FINAL

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CITY OF PASO ROBLES

2010 URBAN WATER MANAGEMENT PLAN

Todd Engineers

City of Paso Robles

2010 Urban Water Management Plan

FINAL

June 2011

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EXECUTIVE SUMMARY

This Urban Water Management Plan (Plan or UWMP) has been prepared for the City of Paso Robles to help guide the City's water management efforts to the year 2025. It has been prepared in accordance with the Urban Water Management Planning Act (Division 6 Part 2.6 of the Water Code §§10610 – 10656) and the Water Conservation Act (Division 6 Part 2.55 of the Water Code §§10608 – 10608.44).

This Plan documents the City's sources of water supply, defines water demands, presents a water shortage contingency plan, and describes implementation of water demand management measures. The Plan also projects supply and demand to the year 2035 (although buildout, in accordance with the City's 2003 General Plan, is projected to occur sooner). This supports compliance with SB221 requirements for demonstration of adequate water supplies for new development.

This Plan builds on and updates the 2005 UWMP, accounting for changes in the California Water Code and local planning and water management efforts. On November 4, 2009, California lawmakers passed four inter-related water policy bills (called the 2009 Water Package). Bills in the 2009 Water Package amend the Urban Water Management Planning Act and revise requirements of subsequent UWMPs. Specifically, Senate Bill 7 (Statewide Water Conservation) establishes a goal of 20 percent reduction in statewide urban water use (in gallons per capita per day) by 2020. Accordingly, this 2010 UWMP includes a baseline water use estimate, assesses current water use per capita, and develops specific water use targets to meet the 2020 goal of 20 percent water use reduction.

WATER SUPPLY AND DEMAND

The City's population is expected to grow less than one percent annually between 2010 and 2015. The population is then projected to increase linearly to the buildout potential of 44,000 residents in 2025 as per the City's 2003 General Plan. As the City's population increases, total "Baseline" water demand is projected to increase from 6,326 acre feet per year (AFY) to 13,400 AFY by 2025. Baseline demand is projected demand without demand reductions from water conservation programs and recycled water programs outlined in this Plan. Water use in 2009 and 2010 were reduced by approximately 20 percent due to City-wide mandatory outdoor water use restrictions. Currently, much of the City's water demand is for single-family residential uses; in the future, it is expected that commercial demands will increase relative to single-family residential demand.

Water Supplies Needed to Meet Demands - Current and Projected (AFY)							
Water Supply Sources	**2007**	**2010**	**2015**	**2020**	**2025**	**2030**	**2035**
Basin Wells	4,103	2,338	100	990	3,400[1]	3,400[1]	3,400[1]
River Wells	4,023	3,988	4,450	4,600	4,600	4,600	4,600
Nacimiento Water	0	0	4,000	5,400	5,400	5,400	5,400
Demand Without Potential Conservation	**8,126**	**6,326**	**8,550**	**10,990**	**13,400**	**13,400**	**13,400**
Potential Conservation and Recycled Water Savings	**2007**	**2010**	**2015**	**2020**	**2025**	**2030**	**2035**
BMP/DMM Conservation	0	61	364	1,038	1,617	1,617	1,617
Price Elasticity of Water Rates Conservation	0	0	616	1,827	1,618	1,618	1,618
Recycled Water (Phase 1 Direct Use)	0	0	0	0	650	650	650
SB-7 Target Water Demands (AFY) to Comply with 20% gpcd Demand Reduction by 2020	**Not Applicable**	**Not Applicable**	**7,570**	**8,125**	**9,515**	**9,515**	**9,515**
SB-7 Target Water Demands (gpcd)	**Not Applicable**	**Not Applicable**	**217 gpcd**	**193 gpcd**	**193 gpcd**	**193 gpcd**	**193 gpcd**

1. If SB7 targets for water conservation and water recycling shown can be achieved, pumping from basin wells would be reduced significantly from the 3,400 AFY shown at buildout. If necessary, to reduce basin pumping, additional supplemental supply sources such as Nacimiento water and water recycling will be evaluated.

A possible water supply scenario is presented in the table above. The top part of the table shows supplies needed to meet projected demands while the bottom portion of the table presents the potential conservation and recycled water required to comply with the Senate Bill 7 goal of 20 percent reduction in urban water use by 2020. If SB7 targets for water conservation and water recycling shown can be achieved, pumping from basin wells would be reduced significantly from the 3,400 AFY shown at buildout. If necessary, to reduce basin pumping, additional supplemental supply sources such as Nacimiento water and water recycling will be evaluated.

The City currently relies on water from two sources: Salinas River underflow and groundwater in the Paso Robles Groundwater Basin. The City's Salinas River underflow is subject to State permitting that allows the City to extract up to eight cubic feet per second (cfs) with a maximum extraction of 4,600 AFY. Until recently, the City's use of underflow was below the full appropriation due to limited production capacity, but reached 4,558 AF in 2005.

The City also produces groundwater from the Paso Robles Groundwater Basin through wells distributed through the service area. This distribution helps minimize local impacts on groundwater levels and reduces the potential for any single event to disrupt production from more than a few wells. The groundwater basin is shared among many users, including rural users, municipalities, and agriculture (which accounted for 68 percent of basin pumping in 2006). In the past, City pumping from the basin has been as high as 4,103 AFY in 2007.

Groundwater use in the Paso Robles Basin is close to the estimated perennial yield value and significant groundwater level declines are continuing locally, most notably in the Estrella subarea. This area provides half of the City's groundwater supply as well as supply for farmers, domestic users, and other communities. San Luis Obispo County has designated the entire basin, with the exception of the Atascadero subbasin, as Level of Severity III (LOS III). The LOS III designation indicates demand for the resource will equal or exceed its supply before supplemental supplies can be developed. The Atascadero subbasin was designated a LOS I, a first alert level to monitor groundwater use as sufficient lead time exists before use nears supply. Additionally, municipal pumping accounts for approximately 75 pecent of pumping in the subbasin and most of the pumping is from the Salinas River underflow. Municipal pumpers can balance supply and demand with use of surface water, conservation, and usage redistribution, if necessary.

The City participates in groundwater basin monitoring and management planning and activities, in cooperation with San Luis Obispo County and other water users. The City is an active participant in the current groundwater basin management planning and in the Paso Robles Groundwater Basin Agreement with San Luis Obispo County and specific basin landowners. This agreement supports groundwater management to avoid overdraft and promotes long-term groundwater supply reliability.

The City has regularly experienced seasonal water supply problems as existing wells have become unable to deliver peak water demands. City-wide mandatory outdoor water use restrictions were implemented in 2009 (Level 2 of the City's Water Conservation Ordinance and Water Shortage Contingency Plan) to reduce summer peak water demands and thereby manage a projected water production shortfall of 20 percent. It is anticipated that these restrictions will be lifted when Nacimiento surface water supply becomes available or when sufficient interim well capacity is provided.

The City intends to develop two additional water supply sources for the future. First, the City entered into an agreement with San Luis Obispo County to import 4,000 AFY of Lake Nacimiento water. Construction of a treatment plant is expected to begin in 2015 that will allow use of the new water supply. An additional 1,400 AFY of Nacimiento water is anticipated to be acquired around 2020. Lake Nacimiento water will significantly enhance the City's ability to meet peak season and long-term demands. The Lake Nacimiento supply is independent of local groundwater supplies and the water delivery contracts give the City and other San Luis Obispo County agencies high priority in droughts. Use of Nacimiento water will reduce groundwater pumping and provide an additional high quality water source for City residents. Additionally, Nacimiento water is lower in Hardness than groundwater and will require less softening by customers, thereby improving the quality of the City's wastewater treatment plant effluent. This is important because the City's treated wastewater effluent is recharged to the

groundwater basin and improved effluent quality will yield long-term water quality benefits to the groundwater basin.

In addition, the City is actively planning for an estimated 650 AFY of recycled water for irrigation by 2025. Recycled water for irrigation not only releases potable groundwater for higher beneficial uses, but is very reliable throughout the year and during drought. Provision of recycled water for landscape irrigation would substantially reduce peak water demands in summer.

Comparison of planned water supply sources and projected water demand in the long term—to 2025 and beyond—indicates that even with water conservation, Lake Nacimiento supply, and water recycling, the City will continue to rely on Salinas River underflow and groundwater in the Paso Robles Groundwater Basin for a portion of the water supply.

WATER SHORTAGE CONTINGENCY PLAN

In addition to evaluating the overall reliability of water supply, this Plan also assesses the reliability of City water supply during single-year and multiple-year droughts, and in the event of a catastrophe.

Water levels in the City's Paso Robles Groundwater Basin wells have been dropping consistently over the last 12 years due to regional water level declines in the basin. The impact of single year or multi-year droughts can amplify the effects of regional groundwater level declines, resulting in further lowering of well production levels. Single year droughts have not significantly affected the City's wells. However, droughts with durations of 3, 4, or 5 years are more problematic in terms of creating additional impacts on top of chronic water level declines in the basin (Boyle, September 2006).

In response to chronic and continuing water level declines and lowered water production capacity, the City has installed treatment systems to recommission standby wells and rehabilitated other wells to maintain production capacity. In addition, in June of 2009 the City adopted a Water Conservation and Water Shortage Contingency Plan (Ordinance No. 956 N.S.). This plan establishes mandatory and permanent water management measures necessary to overcome supply deficiency, promote efficient use of water, and to prevent waste. The plan outlines a staged approach to dealing with supply shortfalls from 10 to 50 percent (see Appendix C for the plan). In June of 2009, the City initiated mandatory Level 2 outdoor water use restrictions during the summer months. These restrictions, which are anticipated to remain in effect until additional water supplies are developed, have been successful in reducing peak demand and enabling the City to maintain reservoir storage levels for emergency and reserve uses.

WATER DEMAND MANAGEMENT MEASURES

Water demand management (water conservation) reduces waste, lowers wastewater treatment costs, extends the life of supplies and can improve overall water quality. Benefits to the groundwater basin will occur as groundwater that is not pumped will remain in storage, helping to maintain groundwater levels and increase long-term groundwater supply reliability (including during droughts). Water conservation efforts directed toward landscape irrigation will help reduce seasonal peak demands and diminish the

potential for seasonal shortages. Through water conservation, citizens can be assured that the City is using its existing water supplies efficiently while pursuing additional water supplies.

In 2010, the City became a member of the California Urban Water Conservation Council (CUWCC). Since submitting the 2005 UWMP, Paso Robles has made significant progress in implementing the CUWCC Demand Management Measures. A Water Conservation Manager position has been staffed, and programs covering 11 of the 14 original DMMs have now been implemented. The remaining DMMs will be evaluated for implementation during the 2011-2015 period. Water savings from the DMMS are estimated to range from 364 and 1,617 AFY between 2015 and 2035.

1. INTRODUCTION

1.1 PLAN PREPARATION AND ADOPTION

This Urban Water Management Plan (Plan or UWMP) has been prepared for the City of Paso Robles to help guide the City's water management efforts to the year 2025 and beyond. It has been prepared in accordance with the Urban Water Management Planning Act (Division 6 Part 2.6 of the Water Code §§10610 – 10656) and the Water Conservation Act (Division 6 Part 2.55 of the Water Code §§10608 – 10608.44).

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This Plan builds on and updates the 2005 UWMP, accounting for changes in the California Water Code and local planning and water management efforts. On November 4, 2009, California lawmakers passed four inter-related water policy bills (called the 2009 Water Package). Bills in the 2009 Water Package amend the Urban Water Management Planning Act and revise requirements of UWMPs. Specifically, Senate Bill 7 (Statewide Water Conservation) establishes a goal of 20 percent reduction in statewide urban water use (measured in gallons per capita per day) by 2020. Accordingly, this 2010 UWMP includes a baseline water use estimate, assesses current water use per capita, and develops specific water use targets to meet the 2020 goal of 20 percent water use reduction.

The City established the following water resource goals in 2004:

- improve water quality,
- increase and diversify water resources,
- increase reliability of water supplies,
- reduce groundwater basin dependence,
- reduce salt loading into the basin and thereby comply with regulatory mandates,
- maintain a strong water rights position, and
- anticipate regulatory requirements.

To attain these goals, the City recently:

- developed a facilities Capital Improvement Program focused on providing high quality dependable water supply to residents,
- completed a 2010 Water Rate and Revenue Analysis report and established a new water rate billing structure,
- developed a source control program for wastewater, and

- hired a water conservation manager and implemented a water conservation program.

The City currently is:

- progressing with plans for a water treatment plant to treat surface water received from Lake Nacimiento,
- progressing with plans for upgrading their wastewater treatment plant for improved effluent water quality,
- participating in preparation of a Groundwater Basin Management Plan, and
- developing a Recycled Water Master Plan and Financial Plan.

The Urban Water Management Plan is a key component in the advancement of the City toward community water resource goals. Most notably, the Plan documents the quantity and quality of the City's water supplies, both current and future. This provides baseline information for future augmentation and diversification of City supplies. The Plan also provides specific assessment of the reliability of City water supplies during normal and drought years and in emergencies. In addition, the Plan documents the City's water rights and measures taken by the City to protect its use of water supplies.

In accordance with UWMP requirements, San Luis Obispo County and the public were notified at least 60 days prior to the public hearing that the UWMP would be revised. Paso Robles held a public hearing at least 45 days after the circulation of the Public Draft Plan and prior to adoption of the Plan. A public notice was posted before the public hearing. Documentation of the public notices and public hearing are included in **Appendix A**. The public hearing included a general discussion of the implementation plan for complying with Senate Bill 7, Statewide Water Conservation.

The Final Plan was adopted by the City Council on June 21, 2011. The resolution to adopt the Plan is included in **Appendix A**. The adopted Plan has been submitted to the Department of Water Resources and the California State Library, as required by law. Copies of the Plan were also sent to San Luis Obispo County and the City of Paso Robles public library, and posted on the City's website. **Appendix A** contains required documentation. California regulations require Urban Water Management Plans to be updated at least once every five years in years ending in five and zero. However, Senate Bill 7 extended the deadline for adoption of the 2010 UWMP to July 1, 2011.

1.2 AGENCY COORDINATION AND PUBLIC PARTICIPATION

Paso Robles has provided for agency coordination and community participation in its urban water management planning efforts. **Table 1** lists the organizations contacted and summarizes citizen participation. A Draft Plan was available to the public on May 1, 2011 for comment with a public presentation on May 17, 2011 to summarize the Draft Plan. **Table 1** also summarizes circulation of the Draft and Final plans. The Draft Plan was sent to the listed organizations with a request to provide comments. Final Plan copies are available at City Hall and the City Library. An electronic version is available on the City's website (http://www.prcity.com).

In addition to preparation of this report, coordination with other agencies is ongoing in the Paso Robles area. For example, the City of Paso Robles, in partnership with San Luis Obispo County and local stakeholders, is preparing a groundwater basin management plan for the Paso Robles Groundwater Basin. The City is signatory to the Paso Robles Groundwater Basin Agreement with the County and certain private landowners, who have organized as the Paso Robles Imperiled Overlying Rights (PRIOR) group. The City also participates actively in the Water Resources Advisory Committee, which provides advice to the County Board of Supervisors on water policy.

1.3 ACKNOWLEDGEMENTS

This Plan was prepared by Todd Engineers. We appreciate the considerable assistance provided by the City of Paso Robles staff. This Plan was prepared using the checklists and worksheets provided by the California Department of Water Resources (DWR) from their website,

http://www.owue.water.ca.gov/urbanplan/index.cfm

and their *Final Guidebook to Assist Urban Water Suppliers to Prepare a 2010 Urban Water Management Plan,* March, 2011.

2. SERVICE AREA

2.1 LOCATION

The City of Paso Robles is located in northern San Luis Obispo County (North County), on the eastern, inland side of the Santa Lucia Mountains. As illustrated in **Figure 1**, Paso Robles is situated on the upper Salinas River, which flows north toward Monterey County. Incorporated in 1889, the City of El Paso de Robles (Paso Robles) now encompasses a total area of 11,985 acres on both sides of the Salinas River (Rincon, 2003). Other communities near Paso Robles include Santa Margarita, Atascadero, Templeton, San Miguel and Shandon. The City also is situated on the western margin of the Paso Robles Groundwater Basin, which is the water-bearing portion of the upper Salinas River drainage area.

2.2 CLIMATE

Paso Robles has a semi-arid, Mediterranean climate characterized by hot sunny summers and cool winters. Because of its inland location, the influence of fog and maritime breezes is less pronounced than in south county cities such as San Luis Obispo. Precipitation on the Paso Robles Groundwater Basin area ranges from an annual average of 16 inches or more in the west to less than 10 inches in the east (Todd Engineers, 2007).

Table 2 summarizes local climate data, including rainfall, evapotranspiration, and temperature. As shown, the long-term average annual rainfall is 14.86 inches; most of the precipitation occurs in the winter months (November through April). Rainfall has been measured since 1894 at Paso Robles (station 046730, see **Figure 1** for location) and, as illustrated in **Figure 2**, is subject to wide annual variations. Since 1931, the lowest recorded annual rainfall was 4.24 inches in 1947 and the greatest annual rainfall was 29.19 inches in 1941. As shown on **Figure 2**, the recent years 2007 through 2009 have been relatively dry: however, rainfall in 2010 was above average because of the heavy rainfall in December (7.14 inches).

Table 2 also presents average evapotranspiration (ET) data. ET is the loss of water to the atmosphere by evaporation from soil and plant surfaces and transpiration from plants. It is an indicator of how much water is needed by crops, lawns, gardens, and trees for healthy growth and productivity. ET from a standardized grass surface is the common reference, denoted as ETo. The least ET occurs in the cool wet winter months and greatest ET occurs during the hot dry summer months. This results in peak monthly water demands in summer that are three times the comparable winter demand.

Average monthly temperatures range from 46.7 degrees Fahrenheit in January and December to more than 71 degrees in July and August. In these two months, daily maximum temperatures typically exceed 90 degrees. Summer days with 100+ degree temperatures are common.

2.3 POPULATION

The first major commercial activity in the North County was cattle grazing, followed by development of almond groves and most recently, extensive planting of vineyards. In addition to its agricultural base, Paso Robles also has a long history of tourism, based historically on development of local hot springs and more recently on wine touring. Other major factors affecting historical growth of the City included development of Camp Roberts (a large military base) during World War II and improvement of State Highways 101 and 46. Paso Robles remains the major service center for ranching and agriculture in the North County, particularly areas to the east along Highway 46.

Three reservoirs have been developed in the area for flood control, water supply, and recreation; these are Santa Margarita Lake (Salinas Dam) on the upper Salinas River, Lake Nacimiento on the Nacimiento River near the San Luis Obispo-Monterey County line, as well as San Antonio Lake in Monterey County. These lakes are popular vacation destinations, and along with wineries and Mid-State Fairgrounds events, have contributed significantly to tourism in Paso Robles. Paso Robles also has attracted numerous retirees from Southern California metropolitan areas. Approximately 60 percent of the land in the City is zoned for residential uses.

Table 3 shows the City's population in 2005 and 2010 along with projections to the year 2035 in five-year intervals. The population increased 10 percent between 2005 and 2010, a rate of about 2 percent annually. Population growth is expected to slow to a rate of less than 1 percent annually between 2010 and 2015, a result, in part, of the recession (Kennedy-Jenks, 2010). In December 2003, the City approved a residential population planning threshold of 44,000 residents by the year 2025 (Rincon, 2003). This projection results in an approximate 43 percent population increase over the 10-year period between 2015 and 2025. The population projection for 2020 was derived from a linear interpolation between the estimated 2015 population and projected 2025 population. This results in a growth rate of about 4.3 percent annually between 2015 and the buildout population of 44,000 in 2025. For this UWMP, the population was assumed to remain stable between 2025 and 2035 reflecting buildout conditions. It is anticipated that the buildout population number will be reviewed before 2025 during the City's General Plan update process.

3. WATER DEMAND

The City's past, current and projected water demands are presented in this section. In accordance with Senate Bill 7 (Statewide Water Conservation), this section also includes a baseline water use calculation and develops specific water use targets to meet the 2020 goal of a 20 percent water use reduction. Current water demand is provided by water use sector and projected to 2035 in five-year increments although buildout is projected to occur sooner than 2035. Total water use (including unaccounted-for water or unmetered use) is also provided and projected to 2035.

3.1 PAST AND CURRENT WATER DEMAND

Table 4 shows the number of water service accounts by customer type. The basic breakdown into the water use sectors (single family, multi-family, commercial, industrial, institutional/governmental, and irrigation/other) was derived from current billing system categories. The number of multi-family accounts is not the same as the number of multi-family units; in many cases, one connection supplies water to multiple units.

As shown in the bottom row of **Table 4**, the City provided water to 9,736 accounts in 2005 and 10,276 accounts in 2010, a 5.5 percent increase over the 5-year period. Water deliveries for 2005 and 2010 were 7,163 acre-feet per year (AFY) and 5,749 AFY, respectively. Water deliveries in 2010 were much lower than 2005 deliveries because of mandatory City-wide outdoor water use restrictions implemented in 2009. Level 2 of the City's Water Conservation Ordinance and Water Shortage Contingency Plan was implemented to reduce summer peak water demands and thereby manage a projected water production shortfall of 20 percent. These restrictions will be lifted when Nacimiento surface water supply becomes available or sufficient interim well capacity is provided.

These annual delivery volumes do not include unaccounted-for water. A small portion of water produced in any water system is unaccounted between metered water production and metered water usage. Unaccounted water typically includes unmetered use (for example, main flushing), meter error, and, to a much lesser extent, leaks. Unaccounted urban water use in California generally ranges from 6 to 15 percent (California DWR, August 1994). In 2010, 577 AFY, or about 9.1 percent of water production, was unaccounted (**Table 5**).

Typical annual water deliveries per residential account calculated for 2005 are 0.47 acre feet (AF)/account for single family residential and 2.06 AF/account for multi-family residential. In 2010, deliveries per residential account were less (0.40 AF per single family account, 1.43 AF per multi-family account) and non-representative of typical use because of the City-wide mandatory outdoor water use restrictions[1]. Water deliveries to Institutional/governmental facilities were broken out from the

1. Due to upgrades and changes in the City's billing system, water deliveries to each of the non-residential sectors were revised from the 2005 distribution in the City's 2005 UWMP.

Irrigation/Other sector and some commercial and industrial accounts were redefined.

The number and type of water service connections provide insight into different customers' water use, which can be useful in defining effective water conservation measures. The parks, landscape irrigation and other category may include commercial, school, park, and multi-family landscape irrigation as well as construction meter use; there are no significant agricultural customers for City water. As indicated, most service connections are residential.

State legislation (SB 1087 and Government Code section 65589.7), effective January 1, 2006, specifies that local water agencies and sewer districts must grant priority for service hook-ups to projects that help meet the community's fair housing need. In other words, policies and procedures should be written to provide priority service to new developments with affordable housing and these policies should be updated every five years. **Table 6** shows estimated water deliveries to low income housing units in 2010 (218 AFY or about 5.4 percent of total residential demand in 2010). As shown in the table, construction of additional multi-family low-income housing units is expected by 2015. At this time, there are no specific plans for additional low-income housing units between 2015 and 2035.

Other water use sectors such as sales to other agencies, groundwater recharge, and conjunctive use are not performed in Paso Robles at this time or planned in the future and thus have not been included in these tables.

3.2 BASELINE DEMAND

In accordance with Senate Bill 7, water suppliers must define a 10- or 15-year water use Base Period. This Base Period is used to calculate a Base Daily per Capita Water Use. By 2015, the baseline per capita water use in the City's service area must be reduced by 10 percent and, by 2020, per capita water use must be reduced by 20 percent.

Four methods are provided in Senate Bill 7 for calculating the 2015 and 2020 water use reduction targets. The first method was used, in which per capita daily water use in 2020 is 80 percent of the Base Daily per Capita Water Use. This method is the most applicable to available data as well as the water use and demographics of the City. Target water use in 2015 should be 90 percent of the Base Daily per Capita Water Use or 217 gpcd (241 x 0.90 = 217). Target 2020 water use per capita per day should be 80 percent of the Base Daily per Capita Water Use or 193 gpcd (241 x 0.80 = 193 gpcd). The target 2020 per capita water use of 193 gpcd also applies to 2025, 2030, and 2035. These values are developed for the entire service area. The target water uses are shown at the bottom of **Table 5** in AFY and gpcd.

The City currently does not utilize recycled water, therefore Senate Bill 7 dictates that a continuous 10-year base period is required. The base period must begin after December 31, 2004 and end no later than December 31, 2010. Base period determination is shown in **Table 7**. The most recent representative period was used, namely, 1999 through 2008. Water use in 2009 and 2010 were atypically low because of Level 2 City-wide mandatory outdoor water use restrictions. The City has expanded in area over the base period; **Figure 3** shows land that was annexed into the City between 1999 and 2005. No additional land has been annexed since 2005.

Table 8 presents the calculations for the average Base Daily per Capita Water Use over the selected 10-year Base Period. The Base Daily per Capita Water Use was calculated to be 241 gallons per day per capita (gpcd). Annual daily per capita water use varied between 229 gpcd (2006) and 254 gpcd (2002) over the Base Period depending upon weather and other factors.

It should be noted that the gross per capita use is the average amount of water used by City residents each year, including not only direct residential water use, but also indirect water uses that benefit residents such as fire fighting, park and school irrigation, commercial and industrial uses, and other municipal uses.

3.3 PROJECTED WATER DEMAND

Table 4 also provides projections for water service connections and customer deliveries in five-year intervals between 2015 and 2035. For City planning purposes, **Table 4** presents projected deliveries based on baseline water usage rate prior to potential conservation and recycling savings. (These potential savings are shown in **Table 5**.) Potential conservation savings should be viewed as an optimistic projection of what is achievable.

Table 4 is based on the City's General Plan and assumes a population threshold of 44,000. Water demands are presented for each sector. The sector-specific water demands projected for 2025 are based on potential use of all land use categories.

The number of single family and multi-family units for each water use sector in 2025 (buildout) was based on potential land use buildout up to a planning threshold of 44,000 residents. Multi-family units were converted to multi-family accounts assuming an average of 5.9 units per account. To derive water demands for the intervening years, residential connections were assumed to increase proportionally to projected population increases. The projected deliveries assume 2025 use rates per account. Similarly, commercial and industrial accounts were assumed to increase proportionally to projected population increases. Commercial use per connection was based on 2008 usage rates.

Single family accounts are estimated to increase 43 percent while multi-family accounts are estimated to increase 74 percent between 2010 and 2025. Commercial plus industrial accounts are projected to increase 188 percent between 2010 and 2025. Little or no growth is expected in the institutional/governmental and irrigation/other sector. However, water use in the irrigation/other sector will increase above the atypically low 2010 use resulting from the temporary City-wide mandatory outdoor water use restrictions.

Table 5 shows projected unaccounted-for water estimated at about seven percent of total water use for 2015 through 2035. **Table 5** also shows water demands from **Table 4** and provides the total water use from 2005 to 2035, which is the sum of water demands and system losses. The last two rows of **Table 5** are the target water use values for 2015 and 2020. The Potential Conservation and Recycling row is the amount of water savings needed to achieve the State-mandated target of a 20 percent reduction by 2020.

The estimates of projected water use at buildout in this 2010 UWMP differ from the projections presented in the 2005 UWMP. The 2010 water use projections are lower than the 2005 projections. This reflects the use of a population planning threshold on the housing units to reflect a population of 44,000, as presented in the current General Plan. In contrast, the 2005 UWMP projections were based solely on full development of all zoned land uses. The 2010 UWMP projections represent a reasonable refinement; for example, recent review by the Planning Department resulted in identification and removal of additional "unusable" areas (due to excessive slope or other site conditions). While all commercially zoned acreage is assumed developable in full, the residential demand projections are revised downward, reflecting the population planning threshold of 44,000.

