	1.6	2.0	3.2	4.3	5.0	6.4	7.4	6.8	5.1	3.7	2.1	1.4	49.0
San Simeon	2.0	2.0	2.9	3.5	4.2	4.4	4.6	4.3	3.5	3.1	2.0	1.7	38.1
SAN MATEO													
Hal Moon Bay	1.5	1.7	2.4	3.0	3.9	4.3	4.3	4.2	3.5	2.8	1.3	1.0	33.7
Redwood City	1.5	1.8	2.9	3.8	5.2	5.3	6.2	5.6	4.8	3.1	1.7	1.0	42.8
Woodside	1.8	2.2	3.4	4.8	5.6	6.3	6.5	6.2	4.8	3.7	2.4	1.8	49.5
SANTA BARBARA													
Betteravia	2.1	2.6	4.0	5.2	6.0	5.9	5.8	5.4	4.1	3.3	2.7	2.1	49.1
Carpenteria	2.0	2.4	3.2	3.9	4.8	5.2	5.5	5.7	4.5	3.4	2.4	2.0	44.9
Cuyama	2.1	2.4	3.8	5.4	6.9	7.9	8.5	7.7	5.9	4.5	2.6	2.0	59.7
Goleta	2.1	2.5	3.9	5.1	5.7	5.7	5.4	5.4	4.2	3.2	2.8	2.2	48.1
Goleta Foothills	2.3	2.6	3.7	5.4	5.3	5.6	5.5	5.7	4.5	3.9	2.8	2.3	49.6
Guadalupe	2.0	2.2	3.2	3.7	4.9	4.6	4.5	4.6	4.1	3.3	2.4	1.7	41.1
Lompoc	2.0	2.2	3.2	3.7	4.8	4.6	4.9	4.8	3.9	3.2	2.4	1.7	41.1
Los Alamos	1.8	2.0	3.2	4.1	4.9	5.3	5.7	5.5	4.4	3.7	2.4	1.6	44.6
Santa Barbara	2.0	2.5	3.2	3.8	4.6	5.1	5.5	4.5	3.4	2.4	1.8	1.8	40.6
Santa Maria	1.8	2.3	3.7	5.1	5.7	5.8	5.6	5.3	4.2	3.5	2.4	1.9	47.4
Santa Ynez	1.7	2.2	3.5	5.0	5.8	6.2	6.4	6.0	4.5	3.6	2.2	1.7	48.7
Sisquoc	2.1	2.5	3.8	4.1	6.1	6.3	6.4	5.8	4.7	3.4	2.3	1.8	49.2
Solvang	2.0	2.0	3.3	4.3	5.0	5.6	6.1	5.6	4.4	3.7	2.2	1.6	45.6
SANTA CLARA													
Gilroy	1.3	1.8	3.1	4.1	5.3	5.6	6.1	5.5	4.7	3.4	1.7	1.1	43.6
Los Gatos	1.5	1.8	2.8	3.9	5.0	5.6	6.2	5.5	4.7	3.2	1.7	1.1	42.9
Morgan Hill	1.5	1.8	3.4	4.2	6.3	7.0	7.1	6.0	5.1	3.7	1.9	1.4	49.5
Palo Alto	1.5	1.8	2.8	3.8	5.2	5.3	6.2	5.6	5.0	3.2	1.7	1.0	43.0

Appendix A - Reference Evapotranspiration (ET_o) Table*

County and City	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Annual ET _o
SANTA CLARA													
San Jose	1.5	1.8	3.1	4.1	5.5	5.8	6.5	5.9	5.2	3.3	1.8	1.0	45.3
SANTA CRUZ													
De Laveaga	1.4	1.9	3.3	4.7	4.9	5.3	5.0	4.8	3.6	3.0	1.6	1.3	40.8
Green Valley Rd	1.2	1.8	3.2	4.5	4.6	5.4	5.2	5.0	3.7	3.1	1.6	1.3	40.6
Santa Cruz	1.5	1.8	2.6	3.5	4.3	4.4	4.8	4.4	3.8	2.8	1.7	1.2	36.6
Watsonville	1.5	1.8	2.7	3.7	4.6	4.5	4.9	4.2	4.0	2.9	1.8	1.2	37.7
Webb	1.8	2.2	3.7	4.8	5.3	5.7	5.6	5.3	4.3	3.4	2.4	1.8	46.2
SHASTA													
Burney	0.7	1.0	2.1	3.5	4.9	5.9	7.4	6.4	4.4	2.9	0.9	0.6	40.9
Fall River Mills	0.6	1.0	2.1	3.7	5.0	6.1	7.8	6.7	4.6	2.8	0.9	0.5	41.8
Glenburn	0.6	1.0	2.1	3.7	5.0	6.3	7.8	6.7	4.7	2.8	0.9	0.6	42.1
McArthur	0.7	1.4	2.9	4.2	5.6	6.9	8.2	7.2	5.0	3.0	1.1	0.6	46.8
Redding	1.2	1.4	2.6	4.1	5.6	7.1	8.5	7.3	5.3	3.2	1.4	0.9	48.8
SIERRA													
Downieville	0.7	1.0	2.3	3.5	5.0	6.0	7.4	6.2	4.7	2.8	0.9	0.6	41.3
Sierraville	0.7	1.1	2.2	3.2	4.5	5.9	7.3	6.4	4.3	2.6	0.9	0.5	39.6
SISKIYOU													
Happy Camp	0.5	0.9	2.0	3.0	4.3	5.2	6.1	5.3	4.1	2.4	0.9	0.5	35.1
MacDoel	1.0	1.7	3.1	4.5	5.9	7.2	8.1	7.1	5.1	3.1	1.5	1.0	49.0
Mt Shasta	0.5	0.9	2.0	3.0	4.5	5.3	6.7	5.7	4.0	2.2	0.7	0.5	36.0
Tule lake FS	0.7	1.3	2.7	4.0	5.4	6.3	7.1	6.4	4.7	2.8	1.0	0.6	42.9
Weed	0.5	0.9	2.0	2.5	4.5	5.3	6.7	5.5	3.7	2.0	0.9	0.5	34.9
Yreka	0.6	0.9	2.1	3.0	4.9	5.8	7.3	6.5	4.3	2.5	0.9	0.5	39.2
SOLANO													
Benicia	1.3	1.4	2.7	3.8	4.9	5.0	6.4	5.5	4.4	2.9	1.2	0.7	40.3
Dixon	0.7	1.4	3.2	5.2	6.3	7.6	8.2	7.2	5.5	4.3	1.6	1.1	52.1
Fairfield	1.1	1.7	2.8	4.0	5.5	6.1	7.8	6.0	4.8	3.1	1.4	0.9	45.2
Hastings Tract	1.6	2.2	3.7	5.1	6.8	7.8	8.7	7.8	5.7	4.0	2.1	1.6	57.1
Putah Creek	1.0	1.6	3.2	4.9	6.1	7.3	7.9	7.0	5.3	3.8	1.8	1.2	51.0
Rio Vista	0.9	1.7	2.8	4.4	5.9	6.7	7.9	6.5	5.1	3.2	1.3	0.7	47.0
Suisun Valley	0.6	1.3	3.0	4.7	5.8	7.0	7.7	6.8	5.3	3.8	1.4	0.9	48.3
Winters	0.9	1.7	3.3	5.0	6.4	7.5	7.9	7.0	5.2	3.5	1.6	1.0	51.0
SONOMA													
Bennett Valley	1.1	1.7	3.2	4.1	5.5	6.5	6.6	5.7	4.5	3.1	1.5	0.9	44.4
Cloverdale	1.1	1.4	2.6	3.4	5.0	5.9	6.2	5.6	4.5	2.8	1.4	0.7	40.7
Fort Ross	1.2	1.4	2.2	3.0	3.7	4.5	4.2	4.3	3.4	2.4	1.2	0.5	31.9
Healdsburg	1.2	1.5	2.4	3.5	5.0	5.9	6.1	5.6	4.5	2.8	1.4	0.7	40.8
Lincoln	1.2	1.7	2.8	4.7	6.1	7.4	8.4	7.3	5.4	3.7	1.9	1.2	51.9
Petaluma	1.2	1.5	2.8	3.7	4.6	5.6	4.6	5.7	4.5	2.9	1.4	0.9	39.6
Santa Rosa	1.2	1.7	2.8	3.7	5.0	6.0	6.1	5.9	4.5	2.9	1.5	0.7	42.0
Valley of the Moon	1.0	1.6	3.0	4.5	5.6	6.6	7.1	6.3	4.7	3.3	1.5	1.0	46.1
Windsor	0.9	1.6	3.0	4.5	5.5	6.5	6.5	5.9	4.4	3.2	1.4	1.0	44.2
STANISLAUS													
Denair	1.0	1.9	3.6	4.7	7.0	7.9	8.0	6.1	5.3	3.4	1.5	1.0	51.4
La Grange	1.2	1.5	3.1	4.7	6.2	7.7	8.5	7.3	5.3	3.4	1.4	0.7	51.2
Modesto	0.9	1.4	3.2	4.7	6.4	7.7	8.1	6.8	5.0	3.4	1.4	0.7	49.7
Newman	1.0	1.5	3.2	4.6	6.2	7.4	8.1	6.7	5.0	3.4	1.4	0.7	49.3
Oakdale	1.2	1.5	3.2	4.7	6.2	7.7	8.1	7.1	5.1	3.4	1.4	0.7	50.3