3.4 WATER USE REDUCTION PLAN

The City has developed a plan to meet the target 2015 and 2020 water use reductions of 10 and 20 percent, respectively. The *Implementation Plan for Water Conservation Best Management Practices* is included in **Appendix B**. Section 6, Demand Management Measures, also provides details on conservation programs within the City. However, for water supply planning purposes, these potential reductions should be considered a best-case scenario. The City will report its progress in meeting urban water use targets to DWR using a standardized form when available from DWR.

4. WATER SUPPLY

4.1 SOURCES OF WATER SUPPLY

The City of Paso Robles has historically relied on the Salinas River underflow and Paso Robles Groundwater Basin water for its municipal water supply. This section describes local groundwater resources, including the groundwater basin, levels and flow, water rights, groundwater quality, and monitoring and management. This section also discusses the City's Nacimiento Water Project supply and recycled water, a planned future supply.

4.1.1 GROUNDWATER BASIN

The Department of Water Resources has defined the Paso Robles Area Subbasin as a portion of the Salinas Valley Groundwater Basin and designated it as basin number 3-4.06. For this Urban Water Management Plan, the basin is defined as the Paso Robles Groundwater Basin, as delineated in the *Paso Robles Groundwater Basin Study* (Fugro, 2002). The Paso Robles Groundwater Basin is not adjudicated.

LOCATION

Figure 1 shows the boundaries of the Paso Robles Groundwater Basin, which encompasses about 790 square miles in San Luis Obispo County and southern Monterey County. The Paso Robles Groundwater Basin is the water-bearing portion of the upper Salinas River drainage area. The Salinas River system drains the basin area and surrounding uplands, and flows north along the western edge of the drainage area. Major local tributaries include the Nacimiento River, which flows into the Salinas River just north of the county line, and the Estrella River, which flows west from Shandon to join the Salinas River south of San Miguel. Reservoirs include Santa Margarita Lake on the upper Salinas River and Lake Nacimiento on the Nacimiento River.

GEOLOGY

The major aquifers (or water-bearing units) in the basin include alluvial deposits and the Paso Robles Formation. The alluvial deposits are up to 100 feet in depth and include recent stream-laid sands and gravels along the floodplains of the Salinas River and its tributaries, and older finer-grained terrace deposits along the Salinas River and Estrella River. Wells in alluvium typically produce in excess of 1,000 gallons per minute (gpm) (Fugro, 2002).

The Paso Robles Formation is the most extensive aquifer and consists of sedimentary layers extending from the surface to depths of more than 2,000 feet. It is typically unconsolidated and generally poorly sorted. The water bearing sediments in the basin are 700 to 1,200 feet thick and typically extend to sea level. Paso Robles Formation sediments are relatively thin, often discontinuous sand and gravel layers interbedded with thick layers of silt and clay. Wells generally produce several hundred gpm (Fugro, 2002).

SUBAREAS

The Paso Robles Groundwater Basin is generally interconnected by extensive, thick sedimentary layers. For practical management purposes, this large basin has been subdivided into eight subareas. This informal division was based on water quality, source of recharge, groundwater movement, and contours on the base of permeable sediments. The subareas are not hydrologically distinct, and groundwater flows between adjacent subareas.

The City overlies portions of the Atascadero and Estrella subareas, as shown on **Figure 4**, with production wells in each. The Atascadero subarea was designated as a distinct subbasin located to the west of the Rinconada Fault (Fugro, 2002). The portion of the fault between the Atascadero and Creston subareas juxtaposes relatively less permeable rocks with the Paso Robles Formation. Between the Atascadero and Estrella subareas, the Paso Robles Formation is found on both sides of the fault and the two subareas are hydraulically connected by alluvial deposits along the Salinas River.

GROUNDWATER QUALITY

A general measure of groundwater quality is total dissolved solids (TDS). For drinking water purposes, water with a TDS concentration of 500 milligrams per liter (mg/L) or less is recommended, but can be usable up to 1,000 mg/L. In Paso Robles Groundwater Basin wells, TDS concentrations generally range from 300 to 1,000 mg/L (Fugro, 2002 and 2005). Wells screened along the Salinas River in the recent alluvium generally have TDS concentrations between 300 and 800 ppm, reflecting the quality of stream recharge water.

A survey of local groundwater quality was conducted by the United States Geological Survey (USGS) as part of its Groundwater Ambient Monitoring and Assessment (GAMA) Program (USGS, 2007). The USGS sampled eleven randomly-selected wells located along the major river valleys, including four in or near the City. While trace amounts of pesticides, arsenic, and boron were reported, no constituents of concern were detected above regulatory thresholds.

In general, City water quality is good, but has relatively high TDS and hardness. In response to the hardness, many residents use home water softeners. However, use of water softeners results in addition of salts to the City's wastewater, which is treated and discharged to the groundwater basin. This situation should be improved in the future with the introduction of Lake Nacimiento water. Lake Nacimiento water is lower in hardness and TDS than groundwater, and obviates the need for water softeners. If citizens reduce or eliminate the use of water softeners, they will not only enjoy cost savings, but will also help preserve the quality of local groundwater and advance the use of recycled water for irrigation.

GROUNDWATER LEVELS AND FLOW

Groundwater levels in the Paso Robles Groundwater Basin range between above 1,500 feet above mean sea level (msl) around the basin margins to below 600 feet msl in the Estrella subarea and along the

Salinas River north of the City (Todd, 2007). Groundwater flows generally from the margins toward the center of the basin and to the northwest, where the outlet to the lower Salinas Valley is located.

The City's Thunderbird well field is located near the Salinas River at the lower (northern) end of the Atascadero subarea. The wells range in depth from 140 to 215 feet, are screened mostly in the alluvium, and derive yield mainly from Salinas River underflow. Groundwater levels have remained generally constant, at about 20 to 40 feet below ground surface. The relatively constant groundwater levels in the Thunderbird well field reflect the proximity to the Salinas River, which provides recharge, and the limited thickness of the alluvial aquifer, which constrains the drawdown and yield of these wells.

The City's Ronconi Wells 1 and 4 are located near the Salinas River in the Estrella subarea. These wells are 76 and 70 feet deep, respectively, and derive yield from the Salinas River underflow. Groundwater levels typically are about 15 feet below ground surface. The Borcherdt well, also classified as a Salinas River underflow well but more distant from the river, typically has groundwater levels about 50 to 65 feet below ground surface.

The remaining City wells are dispersed across the City east of the Salinas River. All are located within the Estrella subarea and are screened in the Paso Robles Formation. A groundwater depression is centered in the Estrella subarea, reflecting agricultural, municipal, rural and other pumping. This pumping depression is characterized by declining groundwater levels, which are apparent in City wells. Groundwater level declines in some City wells have amounted to more than 100 feet since 1997, with recent annual rates of decline generally between 5 to 9 feet per year. Water level declines are expected to continue into the future unless annual pumping in the Estrella subarea is reduced.

WATER BALANCE AND PERENNIAL YIELD

Local water users have recognized the seriousness of local groundwater declines and have sponsored investigations to understand the groundwater basin and lay the groundwork for improved management. Specifically, a series of recent studies have addressed the water balance of the Paso Robles Basin and its perennial yield.

The *Paso Robles Groundwater Basin Study* (Fugro, 2002) included basic data compilation and review, definition of the basin and subbasins, aquifer characterization, assessment of water quality conditions, and a water balance study as of 1997. The *Phase II Numerical Model Development* report (Fugro, 2005) involved development of a groundwater flow model of the basin and summarized its development, calibration, and application to specific issues. Objectives included refining the basin's water balance and perennial yield, and simulating impacts to groundwater levels resulting from projected buildout conditions in the basin. Important conclusions included the following:

- The perennial yield for the Paso Robles Groundwater Basin was estimated at 97,700 acre-feet per year (AFY).
- The basin was not in overdraft with basin pumping in 2000 estimated at 82,600 AF.

- Simulated scenarios with urban and agricultural buildout resulted in overdraft conditions; development of Nacimiento project water (as presently contracted by local urban suppliers) alleviated, but did not prevent overdraft.
- Municipal pumping is more closely linked to the Salinas River and its recharge than agricultural pumping; this indicates that municipal groundwater pumping locations and amounts can be optimized to manage groundwater levels.
- Agricultural pumping, by being more widespread across the basin and comprising much of the pumping located away from the Salinas River, shows a more direct relationship with groundwater storage and less interaction with the Salinas River. Thus, basin-wide changes in agricultural pumping would have a more direct effect on groundwater storage than would parallel changes in municipal pumping.
- Agricultural pumping is the single largest outflow of groundwater from the basin. It is also the single largest *estimated* parameter because the pumping volumes are not metered but rather estimated based on land use and irrigation practices. A relatively slight adjustment in agricultural pumping could make the difference between potential basin overdraft or not.

The *Paso Robles Groundwater Basin Study* documented groundwater level conditions up to 1997. Recognizing the need for current information, the City and County sponsored the *Update for the Paso Robles Groundwater Basin* (Todd, 2007). This study provided water level hydrographs and a groundwater level change for the period from 1997 (the end of the Fugro study period) to 2006. The study documented continuing groundwater storage declines centered on the Estrella subarea.

The *Evaluation of Paso Robles Groundwater Basin Pumping* (Todd, 2009) supplemented the 2007 study, concluding that estimated pumping in 2006 was 88,154 AFY or 90 percent of the estimated perennial yield of 97,700 AFY. The study reported on municipal pumping and provided estimates of small community, commercial, and rural pumping. Total City of Paso Robles pumping (as of 2006) was 7,485 AFY, or about 8 percent of total pumping. The study also delineated irrigated crop acreages and evaluated irrigation water demands with application of estimated irrigation rates. While the study indicated that total pumping remained below the perennial yield estimate, consideration of trends indicated that perennial yield could be exceeded in the near future.

The *Paso Robles Groundwater Basin Water Balance Review and Update* (Fugro, 2010), conducted for the County, presented updated information on the water balance for water years 1998 to 2009, and concluded that water demand is approaching the estimated perennial yield, but remains below it by a small margin.

While recent studies have indicated that basin-wide pumping has not exceeded perennial yield, the continuing groundwater level declines raised concerns about the adequacy of available information to document the status of the water balance. In response, the City sponsored an independent peer review of all five previous studies (Yates, 2010). The Yates peer review identified significant sources of uncertainty in the available data, assumptions, and methodologies. In addition, the review concluded that:

- While use of subareas is a practical necessity, all subareas are connected and cost-effective management actions will likely extend across subarea boundaries.
- Specific approaches to evaluate rainfall recharge and stream recharge are questionable.
- Available groundwater level data are a major source of uncertainty.
- More information is needed on vineyard water demands.

Yates' recommendations included:

- Improvement of the County's water level monitoring program,
- Collection of vineyard irrigation data to better define agricultural water use, and
- Updating and improvement of the numerical model with subsequent application to water balance issues and basin management options, including definition of operating ranges for groundwater levels and possible changes in locations and depths of well production.

GROUNDWATER BASIN MONITORING AND MANAGEMENT

The City recognizes that groundwater use in the Paso Robles Basin is close to the estimated perennial yield value and that significant groundwater level declines are continuing locally, most notably in the Estrella subarea, which provides half of the City's groundwater supply as well as supply for farmers, domestic users, and other communities. Accordingly, the City participates in groundwater basin monitoring and management planning and activities, in cooperation with San Luis Obispo County and other water users.

MONITORING

The San Luis Obispo County Flood Control and Water Conservation District (District) conducts a county-wide Regional Water Resources Data Collection Program that includes rainfall, evaporation, streamflow, and groundwater level monitoring. The groundwater monitoring program involves collecting groundwater level measurements twice a year (April and October). About 150 wells are monitored in the Paso Robles Groundwater Basin, including well measurements taken by County staff and data provided by partner agencies, including the City of Paso Robles. The County's draft Data Enhancement Plan identifies the Estrella subarea as the top priority of the County's inland areas for data enhancement, recommending addition of eleven groundwater monitoring sites (San Luis Obispo County Memorandum, October 7, 2009).

The northern portion of the Paso Robles Groundwater Basin is in Monterey County. Monterey County Water Agency monitors three wells in or near the Bradley subarea. These include two wells along the Salinas River near San Ardo and one well in Hames Valley.

PRIOR AGREEMENT

Recognizing that the City is an active municipal user of the Paso Robles Groundwater Basin, on September 6, 2005, the City Council passed Resolution No. 05-181. This resolution approves City

participation in a Paso Robles Groundwater Basin Agreement with the County and certain private landowners, who have organized as the Paso Robles Imperiled Overlying Rights (PRIOR) group. San Miguel Community Services District subsequently joined the Agreement. Key elements of the Agreement are a clear acknowledgement that the Basin is not in overdraft now, and that the parties will not take court action to establish any priority of groundwater rights over another party as long as the Agreement is in effect.

In addition, the parties agreed to participate in meaningful groundwater monitoring and management activities. The initial parties (i.e., the City, County, and PRIOR) sponsored the *Update for the Paso Robles Groundwater Basin* and the *Evaluation of Paso Robles Groundwater Basin Pumping* (Todd, 2007 and 2009).

GROUNDWATER MANAGEMENT PLAN (GWMP)

The GWMP is a voluntary planning process for groundwater basin management. The GWMP process was established in 1992 by the State Legislature through Assembly Bill (AB) 3030, amended in 2002 by Senate Bill (SB) 1938 and codified in the Water Code. While the Water Code lays out specific requirements (used for State funding eligibility), a GWMP is voluntary. A completed GWMP must be sponsored and adopted by one or more eligible public agencies (such as the City or County), but is intended to be a collaborative with local landowners, groundwater users, and other interested people. Such a plan describes groundwater conditions, addresses groundwater issues, identifies basin management objectives and actions to achieve objectives, and lays out an implementation plan for actions including funding sources, continued monitoring, and regular reporting.

In 2007, the City, in cooperation with the County, secured a Local Groundwater Assistance Act Grant from the California Department of Water Resources (DWR) to support preparation of a groundwater management plan. The planning process was initiated in December 2008—but interrupted by State funding problems—so the final GWMP is to be completed in March 2011. The GWMP process has established a Groundwater Advisory Committee and has included a series of public meetings and workshops. Initial meetings identified groundwater level declines as the most important issue, with related problems of storage loss, groundwater quality deterioration, and potential subsidence.

The GWMP was completed in March 2011. The GWMP provides an overview of the recent studies addressing the water balance of the basin, describes the physical setting of the basin, and summarizes water supply and demand conditions. An accomplishment of the GWMP has been definition of basin management objectives (BMOs) and identification of groundwater management activities to address the BMOs. These have been addressed largely on a subarea basis. In general, BMOs across the basin focused on stabilization or maintenance of groundwater levels.

Identified actions for the Atascadero subarea include:

- Increase groundwater monitoring and reporting
- Increase water conservation education and implementation
- Manage growth and corresponding water demands

- Maximize use of Nacimiento Project Water in the subarea
- Consider storm water management to increase local groundwater recharge.

The following groundwater management activities have been identified for the Estrella subarea:

- Increase data collection, monitoring and reporting on groundwater conditions
- Increase water conservation education and implementation
- Use Nacimiento Project Water.

The GWMP also identifies groundwater management activities that address basin-wide BMOs. Important basin-wide BMOs include the following:

- Maintain and improve groundwater levels
- Maintain and improve groundwater quality
- Protect against potential inelastic land surface subsidence
- Protect against adverse impacts to surface water flows
- Groundwater monitoring and assessment
- Evaluate and implement feasible water conservation measures.

For each of these BMOs, potential groundwater management activities are identified; for example, the first BMO, *maintain and improve groundwater levels*, is addressed with the following actions:

- Activities to reduce groundwater pumping (both agricultural and municipal)
- Activities to increase water supply (import Nacimiento Project Water, import State Water Project water)
- Potential reuse and recycled water projects (agricultural reuse and municipal recycling)
- Potential recharge projects (protect recharge areas; recharge imported, recycled, or storm water)
- Manage future increases in groundwater pumping (through land use planning policies).

The GWMP also lays out the basic components of an ongoing groundwater management plan:

- Stakeholder involvement (e.g., formation of a GAC Steering Committee and Technical Advisory Committee; coordination with other agencies; integration with other planning efforts)
- Groundwater monitoring and data collection (e.g., monitoring of groundwater elevations, quality, and subsidence; data management and reporting)
- Groundwater resource protection (e.g., well construction, abandonment, destruction policies; wellhead protection measures; and monitoring of contaminated and poor quality water)
- Groundwater sustainability (e.g., construction and operation of recharge, storage, extraction projects; and update of the groundwater model)
- Water demand management (agricultural, urban and rural residential).

Lastly, the GWMP provides an implementation plan for the voluntary activities, including ongoing activities (meetings, annual reporting, financial planning and development of funding, groundwater monitoring) and specific activities for the next three years.

COUNTY RESOURCE MANAGEMENT SYSTEM (RMS) AND RESOURCE CONSERVATION STUDY (RCS)

The San Luis Obispo County Planning and Building Department is responsible for the RMS, which provides information to the County Board of Supervisors to guide decisions about balancing land development with needed resources (e.g., water, schools, and roads). The RMS collects available information, identifies resource problems, and recommends solutions to 1) expand the resource, 2) conserve the resource, or 3) restrict/ redirect development. The RMS uses three alert levels called *levels of severity* (LOS) to identify differing levels of resource deficiencies.

- Level I is the first alert level and occurs when sufficient lead time exists either to expand the capacity of the resource, or to decrease the rate at which the resource is being depleted.
- Level II identifies the crucial point at which some moderation of the rate of resource use must occur to prevent exceeding the resource capacity.
- Level III occurs when the demand for the resource equals or exceeds its supply and is the most critical level of concern.

The County is supposed to take a series of actions to address resource deficiencies before Level III is reached. Certification of an LOS involves recommendation by staff, completion of a Resource Capacity Study (RCS), and public hearings before the Planning Commission and Board of Supervisors.

A Resource Capacity Study depends on available information; it is focused on a particular resource and a defined area. A final draft RCS, *Water Supply in the Paso Robles Groundwater Basin,* was released in January 2011. This RCS is intended to provide the Board of Supervisors with available information to evaluate the basin groundwater supply in terms of its capacity to satisfy existing and potential demands. A Level of Severity III (LOS III) has been designated for the entire basin with the exception of the Atascadero subbasin, which was designated LOS I. An LOS III designation indicates that groundwater is being used at or beyond its dependable supply or will be depleted before new supplies are developed. The final draft RCS recognizes the chronic groundwater level declines, but does not declare a state of overdraft, reflecting data uncertainty. The final draft RCS provides recommendations for County actions (applicable to unincorporated areas) including continuation of basin-wide groundwater management planning, improved monitoring, water conservation outreach, additional investigations, and limitations on new land uses that would increase net water demand.

WATER RIGHTS

The City's groundwater supply is subdivided into two sources according to water rights. These are Salinas River underflow and percolating water of the Paso Robles Groundwater Basin.

Salinas River underflow refers to shallow groundwater in direct connection with the Salinas River. This underflow is subject to appropriative water rights and permitting by the State Water Resources Control Board (SWRCB). An approved SWRCB application (Application filed 1941; Permit number 5956 issued November 6, 1981) allows the City to extract up to eight cubic feet per second (cfs or 3,590 gpm) with a maximum extraction of 4,600 AFY (January 1 to December 31).

The permit includes moveable points of diversion. The City is currently in the process of converting this permit to a license from the SWRCB. Under the permit the City can pump up to 4,600 AFY (at the combined total maximum rate of eight cfs) of underflow from the existing wells and any new wells that are constructed within the moveable point of diversion defined under the permit. Since 2005, the City's use of underflow has ranged between 84 percent and 99 percent of the full appropriation; the maximum annual underflow well production was 4,558 AF (2005)[2] and the minimum was 3,868 AF (2009).

Salinas River underflow is replenished by surface water flows of the Salinas River and its tributaries, which together drain a watershed area of about 390 square miles. The Salinas River typically has surface flow from January into June and is dry the remainder of the year. Accordingly, recharge of underflow from the river occurs primarily in winter and early spring. Salinas River surface flows are affected by operation of Salinas Dam (Santa Margarita Lake), which is operated by San Luis Obispo County Flood Control and Water Conservation District primarily as a source of water for export to the City of San Luis Obispo. To protect downstream water rights, a 1972 SWRCB order limits the diversion of water to reservoir storage to only those periods when a visible surface flow exists at seven checkpoints in the Salinas River between the reservoir and the confluence with the Nacimiento River, which is approximately 16 miles downstream of the City's underflow wells. At all other times, the total inflow to the reservoir must be bypassed and allowed to flow downstream.

4.1.2 NACIMIENTO WATER PROJECT

In 1959, San Luis Obispo County Flood Control and Water Conservation District (District) signed an agreement with Monterey County Water Agency that entitled the District to approximately 17,500 AFY of the annual yield of Lake Nacimiento for uses in San Luis Obispo County; of this amount, 1,750 AYF is earmarked for lakeside uses. Use of the Lake Nacimiento entitlement has been limited to the vicinity of the lake because of the lack of conveyance facilities. The Nacimiento Water Project (NWP), completed in 2011, consists of approximately 45 miles of pipeline to deliver raw water from Lake Nacimiento to communities in San Luis Obispo County. This supplemental water will be delivered to Paso Robles, Templeton, Atascadero, San Luis Obispo, and Cayucos Community Service Area 10A. These communities have committed to take delivery of 9,655 AFY, with the City of Paso Robles committing to 4,000 AFY at this time. Commitment of the remaining supply is being considered by these and other water agencies, including the City.

2. This is also the maximum historic usage under the permit.

The CIty is expected to begin utilizing its surface water entitlement by 2015 when a water treatment plant is scheduled for completion, conveying a number of advantages. Use of Lake Nacimiento water confers water quality benefits to the City. Lake Nacimiento water is high quality relative to groundwater, with TDS concentrations in the range of 150 to 300 mg/L, while TDS concentrations in City wells average over 300 mg/L. Accordingly, use of Nacimiento water would provide better water quality to City customers. It will also improve wastewater quality as the softer water (less minerals and salts or TDS) will encourage elimination of household water softeners that introduce additional salts into the waste stream. This is important to the City because TDS concentrations of City wastewater effluent have occasionally exceeded the permitted maximum TDS of 1,100 mg/L, potentially impacting groundwater quality. The improvement in wastewater quality will also facilitate future use of recycled water by providing better water to recycled water customers.

In addition, Lake Nacimiento supply is independent of local groundwater supplies. Consequently, its development reduces the City's dependence on groundwater and thereby provides the City with increased water supply reliability. Use of Lake Nacimiento water will allow reduction of City groundwater basin pumping. The Paso Robles Groundwater Basin Management Plan has identified use of Nacimiento water in the Estrella and Atascadero subareas as a key objective to stabilizing groundwater levels.

4.1.3 RECYCLED WATER

The City currently discharges its treated wastewater to the Salinas River channel, recycling it to the groundwater basin. Recognizing wastewater as an important resource, the City is taking steps to improve its quality. These steps include upgrading of the wastewater treatment plant, use of Nacimiento water, and implementation of programs to reduce salt loading (e.g., from water softeners and industrial uses.) The City also is planning a recycled water program including recycled water irrigation, possible groundwater recharge, and discharge to the river. Wastewater and recycled water are further described in Section 4.4.

4.2 WATER SUPPLY FACILITIES

The City's water system is City-owned and operated. At this time, the City relies on two groundwater sources: *Basin Wells* that tap groundwater in the Paso Robles Groundwater Basin and *River Wells* that divert subterranean flows of the Salinas River. **Table 9** documents the amount of water produced from the Basin and River Wells from 2005 to 2010, while **Table 10** shows the projected well production to 2035. Total production also is shown in **Tables 9** and **10** and compared to the overall estimated perennial yield (97,700 AFY, Fugro, 2005). As indicated, the City's historical and projected production represents about 5 to 8 percent of the total supply (perennial yield) of the basin. General well locations are shown on **Figure 4**.

All wells are metered with either mechanical turbine meters or electro-magnetic meters. Meters are read in the field daily, entered into a daily log, and totaled by month and year. Meter readings are also

totaled daily by the City's SCADA system. Periodic production meter accuracy checks are made in the field and meters are calibrated or replaced when necessary.

The City neither imports water from nor exports water to any other agency. The City signed an agreement with San Luis Obispo County Flood Control District on August 17, 2004 to purchase water from the Nacimiento Water Project, which is projected to deliver 4,000 AFY of relatively high quality, untreated water. At time of writing, the City of Paso Robles is progressing with its plans for a water treatment plant to treat the Nacimiento supply. Startup of the plant is slated for 2015. When available, Nacimiento supply will allow reduced pumping from some of the City basin wells.

4.2.1 RIVER WELLS

As shown in **Table 9**, the river wells typically account for approximately half of the City's current supply. Seven active wells are completed along the Salinas River in the shallow underflow aquifer, and all of the wells are within the moveable point of diversion defined in Permit 5956. Four of these are in the Thunderbird well field (Wells 10, 13, 17, and 23- located in the southwest portion of the City) and two are in the Ronconi well field (Wells 1 and 4 - located several miles north of the Thunderbird well field). Ronconi 1 and 4 were brought back online in the summer of 2007 after many years of nonuse. Ronconi 16 is inactive due to casing failure and capped, with no piping and wellhead facilities, and will be properly abandoned in the near future. All wells are screened in the shallow aquifer with the exception of Thunderbird 10, which is also screened in the deeper basin aquifer. In addition, the City has historically reported the Borcherdt 5 well as an underflow well. This well is located between the Ronconi and Thunderbird well fields.

The City is considering additional wells near the river, probably in the south, and optimizing pumping. Future operation of the underflow wells will involve an optimum pumping plan that limits instantaneous flow rates to eight cfs while maximizing the permitted annual production of 4,600 AFY (see **Table 10**).

4.2.2 BASIN WELLS

Twelve wells are located east of the river and produce water from the Paso Robles Groundwater Basin. These are distributed throughout the service area. This distribution helps minimize localized impacts on groundwater levels and reduces the potential for any single event to disrupt production from more than four wells. The City's basin wells are Sherwood 9, Sherwood 11, Butterfield 12, Osborne 14, Dry Creek 18, Tarr 19, Royal Oak 20, Fox 21, Cuesta 22, Barney Schwartz 15, Avery 24, and Tower 25. The Sherwood 6 well has been inactive for many years because of detections of PCE and poor water quality (high sulfur content). There is potential for this well to be reactivated in the future.

As shown in **Table 9**, basin wells typically account for less than half of the City groundwater supply. With delivery of Nacimiento water, pumping of basin wells will be reduced significantly then will rise to meet increasing demand, to about 3,400 AFY (**see Table 10**).

4.2.3 NACIMIENTO WATER TREATMENT PLANT

The City is progressing with its plans for a water treatment plant (WTP) to treat surface water received from Lake Nacimiento. The WTP is being designed to treat 4 million gallons per day (mgd), with construction to begin in 2015. The WTP can be expanded to treat 6 mgd to meet future demands (Paso Robles website, October 13, 2010). Specific facilities include a water treatment plant, treated water reservoir and pump station, transmission pipeline, appurtenances and other site improvements (Padre, 2008). Half of the initial 4,000 AFY Nacimiento allocation and half of the 4 mgd Phase 1 treatment plant capacity are to replace lost well production capacity and improve water quality. The remaining capacity is to provide for new development. In order to limit reliance on the highly-stressed groundwater basin new development—per City policy—is required to be served with surface and recycled water. Therefore, the second 1,400 AFY Nacimiento allocation, the 2 mgd treatment plant expansion, and recycled water infrastructure will be funded by development.

4.3 WATER RATES

In April of 2010, the City adopted a uniform consumption-based rate where customers pay only for the water they use. Implementation of these rates has been held up due to a legal challenge. It is anticipated that new rates will be in place in January 2012.

In 2012, basic water service will be $2.50 for every 748 gallons used. This rate will increase annually to $4.40 for every 748 gallons used in 2016 (Paso Robles website, January 20, 2010).

4.4 WASTEWATER AND WATER RECYCLING

4.4.1 WASTEWATER COLLECTION, TREATMENT AND DISCHARGE

The City of Paso Robles owns and operates a secondary wastewater treatment plant (WWTP), located at the northern end of the City along the Salinas River. The WWTP treats wastewater from the City of Paso Robles, a portion of the Templeton Community Services District south of the City, and the California Youth Authority facility east of the City.

The plant, built in 1954 and upgraded or expanded in 1972, 1987, and 2002, provides secondary treatment. Primary treatment includes influent screening, aerated grit removal, and clarification/primary sedimentation. Secondary treatment includes biological treatment (two-stage trickling filters), secondary clarification, chlorine disinfection, and dechlorination. Treated effluent is discharged to a series of six polishing ponds with the overflow from the third and sixth ponds discharging to the Salinas River. Anaerobic sludge digestion is used to treat solids collected from the various liquid processes. The digested sludge is dewatered, hauled to sludge drying beds, and then taken to a City owned landfill (Black & Veatch, 2009).

The plant operates under National Pollutant Discharge Elimination System (NPDES) Permit No. CA0047953 and Waste Discharge Requirements (WDR) Order No. R3-2004-0031. A maximum discharge of 4.9 million gallons per day (mgd) is permitted. In 2010, the average daily flow was 2.94 mgd.

Table 11 documents past, current, and projected wastewater flows. In 2005, the plant treated 3,315 AF of wastewater. In 2010, slightly less wastewater was treated (3,297 AF) due to Level 2 City-wide mandatory outdoor water use restrictions. Wastewater flows per capita in 2005 and 2010 were 0.12 and 0.11 AF, respectively. Buildout (2025) wastewater flows are estimated to be 0.123 AF per capita, similar to 2005 wastewater flows. As shown in **Table 11**, wastewater flows are expected to increase to 5,410 AFY at 2025 buildout.

4.4.2 WASTEWATER QUALITY

The WDR order also regulates water quality, placing limits on specific contaminants in the wastewater effluent. The City's treated wastewater exceeds permit limits at times for TDS, chloride, sodium, cyanide, copper, selenium, bromodichloromethane, dichlorobromomethane and bis(2-ethylhexyl) phthalate.

The City's approach to these problems has included improvement of the quality of influent water. A significant improvement will be achieved with delivery of high quality Nacimiento Project water as a new City water supply, which thereby improves the quality of wastewater. The City has also initiated programs for voluntary and mandated reduced use of water softeners, and source control for industrial dischargers.

The City is also embarking on a comprehensive upgrade of the City's wastewater plant to an advanced secondary treatment process. While having served the community for 55 years, the existing wastewater treatment plant uses the same basic technology and is now incapable of satisfying modern effluent standards. The upgraded plant will produce effluent that meets discharge requirements, including standards for biochemical oxygen demand, total suspended solids, pH, and nutrient removal. Moreover, the plant is designed to have the ability to produce tertiary-treated recycled water with the simple addition of a filter and additional chlorine contact basin. Accordingly, the plant upgrade supports the City's water resource goals and objectives to implement future water recycling.

The City intends to finance the plant upgrade with a low interest loan from the State's Clean Water Revolving Fund Loan program. The upgrade, which will not increase the capacity of the plant, is anticipated to be complete in 2015.

In 2009, the City completed a Wastewater Treatment Plant Upgrade Facility Plan (Black & Veatch, July 2009. Early in the facility planning process, the City found that it could not afford to simultaneously upgrade the wastewater treatment plant and build the infrastructure necessary to produce and use recycled water. Accordingly, the Facility Plan evaluates alternatives to upgrade the wastewater treatment plant to an advanced secondary treatment process (biological treatment plus nutrient removal), to comply with the WDR in the near term, but also facilitate recycled water production in the future. The Facility Plan concludes that a Biological Nutrient Removal process is the most cost-effective

solution. The City recently completed plans and specifications to upgrade to a Biological Nutrient Removal process. The project is currently scheduled to go out to bid for construction in Fall 2012, after wastewater rates are adjusted and financing is in place. Construction of the project is dependent on the implementation of new wastewater rates needed to fund the project. Construction will require approximately 30 months.

4.4.3 SEWER RATES

Currently, the City bills monthly for combined residential water and sewer service. Sewer connection fees are $5,467 for single family residences (Paso Robles website, January 20, 2011). Although financed with a low-interest loan, payment of the loan debt for the plant upgrade will require revision of monthly sewer rates and connection fees. As of autumn 2010, the City is currently evaluating total wastewater management costs in order to determine new sewer rates.

4.4.4 WATER RECYCLING OPTIONS

The City's *Recycled Water Study Update* (Boyle, 2006) reviewed potential users of recycled water, laid out a conceptual conveyance system, examined potential sites for groundwater recharge, and assessed pumping and winter storage requirements.

The current quality of wastewater (with high TDS, sodium, and other constituents) has been recognized as an obstacle to water recycling. One of the key findings of the study was the need to reduce salt loading into the wastewater stream. This need is being addressed by the City's upcoming deliveries of high quality Nacimiento Project water, recent adoption of an updated source control ordinance, and implementation programs to manage industrial wastes and use of water softeners. The study also documented the considerable variation in seasonal water demand relative to wastewater flows; this indicates a substantial irrigation demand being served with potable water.

The study examined five recycled water alternatives:

- continued Salinas River discharge,
- enhancing wastewater treatment with Salinas River discharge,
- piping recycled water to customers along the Salinas River corridor,
- piping recycled water to customers along the Highway 46 corridor, and
- a combination of alternatives.

The study concluded that several alternatives are available, the most viable of which is a hybrid approach including recycled water irrigation of landscaping and vineyards, recharge along the Salinas River corridor, and seasonal discharge. The hybrid approach involves construction of a pipeline to deliver recycled water eastward along the Highway 46 corridor and then looping south around the City and back to the Salinas River channel, where potential percolation sites are located. Potential users have been identified, including golf courses, schools, parks, industries and vineyards. The study also provided recommendations including percolation testing, evaluation of the suitability of effluent quality for

irrigation, assessment of the potential reduction in salt loading from a source control program, and contacting potential recycled water users.

Subsequently, the City has developed an overall strategy for phasing of the recycled water program. Consistent with that strategy, the City is now developing a Recycled Water Master Plan and Financial Plan. This plan will provide a facility master plan and phased capital improvement program. It also will include evaluation of costs for a recycled water system and revenue needs. The financial plan will provide a spreadsheet model to allow evaluation of various connection fees and recycled water rates; this will likely include consideration of financial incentives to encourage use of recycled water. The Recycled Water Master Plan and Financial Plan will be completed in 2011.

As noted previously, the wastewater plant upgrade is designed to have the ability to produce tertiary-treated recycled water with the simple addition of a filter and additional chlorine contact basin. These Phase II improvements are tentatively scheduled for 2022.

Table 11 presents the total amount of wastewater collected in 2005 and 2010 and the projected amounts to 2035. It also shows the amounts projected to meet tertiary/recycled standards. No wastewater currently meets tertiary standards. However, by 2025, an estimated 650 AFY of tertiary treated recycled water will be used. Given that the City is in planning stages, the 650 AFY estimate includes direct use for irrigation at existing and new parks, schools, roadway landscaping, and other direct users.

The City of Paso Robles is the sole water, wastewater, groundwater and planning agency that operates within its service area. Nonetheless, the City is coordinating its recycled water planning efforts with San Luis Obispo County and the Central Coast RWQCB.

Table 12 summarizes non-recycled wastewater disposal volumes while **Table 13** projects future uses of recycled water between 2015 and 2035. Summation of the volumes in **Tables 12** and **13** equals the total wastewater collected and treated. **Table 14** summarizes the methods to encourage recycled water use.

The City of Paso Robles wastewater treatment plant upgrade will set the stage for future water recycling. This project includes upgrading of the plant to advanced secondary treatment, and design of an additional upgrade to tertiary treatment. In addition, the City will improve the WWTP influent wastewater quality through implementation of the Nacimiento water project and source control programs. The City is actively planning for the recycled water infrastructure and for financing, including consideration of financial incentives and potential ordinances to encourage use of recycled water. In 2011, the City will complete a Recycled Water Master Plan to evaluate implementation alternatives, cost, and related issues.

The City promotes its future water recycling through a variety of educational activities. For example, the City website provides outreach to the community at large, including:

- Updated information on the wastewater treatment plant upgrade, including FAQs (Frequently Asked Questions) that explain how the upgrade is a big step toward water recycling.

- Information on the availability of the *Recycled Water Study Update* online, at City Hall and at the library.
- Explanation of water softener issues and the negative impact on wastewater quality and recycled water.

The City also supports school education, offering a water conservation program for elementary school children, which includes a field trip to the wastewater treatment plant. In addition, the City recently cooperated with Cal Poly San Luis Obispo for a master's thesis (Miranda, 2010) investigating use of recycled water on landscape plants, including best plant selection, soil, and irrigation requirements. The City provided an experimental site at the wastewater treatment plant and irrigation water.

4.5 CURRENT AND PROJECTED WATER SUPPLIES

Paso Robles historically has obtained its entire water supply from Salinas River underflow and groundwater. **Figure 5** graphically shows annual water production between 1980 and 2010. Production increased to a peak in 2007, and then subsequently declined. The significantly lower production in 2009 and 2010 reflect the impact of Level 2 City-wide mandatory outdoor water use restrictions. **Figure 5** also shows population for comparison purposes; population has increased gradually, with a slowing of the growth rate over the past four years.

Table 15 summarizes current and planned water supply for the City of Paso Robles. As shown in the top portion of the table, water supply is projected to come from three sources: groundwater through the basin wells, underflow through the river wells, and Lake Nacimiento water. The table does not reflect the total groundwater supply (basin wells) available to the City, but the water that the City anticipates pumping to meet demands. The projected buildout demand, including non-revenue water, is 13,400 AFY. This demand may be reduced by potential water conservation efforts as shown in **Table 15**.

Future recycled water is grouped with water conservation as a means of reducing water use on a per capita basis to comply with Senate Bill 7, which requires Base Daily per Capita Water Use to be reduced 10 percent by 2015 and 20 percent by 2020 as discussed in Section 3.2.

Table 16 shows future water supply projects. By 2015, 4,000 AFY of Nacimiento water is projected to become available. By 2020, the City anticipates that another 1,400 AFY of Nacimiento water will be acquired for use. It is projected that by 2025, up to 650 AFY of recycled water will be used.

The City is a member of the California Urban Water Conservation Council (CUWCC) and, accordingly, is implementing demand management measures (DMMs, also known as best management practices (BMPs)).These DMMs are discussed in **Section 6**. In 2009, the City hired a Conservation Manager to plan and implement water conservation programs. **Table 15** shows total potential conservation savings from these implemented DMMs if all DMM programs described in **Section 6** are fully implemented. Conservation savings are estimated to increase from 364 AFY in 2015 to 1,617 AFY in 2025.

Potential conservation savings from price elasticity impacts of planned water rate increases are also shown on **Table 15** reflecting the additional conservation that may occur due to increased cost for

water. By 2025, the City anticipates that 650 AFY of recycled water will be used to offset potable supply. While not replacing City potable water deliveries, additional recycled water deliveries will be made to other facilities such as golf courses and irrigation, offsetting groundwater pumping.

If these conservation and recycled water savings are achieved, the City foresees meeting its 2015 and 2020 target water reductions and reducing total water demands by 980 AFY in 2015 and 3,885 AFY in 2025. These savings will most likely reduce Basin well pumping from those shown in **Table 15**.

There are no plans in the next 25 years for the City to use desalinated water, nor to export, transfer, exchange, or sell water other than water sales to City customers. Thus, these categories are not included in the summary tables.

4.5.1 RIVER WELLS (UNDERFLOW)

It is assumed that the City will be pumping the full appropriation of underflow water rights of 4,600 AFY. An exception to this might occur when Lake Nacimiento water first become available in 2016 (Note: for the purposes of this Urban Water Management Plan, Lake Nacimiento water is shown to be available beginning in 2015 rather than beginning in 2020). Efforts are underway to obtain a license for the permitted amounts. The combined capacity of the City's river wells is currently about 5,800 AFY, with a summer production capability of about 3,600 gpm. Because of the surface water treatment rule, groundwater from river wells that are within 150 feet of surface flow in the river require treatment prior to distribution. This includes Ronconi 1 and 4 and, on a seasonal basis, Thunderbird 10. A mobile microfiltration unit was leased in 2007 and 2008 for seasonal use of the Ronconi wells, and purchased in 2009. This treatment unit allows year-round operation of the Ronconi wells and beneficial use of about 800 gpm of the underflow allotment.

4.5.2 BASIN WELLS

In recent years, basin wells have provided as much as 4,100 AF (in 2007, see **Table 9**). As shown in **Table 15**, the City's basin groundwater use will be substantially decreased when Lake Nacimiento water becomes available in 2015. Based on recent groundwater studies, there is general agreement that total groundwater pumping (agricultural, municipal, rural, etc.) is approaching the perennial yield. Use by the City (and others in the basin) of Nacimiento Project water in lieu of basin groundwater will help to reduce the risk of overdraft and—all other pumping remaining stable—allow some recovery of groundwater levels in the Estrella subarea.

The combined design production capability of all twelve basin wells is about 8,150 gpm (13,150 AFY). However, production rates in several wells have been reduced in recent years due to regional water level declines. Use of Nacimiento water will result in short-term surplus production capacity among basin wells. This will provide backup capacity in times of water shortage or emergency, and offer the City the opportunity to site and install replacement basin wells.

4.5.3 NACIMIENTO WATER

The City has contracted for 4,000 AFY of Nacimiento water. The treatment plant construction is currently planned to begin in about three to four years. By 2020, an additional 1,400 AFY (for a total of 5,400 AFY) may be contracted. This additional water would allow the City to stabilize future basin well pumping at 3,400 AFY (approximately 2006 levels) or less, depending upon the effectiveness of long-term conservation programs.

5. WATER SUPPLY RELIABILITY AND WATER SHORTAGE CONTINGENCY PLANNING

5.1 RELIABILITY OF WATER SUPPLY

The California Urban Water Management Planning Act requires that each water supplier provide an assessment of the reliability of its water supply during normal, dry, and multiple dry years. This section considers the impact on water supplies of two types of drought, a single extreme drought year and a severe drought that is prolonged over at least three years. In addition, a catastrophic water shortage could also occur, for example, as a result of earthquake damage, regional power outage, or water quality emergency. This section presents the City of Paso Robles response to potential water shortages, including catastrophic water supply interruption and drought.

The *Water Source Evaluation* (Boyle, September 2006) includes evaluation of the ability of the City's wells to satisfy water demands during drought. This includes evaluation of historical rainfall periods to establish a standard drought for future planning, documentation of groundwater levels over time, evaluation of City wells in terms of drought performance, and recommendation of operational strategies to maximize groundwater production during drought.

As noted in the preceding sections (Section 4 Water Supply), the City overlies a large groundwater basin with storage amounting to 30.5 million AF (Fugro, August 2002). All of this water cannot be extracted reasonably, but the volume that can be used during drought is sizable. This is predicated on available well capacity to extract the water and also on replenishment of groundwater during wet years and stabilization of water levels over the long term. The key issue with regard to short-term shortages is not the absolute availability of supply. Instead, drought issues involve the available pumping capacity of wells and the impact on wells of water level declines during the shortages. For example, long-term regional water level declines amplified by drought affects could result in exposure of the well screens causing loss of pumping efficiency and/or loss of saturated thickness in the aquifer resulting in reduced well yield. In August 2007, localized groundwater level declines around City wells resulted in a 17 percent decline in well production relative to August 2006.

5.1.1 SINGLE-YEAR DROUGHT

Rainfall records for Paso Robles document an average annual precipitation of 14.77 inches (Station 046730). However, rainfall in Paso Robles is variable, having ranged since calendar year 1950 from 6.24 inches (1985) to 27.95 inches in 1995. In the past 60 years, six years have been marked by rainfall less than 50 percent of normal or 7.38 inches (1953, 1984, 1985, 1989, 1990, and 2007). As reported in past UWMPs, basic review of groundwater hydrographs for City wells suggested that one or even two consecutive extreme dry years did not have a discernable impact on groundwater levels in the City's Paso Robles Groundwater Basin wells. Hydrographs from the City's underflow wells along the Salinas River also showed little change in response to single-year droughts, probably reflecting recharge from the Salinas River that occurs even in drought years plus the available, albeit limited, groundwater storage in the alluvial aquifer along the river. Preliminary information provided by the *Water Source*

Evaluation (Boyle, September 2006) indicated that single year droughts did not significantly affect City well fields. Instead, droughts with durations of three, four, or five years appeared to be most problematic.

Water levels in the City's Paso Robles Groundwater Basin wells have been dropping consistently over the last 12 years due to regional water level declines in the basin. The impact of single year or multi-year droughts can amplify the effects of regional groundwater level declines, resulting in further lowering of well production levels. Single year droughts have not significantly affected the City's wells. However, droughts with durations of 3, 4, or 5 years are more problematic in terms of creating additional impacts on top of chronic water level declines in the basin (Boyle, September 2006).

In response to chronic and continuing water level declines and lowered water production capacity, the City has installed wellhead treatment systems to rehabilitate several wells. In addition, in June of 2009 the City adopted a Water Conservation and Water Shortage Contingency Plan (Ordinance No. 956 N.S.). This plan establishes mandatory and permanent water management measures necessary to promote efficient use of water and to prevent waste. The plan outlines a staged approach to dealing with supply shortfalls from 10 to 50 percent (see Appendix C for the plan). In June of 2009, the City initiated mandatory Level 2 outdoor water use restrictions during the summer months. These restrictions, which are anticipated to remain in effect until additional water supplies are developed, have been successful in reducing peak demand and enabling the City to maintain reservoir storage levels for emergency and reserve uses.

In the long term, peaking problems will be alleviated through water conservation, development of Nacimiento water supply, and provision of recycled water for landscape irrigation, which effectively reduces demands on the potable water system.

5.1.2 MULTI-YEAR DROUGHT

The seven-year period of calendar year 1984 through 1990 was marked in Paso Robles by below-average rainfall, averaging 9.4 inches overall (64 percent of normal). The most severe portion of this drought extended over three years (1988-1990), when rainfall averaged less than 8 inches, or just below 54 percent of normal. Accordingly, three or more consecutive years with an annual average rainfall of 60 percent or less is a reasonable approximation of a severe, multi-year drought. The City's preliminary *Water Source Evaluation* (Boyle, September 2006) standard drought period generally coincides, and is defined as the five rainfall years (starting July 1) from 1987 through 1991.

During the seven-year drought, the underflow wells along the Salinas River showed declines in groundwater levels. Thunderbird 10 showed a decline between 1984 and 1990 of about six feet, with a subsequent recovery. Two Paso Robles Groundwater Basin wells monitored through this period, Sherwood 9 and 11, showed a decline in groundwater levels that started in 1985 (the second year of the drought) and persisted to 1994, indicating a lag effect between the occurrence of rainfall and water level changes. Overall, declines in the two wells amounted to 68 feet in Sherwood 9 and 74 feet in

Sherwood 11. Subsequently, water levels rose between 1995 and 1998 but since have declined to below 1994 levels in these two wells.

Preliminary conclusions of the *Water Source Evaluation* (Boyle, September 2006) were that the City had the capability to withstand a drought like that of the rainfall years 1987-1991. However, there is little margin for operational problems or for significant growth in water demand without new water supply sources. Recent experience has shown that if key wells are off-line, as occurred in the summer of 2007, and/or production rates are reduced due to sustained regional water level declines in the Paso Robles Basin (as has occurred), the City will not be able to supply peak summer demands without aggressive demand management (conservation) until supplemental water supplies are developed.

5.1.3 WATER SUPPLY RELIABILITY IN NORMAL AND DROUGHT YEARS

The Urban Water Management Planning Act requires tabulation of available water supply volumes in normal (average), single dry, and multiple dry years. The City of Paso Robles has relied on underflow and groundwater resources to satisfy growing water demands in recent years that have included both extreme dry years (including 2007) and prolonged severe drought extending over seven years (1984-1990). However, the City has regularly experienced summer water supply shortages and in 2007, was able to meet customer demands only by reducing City demands and evoking voluntary conservation. In 2009, the City adopted a revised Water Conservation and Water Shortage Contingency Plan. Level 2 City-wide mandatory outdoor water use restrictions were initiated in 2009 and continue to time of writing. These shortages are not related to the absolute availability of supply but to lowered groundwater levels (that have reduced production rates), customer irrigation patterns, and the limitations of the City's facilities.

Table 17 lists the year(s) used in this Plan to represent normal, single-year drought and multi-year droughts. Accordingly, **Table 18**, Supply Reliability-Historic Conditions, lists the City's water production as of 2006 (7,431 AF) as the known reliable supply in normal years and in drought. As indicated in **Table 17** (also see **Figure 2**), 2006 was considered an average precipitation year, 2007 was a representative single-dry year, and 1987 through 1990 were multiple dry years as discussed above. While 2009 also had average precipitation, it was preceded by two years of drought and water production was reduced in response to the mandatory Level 2 outdoor water use restrictions.

On an annual basis, the City was able to provide 7,431 AF of supply during normal and drought times. Production in 2007 was higher at 8,126 AF. As required, the percentage of normal is also shown in **Table 18**. Since historical annual pumping has not been greatly affected by drought, the percentage is considered 100 percent of normal. However, there is potential for summer peaking problems as indicated in the bottom row of **Table 18**. **Table 19** is similar to **Table 18** and shows the minimum water supply available during the next three years (2011-2013) based on the driest three-year historic sequence.

Future supplies will be even more resilient to droughts by 2015 when Lake Nacimiento water is projected to be available. Lake Nacimiento water is a reliable and stable source of water as San Luis

Obispo County has a contractual first priority to 17,500 AFY of the reservoir yield which is over 200,000 AFY. Modeling of Nacimiento Lake levels and Nacimiento Water Project (NWP) deliveries indicates that NWP deliveries are not a significant contributor to lake level changes as compared to historic records and, that even during drought periods, the total annual San Luis Obispo County entitlement could have been delivered (Boyle, October 2002). In addition, future use of recycled water—a nearly constant source—will also increase supply reliability. Future water supply projects are summarized in **Table 16**.

Table 20 compares water supply to water demand in five year increments between 2015 and 2035 for a normal year. The supply will be the same as demand without potential additional conservation (**Table 15**). As specified in the UWMP Guidebook, the demand totals incorporate the projected water reduction targets of 10 percent per capita reduction by 2015 and 20 percent reduction by 2020. If these target reduction goals are met, the City will scale back groundwater basin pumping. However, it is difficult to guarantee that these target reductions can be met considering the lack of funding and competing fiscal responsibilities that cities are facing today. Therefore, the supply surplus is not likely to be as great as projected in **Tables 20** through **22**.

Table 21 presents the same estimates for a single dry year. The supply will be the same as that available during normal years (**Table 15**); groundwater can be pumped at similar rates on an annual basis during dry years and Lake Nacimiento water and recycled water will still be available. Demands include the optimistic additional conservation and recycled water savings to meet the 2010 and 2020 water reduction targets. If these target water use reductions are met, no additional demand reductions will be needed during a single-year drought.

A table was generated to compare annual supply and demand during multiple-dry year periods for five-year periods between 2015 and 2035. This information is presented in **Table 22**. In this table, supply values were kept the same as those for normal years (**Table 15**). Demand values were assumed to also be the same as those in **Tables 20** and **21**, where additional potential conservation and recycled water savings are included as called for in the UWMP Guidebook. If target water use reductions are met, the City will have sufficient supply to provide water in multi-year droughts. If target water use reductions are not met, the City can initiate various levels of its Water Shortage Contingency Plan to reduce water demands, as discussed in a **Section 5.3**.

The City of Paso Robles water system provides some built-in reliability. First, the water system uses two groundwater sources, Salinas River underflow and the groundwater basin, with differing recharge characteristics. Second, City wells are dispersed throughout the service area protecting against a single catastrophe (such as a groundwater contamination release), and thus disruption of more than four wells is unlikely. The West and East Zones of the City water system are linked so that water can be conveyed from one zone to another if needed in emergency.

Two additional sources of water will be available in the future: Nacimiento Project water and recycled water. Lake Nacimiento surface water supply, which is independent of local groundwater supply, will provide the City with increased water supply reliability, enhanced delivered water quality, and improved wastewater quality. Use of recycled water by the City for non-potable irrigation and industrial use will

release potable groundwater for higher beneficial uses. Recycled water has advantages of being very reliable, especially in drought. Use of recycled water for landscape irrigation provides substantial benefits in reducing peak summer demands on the potable water system.

Even with Nacimiento Project supply and recycled water, the City will continue to rely on the groundwater basin for a portion of its supply. At current rates of municipal and agricultural pumping, groundwater in the Estrella subarea already is subject to chronic declines. These declines are accompanied by loss of well yield, increased pumping lifts, deterioration of water quality, and potential damage to wells.

This risk, which undercuts water supply reliability, is being addressed directly by the City through its active engagement in basin-wide monitoring and management of the basin. In addition, the long-term reliability of water supply can be increased through water conservation that allows already-developed water supplies to be used effectively. The next section of the Plan discusses specific factors affecting the reliability of the City's water supplies. Water conservation, an integral part of the City's water resource planning, is discussed in a subsequent section.

5.2 FACTORS IN WATER SUPPLY RELIABILITY

Table 23 lists potential legal, environmental, water quality, and climatic factors that could result in inconsistency of supply and shortages. Each is discussed below.

5.2.1 LEGAL

The City is addressing potential legal limits on its underflow and groundwater supplies, which include loss or reduction of Salinas River underflow water rights and adjudication of the Paso Robles Groundwater Basin. The City is actively pursuing perfection of underflow water rights (see pages 17 and 18 for discussion of actions the City is taking in this regard). With regard to the Paso Robles Groundwater Basin, the City is an active party to the Paso Robles Groundwater Basin Agreement with the San Luis Obispo County Flood Control and Water Conservation District (District) and private landowners with properties overlying the Paso Robles Groundwater Basin. The agreement acknowledges that the Basin is not in overdraft now, and establishes a process for monitoring its condition in the future. It contains provisions reserving all the parties' respective legal rights. The agreement sets the stage for the City and District to be stewards of groundwater in the North County, and supports monitoring of the basin and consideration of means to avoid overdraft. The City also is an active participant in the Groundwater Basin Management Plan, currently being prepared through collaboration among various agencies, interest groups, and agricultural and domestic groundwater pumpers. In addition, the City has developed policies that regulate non-City wells within City limits and thereby protect City wells and pumping. These policies include provisions to require that private wells are maintained and operated in a manner to prevent cross-connection with the City water system, protect the groundwater basin, support expanded monitoring, and require that unused wells are abandoned correctly to prevent migration of surface contaminants to groundwater.

The City is making strides toward improved wastewater quality through delivery of high quality Nacimiento Project water, programs for reduced use of water softeners, source control for industrial dischargers, and upgrade of the City's wastewater plant.