Appendix A - Reference Evapotranspiration (ET_o) Table*

County and City	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Annual ET _o
STANISLAUS													
Patterson	1.3	2.1	4.2	5.4	7.9	8.6	8.2	6.6	5.8	4.0	1.9	1.3	57.3
Turlock	0.9	1.5	3.2	4.7	6.5	7.7	8.2	7.0	5.1	3.4	1.4	0.7	50.2
SUTTER													
Nicolaus	0.9	1.6	3.2	4.9	6.3	7.5	8.0	6.9	5.2	3.4	1.5	0.9	50.2
Yuba City	1.3	2.1	2.8	4.4	5.7	7.2	7.1	6.1	4.7	3.2	1.2	0.9	46.7
TEHAMA													
Corning	1.2	1.8	2.9	4.5	6.1	7.3	8.1	7.2	5.3	3.7	1.7	1.1	50.7
Gerber	1.0	1.8	3.5	5.0	6.6	7.9	8.7	7.4	5.8	4.1	1.8	1.1	54.7
Gerber Dryland	0.9	1.6	3.2	4.7	6.7	8.4	9.0	7.9	6.0	4.2	2.0	1.0	55.5
Red Bluff	1.2	1.8	2.9	4.4	5.9	7.4	8.5	7.3	5.4	3.5	1.7	1.0	51.1
TRINITY													
Hay Fork	0.5	1.1	2.3	3.5	4.9	5.9	7.0	6.0	4.5	2.8	0.9	0.7	40.1
Weaverville	0.6	1.1	2.2	3.3	4.9	5.9	7.3	6.0	4.4	2.7	0.9	0.7	40.0
TULARE													
Alpaugh	0.9	1.7	3.4	4.8	6.6	7.7	8.2	7.3	5.4	3.4	1.4	0.7	51.6
Badger	1.0	1.3	2.7	4.1	6.0	7.3	7.7	7.0	4.8	3.3	1.4	0.7	47.3
Delano	1.1	1.9	4.0	4.9	7.2	7.9	8.1	7.3	5.4	3.2	1.5	1.2	53.6
Dinuba	1.1	1.5	3.2	4.7	6.2	7.7	8.5	7.3	5.3	3.4	1.4	0.7	51.2
Lindcove	0.9	1.6	3.0	4.8	6.5	7.6	8.1	7.2	5.2	3.4	1.6	0.9	50.6
Porterville	1.2	1.8	3.4	4.7	6.6	7.7	8.5	7.3	5.3	3.4	1.4	0.7	52.1
Visalia	0.9	1.7	3.3	5.1	6.8	7.7	7.9	6.9	4.9	3.2	1.5	0.8	50.7
TUOLUMNE													
Groveland	1.1	1.5	2.8	4.1	5.7	7.2	7.9	6.6	5.1	3.3	1.4	0.7	47.5
Sonora	1.1	1.5	2.8	4.1	5.8	7.2	7.9	6.7	5.1	3.2	1.4	0.7	47.6
VENTURA													
Camarillo	2.2	2.5	3.7	4.3	5.0	5.2	5.9	5.4	4.2	3.0	2.5	2.1	46.1
Oxnard	2.2	2.5	3.2	3.7	4.4	4.6	5.4	4.8	4.0	3.3	2.4	2.0	42.3
Piru	2.8	2.8	4.1	5.6	6.0	6.8	7.6	7.8	5.8	5.2	3.7	3.2	61.5
Port Hueneme	2.0	2.3	3.3	4.6	4.9	4.9	4.9	5.0	3.7	3.2	2.5	2.2	43.5
Thousand Oaks	2.2	2.6	3.4	4.5	5.4	5.9	6.7	6.4	5.4	3.9	2.6	2.0	51.0
Ventura	2.2	2.6	3.2	3.8	4.6	4.7	5.5	4.9	4.1	3.4	2.5	2.0	43.5
YOLO													
Bryte	0.9	1.7	3.3	5.0	6.4	7.5	7.9	7.0	5.2	3.5	1.6	1.0	51.0
Davis	1.0	1.9	3.3	5.0	6.4	7.6	8.2	7.1	5.4	4.0	1.8	1.0	52.5
Esparto	1.0	1.7	3.4	5.5	6.9	8.1	8.5	7.5	5.8	4.2	2.0	1.2	55.8
Winters	1.7	1.7	2.9	4.4	5.8	7.1	7.9	6.7	5.3	3.3	1.6	1.0	49.4
Woodland	1.0	1.8	3.2	4.7	6.1	7.7	8.2	7.2	5.4	3.7	1.7	1.0	51.6
Zamora	1.1	1.9	3.5	5.2	6.4	7.4	7.8	7.0	5.5	4.0	1.9	1.2	52.8
YUBA													
Browns Valley	1.0	1.7	3.1	4.7	6.1	7.5	8.5	7.6	5.7	4.1	2.0	1.1	52.9
Brownsville	1.1	1.4	2.6	4.0	5.7	6.8	7.9	6.8	5.3	3.4	1.5	0.9	47.4