5.2.3 ENVIRONMENTAL

The most likely environmental factors affecting City water supply would derive from substantially increased pumping from other groundwater basin users resulting in basin overdraft. The City is actively participating in the Paso Robles Groundwater Basin Agreement and the Paso Robles Groundwater Basin Management Plan process with the goal of stabilizing chronic groundwater level declines and avoiding overdraft. Use of Nacimiento water after 2015 by Paso Robles and other local communities will reduce dependence on groundwater.

Earthquakes also can be considered an environmental event that could affect supply consistency in the short term as repairs are made to potentially damaged facilities (e.g., storage tanks, pipelines, wells). See the following section on *Catastrophic Water Shortage*. Heat waves have resulted in power outages in Paso Robles that disrupt water supply; see the section on *Catastrophic Water Shortage*.

5.2.4 WATER QUALITY

Potential water quality impacts on water supply reliability are addressed in **Table 23** and **Table 24**. As indicated in **Table 24**, it is not anticipated that the quality of groundwater, Lake Nacimiento water, or recycled water will degrade in such a manner that affects the volume of water available for use. Lake Nacimiento water will improve the quality of the City's water supply with respect to lowering the total dissolved solids (TDS) content of the supply (see Section 4.1.2 for discussion). However, water quality issues include the potential for contamination plumes and long-term regional impacts.

While all but one of the Salinas River underflow wells are clustered in two well fields, the remaining City wells are distributed widely. Accordingly, the response to contamination of a well field or one or more wells would be cessation of pumping in the affected wells and greater temporary reliance on the remaining wells (as well as future Lake Nacimiento and recycled water supply). Wellhead treatment system installation is also an alternative that could be implemented in response to a specific water quality issue. Currently, the Ronconi Well Field has a microfiltration wellhead treatment system and Sherwood 9 and Sherwood 11 wells have treatment systems to remove arsenic and hydrogen sulfide.

The likelihood of contamination of City wells is reduced through preparation of a Drinking Water Source Assessment and Protection Program (DWSAP), a federally-mandated program being coordinated by the California State Department of Health Services. The City prepared DWSAs for 14 wells in 2002: Sherwood 9, Sherwood 11, Butterfield 12, Osborne 14, Dry Creek 18, Tarr 19, Royal Oak 20, Fox 21, Cuesta 22, Borcherdt 5, and the Thunderbird wells 10, 13, 17, and 23. DWSAs were prepared for the Avery 24 well in 2003 and for the Ronconi wells 1 and 4, the Tower 25 well, and the Barney Schwartz 15 well in 2006 (Paso Robles, 2002, 2003 and 2006). Ronconi 16 is capped and will be properly abandoned in the future. For each well, the DWSAs:

- Delineated source protection areas for both surface water and groundwater;
- Identified all potential sources of significant contamination in source protection areas; and
- Determined the susceptibility of water sources to contamination within protection areas.

The 19 assessments found water supply sources vulnerable to agricultural drainage, auto repair shops, gas stations, home manufacturing, low-density septic systems, sewer collections systems, dry cleaners, metal plating/finishing/fabricating, animal operations, agriculture and irrigations wells, and plastic and synthetics producers.

The City's Water Shortage Contingency Plan discussed in a subsequent section can be used if unforeseen water supply interruptions occur due to water quality problems. Water supply wells are dispersed throughout the City and it is unlikely that more than one cluster of wells would be impacted. As mentioned before, use of Nacimiento water after 2015 and recycled water after 2025 will increase the City's water supply reliability by reducing dependence on groundwater.

With regard to regional groundwater quality, the Estrella subarea of the Paso Robles Groundwater Basin, which includes most of the City, is characterized locally by increasing TDS, chloride and nitrate concentrations. These adverse water quality trends are unlikely to affect City water supply in the near future, given that groundwater currently provided by the City meets all drinking water standards and the increases in TDS, chloride and nitrate are localized. Nonetheless, salt loading to the groundwater basin is an important long-term concern. Recognizing that City wastewater disposal is one source of salt loading, the City has made the reduction of salt loading one of their water resource goals. Major means to reduce salt in City wastewater include planned use of high-quality Lake Nacimiento supply, reduced use of home water softeners, strategic use of wells with lower salt concentrations, and implementation of the industrial waste discharge ordinance.

5.2.5 CLIMATIC

The climatic events most likely to affect water supply are droughts, which are addressed in other sections of this report by examining historical droughts and considering their impact on current and future water supply and demand. However, future climate change—and specifically global warming—brings additional uncertainty to water supply management. It is notable that five of the six extreme drought years have occurred within the past 26 years, suggesting greater climatic variability in recent decades.

Paso Robles does not have surface water supplies dependent on snowmelt, which is likely to be affected by global warming. Effects of global warming on local rainfall remain highly uncertain; however, it is likely that continued global warming would increase evapotranspiration losses. In other words, water demand for irrigation would increase as well as evaporation of Lake Nacimiento water. At this time, the significance of such an effect is not known but warrants continued consideration, particularly given the high summer season water demand that already has stressed the City water system capacity. Effects on the water system of increased irrigation demand can be minimized through water conservation measures and provision of recycled water.

5.2.6 CATASTROPHIC WATER SHORTAGE

The Urban Water Management Planning Act requires that water purveyors describe actions to be taken in the event of catastrophic water supply interruption, such as earthquake and regional power outage. Regional power outages represent a potential interruption in water supply. The City has backup generators at some but not all City wells. In the past, the City has rented additional generators during power failures.

In Paso Robles, catastrophic interruption of water supply is most likely to occur due to an earthquake, which has potential to damage wells, piping, and reservoirs. The December 22, 2003 earthquake seriously damaged two reservoirs. In response, a City-wide water shortage emergency was declared and a temporary water shortage contingency plan was adopted with the purpose of reducing the City's water demand by 25 percent. A final Water Conservation and Water Shortage Contingency Plan was adopted in 2009. This water shortage contingency plan is discussed in the next section.

5.3 WATER SHORTAGE CONTINGENCY PLANNING

The City adopted a Water Conservation and Water Shortage Contingency Plan on June 2, 2009 (Ordinance No. 956 N.S.). This plan, provided in **Appendix C**, recognizes that the City, although having two dependable sources of groundwater, requires a program to manage the City's water demand and supply to minimize the effects of water shortages. This plan provides for adequate water supplies during the summer months and into the future, maintaining a reliable minimum supply of water for public health, safety, and welfare.

The Water Shortage Contingency Plan establishes mandatory and permanent water management requirements necessary to conserve water, enable effective water supply planning, provides for reasonable and beneficial use of water, and prevent waste, unreasonable use, and unreasonable methods of use of water. Four levels of actions are defined to be implemented in times of shortage with increasing restrictions on water use in response to greater demand minus supply differences. Level 1 is voluntary while Levels 2 through 4 are mandatory and violators are subject to civil, and administrative penalties and remedies. The City Council or City Manager will recommend and declare the appropriate water shortage condition. **Table 25** shows the levels and requested rationing/conservation.

The City's actual response to a water shortage will require specific action by the City Council. Stages of action for many water agencies are defined by available storage in a surface water reservoir or by the annual allotment provided by a water wholesaler. In contrast, Paso Robles overlies vast groundwater storage that can be utilized by the City for its drought supply. However, the City currently experiences seasonal shortfalls related to summer peaking of water use.

The City response to drought will depend on the magnitude of the shortfall. **Table 25** presents water supply shortage stages that would trigger conservation measures. Once a water shortage stage has been declared, measures will need to be implemented to meet water conservation goals. **Table 26** provides a brief summary of actions in response to various water shortage emergencies other than drought. **Table**

27 provides examples of consumption reduction measures, ranging from public education to mandatory rationing and restrictions for only priority uses. Specific recommended measures include:

- Notify all customers of the water shortage,
- Mail or deliver information to all customers explaining the importance of water conservation,
- Provide technical information to customers on means to promote water use efficiency,
- Develop a media campaign to promote water conservation, and
- Develop or expand existing conservation programs such as low-flow toilet rebates.

Level 1 consumption reduction measures are voluntary and request water users to reduce use by 10 percent in response to a reasonable probability that there will be a supply shortage (either peak or longer-term) where a savings of 10 percent of supply is needed to meet demands. Public education and awareness measures will increase to notify water users. Water conservation measures include restrictions on irrigation, repair and prevention of leaks, and use of recycled, non-potable, or non-City water for construction.

A Level 2 Condition will be declared when there is a reasonable probability that there will be a supply shortage requiring consumers to reduce use by 20 percent to provide for sufficient supplies. All Level 1 Condition measures are required as well as additional irrigation restrictions. The City may also not allow any additional water connections and/or implement a water allocation per customer account with per unit penalty surcharges for use exceeding the water allocation.

During a Level 3 Condition there is a reasonable probability that there will be a supply shortage requiring consumers to reduce use by 30 percent to provide for sufficient supplies. All Level 1 and Level 2 Condition measures are required as well as further irrigation restrictions. Filling of ornamental lakes and ponds is prohibited. All leaks, breaks, and other plumbing malfunctions must be repaired upon discovery or within 48 hours of notification by the City. Washing down of vehicles and paved areas is prohibited. New water services will only be allowed under certain circumstances and all annexations will be suspended.

A Level 4 Condition will be declared when there is a reasonable probability that there will be a supply shortage requiring consumers to reduce use by 50 percent to provide for sufficient supplies. All Levels 1, 2 and 3 Condition measures are mandatory. Landscape irrigation is prohibited. Leaks, breaks, and other plumbing malfunctions must be repaired upon discovery or within 24 hours of City notification. Filling or refilling of residential pools and spas is prohibited. The City will not enter into any new agreements to provide water to new customers.

Prohibitions are listed in **Table 28** and **Table 29** provides examples of penalties and charges for excessive water use. Violators would be issued two warnings before being fined. A fine not exceeding one hundred dollars would be assessed for a first violation. A second violation within a year would result in a fine not exceeding two hundred dollars. If a third violation occurs within the same year, a fine not exceeding five hundred dollars would be assessed.

Successful implementation of water conservation measures results in a decrease in water demand, with the unintended effect of reducing a water purveyor's revenues. Accordingly, the water code requires analysis of fiscal impacts of the water shortage contingency plan on revenues and expenditures and discussion of measures to reduce impacts. For Paso Robles, effective implementation of the water shortage contingency plan would result in a decline in potable water sales of as much as 10 to 20 percent on an annual basis. This reduction is illustrated in **Table 30** which is based on a 10 to 20 percent decline in 2004 water revenue. Expenditures are not projected to increase during water shortage emergencies (**Table 31**) because water supply sources will remain basically the same and, while City staff may focus on shortage-related duties, no hiring of additional temporary staff or extensive overtime work is anticipated. Any additional effort by the City, such as advertising and public education, would be conducted by the City's conservation program staff.

Any revenues derived from penalties for excessive water use or water wasting during the water shortage would not effectively offset lost revenues. These presumably limited revenues should be applied toward administration of the water shortage contingency plan.

Declining water demands would be offset to a small degree by a decline in operating expenses related to the amount of water provided, such as pumping (energy) and water treatment costs. Measures to overcome revenue impacts are listed in **Table 32**. The City anticipates that reserves would be used to offset the revenue impact. If the water shortage emergency is or appears to be long-term or if City reserves are low, the City may elect to initiate rate adjustments to offset these losses.

The effectiveness of the Water Shortage Contingency Plan can be measured with the monitoring mechanisms listed in **Table 33**. Weekly monitoring of groundwater production and water distribution (as Nacimiento water and recycled water enter the system) as well as wastewater flow to the treatment plant will occur. These values will be compared to water use and wastewater generation during normal periods and will indicate the level of water conservation. Increased meter readings on a weekly basis will indicate the level of water conservation occurring on a single user basis. These increased meter readings can be on a random basis and also can identify high water users and those customers who are not conserving. This monitoring will also alert the City as to the amount of lost revenue to expect.

The Urban Water Management Planning Act requires a mechanism for determining if reductions in water use are actually being achieved in response to conservation measures. Regular monitoring during a Stage 1, 2, 3 or 4 shortage would include reporting of daily production figures and comparisons of weekly production to the target weekly production to verify that the reduction goal is being met. If reduction goals are not met, the City Manager will notify the City Council and provide them with a Staff Report containing recommended corrective action alternatives for their consideration.

6. DEMAND MANAGEMENT MEASURES

6.1 INTRODUCTION

The California Urban Water Management Planning Act requires that each water supplier provide a report describing its implementation of fourteen demand management measures (DMMs, also known as best management practices (BMPs). This report describes the current status of implementation and the planned implementation of these measures in the future. The descriptions of the programs and measures are organized to correspond to the recent grouping of measures by the California Urban Water Conservation Council (CUWCC). These grouping are:

1) Utility Operations Programs
   - 1.1 Conservation coordinator (formerly BMP 12)
   - 1.2 Water waste prevention (formerly BMP 13) - Programs that focus on existing users, new development, and water shortage measures
   - 1.3 Wholesale agency assistance programs (formerly BMP 10)
   - 1.4 Water loss control (formerly BMP 3)
   - 1.5 Metering with commodity rates (formerly BMP 4)
   - 1.6 Retail conservation pricing (formerly BMP 11)
2) Education Programs
   - 2.1 Public information programs (formerly BMP 7)
   - 2.2 School education programs (formerly BMP 8)
3) Residential Measures
   - 3.1 Residential assistance program (formerly BMPs 1 & 2)
   - 3.2 Landscape water survey (formerly BMP 1)
   - 3.3 High efficiency clothes washer (HECWs) (formerly BMP 6)
   - 3.4 Water sense specification toilets (formerly BMP 14)
   - 3.5 Water sense specifications for residential development
4) Commercial, Industrial, and Institutional (formerly BMP 9) – The goal of these programs is to achieve a 10 percent reduction from baseline water usage at CII accounts (focused on interior and process-related water usage).
5) Landscape (formerly BMP 5) - These programs apply to accounts with dedicated irrigation meters or commercial landscapes served by mixed meters.

The programs outlined in this section build on the conservation programs previously implemented by the City of Paso Robles and the plans detailed in the 2000 and 2005 updates of the Urban Water Management Plan. In April of 2009, the City established a full-time Conservation Manager position to plan and implement water conservation programs. Since then, significant progress on implementation of programs in several DMM areas has been achieved. In addition, the City signed the CUWCC Memorandum of Understanding and was accepted as a member in June, 2010.

This section provides a description of how the City is addressing water conservation programs in each of the DMM areas. The current status of the implementation of each program is described. **Table 34**

summarizes the schedule for these DMMs and indicates if progress has been made since the 2005 UWMP. Further detail on each DMM, including projected annual water savings (benefits) and program costs, is provided in **Appendix B** (Implementation Plan for Water Conservation Best Management Practices).

City of Paso Robles Compliance with CUWCC Memorandum of Understanding

The City of Paso Robles plans to use the gallons per capita per day (GPCD) compliance option method for compliance with the Memorandum of Understanding (MOU). This method states that the following reductions must be attained from the City's baseline water use of 241 GPCD (see **Table 8**):

2011: 96.4 percent of baseline (or 100 percent after weather normalization)
2013: 92.8 percent of baseline (or 96.4 percent after weather normalization)
2015: 89.2 percent of baseline (or 92.8 percent after weather normalization)
2017: 85.6 percent of baseline (or 89.2 percent after weather normalization)
2019: 82.0 percent of baseline

For 2010, the last year of complete water use records, the City of Paso Robles' total GPCD water use was 188 gpcd (based on total use of 6,326 AF and a population of 30,072). This water use is 78 percent of baseline water use, demonstrating compliance with the MOU. The City has filed the interactive BMP report forms with CUWCC (found in Appendix F).

Impact of 2009 Level 2 Water Shortage Conservation Program – The City of Paso Robles currently faces a 20 percent water supply shortfall during the summer months due to high irrigation water demands and reduced well capacity, reflecting groundwater level declines in the Atascadero and Estrella subareas. To address this shortfall, in April 2009, the City implemented mandatory outdoor water use restrictions that limit watering to three days per week on a specified schedule. A comprehensive public outreach program was also launched to educate customers on the need to conserve water and use efficient irrigation techniques. As a result, peak-summer water demands were reduced by up to 20 percent compared to 2007/08 water use. Total water demand for 2009 was reduced by 16 percent from 2008 levels. Mandatory water use restrictions were continued in 2010, and will be continued until additional water production capabilities are developed.

6.2 UTILITY OPERATIONS PROGRAMS

6.2.1 CONSERVATION COORDINATOR

This requirement has been met through the staffing in 2009 of a full-time Conservation Manager position in charge of planning and implementation of the City's conservation programs.

6.2.2 WATER WASTE PREVENTION (FORMERLY BMP 13)

In fulfillment of this DMM, in 2009 the City enacted Ordinance No. 09-962- N.S., the Water Conservation and Water Shortage Contingency Plan. This plan outlines permanent water waste prohibitions that are

in effect at all times for existing customers, and additional water use restrictions that are implemented in four stages according to increasing levels of water supply shortfalls. This ordinance is described in the previous section and provided in **Appendix C**. In addition, in 2009 the City adopted a water efficient landscape ordinance in response to the requirements of AB 1881. This ordinance (**Appendix D**) applies primarily to landscape water use efficiency in new development. In addition to including most of the state's model water efficient landscape ordinance requirements for efficient irrigation system design, the ordinance limits turf landscaping in new developments as follows:

- Single Family Residential front yard landscape limited to 25 percent of landscaped area
- Multi-family residential development limited to 20 percent of the landscaped area
- Commercial development limited to 10 percent of the landscaped area.

6.2.3 WHOLESALE AGENCY PROGRAMS

Currently the City does not provide water on a wholesale basis. Therefore, this DMM does not apply.

6.2.4 WATER LOSS CONTROL (FORMERLY BMP 3)

This DMM focuses on minimizing lost and unaccounted-for water (non-revenue water) through system leak detection and repair, and through comprehensive audits of the water production and water distribution system. New procedures for conducting a system water audit have been developed by the American Water Works Association. To comply with this DMM, utilities are expected to use this methodology. To date, the City has not completed a water audit using the methodology. However, the City does track overall unaccounted-for water percentage on an annual basis. Unaccounted-for water is the difference between known billed and unbilled consumption and water production. It includes actual losses (leaks) in the distribution system, un-metered use (e.g. hydrant flushing and fire-fighting), unauthorized water use (theft) and meter error. Unaccounted-for water use among utilities in California generally ranges from 6 percent to 15 percent and averages about 10 percent.

In recent years, since major improvements to the City's billing and accounting system were made, the unaccounted-for water percentage has been as follows:

2006 - 7.3 percent
2007 - 6.6 percent
2008 - 7.2 percent
2009 - 8.5 percent
2010 - 9.1 percent
5-year Average = 7.7 percent

This unaccounted-for percentage is relatively low by California water utility and industry standards (California DWR, August 1994). Therefore, in relation to the implementation of other DMMs, completing a comprehensive water audit using AWWA component analysis method will be given a lesser priority. The CUWCC does allow cities up to four years to develop a validated data set for all entries of their water audit and balance. The City will continue to monitor the unaccounted-for percentage and begin to

develop the data required to complete this audit. In 2010, the accuracy of the City's well production meters were tested, and several meters were calibrated and/or replaced. In addition, a prioritized list was developed of older residential customer meters identified for replacement.

On-going programs to reduce unaccounted-for water include a replacement program for customer meters based on billing record analysis. Currently customer meters are replaced when billing data discrepancies indicate either a zero read or an extremely slow meter. An additional component of this DMM that is planned for implementation in 2011-12 is development of a formalized testing, repair, and replacement program for customer meters. The CUWCC Memorandum of Understanding (MOU) states that this plan is to be submitted to CUWCC within one year of signing the MOU.

6.2.5 METERING WITH COMMODITY RATES (FORMERLY BMP 4)

This measure has two components: 1) metering of all new connections and existing connections, and 2) implementation of commodity water rates whereby monthly charges are based on the volume of usage. This demand management measure, fundamental to efficient use of water, has been in place in Paso Robles for many years. Currently, water billing data can be tracked for the following user categories: single family residential, multi-family residential, commercial/industrial, large landscape irrigation, and institutional/governmental customers. Currently, water is billed at a rate of $1.32 per 100 cubic feet. In addition, an $18/month base fee is charged to all customers. New water rates were adopted in 2010 that will discontinue the $18/month base fee in 2011 and increase the commodity charge over the next five years as follows: 2012 - $2.50, 2013 - $3.20, 2014 - $3.70, 2015 - $4.10, 2016 - $4.40. Implementation of this rate is currently scheduled for 2012, pending re-noticing of customers of the rate increase per Proposition 218 requirements.

6.2.6 RETAIL CONSERVATION PRICING (FORMERLY BMP 11)

Conservation pricing provides a price signal to customers to use water efficiently. Compliance with this DMM requires that a minimum of 70 percent of the City's total water sales revenue be derived from volumetric charges as opposed to fixed monthly charges. The City is currently meeting this target, as the current water rate structure collects approximately 65-70 percent of revenue from volumetric charges. The proposed water rates for the 2012-2016 period (adopted by the City Council in 2010) will eliminate all fixed monthly charges and all revenue will be derived from volumetric charges.

6.3 EDUCATION PROGRAMS

6.3.1 PUBLIC INFORMATION PROGRAMS (FORMERLY BMP 7)

One of the cornerstones of an effective water demand management program is effective public outreach and education. Public information and outreach—which convey the need for efficient water use and show how customers can reduce water use—supports all other elements of the program.

The CUWCC MOU requires that a program include, at a minimum, the following outreach activities. Paso Robles is currently engaged in the following activities:

- At least quarterly contacts with the public
- Contacts with the media at least four times per year
- An actively maintained website
- An annual budget for the public outreach program

The City has had an active public information program for several years and has increased outreach activities since filling the water conservation manager position. The following communication tools are used to convey water conservation messages and to advertise other program elements to customers:

- Monthly radio advertising
- Bill inserts (3-4 newsletters, flyers per year)
- Bill messaging
- Water conservation brochures made available at the City library, at booths at local fairs, and via mail to customers upon request.
- Workshops on Waterwise landscaping and conversion of turf to low-water landscape (2-3 per year)
- Landscape watering schedule made available on website and refrigerator magnet
- Customer notification when runoff or water waste is reported
- Water bill information showing monthly use compared to historical use
- Development of conservation program "branding"
- Speakers bureau – conservation and resources staff are available upon request to speak with community groups.

6.3.2 SCHOOL EDUCATION PROGRAMS (FORMERLY BMP 8)

This DMM covers classroom presentations promoting efficient water use and supplementation of presentations with grade level-appropriate education materials. The City has an ongoing program, working through a local consultant specializing in presentations to grades 4 through 6. The consultant coordinates with the Paso Robles school district and markets the program directly to teachers throughout the district. The 45-minute interactive presentation titled "The Story of Your Water," teaches students about the water cycle, water treatment, water conservation in the home and yard, and water reclamation. These presentations meet state education framework standards and are age-appropriate. In 2008/2009, 26 classroom presentations were made.

The City also provides age-appropriate water education material to children at approximately 2 to 3 community fairs each year (conservation coloring books, workbooks, and other promotional items).

6.4 RESIDENTIAL PROGRAMS

6.4.1 RESIDENTIAL ASSISTANCE PROGRAM

This DMM involves providing leak detection assistance to customers. This may include, but is not limited to, a water conservation survey, water efficiency suggestions and/or inspection, and provision of showerheads and faucet aerators that meet current WaterSense specifications. Beginning in March 2010, the City began offering residential water surveys free of charge to customers requesting the service. The program is marketed through advertising in bill inserts, bill messages, website, and newsletters. During the water survey, Paso Robles' water conservation staff performs the following:

- Check shower heads and faucets and install low-flow models if needed, and the customer desires
- Check toilets for leaks and install a new toilet flapper valve if leaking
- Inspect all irrigation stations for leaks, overspray, and other problems
- Create a seasonal irrigation schedule for the home
- Provide a checklist of improvements for the irrigation system
- Provide other conservation tips and brochures.

Surveys take between 60 and 90 minutes. The form used in the survey is shown in **Appendix E**. The CUWCC MOU coverage requirement for this DMM is to provide surveys to an average of 1.5 percent per year of single family and multi-family accounts. In Paso Robles, this amounts to approximately 120 single-family accounts per year and approximately 36 multi-family units per year. Since this is a voluntary program, it is market driven by customer desire for the service. In 2010, the survey was completed for 129 single family accounts, 3 multi-family accounts and 3 commercial accounts.

6.4.2 LANDSCAPE SURVEY (FORMERLY BMP 1)

This DMM involves performing a landscape water survey that includes a check of irrigation system and timers for maintenance and repairs needs, developing a customer irrigation schedule, reviewing scheduling with the customer, and providing the customer with an evaluation. The City provides this service as part of the home water survey described in Section 6.4.1.

6.4.3 HIGH-EFFICIENCY CLOTHES WASHERS (HECWS) (FORMERLY BMP 6)

This DMM involves providing incentives or instituting ordinances requiring the purchase of high-efficiency clothes washers that meet an average water factor value of 5.0 or the WaterSense specification if it is less than 5.0. Currently, the City does not offer rebates for installation of HECWs nor does it require installation through ordinance. However, PG&E provides a $50 rebate for clothes washers and the City's conservation website provides a direct link to the PG&E rebate website. In the 2011-2013 period, the City plans to evaluate the cost-effectiveness of providing additional clothes washer rebates and compare its cost-effectiveness to that of other DMMs and water conservation

alternatives available. At this point in time, the City's total budget for rebates is limited due to severe water rate revenue constraints.

6.4.4 WATERSENSE SPECIFICATION TOILETS (FORMERLY BMP 14)

This DMM involves providing incentives or ordinances requiring the replacement of existing toilets using 3.5 or more gallons per flush (gpf) with a 1.28 gpf toilet (HET). It is estimated that the City has 5,800 pre-1993 single family homes and 2,300 multi-family pre-1993 units, most of which still have 3.5 gpf or greater toilets.

To begin providing an incentive to homeowners and business owners to replace high-flow toilets, in February 2010, the City initiated a rebate program that provides up to $125 per toilet retrofit. The rebates are marketed through advertising in bill inserts, bill messages, website, and newsletters. In 2010, a total of 129 toilets were retrofitted under this program. The CUWCC MOU compliance standard is to achieve the same number of toilet replacements as would be achieved through a retrofit-on-resale ordinance.

6.4.5 WATERSENSE SPECIFICATIONS (WSS) FOR RESIDENTIAL DEVELOPMENT

This aspect of residential DMMs was not included in the original BMPs, but is a new requirement of the CUWCC MOU. It involves providing incentives (such as rebates, recognition programs, or reduced connection fees), or ordinances requiring residential construction to meet WSS for single-family and multi-family housing units until a state or federal regulation is passed requiring this standard. Beginning in 2012, state law will require all toilets sold within California to be 1.28 gpf HET toilets (the current WSS standard). This new standard eliminates the need for a local ordinance. In addition, the California Green Building Standards Code (Title 24, Part II) effective January 1, 2011, now requires fixtures in new development to meet Water Sense Specifications. Paso Robles adopted these codes in late 2010.

6.5 COMMERCIAL, INDUSTRIAL, AND INSTITUTIONAL PROGRAMS (CII) (FORMERLY BMP 9)

The goal of this DMM, as outlined by the CUWCC MOU, is to achieve a 10 percent reduction in baseline use for this sector over a 10-year period. This can be accomplished though implementation of flexible best management practices that fit the City's customer characteristics. Compliance with these measures is based on meeting goals for percentage reductions in CII annual water use.