* The values in this table were derived from:

- 1) California Irrigation Management Information System (CIMIS);
- 2) Reference EvapoTranspiration Zones Map, UC Dept. of Land, Air & Water Resources and California Dept of Water Resources 1999; and
- 3) Reference Evapotranspiration for California, University of California, Department of Agriculture and Natural Resources (1987) Bulletin 1922;
- 4) Determining Daily Reference Evapotranspiration, Cooperative Extension UC Division of Agriculture and Natural Resources (1987), Publication Leaflet 21426

SECTION 24. Appendix B of Chapter 17.11 (Water Efficiency) of Title 17 (Zoning) is deleted and replaced by the following Appendix A, which shall read as follows:

Appendix B – Sample Water Efficient Landscape Worksheet.

WATER EFFICIENT LANDSCAPE WORKSHEET

This worksheet is filled out by the project applicant and it is a required element of the Landscape Documentation Package.

Reference Evapotranspiration (ET_o)

Hydrozone # /Planting Description ^a	Plant Factor (PF)	Irrigation Method ^b	Irrigation Efficiency (IE) ^c	ETAF (PF/IE)	Landscape Area (sq. ft.)	ETAF x Area	Estimated Total Water Use (ETWU) ^e
Regular Landscape Areas							
				Totals	(A)	(B)	
Special Landscape Areas							
				1			
				1			
				1			
				Totals	(C)	(D)	
				ETWU Total			
				Maximum Allowed Water Allowance (MAWA)^g			

^aHydrozone #/Planting Description

E.g

- 1.) front lawn
- 2.) low water use plantings
- 3.) medium water use planting

^bIrrigation Method

overhead spray
or drip

^cIrrigation Efficiency

0.75 for spray head
0.81 for drip

^dETWU (Annual Gallons Required) =
 $Eto \times 0.62 \times ETAF \times Area$

where 0.62 is a conversion factor that converts acre-inches per acre per year to gallons per square foot per year.

^eMAWA (Annual Gallons Allowed) = $(Eto) \cdot (0.62) [(ETAF \times LA) + ((1-ETAF) \times SLA)]$

where 0.62 is a conversion factor that converts acre-inches per acre per year to gallons per square foot per year, LA is the total landscape area in square feet, SLA is the total special landscape area in square feet, and ETAF is .55 for residential areas and 0.45 for non-residential areas.

ETAF Calculations

Regular Landscape Areas

Total ETAF x Area	(B)
Total Area	(A)
Average ETAF	B ÷ A

Average ETAF for Regular Landscape Areas must be 0.55 or below for residential areas, and 0.45 or below for non-residential areas.

All Landscape Areas

Total ETAF x Area	(B+D)
Total Area	(A+C)
Sitewide ETAF	(B+D) ÷ (A+C)

SECTION 25. Appendix C of Chapter 17.11 (Water Efficiency) of Title 17 (Zoning) is deleted and replaced by the following Appendix C, which shall read as follows:

Appendix C – Sample Certificate of Completion.

CERTIFICATE OF COMPLETION

This certificate is filled out by the project applicant upon completion of the landscape project.