Currently, the City offers water surveys and audits to commercial customers upon request. In 2010, a letter was sent to the top 100 commercial customers offering this service. The City's toilet rebate program, which provides an incentive to replace conventional high-flow toilets with HET models, is also available to CII customers.

The next step in implementing this DMM is the identification and prioritization of CII customers based on water use and customer type. In July 2007, the City had 576 commercial/industrial/ institutional customers. Total billed consumption for 2007 (the year of the severe economic recession) was 1,215.52

acre-feet (16.0 percent of total consumption). In July 2009, the number of accounts had increased to 698, but total CII water use for 2009 had decreased by 22.8 percent to 938.31 acre-feet (15.4 percent of total billed consumption). This reduction is attributed to two factors: 1) mandatory outdoor watering restrictions implemented in May 2009 and associated public outreach efforts, and 2) the local impact of the economic downturn. The vacancy rate for commercial space in 2009/10 has been estimated at over 30 percent.

The focus of the City's CII program efforts in the future will be to offer comprehensive water audits to CII customers, similar to the program implemented in 2010 for residential customers. Implementation will depend on the availability of additional funding for the conservation program to hire a full-time staff person to perform audits and administer the program. Rebates for the following CII measures will be evaluated for cost-effectiveness and potential implementation, over the next few years, pending available funding. These measures (from the CUWCC Demonstrated Savings Measures List) include: 1) high-efficiency urinals, 2) ultra-low volume urinals, 3) commercial high efficiency single load clothes washers, 4) cooling tower conductivity controllers, 5) connectionless food steamers, 6) medical equipment steam sterilizers, 7) water-efficient ice machines, 8) pressurized water brooms, and 9) dry vacuum pumps. Any programs chosen for implementation would be marketed directly to CII accounts through targeted outreach.

6.6 LANDSCAPE (FORMERLY BMP 5)

This DMM applies to non-residential accounts that are dedicated irrigation meters and CII accounts with mixed-use meters. Customers in this category include large turf areas such as schools and City parks, and the Mid-state fairgrounds. There are currently 12 schools that have extensive turf areas and 10 City parks that would be addressed under this DMM. The City currently does not supply water to any golf courses. In addition, the City provides water to approximately 95 "Landscape and Lighting" district meters that provide irrigation water to roadway medians and parkways.

The goal of this DMM is to achieve a higher level of irrigation efficiency with respect to plant water requirements, through assistance programs to customers. This program, when implemented, would include performing landscape water use audits and developing Eto-based irrigation water budgets for these accounts based on 70 percent of Eto. Playground and ball field areas are designated as "recreational" and are allowed to be watered at up to 100 percent of Eto. The CUWCC coverage requirement for this DMM is that each year, 9 percent of dedicated landscape meters receive an audit and water budget, and 1.5 percent of mixed use customers in this category are audited and landscape water budgets produced. The implementation schedule for this DMM will depend on the availability of additional funding to hire a full-time staff person to perform audits, produce water budgets, and perform other conservation program duties. This will be dependent on the implementation of new water rates and availability of additional funds for conservation programs. In 2012-13, as a first step in implementing this DMM, landscape accounts will be identified and prioritized for audits based on annual water use and other factors.

6.7 CONSERVATION PROGRAM IMPLEMENTATION SUMMARY

Since submitting the 2005 UWMP, Paso Robles has made significant progress in implementing the CUWCC Demand Management Measures. A Water Conservation Manager position has been staffed, and programs covering all 14 original DMMs (BMPs) have now been implemented, with the exception of BMPs 5, 6, and 14 as described above and summarized in **Table 34**. The remaining DMMs will be evaluated for implementation during the 2011-2015 period and implemented if cost-effective and funding becomes available. The cost-effectiveness analysis will compare the cost-effectiveness of the DMMs with that of other water conservation program opportunities applicable to the City of Paso Robles.

7. COMPLETED UWMP CHECKLIST

No.	UWMP Requirement [a]	Calif. Water Code Reference	Additional Clarification	UWMP Location
PLAN PREPARATION				
4	Coordinate the preparation of its plan with other appropriate agencies in the area, including other water suppliers that share a common source, water management agencies, and relevant public agencies, to the extent practicable.	10620(d)(2)		Section 1.2, p. 2-3 Table 1
6	Notify, at least 60 days prior to the public hearing on the plan required by Section 10642, any city or county within which the supplier provides water that the urban water supplier will be reviewing the plan and considering amendments or changes to the plan. Any city or county receiving the notice may be consulted and provide comments.	10621(b)		Section 1.1., p. 2 Appendix A
7	Provide supporting documentation that the UWMP or any amendments to, or changes in, have been adopted as described in Section 10640 et seq.	10621(c)		Section 1.1, p. 2 Appendix A
54	Provide supporting documentation that the urban water management plan has been or will be provided to any city or county within which it provides water, no later than 60 days after the submission of this urban water management plan.	10635(b)		Section 1.1, p. 2 Appendix A
55	Provide supporting documentation that the water supplier has encouraged active involvement of diverse social, cultural, and economic elements of the population within the service area prior to and during the preparation of the plan.	10642		Section 1.2, p. 2 Table 1
56	Provide supporting documentation that the urban water supplier made the plan available for public inspection and held a public hearing about the plan. For public agencies, the hearing notice is to be provided pursuant to Section 6066 of the Government Code. The water supplier is to provide the time and place of the hearing to any city or county within which the supplier provides water. Privately-owned water suppliers shall provide an equivalent notice within its service area.	10642		Section 1.1, p. 2 Appendix A
57	Provide supporting documentation that the plan	10642		Section 1.1,

	has been adopted as prepared or modified.			p. 2 Appendix A
58	Provide supporting documentation as to how the water supplier plans to implement its plan.	10643		Section 3.4, p. 9 Section 5.3, p. 35-37 and Appendices B, C and F Section 6-DMMs
59	Provide supporting documentation that, in addition to submittal to DWR, the urban water supplier has submitted this UWMP to the California State Library and any city or county within which the supplier provides water supplies a copy of its plan no later than 30 days after adoption. This also includes amendments or changes.	10644(a)		Section 1.1, p. 2 Appendix A
60	Provide supporting documentation that, not later than 30 days after filing a copy of its plan with the department, the urban water supplier has or will make the plan available for public review during normal business hours	10645		Section 1.1, p. 2 Appendix A
SYSTEM DESCRIPTION				
8	Describe the water supplier service area.	10631(a)		Section 2, p. 4-5
9	Describe the climate and other demographic factors of the service area of the supplier	10631(a)		Section 2.2, p. 4 Table 2
10	Indicate the current population of the service area	10631(a)	Provide the most recent population data possible. Use the method described in "Baseline Daily Per Capita Water Use."	Section 2.3, p. 5 Table 3
11	Provide population projections for 2015, 2020, 2025, and 2030, based on data from State, regional, or local service area population projections.	10631(a)	2035 and 2040 can also be provided to support consistency with Water Supply Assessments and Written	Section 2.3, p. 5 Table 3

			Verification of Water Supply documents.	
12	Describe other demographic factors affecting the supplier's water management planning.	10631(a)		Section 2.3, p. 5 Section 4.1.1, p.14-18
SYSTEM DEMANDS				
1	Provide baseline daily per capita water use, urban water use target, interim urban water use target, and compliance daily per capita water use, along with the bases for determining those estimates, including references to supporting data.	10608.20(e)		Section 3.2, p. 7-8 Tables 7 and 8
2	*Wholesalers:* Include an assessment of present and proposed future measures, programs, and policies to help achieve the water use reductions. *Retailers:* Conduct at least one public hearing that includes general discussion of the urban retail water supplier's implementation plan for complying with the Water Conservation Bill of 2009.	10608.36 10608.26(a)	Retailers and wholesalers have slightly different requirements	Section 1.1, p. 2 Appendix A
3	Report progress in meeting urban water use targets using the standardized form.	10608.40		Section 3.4, p. 9
25	Quantify past, current, and projected water use, identifying the uses among water use sectors, for the following: (A) single-family residential, (B) multifamily, (C) commercial, (D) industrial, (E) institutional and governmental, (F) landscape, (G) sales to other agencies, (H) saline water intrusion barriers, groundwater recharge, conjunctive use, and (I) agriculture.	10631(e)(1)	Consider 'past' to be 2005, present to be 2010, and projected to be 2015, 2020, 2025, and 2030. Provide numbers for each category for each of these years.	Section 3.1, p. 6-7 Section 3.3, p. 8-9 Tables 4 and 5
33	Provide documentation that either the retail agency provided the wholesale agency with water use projections for at least 20 years, if the UWMP agency is a retail agency, OR, if a wholesale agency, it provided its urban retail customers with future planned and existing water source available to it from the wholesale agency during the required water-year types	10631(k)	Average year, single dry year, multiple dry years for 2015, 2020, 2025, and 2030.	Not Applicable
34	Include projected water use for single-family and multifamily residential housing needed for lower	10631.1(a)		Section 3.1, p. 7

	income households, as identified in the housing element of any city, county, or city and county in the service area of the supplier.			Table 6
SYSTEM SUPPLIES				
13	Identify and quantify the existing and planned sources of water available for 2015, 2020, 2025, and 2030.	10631(b)	The 'existing' water sources should be for the same year as the "current population" in line 10. 2035 and 2040 can also be provided.	Section 4.5, p. 25-27 Table 15
14	Indicate whether groundwater is an existing or planned source of water available to the supplier. If yes, then complete 15 through 21 of the UWMP Checklist. If no, then indicate "not applicable" in lines 15 through 21 under the UWMP location column.	10631(b)	Source classifications are: surface water, groundwater, recycled water, storm water, desalinated sea water, desalinated brackish groundwater, and other.	Section 4.1, p. 10
15	Indicate whether a groundwater management plan been adopted by the water supplier or if there is any other specific authorization for groundwater management. Include a copy of the plan or authorization.	10631(b)(1)		Section 4.1.1, p. 15-17
16	Describe the groundwater basin.	10631(b)(2)		Section 4.1.1, p. 10-14
17	Indicate whether the groundwater basin is adjudicated? Include a copy of the court order or decree.	10631(b)(2)		Section 4.1.1, p. 10
18	Describe the amount of groundwater the urban water supplier has the legal right to pump under the order or decree. If the basin is not adjudicated, indicate "not applicable" in the UWMP location column.	10631(b)(2)		Not applicable
19	For groundwater basins that are not adjudicated, provide information as to whether DWR has	10631(b)(2)		Section 4.1.1,

	identified the basin or basins as overdrafted or has projected that the basin will become overdrafted if present management conditions continue, in the most current official departmental bulletin that characterizes the condition of the groundwater basin, and a detailed description of the efforts being undertaken by the urban water supplier to eliminate the long-term overdraft condition. If the basin is adjudicated, indicate "not applicable" in the UWMP location column.			p. 12-18
20	Provide a detailed description and analysis of the location, amount, and sufficiency of groundwater pumped by the urban water supplier for the past five years	10631(b)(3)		Section 4.2, p. 19-21 Table 9
21	Provide a detailed description and analysis of the amount and location of groundwater that is projected to be pumped.	10631(b)(4)	Provide projections for 2015, 2020, 2025, and 2030.	Section 4.2, p. 19-21 Table 10
24	Describe the opportunities for exchanges or transfers of water on a short-term or long-term basis.	10631(d)		Section 4.5, p. 26
30	Include a detailed description of all water supply projects and programs that may be undertaken by the water supplier to address water supply reliability in average, single-dry, and multiple-dry years, excluding demand management programs addressed in (f)(1). Include specific projects, describe water supply impacts, and provide a timeline for each project.	10631(h)		Section 4.5, p. 25-26 Section 5.1, p. 28-32 Tables 16-22
31	Describe desalinated water project opportunities for long-term supply, including, but not limited to, ocean water, brackish water, and groundwater.	10631(i)		Section 4.5, p. 26
44	Provide information on recycled water and its potential for use as a water source in the service area of the urban water supplier. Coordinate with local water, wastewater, groundwater, and planning agencies that operate within the supplier's service area.	10633		Section 4.1.3, p. 19 Section 4.4.4, p. 23-25 Tables 13-14
45	Describe the wastewater collection and treatment systems in the supplier's service area, including a quantification of the amount of wastewater collected and treated and the methods of wastewater disposal.	10633(a)		Section 4.4.1, p. 21-22 Tables 11-12

46	Describe the quantity of treated wastewater that meets recycled water standards, is being discharged, and is otherwise available for use in a recycled water project.	10633(b)		Section 4.4.2, p. 23 Section 4.4.4, p. 24 Tables 11-12
47	Describe the recycled water currently being used in the supplier's service area, including, but not limited to, the type, place, and quantity of use.	10633(c)		Section 4.1.3, p. 19 Section 4.4.4, p. 23-25 Table 15
48	Describe and quantify the potential uses of recycled water, including, but not limited to, agricultural irrigation, landscape irrigation, wildlife habitat enhancement, wetlands, industrial reuse, groundwater recharge, indirect potable reuse, and other appropriate uses, and a determination with regard to the technical and economic feasibility of serving those uses.	10633(d)		Section 4.1.3, p. 19 Section 4.4.4, p. 23-25 Tables 11-14
49	The projected use of recycled water within the supplier's service area at the end of 5, 10, 15, and 20 years, and a description of the actual use of recycled water in comparison to uses previously projected.	10633(e)		Section 4.4.4, p. 23-25 Table 15
50	Describe the actions, including financial incentives, which may be taken to encourage the use of recycled water, and the projected results of these actions in terms of acre-feet of recycled water used per year.	10633(f)		Section 4.4.4, p. 23-25 Table 14
51	Provide a plan for optimizing the use of recycled water in the supplier's service area, including actions to facilitate the installation of dual distribution systems, to promote recirculating uses, to facilitate the increased use of treated wastewater that meets recycled water standards, and to overcome any obstacles to achieving that increased use.	10633(g)		Section 4.1.3, p. 19 Section 4.4.4, p. 23-25
WATER SHORTAGE RELIABILITY AND WATER SHORTAGE CONTINGENCY PLANNING				
5	Describe water management tools and options to maximize resources and minimize the need to import water from other regions.	10620(f)		Section 4.1.1, p. 14-19
22	Describe the reliability of the water supply and vulnerability to seasonal or climatic shortage and	10631(c)(1)		Sections 5.1 and

	provide data for (A) an average water year, (B) a single dry water year, and (C) multiple dry water years.			5.2, p. 28-35 Tables 17-24
23	For any water source that may not be available at a consistent level of use - given specific legal, environmental, water quality, or climatic factors - describe plans to supplement or replace that source with alternative sources or water demand management measures, to the extent practicable.	10631(c)(2)		Section 5 p. 28-35 Tables 16 and 23
35	Provide an urban water shortage contingency analysis that specifies stages of action, including up to a 50-percent water supply reduction, and an outline of specific water supply conditions at each stage	10632(a)		Section 5.3 p. 35-37 Table 25
36	Provide an estimate of the minimum water supply available during each of the next three water years based on the driest three-year historic sequence for the agency's water supply.	10632(b)		Section 5.1.3 p. 30-32 Table 19
37	Identify actions to be undertaken by the urban water supplier to prepare for, and implement during, a catastrophic interruption of water supplies including, but not limited to, a regional power outage, an earthquake, or other disaster.	10632(c)		Section 5.2.6 p. 35 Table 26
38	Identify additional, mandatory prohibitions against specific water use practices during water shortages, including, but not limited to, prohibiting the use of potable water for street cleaning.	10632(d)		Section 5.3 p. 35-37 Table 28
39	Specify consumption reduction methods in the most restrictive stages. Each urban water supplier may use any type of consumption reduction methods in its water shortage contingency analysis that would reduce water use, are appropriate for its area, and have the ability to achieve a water use reduction consistent with up to a 50 percent reduction in water supply.	10632(e)		Section 5.3 p. 35-37 Table 27
40	Indicated penalties or charges for excessive use, where applicable.	10632(f)		Section 5.3 p. 35-37 Table 29
41	Provide an analysis of the impacts of each of the actions and conditions described in subdivisions (a) to (f), inclusive, on the revenues and expenditures of the urban water supplier, and proposed measures to overcome those impacts, such as the development of reserves and rate	10632(g)		Section 5.3 p. 35-37 Tables 30-32

	adjustments.			
42	Provide a draft water shortage contingency resolution or ordinance.	10632(h)		Appendix C
43	Indicate a mechanism for determining actual reductions in water use pursuant to the urban water shortage contingency analysis.	10632(i)		Section 5.3 p. 35-37 Table 33
52	Provide information, to the extent practicable, relating to the quality of existing sources of water available to the supplier over the same five-year increments, and the manner in which water quality affects water management strategies and supply reliability	10634	For years 2010, 2015, 2020, 2025, and 2030	Section 4.1.1, p. 10-17 Section 4.1.2, p. 18-19 Section 4.1.3, p. 19 Section 5.1.3, p.30-32 Section 5.2.4, p. 33-34
53	Assess the water supply reliability during normal, dry, and multiple dry water years by comparing the total water supply sources available to the water supplier with the total projected water use over the next 20 years, in five-year increments, for a normal water year, a single dry water year, and multiple dry water years. Base the assessment on the information compiled under Section 10631, including available data from state, regional, or local agency population projections within the service area of the urban water supplier.	10635(a)		Section 5.1.3, p. 30-33 Tables 20-22
DEMAND MANAGEMENT MEASURES				
26	Describe how each water demand management measures is being implemented or scheduled for implementation. Use the list provided.	10631(f)(1)	Discuss each DMM, even if it is not currently or planned for implementation. Provide any appropriate schedules.	Section 6, p. 38-46 Table 34 Appendix B Appendix F
27	Describe the methods the supplier uses to evaluate the effectiveness of DMMs implemented or described in the UWMP.	10631(f)(3)		Section 6, p. 38-46 Table 34

				Appendix B
28	Provide an estimate, if available, of existing conservation savings on water use within the supplier's service area, and the effect of the savings on the ability to further reduce demand.	10631(f)(4)		Section 6, p. 38-46 Appendix B Appendix F
29	Evaluate each water demand management measure that is not currently being implemented or scheduled for implementation. The evaluation should include economic and non-economic factors, cost-benefit analysis, available funding, and the water suppliers' legal authority to implement the work.	10631(g)	See 10631(g) for additional wording.	Section 6, p. 38-46 Appendix B Appendix F
32	Include the annual reports submitted to meet the Section 6.2 requirements, if a member of the CUWCC and signer of the December 10, 2008 MOU.	10631(j)	Signers of the MOU that submit the annual reports are deemed compliant with Items 28 and 29.	Section 6.1, p. 38-39 Appendix F

a The UWMP Requirement descriptions are general summaries of what is provided in the legislation.

8. REFERENCES

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mnd.asp, and affordable rentals: http://www.prcity.com/government/departments/commdev/housing/rentals.asp, accessed October 13, 2010 and March 16, 2011.

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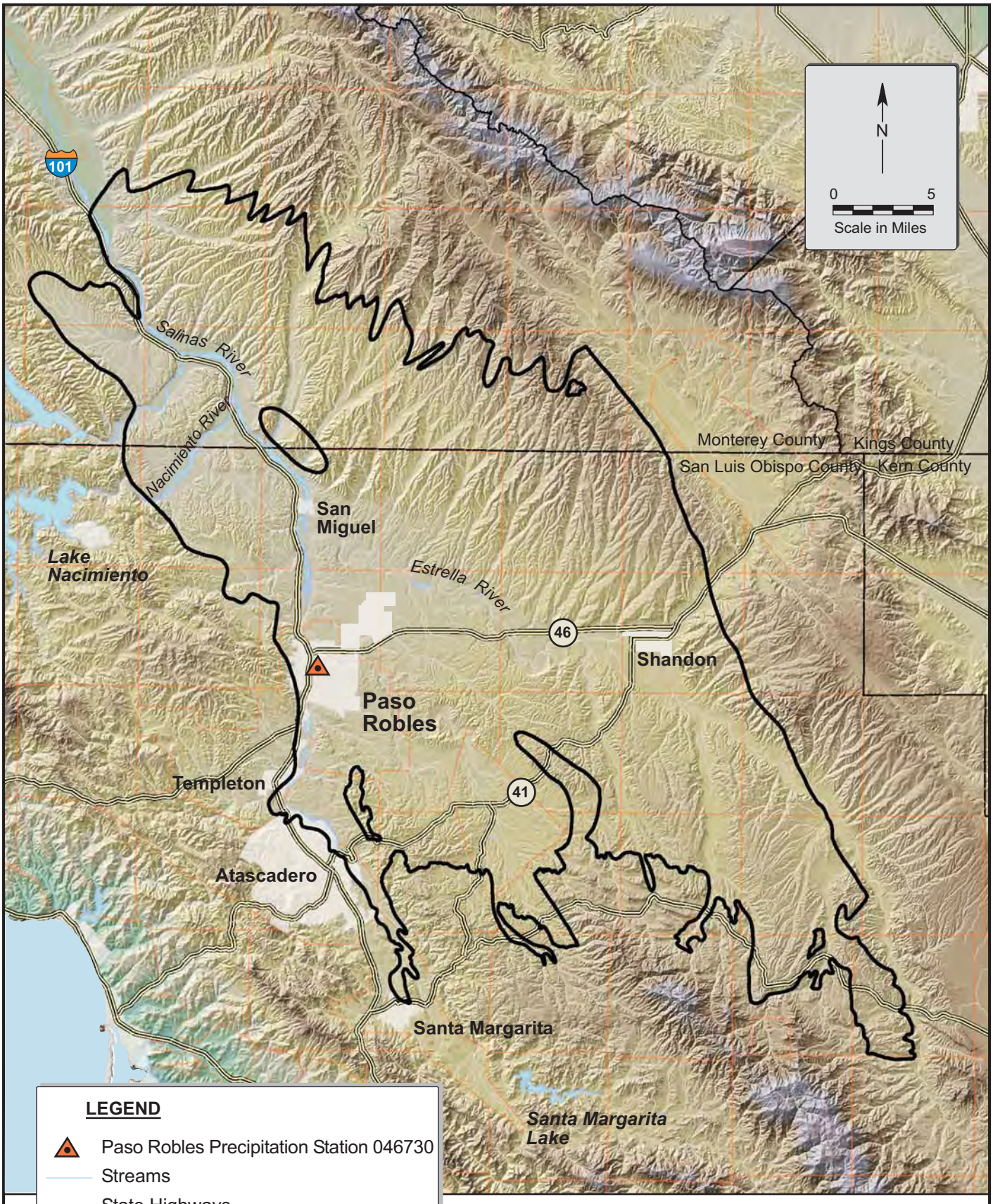
Figures



January 2011

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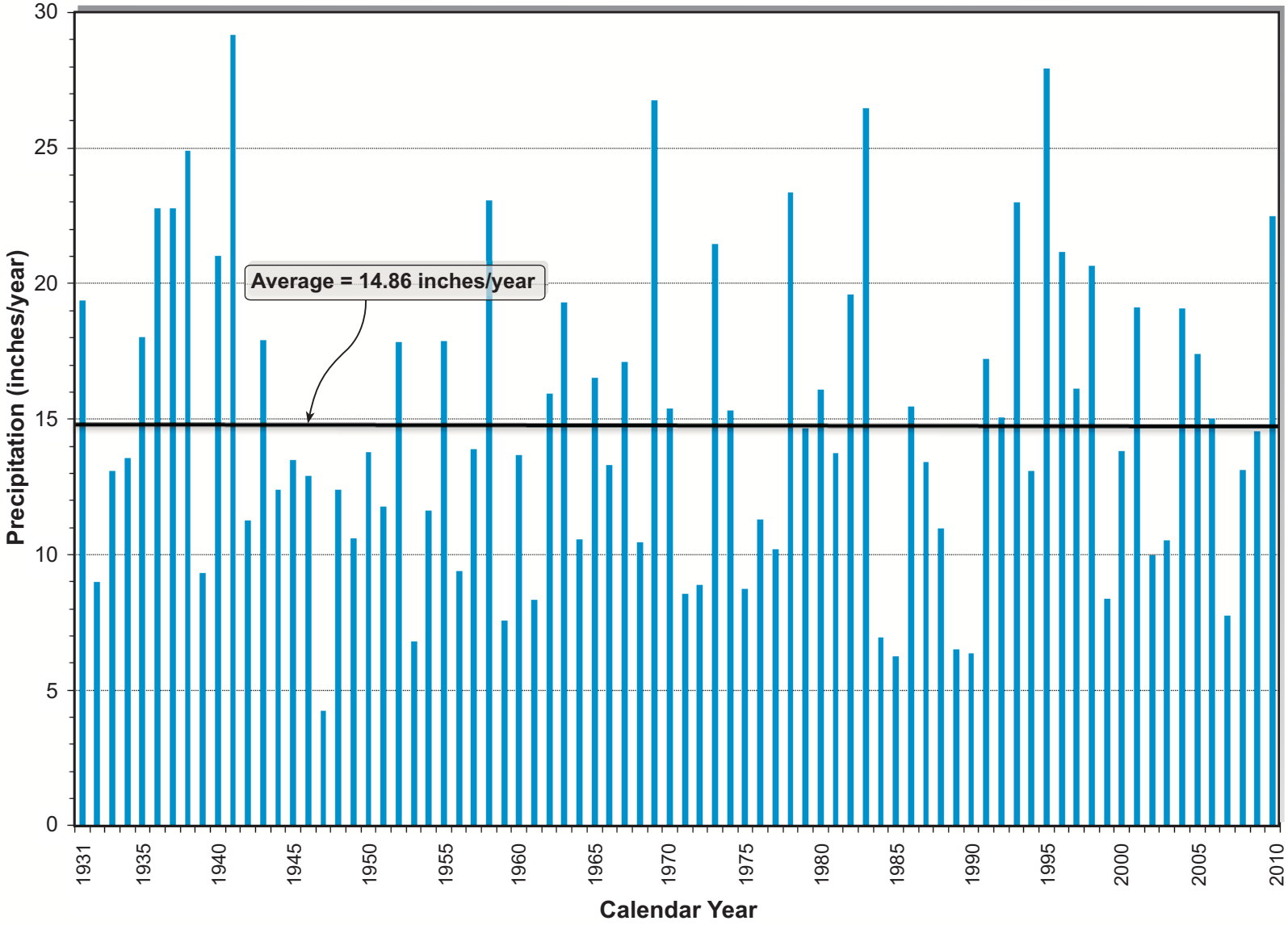
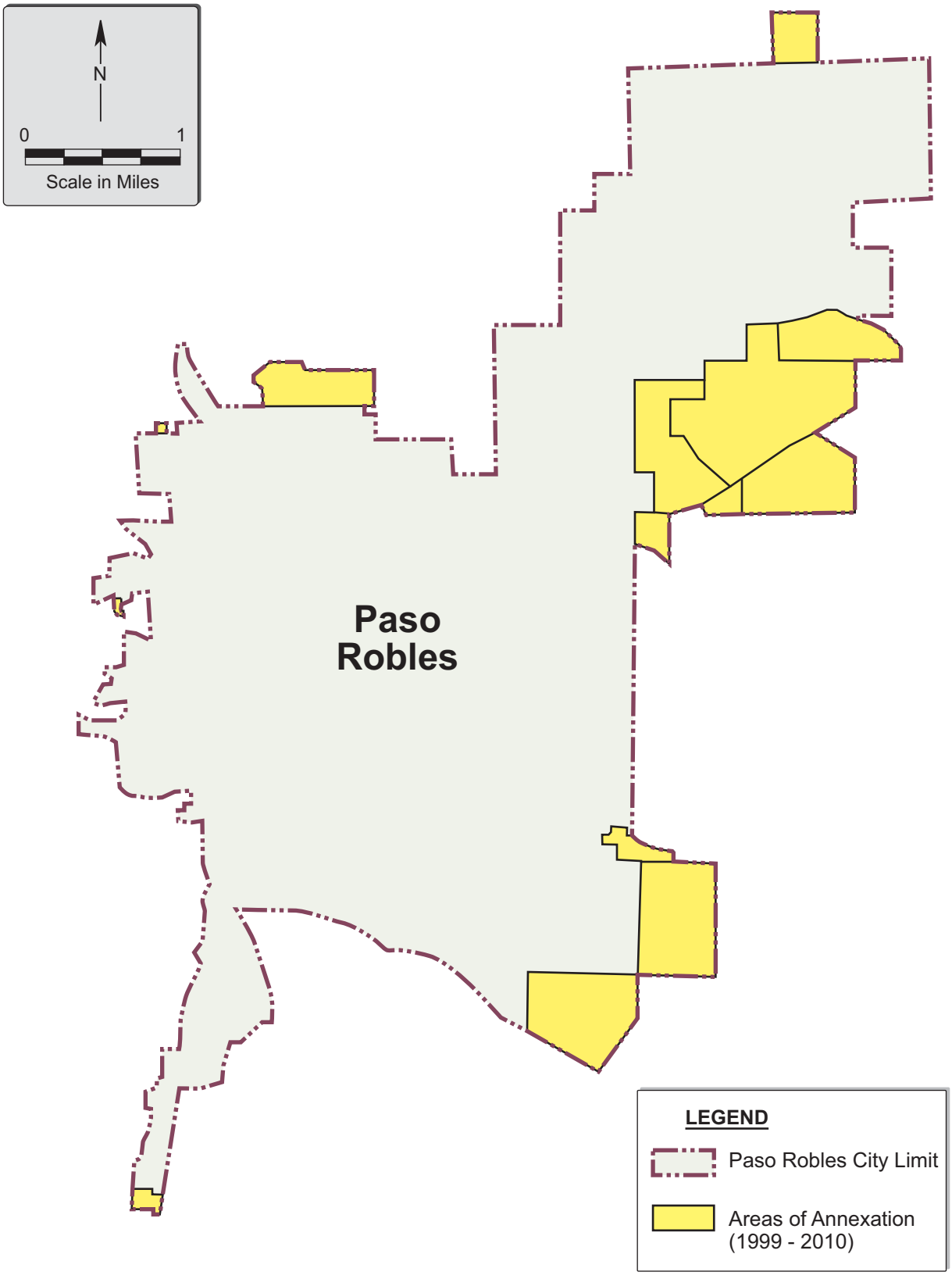
Figure 1
Paso Robles Groundwater Basin

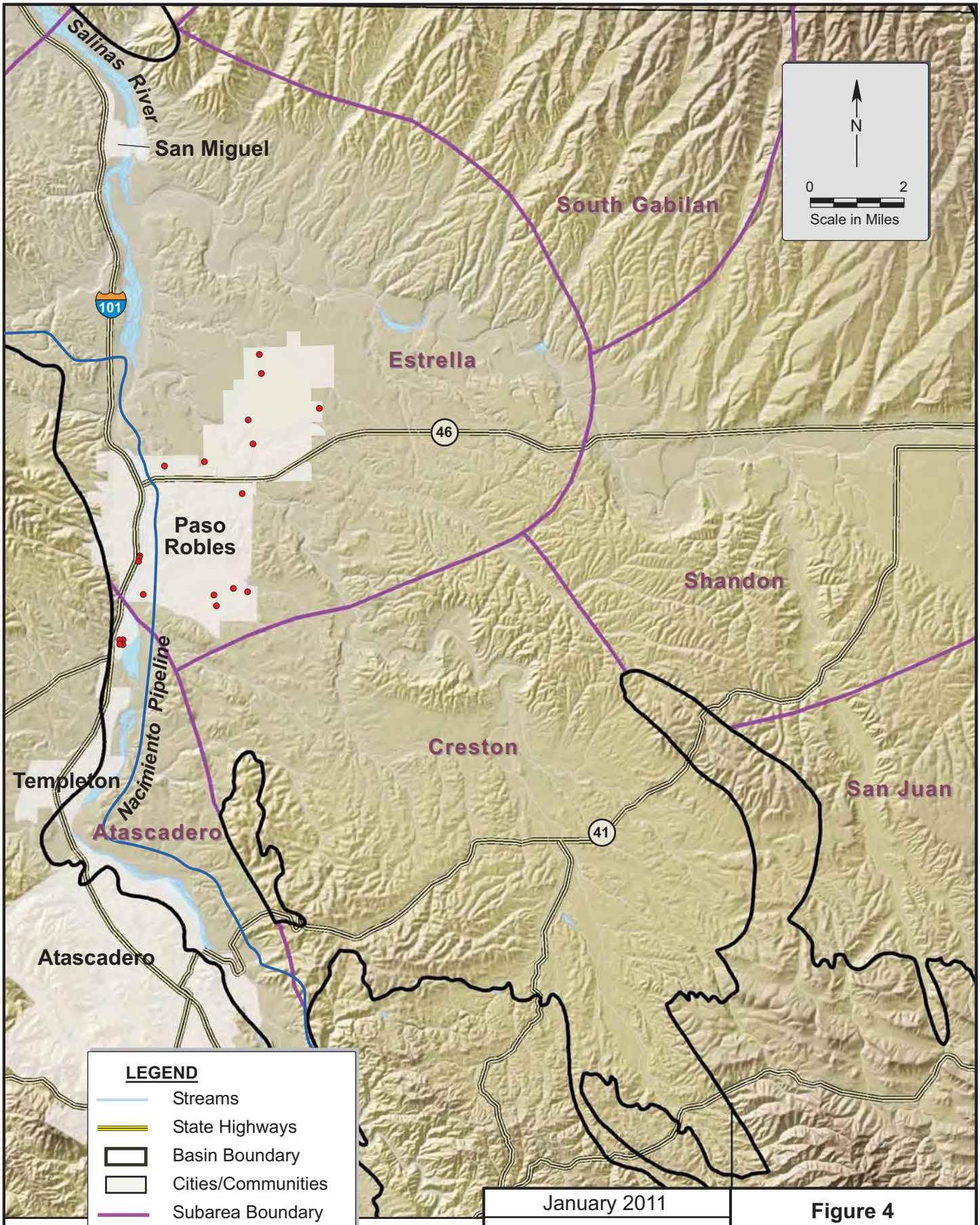


Precipitation data from Paso Robles Station 046730. Data is from January 1931 through December 2010.
Monthly Total Precipitation data table from wrcc.dri.edu/cgi-bin/cliMontpre.pl?ca6730.

January 2011	
TODD ENGINEERS Alameda, California	**Figure 2** **Paso Robles Precipitation**



January 2011	**Figure 3** **Paso Robles** **Recent Annexations**
TODD ENGINEERS Alameda, California	



January 2011

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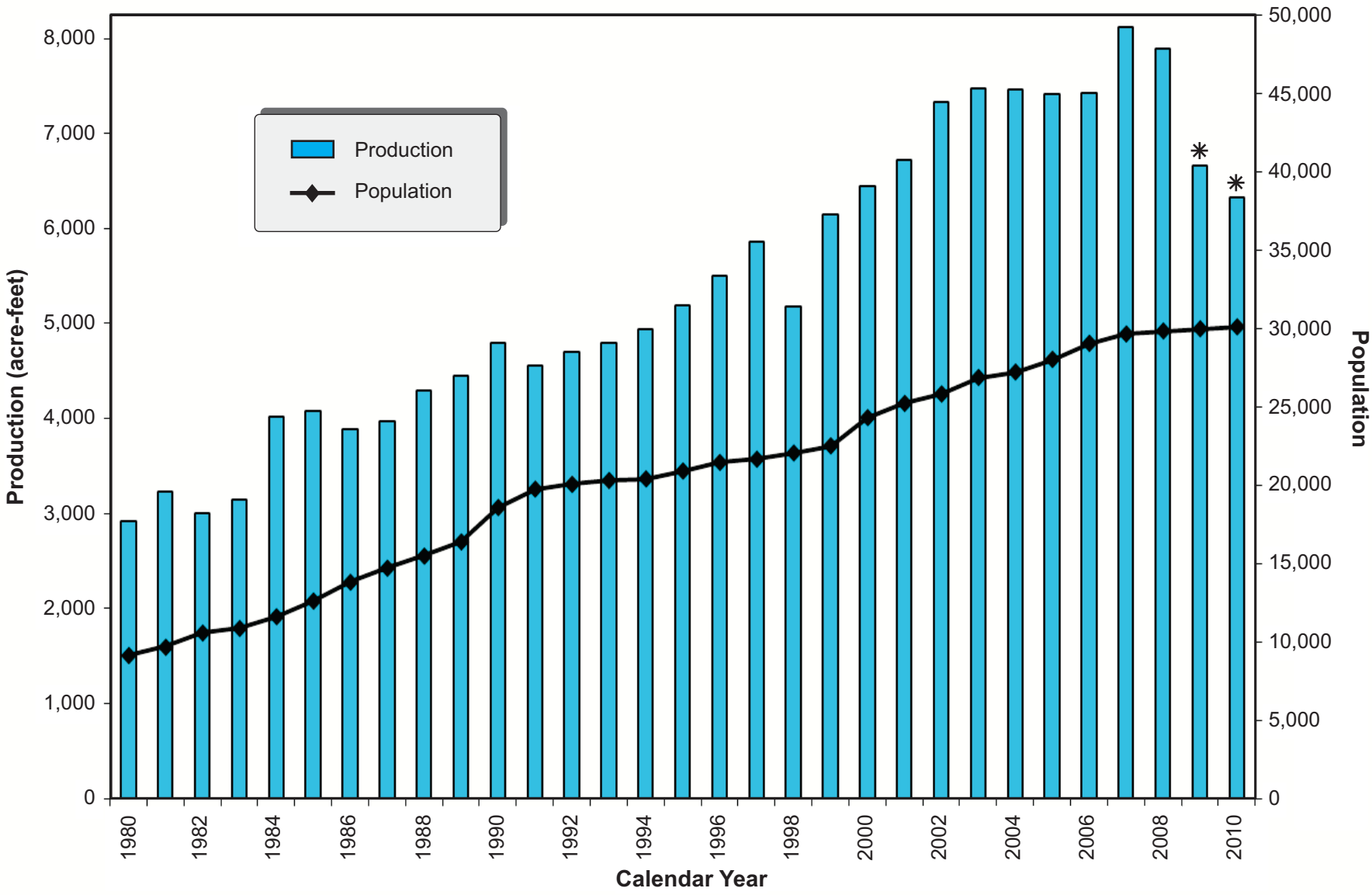
Alameda, California

Figure 4
Paso Robles Boundaries and Facilities



* Water Use in 2009 and 2010 decreased due to Level 2 City-wide mandatory outdoor water use restrictions.

January 2011

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Alameda, California

Figure 5
Paso Robles Water Production and Population

Tables

Table 1 Coordination with Appropriate Agencies							
Coordinating Agencies	Participated in developing the plan	Commented on the draft	Attended public meetings	Was contacted for assistance	Was sent a copy of the draft plan	Was sent a notice of intention to adopt	Not involved / No information
Atascadero Mutual Water Company						X	
Templeton Community Services District						X	
San Luis Obispo County Public Works Department					X	X	
City of Atascadero						X	
Paso Robles Public Library			X		X	X	
California Regional Water Quality Control Board						X	
Paso Robles Chamber of Commerce						X	
San Miguel Community Services District						X	
Paso Robles Imperiled Overlying Rights (PRIOR)						X	
General Public		X	X			X	

Table 2
Climate Data

	Historic Rainfall[1] (inches)			Average ETo[2] (inches)	Historic Temperature[3] (°F)		
	Average	Maximum	Minimum		Average	Average Maximum	Average Minimum
January	3.48	14.76	0.00	2.21	46.70	52.68	37.77
February	3.07	12.74	0.00	2.50	49.96	57.43	42.00
March	2.44	12.31	0.00	3.80	52.88	59.31	46.45
April	1.01	5.22	0.00	5.08	56.52	62.28	49.08
May	0.36	2.41	0.00	5.70	61.64	69.11	56.55
June	0.05	0.93	0.00	6.19	67.32	73.55	61.58
July	0.02	0.68	0.00	6.43	71.51	78.29	65.73
August	0.05	1.19	0.00	6.09	71.14	75.97	65.60
September	0.17	2.9	0.00	4.87	67.97	74.17	62.50
October	0.62	5.11	0.00	4.09	61.12	66.32	56.11
November	1.37	7.14	0.00	2.89	52.56	58.50	45.98
December	2.54	8.6	0.00	2.28	46.74	53.03	40.16
Average Calendar Year Total[4]	**14.86**	**29.19**	**4.24**	**52.13**	**-**	**-**	**-**
Monthly Average	**1.24**	**2.43**	**0.35**	**4.34**	**58.92**	**61.13**	**56.55**

1. Precipitation data from Paso Robles Station 046730. Data is from Jan 1894 through Dec 2010. Monthly Total Precipitation data table from www.wrcc.dri.edu/cgi-bin/cliMONtpre.pl?ca6730. Months with 6 or more missing days and years with 1 or more missing months are not included. 1931 - present are most complete years with 85 years included in the average annual calculation.

2. ETo data from CIMIS Station 163 Atascadero, Nov 2000 - Aug 2010
http://wwwcimis.water.ca.gov/cimis/frontMonthlyEToReport.do.

3. Temperature data from Paso Robles Station 046730. Data is from Jan 1894 through Dec 2010. Monthly Average Temperature table from www.wrcc.dri.edu/cgi-bin/cliMONtavt.pl?ca6730. Months with 6 or more missing days and years with 1 or more missing months are not included. 1911 - present are most complete years with 100 years included in the average annual calculation.

4. Note that Average Calendar Year Total may not be sum of numbers above but rather historical annual average.

Table 3 Population - Current and Projected							
	2005	2010	2015	2020	2025	2030	2035
Service Area Population[1]	27,361	30,072[2]	30,770[3]	37,385[4]	44,000[5]	44,000[5]	44,000[5]

1. Service area population is the population served by the distribution system and is approximately the same as the City population.

2. 2010 population from State Department of Finance's population estimate for 1/1/2010. Accessed 8/25/10, http://www.dof.ca.gov/research/demographic/reports/estimates/e-1/2009-10/.

3. Projected customer growth between 2010 and 2015 = 262 accounts (derived from City of Paso Robles, Supplemental Report Section - 2010 Uniform Water Rate Study, K/J, 11/22/10). Take half of FY2010-11 and half of FY2015-16 and assume 1 account per household and 2.663 people per household [30,072 + (262 x 2.663 pph) = 30,770 (rounded)]. Value of 2.663 people per household from City of Paso Robles General Plan Housing Element: 2009 Update.

4. Assumes linear growth between 2015 and 2025.

5. City's 2003 General Plan Amendment 2005-001 (City Council Resolution 05-249); City population in 2025 consistent with General Plan population planning threshold of 44,000 residents.

Table 4
Past, Current and Projected Water Deliveries

Water Use Sectors	2005[1]		2010[2]		2015		2020		2025		2030		2035	
	# of Accounts	Deliveries (AFY)	# of Accounts	Deliveries (AFY)	# of Accounts	Deliveries (AFY)	# of Accounts	Deliveries (AFY)	# of Accounts	Deliveries (AFY)	# of Accounts	Deliveries (AFY)	# of Accounts	Deliveries (AFY)
Single Family	8,273	3,865	8,661	3,435	8,882	4,441	10,653	5,326	12,425	6,180	12,425	6,180	12,425	6,180
Multi-family	386	794	401	573	502	847	600	1,020	696	1,195	696	1,195	696	1,195
Commercial	682	1,197	676	656	703	1,234	1,383	2,427	2,063	3,620	2,063	3,620	2,063	3,620
Industrial	64	69	71	154	74	161	81	176	89	194	89	194	89	194
Institutional/ Governmental	Included in Other sector	included in Other sector	76	91	76	91	76	91	76	91	76	91	76	91
Parks, Landscape Irrigation, Other[3]	331	1,238	391	840	392	1,176	393	1,180	393	1,180	393	1,180	393	1,180
Total Water Deliveries[4]	**9,736**	**7,163**	**10,276**	**5,749**	**10,629**	**7,950**	**13,186**	**10,220**	**15,742**	**12,460**	**15,742**	**12,460**	**15,742**	**12,460**

1. 2005 accounts and deliveries from 2005 DWR Public Water System Statistics. Other category includes some Industrial and Institutional/Govt water use.

2. 2010 accounts and deliveries from 2010 DWR Public Water System Statistics. 2010 water use was reduced by approximately 20 percent due to City-wide Level 2 mandatory outdoor water use restrictions.

3. Other category on DWR Public Water System Statistic forms includes hydrant meters. In 2005 and 2010, "Landscape Irrigation" category included some accounts that provided water to commercial/industrial and Institutional/Govt water use.

4. Total Water Deliveries from Tables 5 and 15. See Tables 5 and 15 for unaccounted-for water and potential conservation savings.

Note: Projected single family "baseline" deliveries for 2015 to 2025 and beyond are based on the average per account deliveries from 2006-2008.

Table 5 Total Water Use (AFY)							
Water Use	**2005**	**2010[2]**	**2015**	**2020**	**2025**	**2030**	**2035**
Unaccounted-for Water[1]	250	577	600	770	940	940	940
Water Deliveries (from Table 4)	7,163	5,749	7,950	10,220	12,460	12,460	12,460
Total Water Use	**7,413**	**6,326**	**8,550**	**10,990**	**13,400**	**13,400**	**13,400**
Potential Conservation and Recycling[3]	Not Applicable	Not Applicable	980	2,865	3,885	3,885	3,885
SB-7 Target Water Demands to Comply with 20% Demand Reductions by 2020[3]	Not Applicable	Not Applicable	**7,570**	**8,125**	**9,515**	**9,515**	**9,515**
SB-7 Target Water Demands in gallons per capita per day (gpcd)[3]	Not Applicable	Not Applicable	**217 gpcd**	**193 gpcd**	**193 gpcd**	**193 gpcd**	**193 gpcd**

1. 2005 and 2010 unaccounted-for water from DWR Public Water System Statistics forms. 2005 is 3.4% (250/7,413) and 2010 is 9.1% (577/6,326). Assumes unaccounted-for water is 7% of total water use for 2015-2035. Includes leaks, meter error, differences between metered water production and metered water usage, and unmetered use such as main flushing and firefighting.

2. 2010 water use is reduced by approximately 20 percent due to City-wide Level 2 mandatory outdoor water use restrictions and implementation of DMMs.

3. Senate Bill 7 Target Water Use: DWR Method 1 (10% reduction of gpcd baseline water use by 2015 and 20% reduction by 2020). Used ten-year baseline (1999-2008) of 241 gpcd from Table 8. For 2015: 241 gpcd x 0.90 = 217 gpcd. For 2020, 2025, and 2030: 241 gpcd x 0.80 = 193 gpcd. Then multiplied by population in Table 3 and divided by a unit conversion of 892.4 to get AFY target water use. Some values may be rounded.

Table 6 Low-Income Housing Projected Water Demands (AFY)						
	2010	**2015**	**2020**	**2025**	**2030**	**2035**
Single Family[1]	42	42	42	42	42	42
Multi-family[2]	176	244	244	244	244	244
Total Water Use	**218**	**286**	**286**	**286**	**286**	**286**

1. In 2010, 83 low-income single family homes. Assume use at 0.5 AF/home (2025 single family home use per connection).

2. In 2010, 606 low-income multi-family units (Paso Robles website, http://www.prcity.com/government/departments/commdev/housing/rentals.asp, 3/16/11). By 2015, 841 units (235 more) (Gallagher, 12/22/10 email). Assume use at 0.29 AFY/unit based on 4,098 multi-family buildout units and a demand of 1,195 AFY.

Table 7
Determination of Base Period (for Senate Bill 7)

Base	Parameter	Value	Units
10- to 15-year Base Period	2008 total water production	7,891	acre-feet per year
	2008 total volume of delivered recycled water	0	acre-feet per year
	2008 recycled water as a percent of total deliveries	0	percent
	Number of years in base period[1]	10	years
	Year beginning base period range	1999	
	Year ending base period range[2]	2008	

1. The City used a 10-year base period as per SB 7 requirements: If the 2008 recycled water percent is less than 10 percent, then the first base period is a continuous 10-year period. If the amount of recycled water delivered in 2008 is 10 percent or greater, the first base period is a continuous 10- to 15-year period.

2. The ending year must be between December 31, 2004 and December 31, 2010.

Table 8
Base Daily Per Capita Water Use - 10-year Range (for Senate Bill 7)

Base period year		Distribution System Population[1]	Average Daily Well Production[2] (million gallons per day)	Annual Daily per Capita Water Use[2] (gpcd)
Sequence Year	Calendar Year			
Year 1	1999	22,500	5.49	244
Year 2	2000	24,450	5.76	236
Year 3	2001	25,200	6.00	238
Year 4	2002	25,800	6.55	254
Year 5	2003	26,856	6.67	248
Year 6	2004	27,200	6.66	245
Year 7	2005	28,000	6.62	236
Year 8	2006	29,027	6.64	229
Year 9	2007	29,618	7.25	245
Year 10	2008	29,813	7.04	236
			Base Daily Per Capita Water Use[2]	241

1. Population data from California Department of Finance for City of Paso Robles.
2. Data from City supplied spreadsheet: Historic GPCD Use (8/4/10).

Table 9 Groundwater - Volume Produced[1] (AFY)						
Basin	**2005**	**2006**	**2007**	**2008**	**2009[2]**	**2010[2]**
Paso Robles Basin	2,856	3,366	4,103	3,819	2,794	2,338
Salinas River Underflow	4,558	4,065	4,023	4,072	3,868	3,988
Total Pumping	**7,414**	**7,431**	**8,126**	**7,891**	**6,662**	**6,326**
% of Total Supply[3]	**7.6%**	**7.6%**	**8.3%**	**8.1%**	**6.8%**	**6.5%**

1. All groundwater produced is metered.
2. Water use in 2009 and 2010 reduced due to City-wide Level 2 mandatory outdoor water use restrictions.
3. Total Supply is defined as the 97,700 AFY perennial yield of the Paso Robles Basin based on the Paso Robles Groundwater Basin Study (Fugro, 2005). The perennial yield value does not differentiate Salinas River underflow from basin groundwater.

Table 10 Groundwater - Volume Projected to be Produced (AFY)					
Basin	**2015**	**2020**	**2025**	**2030**	**2035**
Paso Robles Basin	100	990	3,400	3,400	3,400
Salinas River Underflow	4,450	4,600	4,600	4,600	4,600
Total Pumping	**4,550**	**5,590**	**8,000**	**8,000**	**8,000**
% of Total Supply[1]	**4.7%**	**5.7%**	**8.2%**	**8.2%**	**8.2%**

1. Total Supply is defined as the 97,700 AFY perennial yield of the Paso Robles Basin based on the Paso Robles Groundwater Basin Study (Fugro, 2005). The perennial yield value does not differentiate Salinas River underflow from basin groundwater.

Table 11
Recycled Water - Wastewater Collection and Treatment (AFY)

Type of Wastewater	2005[1]	2010[2]	2015[3]	2020[3]	2025[4]	2030[4]	2035[4]
Wastewater Collected and Treated in Service Area	3,315	3,297	3,830	4,620	5,410	5,410	5,410
Volume that Meets Recycled Standard for Reuse[5]	0	0	0	0	650	650	650

1. 2005 from City Wastewater Division WWTP flow table.

2. 2010 from City Wastewater Division WWTP flow table.

3. 2015 and 2020 assumes average annual flow rate of 0.123 AF/capita (see footnote 4). Values may be rounded.

4. 2025 WWTP buildout average daily flow of 4.84 mgd from *City of Paso Robles Wastewater Treatment Plant Upgrade Facility Plan* (Black and Veatch, July 2009) based on: "the influent design flows are calculated based on a population of 44,000 for 2025 buildout, and anticipated 1,500 population from the California Youth Authority facility, and Templeton Community Services District's contractual sewer average flow of 0.443 mgd." Values may be rounded.
At a population of 44,000, average annual flow will be 0.123 AF/capita (109.8 gpd/capita).

5. Includes direct use for irrigation at existing and new parks, schools, roadway landscaping, and potential deliveries to users outside of the city now pumping groundwater.

Table 12
Recycled Water - Non-Recycled Wastewater Disposal (AFY)

Method of Disposal	Treatment Level	2010	2015	2020	2025	2030	2035
Ponds	Secondary/Advanced Secondary[1]	3,297	3,830	4,620	4,760	4,760	4,760
	Total	**3,297**	**3,830**	**4,620**	**4,760**	**4,760**	**4,760**

1. Values from Table 11. Plans call for WWTP to be upgraded to advanced secondary treatment by 2015.

Table 13
Recycled Water - Projected Future Use (AFY)

Use Type	Description	Feasibility	2015	2020	2025	2030	2035
Recycled Water[1]	See footnote 1	Under review	0	0	650	650	650
		Total	**0**	**0**	**650**	**650**	**650**

1. Values from Table 11. Includes direct use for irrigation at existing and new parks, schools, roadway landscaping, and potential deliveries to users outside of the City now pumping groundwater.

Table 14
Methods to Encourage Recycled Water Use (AFY)

	Projected Results				
Actions	2015	2020	2025	2030	2035
Financial Incentives and Public Education[1]	0	0	650	650	650
Total	**0**	**0**	**650**	**650**	**650**

1. Values from Table 11. Includes direct use for irrigation at existing and new parks, schools, roadway landscaping, and potential deliveries to user outside the city now pumping groundwater.

Table 15
Water Supplies Needed to Meet Demands - Current and Projected (AFY)

Water Supply Sources	2010[8]	2015	2020	2025	2030	2035
Basin Wells[1]	2,338	100	990	3,400	3,400	3,400
River Wells	3,988	4,450	4,600	4,600	4,600	4,600
Nacimiento Water [2, 9]	0	4,000	5,400	5,400	5,400	5,400
Demand Without Potential Conservation[3]	**6,326**	**8,550**	**10,990**	**13,400**	**13,400**	**13,400**
Potential Conservation and Recycled Water Savings						
BMP/DMM Conservation[4]	0	364	1,038	1,617	1,617	1,617
Price Elasticity of Water Rates Conservation[5]	0	616	1,827	1,618	1,618	1,618
Recycled Water (Phase 1 Direct Use)[6]	0	0	0	650	650	650
SB-7 Target Water Demands in acre feet per year (AFY) to Comply with 20% Demand Reductions by 2020[7]	**Not Applicable**	**7,570**	**8,125**	**9,515**	**9,515**	**9,515**
SB-7 Target Water Demands in gallons per capita per day (gpcd)[7]	**Not Applicable**	**217 gpcd**	**193 gpcd**	**193 gpcd**	**193 gpcd**	**193 gpcd**

1. Basin well pumping = Demand without additional conservation - River wells - Nacimiento water. Conservation savings, and future recycled water use will reduce basin well use from amounts shown.

2. Nacimiento use consistent with assumption developed for the City of Paso Robles 2010 Uniform Water Rate Study, Final Report (K/J, 1/25/10). Acquisition of 1,400 AFY of additional Nacimiento water was modeled to occur in FY 21-22; for this table, delivery assumed in 2020 since closer than 2025.

3. 2025 demand of 13,400 AFY based on land use zoning and a population threshold of 44,000.