PART 1. PROJECT INFORMATION SHEET

Date		
Project Name		
Name of Project Applicant	Telephone No.	
	Fax No.	
Title	Email Address	
Company	Street Address	
City	State	Zip Code

Project Address and Location:

Street Address		Parcel, tract or lot number, if available.
City		Latitude/Longitude (optional)
State	Zip Code	

Property Owner or his/her designee:

Name	Telephone No.	
	Fax No.	
Title	Email Address	
Company	Street Address	
City	State	Zip Code

Property Owner

"I/we certify that I/we have received copies of all the documents within the Landscape Documentation Package and the Certificate of Completion and that it is our responsibility to see that the project is maintained in accordance with the Landscape and Irrigation Maintenance Schedule."

Property Owner Signature

Date

Please answer the questions below:

1. Date the Landscape Documentation Package was submitted to the local agency _____
2. Date the Landscape Documentation Package was approved by the local agency _____
3. Date that a copy of the Water Efficient Landscape Worksheet (including the Water Budget Calculation) was submitted to the local water purveyor _____

PART 2. CERTIFICATION OF INSTALLATION ACCORDING TO THE LANDSCAPE DOCUMENTATION PACKAGE

"I/we certify that based upon periodic site observations, the work has been completed in accordance with the ordinance and that the landscape planting and irrigation installation conform with the criteria and specifications of the approved Landscape Documentation Package."

Signature*		Date	
Name (print)		Telephone No.	
		Fax No.	
Title		Email Address	
License No. or Certification No.			
Company		Street Address	
City	State	Zip Code	

PART 3. IRRIGATION SCHEDULING

Attach parameters for setting the irrigation schedule on controller per ordinance 17.11.140.

PART 4. SCHEDULE OF LANDSCAPE AND IRRIGATION MAINTENANCE

Attach schedule of Landscape and Irrigation Maintenance per ordinance Section 17.11.150.

PART 5. LANDSCAPE IRRIGATION AUDIT REPORT

Attach Landscape Irrigation Audit Report per ordinance Section 17.11.160.

PART 6. SOIL MANAGEMENT REPORT

Attach soil analysis report, if not previously submitted with the Landscape Documentation Package per ordinance Section 17.11.100.

Attach documentation verifying implementation of recommendations from soil analysis report per ordinance Section 17.11.100.

SECTION 26. Appendix D of Chapter 17.11 (Water Efficiency) of Title 17 (Zoning) is deleted and replaced by the following Appendix C, which shall read as follows:

Appendix D – Sample Certificate of Completion.

- (a) This appendix contains prescriptive requirements which may be used as a compliance option to the Model Water Efficient Landscape Ordinance.
- (b) Compliance with the following items is mandatory and must be documented a landscape plan in order to use the prescriptive compliance option:
 - (1) Submit a Landscape Documentation Package which includes the following elements:
 - (A) date
 - (B) project applicant
 - (C) project address (if available, parcel and/or lot numbers(s))
 - (D) total landscape area (square feet), including a breakdown of turf and plant material
 - (E) project type (e.g., new, rehabilitated, public, private, cemetery, homeowner-installed)
 - (F) water supply type (e.g., potable, recycled, well) and identify the local retail water purveyor if the applicant is not served by a private well
 - (G) contact information for the project applicant and proper owner
 - (H) applicant signature and date with statement, "I agree to comply with the requirements of the prescriptive compliance option to the MWE-LO."
 - (2) Incorporate compost at a rate of at least four cubic yards per 1,000 square feet to a depth of six inches into landscape area (unless contra-indicated by a soil test);
 - (3) Plant material shall comply with all of the following:
 - (A) For residential areas, install climate adapted plants that require occasional, little or no summer water (average WUCOLS plant factor 0.3) for 75% of the plant area excluding edibles and areas using recycled water; For non-residential areas, install climate adapted

plants that require occasional, little or no summer water (average WUCOLS plant factor 0.3) for 100% of the plant area excluding edibles and areas using recycled water;

(B) A minimum of three inch (3") layer of mulch shall be applied on all exposed soil surfaces of planting areas except in turf areas, creeping or rooting groundcovers, or direct seeding applications where mulch is contraindicated.