4. Conservation savings from Appendix B.

5. Estimates for conservation derived from price elasticity impacts of planned water rate increases = Demand without Potential Conservation - SB7 Target Demand - BMP/DMM Conservation - Potential Recycled Water Use].

6. Projected direct use for irrigation at existing and new parks, schools, roadway landscaping, and potentially other users outside of the city.

7. Senate Bill 7 Target Water Use based on 10% reduction of gpcd baseline water use by 2015 and 20% reduction by 2020 multiplied by projected population. (See Table 8 for calculation of baseline use of 241 gpcd)

8. Actual 2010 water use was reduced by approximately 20 percent due to City-wide Level 2 mandatory outdoor water use restrictions.

9. In order to limit reliance on the highly-stressed groundwater basin, new development - per City policy - is required to be served with surface and recycled water.

Table 16
Future Water Supply Projects

Project Name	Projected Start Date	Projected Completion Date	Potential Project Constraints	Normal-Year (AF)[1]	Single-Dry Year (AF)	First Multiple-Dry Year (AF)	Second Multiple-Dry Year (AF)	Third Multiple-Dry Year (AF)
Nacimiento	ongoing	2015	Funding Delay	4,000	4,000	4,000	4,000	4,000
Future Nacimiento	unknown	2020	No Funding	1,400	1,400	1,400	1,400	1,400
Recycled	unknown	2025	Funding Delay	650	650	650	650	650

1. Use of Nacimiento and recycled water will provide additional reliability benefits. A Recycled Water Master Plan is currently in development.

Table 17
Basis of Water Year Data

Water Year Type	Base Year(s)
Average Water Year	2006
Single-Dry Water Year	2007
Multiple-Dry Water Years	1987-1990

Table 18
Supply Reliability - Historic Conditions (AFY)

Average / Normal Water Year (2006)	Single Dry Water Year (2007)	Multiple Dry Water Years			
		Year 1 (1987)	Year 2 (1988)	Year 3 (1989)	Year 4 (1990)
7,431	7,431	7,431	7,431	7,431	7,431
Percent of Normal	100%	100%	100%	100%	100%
Potential Peaking Problems	Yes	Yes	Yes	Yes	Yes

Table 19
Supply Reliability - Current Water Sources (AFY)

Water Supply Sources	Average/ Normal Water Year Supply (2006)	Multiple Dry Water Year Supply		
		2011	2012	2013
Percolating Groundwater	3,366	3,366	3,366	3,366
Underflow	4,065	4,065	4,065	4,065
Nacimiento[1]	0	0	0	0
Total	**7,431**	**7,431**	**7,431**	**7,431**
Percent of Normal	100%	100%	100%	100%
Potential Peaking Problems	Yes	Yes	Yes	Yes

1. Nacimiento water available after 2015

Table 20 Supply and Demand Comparison - Normal Year (AFY)					
	2015[1]	2020[2]	2025[2]	2030	2035
Supply Totals	8,550	10,990	13,400	13,400	13,400
Demand Totals (with potential conservation)	7,570	8,125	9,515	9,515	9,515
Difference (Supply-Demand)	980	2,865	3,885	3,885	3,885
Difference as % of Supply	11%	26%	29%	29%	29%
Difference as % of Demand	13%	35%	41%	41%	41%

Demand totals include additional potential conservation and recycling savings to meet SB 7 target demands (Tables 5 and 15)
1. 4,000 AFY of Nacimiento water projected to become available (Table 16)
2. 1,400 AFY of additional Nacimiento water projected to become available in 2020 and 650 AFY of projected recycled water use by 2025 (Table 16)

Table 21 Supply and Demand Comparison - Single Dry Year (AFY)					
	2015[1]	2020[2]	2025[2]	2030	2035
Supply Totals	8,550	10,990	13,400	13,400	13,400
Demand Totals (with potential conservation)	7,570	8,125	9,515	9,515	9,515
Difference (Supply-Demand)	980	2,865	3,885	3,885	3,885
Difference as % of Supply	11%	26%	29%	29%	29%
Difference as % of Demand	13%	35%	41%	41%	41%

Demand totals include additional potential conservation and recycling savings to meet SB 7 target demands (Tables 5 and 15)
1. 4,000 AFY of Nacimiento water projected to become available (Table 16)
2. 1,400 AFY of additional Nacimiento water projected to become available in 2020 and 650 AFY of projected recycled water use by 2025 (Table 16)

Table 22 Supply and Demand Comparison — Multiple Dry-Year Events (AFY)						
		2015[1]	2020[2]	2025[2]	2030	2035
Multiple-Dry Year First Year Supply	Supply Totals	8,550	10,990	13,400	13,400	13,400
	Demand Totals (with potential conservation)	7,570	8,125	9,515	9,515	9,515
	Difference	980	2,865	3,885	3,885	3,885
	Difference as % of Supply	11%	26%	29%	29%	29%
	Difference as % of Demand	13%	35%	41%	41%	41%
Multiple-Dry Year Second Year Supply	Supply Totals	8,550	10,990	13,400	13,400	13,400
	Demand Totals (with potential conservation)	7,570	8,125	9,515	9,515	9,515
	Difference	980	2,865	3,885	3,885	3,885
	Difference as % of Supply	11%	26%	29%	29%	29%
	Difference as % of Demand	13%	35%	41%	41%	41%
Multiple-Dry Year Third Year Supply	Supply Totals	8,550	10,990	13,400	13,400	13,400
	Demand Totals (with potential conservation)	7,570	8,125	9,515	9,515	9,515
	Difference	980	2,865	3,885	3,885	3,885
	Difference as % of Supply	11%	26%	29%	29%	29%
	Difference as % of Demand	13%	35%	41%	41%	41%

Demand totals include additional potential conservation and recycling savings to meet target demands (Tables 5 and 15)
1. 4,000 AFY of Nacimiento water projected to become available (Table 16)
2. 1,400 AFY of additional Nacimiento water projected to become available in 2020 and 650 AFY of projected recycled water use by 2025 (Table 16)

Table 23 Factors Resulting in Inconsistency of Supply				
Water Supply Source	**Legal**	**Environmental**	**Water Quality**	**Climatic**
Basin Groundwater	Potential basin adjudication	Potential overdraft, earthquake damage, power outage	Potential contamination	Long-term severe drought
Underflow Groundwater	Loss or reduction of water rights	Earthquake damage, power outage	Potential contamination	Long-term severe drought
Nacimiento Water	None anticipated	Earthquake damage	Potential contamination	Long-term severe drought
Recycled Water	Future restrictions on use and quality	Earthquake damage	Potential salt loading in basin	None anticipated

Table 24 Water Quality - Current and Projected Water Supply Impacts (AFY)							
Water Source	**Description of Condition**	**2010**	**2015[1]**	**2020[2]**	**2025[2]**	**2030**	**2035**
Groundwater	Good	0	0	0	0	0	0
Nacimiento	Good	Not applicable	0	0	0	0	0
Recycled	Will meet requirements	Not applicable	Not applicable	Not applicable	0	0	0

1. 4,000 AFY of Nacimiento water projected to become available (Table 16)

2. 1,400 AFY of additional Nacimiento water projected to become available in 2020 and 650 AFY of projected recycled water use by 2025 (Table 16)

Table 25 Water Shortage Contingency Rationing Stages to Address Water Supply Shortages		
Stage No.	**Water Use Reductions/Rationing**	**Percent Shortage**
1	Voluntary 10% reduction	10%
2	Mandatory 20% reduction	20%
3	Mandatory 30% reduction	30%
4	Mandatory 50% reduction	50%

Table 26 Preparation Actions for a Catastrophe	
Possible Catastrophe	**Summary of Actions**
Regional Power Outage	Backup generator
Earthquake	Initiate Ordinance No. 956 N.S. (Water Conservation and Water Shortage Contingency Plan)
Water Quality Impact	Minimized by initiation of DWSAP, response similar to earthquake
System Failure	Response similar to earthquake

Table 27 Water Shortage Contingency Consumption Reduction Methods		
Consumption Reduction Methods	**Stage When Method Takes Effect**	**Projected Reduction (percent)**
Incentives to reduce water consumption	1	10
Education and outreach program	1	10
Voluntary rationing	1	10
Mandatory rationing	2 through 4	20 to 50
Use prohibitions	1 through 4	10 to 50
Water allocations per customer	2 through 4	20 to 50
Restrict for only priority uses	4	50

Table 28 Water Shortage Contingency Mandatory Prohibitions	
Examples of Prohibitions	**Stage When Prohibition Becomes Mandatory**
Irrigation restrictions	2
Uncorrected plumbing leaks	3
Construction water uses	3
Washing cars	3
Street and sidewalk cleaning	4
Residential pond and spa filling	4

Table 29 Water Shortage Contingency - Penalties and Charges	
Penalties or Charges	**Stage When Penalty Takes Effect**
Fines or penalty surcharges	2 to 4
Installation of flow-restricting device	2 to 4

Table 30 Water Shortage Contingency Actions and Conditions that Impact Revenues	
Type	**Anticipated Revenue Reduction**
Reduced Sales/Income[1]	$270,000 to $540,000

1. 10% or 20% of the 2004 water revenue of $2.7 million from Boyle (July 2005)

Table 31 Water Shortage Contingency Actions and Conditions that Impact Expenditures	
Category	**Anticipated Cost**
Increase Staff Cost	0
Increased O&M Cost	0
Increased Cost of Supply and Treatment	0

Table 32 Water Shortage Contingency Proposed Measures to Overcome Revenue Impacts	
Names of Measure	**Summary of Effects**
Use of Reserves	Short-term use
Rate Adjustment	For severe situations

Table 33 Water Shortage Contingency Water Use Monitoring Mechanisms	
Mechanism for Determining Actual Reductions	**Type data expected**
Monitoring Production	Weekly volumes
Monitoring Distribution	Weekly volumes
Increased Select Meter Reading	Weekly volumes
Monitoring WWTP Inflow	Weekly volumes

Table 34 DMM Implementation Summary		
DMM	**Schedule**	**Progress since 2005**
Utility Operations Programs		
DMM 12. Conservation Coordinator	Ongoing	Yes
DMM 13. Water Waste Prohibition	Ongoing	Yes
DMM 10. Wholesale Agency Programs	Not applicable	Not applicable
DMM 3. System Water Audits	Ongoing	Yes
DMM 4. Metering with Commodity Rates	Ongoing	Yes
DMM 11. Conservation Pricing	Ongoing	Yes
Education Programs		
DMM 7. Public Information Programs	Ongoing	Yes
DMM 8. School Education Programs	Ongoing	Yes
Residential Measures		
DMM 1. Water Survey Programs	Ongoing	Yes
DMM 2. Residential Plumbing Retrofits	Ongoing	Yes
DMM 6. High Efficiency Washing Machines	Under review	No
DMM 14. Ultra-Low-Flush Toilets	Ongoing	Yes
Water Sense Specifications	Ongoing	Yes
Commercial, Industrial, and Institutional		
DMM 9. Conservation of CII	Ongoing	Partial
Landscape		
DMM 5. Large Landscape Programs	2012-2013	No

Appendix A

Resolution Adopting the Urban Water Management Plan and Proof of Public Hearing

RESOLUTION NO. 11-081

A RESOLUTION OF THE CITY COUNCIL OF THE CITY OF EL PASO DE ROBLES ADOPTING THE 2010 URBAN WATER MANAGEMENT PLAN

WHEREAS, the California Urban Water Management Planning Act ("Act") (California Water Code Sections 10620 et seq.) requires every urban water supplier providing municipal water directly or indirectly to more than 3,000 customers or supplying more than 3,000 acre-feet of water annually to develop an Urban Water Management Plan; and

WHEREAS, the Act requires that an urban water management plan be updated every five years; and

WHEREAS, the City of Paso Robles last updated its Urban Water Management Plan in 2005; and

WHEREAS, a Public Draft 2010 Urban Water Management Plan has been circulated for public review and all comments received have been reviewed and considered; and a properly noticed public hearing was held by the City Council on June 21, 2011, prior to adoption of a Final Urban Water Management Plan, all in compliance with the requirements of the Act; and

THEREFORE, BE IT RESOLVED AS FOLLOWS:

1. The Urban Water Management Plan is hereby adopted and ordered filed with the City Clerk.
2. The Water Resources Manager is hereby authorized and directed to file this Plan with the California Department of Water Resources;

Passed and adopted this 21st Day of June, 2011 by the following vote:

AYES: Steinbeck, Gilman, Picanco
NOES:
ABSTAIN:
ABSENT: Strong, Hamon

Duane Picanco, Mayor

ATTEST:

Caryn Jackson, Deputy City Clerk

THE TRIBUNE
Newspaper of the Central Coast

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In The Superior Court of The State of California
In and for the County of San Luis Obispo
AFFIDAVIT OF PUBLICATION

AD #6943461
CITY OF PASO ROBLES
PUBLIC WORKS

STATE OF CALIFORNIA
ss.
County of San Luis Obispo

I am a citizen of the United States and a resident of the County aforesaid; I am over the age of eighteen and not interested in the above entitled matter; I am now, and at all times embraced in the publication herein mentioned was, the principal clerk of the printers and publishers of THE TRIBUNE, a newspaper of general Circulation, printed and published daily at the City of San Luis Obispo in the above named county and state; that notice at which the annexed clippings is a true copy, was published in the above-named newspaper and not in any supplement thereof – on the following dates to wit; MAY 25; JUNE 1, 2011 that said newspaper was duly and regularly ascertained and established a newspaper of general circulation by Decree entered in the Superior Court of San Luis Obispo County, State of California, on June 9, 1952, Case #19139 under the Government Code of the State of California.

I certify (or declare) under the penalty of perjury that the foregoing is true and correct.

Janet E. Durand
(Signature of Principal Clerk)
DATED: JUNE 1, 2011
AD COST: $166.46

CITY OF EL PASO DE ROBLES
PUBLIC NOTICE

NOTICE OF PUBLIC HEARING OF THE CITY COUNCIL OF THE CITY OF EL PASO DE ROBLES ON THE PROPOSED 2010 URBAN WATER MANAGEMENT PLAN

NOTICE IS HEREBY GIVEN that the City Council of the City of El Paso de Robles (the "City Council") will hold a public hearing on Tuesday, June 21, 2011 at 7:30 p.m. at City Hall located at 1000 Spring Street, Paso Robles, California, to consider and act upon the proposed 2010 Urban Water Management Plan. (the "PLAN")

The hearing will address the following topics under the proposed water management plan:

- Water supply and demand for the City
- Water demand management measures
- Water shortage contingency plan

Copies of the PLAN are available for public review and inspection at the Paso Robles Library, 1000 Spring Street, Paso Robles. It is also available on-line at www.pasowater.com.

Interested persons may submit written comments addressed to Christopher Alakel, Water Resources Manager of the City of Paso Robles, 1000 Spring Street, Paso Robles, Ca, 93446 prior to 5 p.m. on June 17, 2011.

At the time and place noted above, all persons interested in the above matters may appear and be heard.

May 25, June 1, 2011 6943461

CITY OF EL PASO DE ROBLES

"The Pass of the Oaks"

April 22, 2011

Mr. Paavo Ogren
Public Works Director
San Luis Obispo County
919 Palm Street
San Luis Obispo, CA 93401

Re: City of Paso Robles Draft 2010 Urban Water Management Plan
Available for Review

This letter is to notify your organization that the City of Paso Robles has updated its Urban Water Management Plan. A public draft of the 2010 City of Paso Robles Urban Water Management Plan is available for review and comment. The plan is available at the City of Paso Robles Library at 1000 Spring Street, Paso Robles, or the plan can be viewed and downloaded from the City of Paso Robles website at pasowater.com.

Written comments on the plan will be received until 5:00 p.m., June 21, 2011, and may be addressed to Christopher Alakel, Water Resources Manager, 1000 Spring Street, Paso Robles, CA 93446.

Sincerely,

Christopher Alakel
Water Manager

cc: File

CITY OF EL PASO DE ROBLES

"The Pass of the Oaks"

July 15, 2011

California State Library
Government Publications Section
P.O. Box 94237-0001
Sacramento, CA 94237-0001
Attention: Coordinator, Urban Water Management Plans

To Whom it May Concern:

The City of Paso Robles is pleased to provide for your collection the City of Paso Robles 2010 Urban Water Management Plan.

Sincerely,

Christopher Alakel, P.E.
Water Resources Manager
City of Paso Robles

cc: File

CITY OF EL PASO DE ROBLES

"The Pass of the Oaks"

July 15, 2011

Mr. Paavo Ogren
Public Works Director
San Luis Obispo County
919 Palm Street
San Luis Obispo, CA 93401

Dear Mr. Ogren:

The City of Paso Robles is pleased to provide San Luis Obispo County with a copy of the City of Paso Robles 2010 Urban Water Management Plan. An electronic copy of the plan may be downloaded from pasowater.com.

Sincerely,

Christopher Alakel, P.E.
Water Resources Manager
City of Paso Robles

Enclosure
cc: File

Appendix B

Implementation Plan for Water Conservation Best Management Practices

City of Paso Robles

Implementation Plan for Water Conservation Best Management Practices

Conservation Plan Objectives

The overall objective of the City's conservation program is to achieve approximately a 10 percent reduction in total per capita water use by the year 2020. Additionally, programs outlined in this plan are designed to comply with the California Urban Water Conservation Council's (CUWCC) Memorandum of Understanding (MOU), signed by the City in 2010.

SB 7 – 7 requires that cities achieve a 20 percent reduction in total per capita water use by the year 2020. The remaining 10 percent of demand reduction needed to achieve a 20 percent reduction in demand by 2020 is projected to be the result of price elasticity conservation impacts of planned water rate increases over the 2011-2015 period. Increases in average monthly water bills will also encourage people to participate in incentive programs as well as induce customer behavioral changes.

To calculate progress toward the state-mandated reduction of 10 percent by 2015, and 20 percent by 2020, the pre-conservation baseline per capita water use is assumed to 241 gpcd, based on the 10-year average from 1999-2008. Table 1 below shows annual gpcd use rates from 1990 through 2009.

Table 1
Paso Robles Total per Capita Water Use

Year	Average Day Production (MGD)	Population	Total GPCD Use
1990	4.28	18,583	230
1991	4.07	19,750	206
1992	4.20	20,050	209
1993	no data	20,300	no data
1994	4.41	20,400	216
1995	4.63	20,900	222
1996	4.91	21,450	229
1997	5.24	21,650	242
1998	4.63	22,050	210
1999	5.49	22,500	244
2000	5.76	24,450	236
2001	6.00	25,200	238
2002	6.55	25,800	254
2003	6.67	26,856	248
2004	6.66	27,200	245
2005	6.62	28,000	236
2006	6.64	29,027	229
2007	7.25	29,618	245
2008	7.04	29,813	236
2009	5.95	29,950	199

This baseline reflects water use rates prior to mandatory outdoor water use restrictions being implemented in 2009. In order to be in compliance with SB 7, a 10 percent reduction to 217 gpcd would be required by 2015, and a 20 reduction to 193 gpcd by 2020. Estimated water use reductions for individual programs are expressed in this plan in terms of acre-foot per year savings from total annual projected baseline water use for 2015, 2020, and 2025 (or when buildout occurs).

Projected baseline annual demand without conservation is as follows:

2015 – 8776 af/yr
2020 – 10,939 af/yr
2025 – 12,800 af/yr (buildout)

The 2015 and 2020 demands are based on the projected 12,800 af/yr at buildout demand (Baseline demand - Alternative 3, Urban Water Management Plan), phased in from the current demand level of 7,770 af/yr (pre-mandatory conservation). The phase-in is based on the projected percentage of buildout housing units added by 2015 and 2020 (20 % and 63% respectively; source: Kennedy/Jenks Water Rate Study projections, 2009).

Customer Outreach Program

Customer outreach efforts are the cornerstone of the conservation program. Outreach activities provide critical support for the other programs discussed in this plan. As a support activity, no direct water savings are attributed to the program. However, the annual outreach budget of $60,000 per year indicates the importance of having a wide-ranging approach to communicating the need for conservation and how customers can reduce water use through participating in the water conservation programs available in Paso Robles. Outreach efforts include the following:

- Printing and purchases of pre-printed flyers and brochures
- Printing and mailing of materials supporting the mandatory summer peak demand management program.
- Printing and distribution of water bill stuffers and newsletters
- Graphic design costs
- Banners and signage
- Radio and Television advertising
- Workshop costs, video production
- Print advertising (newspapers, magazines)
- Event sponsorship
- California Urban Water Conservation Coalition (CUWCC) membership dues

Projected Water Savings (Benefits) and Costs by Program

Table 2 below lists projected program savings (af/yr) for each existing and potential program element, and the estimated savings (af/yr) and percentage reduction from baseline demand for the years 2015, 2020, and 2025. Estimated savings for existing incentive programs and existing and potential ordinances are based on an assumed number of participants per year or the number of residential units impacted by ordinances per year. Program assumptions and savings calculations are described below. The total conservation program budget, exclusive of full-time staff costs, is $153,000/yr.

Table 2
Projected Conservation Program Savings (af/yr)

Existing Programs (with current funding)	**2015 Savings**	**2020 Savings**	**Buildout 2025 Savings**
Toilet Rebate (BMP 14) @ 150/yr	29.5	59	88.5
Landscape Rebate @ 84/yr	28.8	57	85.5
Residential Audits (BMP1,2) @ 130/yr	17	34	51
2014 HET Toilet State Code	3.9	32.1	66
Landscape Ordinance	47.8	274.5	548.4
Savings Subtotal	127.0	456.6	839.4
Baseline Demand Projection (1)	8,776	10,939	12,800
% reduction from baseline demand	1.4%	4.2%	6.6%
New Programs required by CUWCC, (limited current funding available for CII incentives, and part-time staff only)	**2015 Savings**	**2020 Savings**	**Buildout 2025 Savings**
Et Budgets, CII Landscape (BMP 5)			
CII (BMP (9) (assume 10% red. by 2020)			
Note: Assumes 10% red. From CII by 2020 per CUWCC Req.	133.1	371.7	462.5
Savings Subtotal (Existing + New)	260.1	828.3	1,301.9
% Reduction from baseline demand (existing + new)	3.0%	7.6%	10.2%
Potential New Programs (currently unfunded)	**2015 Savings**	**2020 Savings**	**2025 Savings**
Clothes Washer Rebate (BMP 6)	9.2	20.7	32.2
Retrofit on Resale Ordinance	55.0	110.0	165.0
Fund up to 200 landscape rebates/yr	39.7	78.7	118.0
Savings Subtotal (Exist. + New + Pot.)	364.0	1,037.7	1,617.1
% reduction from baseline demand	4.1%	9.5%	12.6%

Notes:

Calculation of Landscape Ordinance Savings	**2015**	**2020**	**2025**
New Single Family Units	762	2019	3799
New Multi-family Units	245	780	1309
Additional Comm./Ind Demand (AF/YR)	0	591	1275
Projected Savings (SF + MF)	47.8	132.7	242.4
Projected Savings (New Comm/Ind.)	0	141.8	306.0
Total Landscape Ord. Savings (AF/YR)	47.8	274.5	548.4
	2015	**2020**	**2025**
Total Estimated CII Demand (Non-res demand) no conservation (AF/YR) (2)	2662	3717	4625
(based on zoning-based demand projection)			

(1) Based on the % of new housing units projected by 2015, and 2020, applied to the buildout zoning-based demand (no conservation)
(2) Based on the % of buildout housing units added by 2015, and 2020

Conservation Programs and Projected Water Savings (Benefits) and Costs

Existing Programs (as of August, 2010)

Each existing program element is described, including projected water savings and program direct costs. Staffing, administrative, and marketing costs for the incentive programs are discussed in a separate section. It is assumed that vehicles for full and part-time staff are provided from existing city rolling stock.

1) HET Toilet Rebate Program (BMP 14)

Program Description: This voluntary program, begun in February, 2010, provides a rebate of $125 per toilet for installation of HET Toilets (1.28 gpf) or dual flush toilets replacing 3.5 gpf (or higher) models. CUWCC requires that cities achieve as many toilet installations each year as would a retrofit-on-resale ordinance. There are approximately 5,900 pre-1992 single family homes in Paso Robles. A review of single family home sales records for pre-1992 homes in Paso Robles from 2004-2008 indicates the average annual sales of these homes were 212 per year. At this sales rate, it would take approximately 25 years to retrofit all pre-1992 homes through a retrofit-on-resale ordinance. However, currently the number of home sales is significantly less due to the slow economy. Based on participation rates in the first four months of the voluntary program (during which 30 rebates were issued), achieving 200+ toilet rebates annually on a voluntary basis will be difficult to achieve in the near-term. Based on the current rate of participation, it is assumed that 100 toilets per year could be achieved. Increased marketing efforts will be made to increase participation, and voluntary participation may increase over the next five years as water rates increase, particularly if the economy rebounds and more home remodeling occurs. Projected water savings and program costs are therefore projected at an average of 150 rebates per year. Increased participation through a retrofit-on-resale ordinance is discussed below under potential new programs.

Projected Water Savings – The projected water savings for each year the voluntary program is in place is 5.9 af/yr (12,800 gal/yr/toilet X 150 toilets) = 1,920,000 gal/yr

Annual Program Costs - $18,750/yr (150 rebates x $125)

2) Water Sense Specifications (WSS) for Residential Development

Program Description: In 2014, a new state law will require 1.28 gal/flush toilets in all new residential and commercial construction. This is a no-cost program for the City that will reduce per capita consumption in future development. In addition, the California Green Building Standards Code (Title 24, Part II) , effective January 1, 2011 , now requires fixtures in new development to meet Water Sense specifications. Paso Robles adopted this code in late 2010.

Projected Water Savings - Assume 4.32 gpd savings per residential unit going from a 1.6 gpf toilet to a 1.28 gpf model (5 flushes X 2.7 pph x 365 days x 0.32 gal/flush). Assume by 2025 buildout, approximately 5,054 new housing units will be constructed according to this requirement based on 16,287 total housing units). Water savings for each of the planning years are estimated by backing into the proportional savings for the planning years as development occurs.

Annual Program Costs - No additional water conservation program costs.

2015 – 299 new units, savings = 3.9 af/yr
2020 – 2457 new units, savings = 32.1 af/yr
2025 – 5054 new units, savings = 66.0 af/yr

3) Landscape Rebate (Turf buy-back) Program (Not a CUWCC program)

Program Description: There is no CUWCC requirement for this incentive program. However, the turf rebate program, initiated in 2010, is an effective way of incentivising customers to replace turf lawns with drought-tolerant Mediterranean landscapes on drip irrigation. This program is also effective in reducing peak summer water use. A $0.50 per square foot rebated is provided to residential or non-residential customers for turf converted to drought-tolerant landscaping, to a maximum of $500. The current rebate budget is $50,000 per year, less the projected toilet rebate spending of $18,750/yr., leaving $31,250 available for turf rebates. It is assumed, based on the program results to date, that the average square footage and rebate provided will be 740 square feet and $370 respectively. At this level of turf replacement, 84 rebates per year could be funded.

Projected Water Savings - For each rebate provided, assume water use on 740 sq. ft. (0.017 acres) will be reduced from 5 af/ac to 1 af/ac, for an annual savings of 22,000 gal/home/yr. Total annual savings for 84 rebates/yr = 5.7 af/yr for each year the program is in place.

Annual Program Cost: Annual program costs are $31,250 (84 participants X $370 avg.)

4) Home Water Survey Program (Residential Audits) (BMPs 1,2)

Paso Robles implemented a home water survey program in February, 2010. This voluntary program provides a free in-home survey primarily to residential customers, though it is available to commercial customers as well. During the first ten months of the program in 2010, approximately 140 residential audits were completed. The program was marketed with bill inserts and bill messages, web-based advertising, direct mail, and paid advertising.