(4) Turf shall comply with all of the following:

(A) Turf shall not exceed 25% of the landscape area in residential areas, and there shall be no turf in non-residential areas;

(B) Turf shall not be planted on sloped areas which exceed a slope of 1 foot vertical elevation change for every 4 feet of horizontal length;

(C) Turf is prohibited in parkways less than 10 feet wide, unless the parkway is adjacent to a parking strip and used to enter and exit vehicles. Any turf in parkways must be irrigated by sub-surface irrigation or by other technology that creates no overspray or runoff

(5) Irrigation systems shall comply with the following:

(A) Automatic irrigation controllers are required and must use evapotranspiration or soil moisture sensor data and utilize a rain sensor.

(B) Irrigation controllers shall be of a type which does not lose programming data in the event the primary power source is interrupted.

(C) Pressure regulators shall be installed on the irrigation system to ensure the dynamic pressure of the system is within the manufacturers recommended pressure range.

(D) Manual shut-off valves (such as a gate valve, ball valve, or butterfly valve) shall be installed as close as possible to the point of connection of the water supply.

(E) All irrigation emission devices must meet the requirements set in the ANSI standard, ASABE/ICC 802-2014. "Landscape Irrigation Sprinkler and Emitter Standard," All sprinkler heads installed in the landscape must document a distribution uniformity low quarter of 0.65 or higher using the protocol defined in ASABE/ICC 802-2014.

(F) Areas less than ten (10) feet in width in any direction shall be irrigated with surface irrigation or other means that produces no runoff or overspray.

(6) For non-residential projects with landscape areas of 1,000 sq.ft. or more, a private submitter(s) to measure landscape water use shall be installed.

(c) At the time of final inspection, the permit applicant must provide the owner of the property with a certificate of completion, certificate of installation, irrigation schedule and a schedule of landscape and irrigation maintenance.

SECTION 27. Inconsistent Provisions. Any provision of the El Monte Municipal Code or appendices thereto inconsistent with the provisions of this Ordinance, to the extent of such inconsistencies and no further, is hereby repealed or modified to the extent necessary to implement the provisions of this Ordinance.

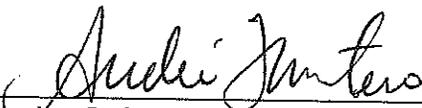
SECTION 28. Severability. If any section, subsection, subdivision, paragraph, sentence, clause or phrase of this Ordinance, or any part thereof is for any reason held to be invalid or unconstitutional by a decision of any court of competent jurisdiction,

such decision shall not affect the validity of the remaining portions of this Ordinance or any part thereof. The City Council hereby declares that it would have passed each section, subsection, subdivision, paragraph, sentence, clause or phrase thereof, irrespective of the fact that any one or more section, subsection, subdivision, paragraph, sentence, clause or phrase would be subsequently declared invalid or unconstitutional.

SECTION 29. Construction. The City Council intends this Ordinance to supplement, not to duplicate or contradict, applicable state and federal law and this Ordinance shall be construed in light of that intent. To the extent the provisions of the El Monte Municipal Code as amended by this Ordinance are substantially the same as the provisions of that Code as it read prior to the adoption of this Ordinance, those amended provisions shall be construed as continuations of the earlier provisions and not as new enactments.

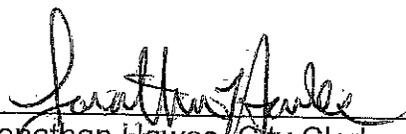
SECTION 30. Publication and Effective Date. The Mayor shall sign and the City Clerk shall attest to the passage of this Ordinance. The City Clerk shall cause the same to be published once in a newspaper of general circulation within fifteen (15) days after its adoption. This Ordinance shall become effective thirty (30) days after adoption.

PASSED, APPROVED AND ADOPTED by the City Council of the City of El Monte at the regular meeting of this 21st day of June, 2016.



Andre Quintero, Mayor
City of El Monte

ATTEST:



Jonathan Hawes, City Clerk
City of El Monte

STATE OF CALIFORNIA)
COUNTY OF LOS ANGELES) SS:
CITY OF EL MONTE)

I, Jonathan Hawes, City Clerk of the City of EL Monte, hereby certify that the foregoing Ordinance No. 2884 was introduced for a first reading on the 7th day of June, 2016 and approved for a second reading and adopted by said Council at its regular meeting held on the 21st day of June, 2016 by the following vote, to-wit:

AYES: Mayor Quintero, Mayor Pro Tem Martinez, Councilmembers Gomez, Macias and Velasco

NOES: None

ABSTAIN: None

ABSENT: None



Jonathan Hawes, City Clerk
City of El Monte