The CUWCC memorandum requires that cities perform audits on 1.5 percent of single-family residential customers each year to meet a target of 15 percent of customers within 10 years. The current single family customer count of approximately 8,700 homes would require surveys to be performed on 130 homes per year. Higher water rates planned for phased-in over the 2011-2015 period are expected to help increase customer participation to maintain this level of participation. Increased marketing efforts, including direct mail and phone follow-up to targeted customers, and paid advertising, will also help maintain customer participation levels.

Projected Water Savings – Estimated savings of 8,500 gal./yr/acct. (based on CUWCC guidelines and other industry studies) X 130 accounts/yr = 3.4 ac/yr each year the program is in place .

Annual Program Costs:

- Materials - $15 per account x 130 accounts (for showerheads, faucet aerators, toilet flappers, shower coaches, and literature) = $1,950 per year.
- Marketing - $5,000 per year for direct mail, bill inserts, and print ads (included in Outreach budget of $60,000 per year).
- $20,000 per year in survey/audit staffing cost ($21/hr loaded cost x 952 hours)

5) Paso Robles Water Efficient Landscape Ordinance (Existing) (Not a CUWCC BMP, though required by state law)

The City's water-efficient landscape ordinance, enacted in December 2009, largely mirrors the state's model landscape ordinance, but differs in some respects. In addition to landscape design requirements and water budgets for large landscapes, water conservation savings will also come from restrictions on the amount of turf landscaping in new development. Turf in new residential and commercial development is limited to the following:

- Single Family Residential – front yard limited to 25% of landscaped area
- Multi-family residential limited to 20% of landscaped area
- Non-residential development limited to 10% of landscaped area

Projected Water Savings - (See Appendix 1 for detailed savings calculations and assumptions)

- Estimated savings per new single family residential unit - 15,640 gal/yr/home.
- Multi-family residential per unit water use assumed is projected to be reduced by 17 percent, or 14,938 gal./housing unit.
- Commercial/industrial account savings were estimated at 24 percent of total commercial/industrial sector use, at 24 percent.
- Total estimated savings calculations for projection years are shown in notes on Table 2.

CUWCC BMP Programs Planned for Phased Implementation

6) CII Programs (Commercial/Industrial/Institutional)
(ET-based budgets for CII Landscapes (formerly BMP 5) and CII Interior Programs)

6a) Landscape Programs

Accounts with Dedicated Irrigation Meters - CII landscape programs, as defined by CUWCC, require that Eto-based water budgets be developed and assigned to CII customers. For accounts with dedicated irrigation meters (such as parks, schools, landscape medians, and residential common areas), water budgets for at least 9 percent of accounts must be developed each year. Over a ten-year period, 90 percent of accounts in this category must receive this assistance. As of 2011, the City lacks sufficient staff to implement this program. This section describes an implementation plan for meeting this BMP.

The strategy to be used in implementing water budgets for dedicated irrigation meters will be to first target parks (10 parks total) and schools that have dedicated meters (12 schools total, many of which may have dedicated meters). There are also approximately 100 Landscape and Lighting (L and L) irrigation meters that supply water to landscape parkways. Multiple L and L meters may serve one stretch of roadway and could be combined into one account for the purpose of doing landscape budgets. Parkways will be prioritized for water budgets based on the highest summertime water use. Assuming a total of approximately 100 dedicated meters, 9 water budgets per year would need to be prepared. CUWCC requires that accounts receiving water budgets be notified through the monthly bill of their water use in relation to the annual budget.

Water audits can be performed through a combination of using the Cachuma Resource Conservation District Mobil Irrigation Lab service and part-time staff. The Cachuma RCD Mobile Lab provides a no-cost service that tests irrigation system uniformity, identifies potential

improvements to irrigation systems, and develops water budgets for the facility. Part-time City staff (less than ½ time), is budgeted and available on a limited basis to conduct landscape surveys and develop water budgets for CII users. A start at this program can be made in late 2010, focusing on parks and school sites initially.

Projected Water Savings – The projected water savings for this program are discussed below in combination with the savings associated with CII Retrofit programs.

Annual Program Costs – An additional full-time Conservation Assistant postion will be required to implement this program. The estimated annual cost of this position in $75,000, including benefits.

Mixed-Use Landscape Meters - For CII accounts with mixed-use meters, a strategy will be developed to target and market large landscape water use surveys. The CUWCC performance standard is that water use surveys must be completed for 1.5 percent of all CII mixed-use accounts. This would require that landscape water use surveys be completed for approximately 10 accounts per year of the 700 commercial meters currently served.

6b) CII Interior Retrofit Programs (formerly BMP 9)

The CUWCC Best Management Practices strategy for CII interior use is to implement retrofit measures from a list of measures with well-documented water savings. These measures may include but are not limited to industrial process water use reduction, industrial laundry retrofits, car wash recycling systems, and water-efficient commercial dishwashers. Other items on the CII demonstrated Savings Measure List are:

- HET Toilets (commercial customers are currently eligible for up to 2 toilets rebates per account)
- High-Efficiency Urinals, Ultra-Low Volume Urinals, and Zero consumption urinals.
- Commercial High-Efficiency- Single Load Clothes Washers
- Cooling Tower Conductivity Controllers
- Cooling Tower Ph Controllers
- Medical Equipment Steam Sterilizers
- Water-Efficient Ice Machines
- Pressurized Water Brooms
- Dry Vacuum Pumps

A rebate program to encourage the installation of these items by commercial customers is recommended. An annual pool of rebate money would be made available for the above fixtures and technologies. The program would be marketed to all commercial accounts on a twice-a-year basis using direct mail to facility managers. Rebate applications would be evaluated on a case-by-case basis based on estimated water savings and cost factors.

Projected Water Savings – Projecting water savings from the CII program is difficult. The overall CUWCC Memorandum target savings for CII landscape and interior programs combined is a 10 percent reduction from projected pre-conservation non-residential demand, achieved by 2020 (CUWCC requirement). For this plan, it is assumed savings will be phased-in and achieve a 5% reduction in CII demand by 2015 and a 10 % reduction by 2020. However, meeting this target will require the addition of a full-time staff person for conducting large turf and commercial facility audits, and funding for a CII incentive program. Additional duties of full-time staff would include commercial and residential rebate processing, residential water surveys,

and record keeping. Water savings calculations in Table 2 are based on the percentage reduction from overall CII baseline demands for the projection years shown on Table 2.

Annual Program Costs - Annual costs for this program will be developed in 2012-13, after new water rates are implemented. Estimated program implementation date is calendar year 2013.

7) High-Efficiency Clothes Washer Rebate (formerly CUWCC BMP 6)

This is a required element by CUWCC that is currently not funded. However, PG&E currently provides a rebate of $50 per high efficiency washer purchased. The City's conservation website currently directs customers with a direct link to the PG&E website. Washer models must meet the following qualifications to qualify for the PG&E rebate:

- Clothes washer must be a **Consortium for Energy Efficiency (CEE) Tier 3 model** only.
- Clothes washer must have a Modified Energy Factor (MEF) of 2.2 or greater.
- Clothes washer must have a Water Factor (WF) of 4.5 or less.

CUWCC requires that cities also provide rebates for washing machines that meet an average water factor value of 5.0 or less, or the EPA Watersense value if it is less than 5.0.

Program Assumptions: Assume 5,086 gal/yr. savings per rebate (per CUWCC data) and 150 participants per year, based on rebate of $100 per appliance. This program will be marketed with bill inserts, web-based marketing, and paid advertising.

Projected Water Savings - 2.3 af/yr. for each year the program is in place

Annual Program Cost: $15,000/yr. (150 x $100 rebate, currently unfunded)

7) Retrofit-on-Resale Ordinance (Not a CUWCC BMP)

Many cities in southern and northern California now require the retrofit upon resale of homes that do not have 1.6 gallon/flush toilets, low-flow showerheads, and faucet aerators. On the Central Coast, San Luis Obispo, Arroyo Grande, and several south County areas (Los Osos and Nipomo) have retrofit-on-resale ordinances in place. Such an ordinance would apply to approximately 5,900 pre-1994 single family homes in Paso Robles (or a high percentage of these homes that have not been remodeled since 1994), and approximately 2,360 multi-family units.

A review of single family home sales records for existing pre-1992 homes in Paso Robles from 2004-2008, indicates an average annual sales of 212 pre-1992 homes. At this rate, it would take approximately 25 years to retrofit all pre-1992 homes through a retrofit-on-resale ordinance. If implemented, sellers of homes would be required to provide a form to the City stating toilets, showerheads, and aerators, meet low-flow standards. When the buyer applies for a new water service, Water Division staff, at the time of service turn-on, would inspect the fixtures for compliance with requirements. Although the ordinance would require that 1.6 gallon toilets are in-place, the water savings calculated for the ordinance assumes sellers would take advantage of the City's rebate program and install 1.28 gallon toilets. It is assumed the City would increase the budget for the toilet rebate program to provide toilet rebates for the homes and businesses required to be retrofitted each year.

Projected Water Savings

Single Family Homes - Assume a total of 200 pre-1992 single family homes are sold each year and are subject to the ordinance. Assume 20 (10 percent) of these homes have already been retrofitted, or will have been recently been retrofitted through the voluntary program. Assume the remaining 180 homes per year are retrofitted through implementation of the ordinance. Water Savings = 15,653 gal./home/yr, based on replacement of a 4 gallon avg. with a 1.28 gal/flush model and additional savings of 2.9 gpcd for shower and aerator savings. Total savings = 180 homes X 15,653 gallons = 8.6 af/yr for each year program is in place.

Multi-family Units - Assume a total of 50 pre-1994 multi-family units are sold each year) that must retrofit (2% of the total units. Savings = 50 x 15,653 gallons/yr = 2.4 af/yr for each year the program is in place.

Total water savings for Single and Multi-family units = 11.0 af/yr for each year program is in place.

Annual Program Cost

To provide up to 2 toilet rebates for all single family and multi-family residential units projected annually to be retrofitted per the ordinance would require $57,500 (230 housing units x 2 toilets = 460 toilet rebates X $125 per toilet). This funding would be in addition to the $18,750 budget currently budgeted for voluntary toilet retrofits.

Water Conservation Program Summary

The total projected annual water savings and annual cost for each conservation program are shown in Table 2. These estimated savings are independent of water use reductions related to price elasticity effects of planned water rate increases. The future impact on customer water use of planned rate increases is difficult to project with a high degree of accuracy at this time. However, using an average price elasticity factor of 0.2 applied to the projected year-five rate increase of 62 percent for the average single family residential user (13 units monthly average), yields an average price-induced decrease in water use of approximately 12 percent by 2015.

If estimated price-induced conservation savings are added to the projected year 2020 savings of 9.5% for BMP programs and non-BMP programs (includes current and additional programs) it is projected that total savings will meet the SB 7 target of a 20 % decrease in overall per capita water use by the year 2020. If price induced savings are greater than the estimated 12 percent, additional conservation programs beyond those currently budgeted may not be needed to reach the 20 percent conservation target. Conservation program needs will be re-evaluated in future years after the conservation impacts of rate increases are better understood, as well as the upward pressure on customer water use from the discontinuation of mandatory summertime irrigation restrictions after the Lake Nacimiento water supply is brought on-line (projected in 2013).

Appendix 1
Landscape Ordinance Water Savings

MEMORANDUM

TO: **File**
FROM: **Keith Larson, Water Conservation Manager**
SUBJECT: **Paso Robles Landscape Ordinance – Calculated Water Savings in New Development versus Pre-Ordinance Development**
DATE: **December 1, 2009**

The state's model water efficient landscape ordinance does not specify the level of water use reduction the ordinance is expected to achieve. In developing the City's landscape ordinance approach, a target reduction of 20 percent was chosen (new development versus pre-ordinance development). This target aligns with the City and state goal of achieving an overall per capita water use reduction of 20 percent by the year 2020. The ordinance's limitations on turf in new development are the primary mechanism for achieving these reductions. The ordinance requirements will complement the conservation impact of the City's continuing outreach and education on efficient irrigation practices, use of climate-appropriate landscape, and the future conservation impact of water rates.

Water Use Savings Summary

Irrigation savings were estimated for each major water use sector using 2008 use as a baseline. The percentage savings was calculated based on assumptions regarding the percentage of turf versus low-water-use landscaping in existing (pre-ordinance) development, and the percentage following ordinance implementation. Irrigation water use savings from turf area reduction was expressed as a percentage for each water use sector. Then those savings were expressed as a percentage of total water use for the sector. Finally, savings for each sector are expressed as a percentage of annual total City water usage and totaled. The total projected water savings in new development, versus the same development without the turf limitations is 19 percent. The projected savings is distributed among water use sectors as follows:

Sector	Outdoor Use Savings	Total Savings Within Sector	Sector Contribution to Reduction in New Development Use
Single Fam. Res.	17.9%	9.6%	5.6%
Multi-Family Res.	57.0%	17.0%	1.6%
Landscape/Lighting	76.0%	76.0%	9.4%
Commercial/Ind.	59.0%	24.0%	4.0%
Total			20.6%

Additional savings will occur from: 1) improvements in irrigation efficiency on new landscapes 1 acre and larger that are required to install weather-based irrigation controllers, and 2) continuing outreach on efficient irrigation practices, and 3) price elasticity impacts of future water rates. The

estimated reductions in outdoor water use for all sectors exceed the estimated reduction that would result from implementing the state's model landscape ordinance without turf limitations.

Estimated Water Savings by Sector

Water savings was estimated based on the assumption that 5 feet of irrigation water (60 inches of water) is applied to turf landscaping annually on average, and 12 inches is applied to areas planted in low-water-use drought tolerant plant material on drip irrigation.

Single Family Residential

Avg. existing front yard turf percentage = 57%
Avg. existing front yard landscapable area – 1650 s.f.
Avg. existing turf area = 940 s.f.
Reduce turf to 25 % of 1650 s.f. or 412 s.f.; a reduction of 528 s.f., or 0.012 acres
Savings = 4 af/yr x 0.012 acres = 15,640 gal./yr
2008 avg. existing lot residential use = 0.5 af or 162,925 gal/yr
Annual avg. interior use = 75,700 gal/yr
Avg. annual exterior use = 87,213 gal/yr
Savings as percentage of exterior use = 17.9%
Savings as percentage of total single family use = 9.6%
Savings as percentage of total City use in new development = 5.6%

Multi-Family Residential

Avg. MF per unit usage in 2008 = 87,875 gal/yr
Interior usage = 61,685 gal/yr (based on 2.6 pph and 65 gpcd)
Landscape usage = 26,190 gal/yr or 30% of total per unit use
Assume 80% of landscape in existing development is turf and 20 percent non-turf
Current weighted average irrigation use = (0.80 x 5 af) + (0.20 x 1 af) = 4.2 af/ac/yr
After ordinance – weighted average irrig. use = (0.2 x 5 af) +(0.8 x 1) = 1.8 af/ac/yr
Irrigation use savings percentage = 57%
Savings as percentage of total MF residential use = 0.57 x 0.30 = 17%

Landscape and Lighting (Street Landscaping)

Assume landscaping is now 80 percent turf, 20 percent non-turf
Ordinance would require all L and L area to be non-turf
Current weighted irrigation use = (0.8 x 5 af/yr) + (0.2 x 1 af/yr) = 4.2 af/yr
After ordinance – weighted average irrigation use = 1.0 x 1 af/yr = 1 af/yr
Savings percentage (all irrigation) = 76%

Commercial / Industrial

Assume current landscape mix is 60% turf, 40% low-water-use.
Current weighted avg. irrigation use = (0.6 x 5 af/ac) + (0.4 x 1 af/ac) = 3.4 af/ac
After ordinance – weighted avg. use = (0.1 x 5 af/ac) + (0.9 x 1 af/ac) = 1.4 af/ac
Outdoor use savings percentage therefore = 2/3.4 or 59 %
Outdoor commercial water use is approximately 41% of total annual commercial use based on difference between February and July commercial account use.
Overall reduction in commercial use = 0.41 x 0.59 = 24%

Appendix C

Ordinance No. 956 N.S. Adopting a Water Conservation and Water Shortage Contingency Plan

ORDINANCE NO.956 N.S.

AN URGENCY ORDINANCE OF THE CITY OF EL PASO DE ROBLES TO ADD CHAPTER 14.02 TO THE MUNICIPAL CODE OF THE CITY OF EL PASO DE ROBLES ADOPTING A WATER CONSERVATION AND WATER SHORTAGE CONTINGENCY PLAN AND DECLARING THAT THIS IS AN URGENCY ORDINANCE NECESSARY FOR THE IMMEDIATE PRESERVATION OF THE PUBLIC HEALTH, SAFETY AND WELFARE

WHEREAS, a consistent and minimum reliable supply of potable water is essential to the public health, safety, and welfare of the people and community of the City of El Paso De Robles; and

WHEREAS, Article X, Section 2 of the California Constitution declares that the general welfare requires that water resources be put to beneficial use, that waste or unreasonable use or unreasonable method of use of water be prevented, and that conservation of water be fully exercised with a view to the reasonable and beneficial use thereof; and

WHEREAS, the City of El Paso De Robles water production capacity is highly dependent on factors such as precipitation and local and regional demands for groundwater as its two current existing sources of water are the Paso Robles Groundwater Basin and the City's permitted allocation from the Salinas River; and

WHEREAS, the California State Water Resources Control Board ("SWRCB") has declared that the Salinas River is fully allocated, and the City's permit limits the maximum annual pumping from the Salinas River underflow to 4,600 acre feet per year ("AFY"); and

WHEREAS, due to current statewide drought conditions, the City's underflow wells are only producing at 69% of historic levels, and SWCRB has indicated it may restrict underflow pumping due to current drought conditions and has stated that water agencies should adopt conservation efforts to reduce urban water use by 20%; and

WHEREAS, the City and the County of San Luis Obispo (the "County") recently commissioned an update of the 2005 Groundwater Basin Study (*Evaluation of Paso Robles Groundwater Basin Pumping*, Todd Engineers May 2009) that concludes total groundwater pumping has increased by 5,516 AFY between 2000 and 2006, an average annual increase of 919 AFY. Assuming no water management actions, (including delivery of Nacimiento Project Water), this rate of increase would result in overdraft by 2017; and

WHEREAS, the 2009 Updated Basin Study also finds that groundwater basin pumping exceeds 90% of the safe annual yield; and

WHEREAS, the City and County are both parties to an agreement with a group representing a number of agricultural groundwater basin pumpers, known as "PRIOR," the purpose of which is to avoid expensive and lengthy groundwater rights litigation by cooperating in groundwater basin monitoring and water management; and

WHEREAS, the City's weekly demands for water historically have increased drastically in the summer months, rising from approximately 3.5 million gallons per day ("GPD") to approximately 12.7 GPD in July, an increase of 330%; and

WHEREAS, despite City efforts to rehabilitate wells, install new wells and recommission standby wells, the amount of water produced by those wells during the summer months has declined significantly in the past few years; and

WHEREAS, in 2004, City wells produced roughly 12.7 GPD, in the summer of 2008, production dropped to 11.7 MGD, and in 2009, water production is expected to decline to 10.4 MGD; and

WHEREAS, the City's water storage capacity is approximately 12 MGD, roughly 50% of which is allocated for emergency and fire-fighting storage capacity; and

WHEREAS, such fire-fighting capacity would be depleted within three days of prolonged hot weather conditions, thereby creating a potential threat to public health and safety; and

WHEREAS, it is in the City's best interest to enact prudent water demand management measures immediately to avoid water shortages; and

WHEREAS, California Water Code section 375 authorizes water suppliers to adopt and enforce a comprehensive water conservation program to reduce water consumption and conserve supplies after holding a public hearing; and

WHEREAS, the adoption and enforcement of a water conservation and supply shortage program is necessary to manage the City of El Paso de Robles' water demand and supply to minimize the effects of water shortages within Paso Robles. Such program is essential to ensure a reliable minimum supply of water for the public health, safety, and welfare.

WHEREAS, based on all of the above, as one measure to help ensure that the City will have adequate water supplies during the coming summer months and into the future, the Council finds and determines that the adoption of a water conservation and water shortage contingency plan is necessary.

NOW, THEREFORE, THE CITY COUNCIL OF THE CITY OF EL PASO DE ROBLES DOES HEREBY ORDAIN AS FOLLOWS::

SECTION 1. The City Council of the City of El Paso De Robles, at its regular meeting of May 19, 2009, considered as one of its items of business this Ordinance to be introduced in accordance with Government Code Section 36937(b). The City Council hereby finds and determines that, based on all of the facts described above, the staff reports and the testimony received during a public hearing on this Ordinance, all of which are incorporated herein, the adoption of a water conservation and water shortage contingency plan is vitally necessary to help preserve and protect the public health, safety and welfare of the City and its residents.

SECTION 2. Chapter 14.02 is hereby added to Title 14 of the Municipal Code of the City of El Paso de Robles as follows:

CHAPTER 14.02

WATER CONSERVATION AND WATER SHORTAGE CONTINGENCY PLAN

14.02.010 Declaration of Necessity and Intent

A. This Chapter establishes certain mandatory and permanent water management requirements necessary to conserve water, enable effective water supply planning, assure reasonable and beneficial use of water, prevent waste of water, prevent unreasonable use of water, prevent unreasonable methods of use of water within the City of El Paso de Robles service area in order to assure adequate supplies of water to meet the needs of the public, and further the public health, safety, and welfare, recognizing that water is a scarce natural resource that requires careful management not only in times of drought, but at all times.

B. This Chapter also establishes regulations to be implemented during times of declared water shortages, or declared water shortage emergencies. It establishes four levels of actions to be implemented in times of shortage, with increasing restrictions on water use in response decreasing water supply or production capabilities.

C. Level 1 Water Supply Shortage measures are voluntary and will be reinforced through local and regional public education and awareness measures. Levels 2 through 4 Water Supply Shortage conditions mandate increasingly restrictive measures in order to attain escalating conservation goals. Those City water customers who violate the measures imposed under a Condition of Level 2 through Level 4 are subject to criminal, civil, and administrative penalties and remedies as provided in Chapter 1 of this Code.

14.02.020 Application

A. This Chapter applies to any *customer* in the use of any water provided by the City of El Paso de Robles, including customers located outside the City.

B. This Chapter is intended solely to further the conservation of water. It is not intended to implement or replace any provision of federal, state, or local statutes, ordinances, or regulations relating to protection of water quality or control of drainage or runoff.

C. The provisions of this Chapter do not apply to uses of water necessary to protect public health and safety or for essential government services, such as police, fire and other similar emergency services.

D. Nothing in this Chapter 14.02 is intended to affect or limit the ability of the City Manager or his designee to declare and respond to an unforeseeable disaster or water emergency such as an earthquake, or other major disruption in the water supply, pursuant to the general laws of the City or other provisions of this Code.

14.02.030 Definitions

The following words and phrases whenever used in this Chapter 14.02 will have the meaning defined in this section:

A. Customer means any person, corporation, public or private entity, public or private association, public or private agency, government agency or institution, school district, college, university, or any other user of water provided by the City of El Paso de Robles.

B. Days are defined as calendar days, unless otherwise indicated.

C. Water Conservation means the efficient management of water resources for beneficial uses, preventing waste, or accomplishing additional benefits with the same amount of water.

D. Condition means a declared water supply shortage condition, which may be at Level 1, Level 2, Level 3 or Level 4, as described in this Chapter 14.02.

14.02.040 Mandatory Minimum Water Conservation Requirements – Prohibition Against Waste

The following water conservation requirements shall be in effect at all times and are permanent. Violations will be considered waste and an unreasonable use of water and are subject to penalties.

A. **No Excessive Water Flow or Runoff:** Watering or irrigating of any lawn, landscape or other vegetated area in a manner that causes or allows excessive water flow or runoff onto an adjoining sidewalk, driveway, street, alley, gutter or ditch is prohibited.

B. **No Overfilling of Swimming Pools and Spas:** Overfilling of a swimming pools and spas such that overflow water is discharged onto an adjoining sidewalk, driveway, street, alley, gutter or ditch is prohibited.

C. **No Washing Down Hard or Paved Surfaces:** Washing down hard or paved surfaces, including but not limited to sidewalks, walkways, driveways, parking areas, tennis courts, patios or alleys, is prohibited except under the following conditions:

1. To alleviate safety or sanitary hazards, and then only by use of a hand-held bucket or similar container, a hand-held hose equipped with a positive self-closing water shut-off device.

2. When a low-volume, high-pressure cleaning machine or a low-volume high-pressure water broom is used.

3. All wash-down activities must comply with all state or local regulations pertaining to discharges to the City's storm drain system.

D. **Obligation to Fix Leaks, Breaks or Malfunctions:** Excessive use, loss or escape of water through breaks, leaks or other malfunctions in the customers' plumbing or distribution system for any period of time after such escape of water should have reasonably been discovered and corrected and in no event more than seven days after written notification by the City of El Paso de Robles, is prohibited.

E. **Re-circulating Water Required for Water Fountains and Decorative Water Features:** Operating a water fountain or other decorative water feature that does not use re-circulated water is prohibited.

F. **Limits on Washing Vehicles:** Using water to wash or clean a vehicle, including but not limited to any automobile, truck, van, bus, motorcycle, boat or trailer, whether motorized or not is prohibited, except by use of a hand-held bucket or similar container or a hand-held hose equipped with a positive self-closing water shut-off nozzle or device. This subsection does not apply to any commercial car washing facility.

G. **Commercial Lodging Establishments Must Provide Guests Option to Decline Daily Linen Services:** Hotels, motels and other commercial lodging establishments must provide customers the option of not having towels and linen laundered daily. Commercial lodging establishments must prominently display notice of this option in each bathroom using clear and easily understood language.

H. **No Installation of Single Pass Cooling Systems:** Installation of single pass cooling systems is prohibited in buildings requesting new water service.

I. **No Installation of Non-Recirculating Systems in Commercial Car Wash and Laundry Systems:** Installation of non-recirculating water systems is prohibited in new commercial conveyor car wash and new commercial laundry systems.

J. **New or Remodeled Restaurants Required to Use Water Conserving Dish Wash Spray Valves:** All new or remodeled food preparation establishments, such as restaurants or cafes, are prohibited from using non-water conserving dish wash spray valves.

K. **Water Served Only Upon Request:** Restaurants and other food establishments will only serve water upon request.

14.02.050 Level 1 Water Supply Shortage – Voluntary Reductions

A. The City Council or, in the event prompt action is necessary, the City Manager, may declare a Level 1 Water Supply Shortage condition (a "Level 1 Condition") when there is a reasonable probability, due to a projected imbalance in available water supply and projected peak demand, that there will be a supply shortage and that a consumer demand reduction of up to 10 percent is needed in order to ensure that sufficient supplies will be available to meet anticipated demands. Upon such declaration, the City Manager or his designee shall take the necessary actions to implement the voluntary Level 1 Condition conservation practices identified in this Chapter. In the event a Level 1 Condition has been declared by the City Manager, the City Council shall consider the ratification of such declaration at its next regularly scheduled meeting or at a special meeting called for such purpose.

B. During the period of a declared Level 1 Condition, the City of El Paso de Robles will increase its public education and outreach efforts to increase public awareness of the need to implement the following water conservation practices.

1. Irrigation of residential and commercial landscapes, including golf courses, parks, school grounds and recreation fields, before 9 a.m. and after 7 p.m. except for renovation or repair of the irrigation system with an operator present.

2. Repair or prevention of all water leaks upon discovery or within five days of notification by the City of El Paso de Robles.

3. Use of recycled, non-potable, or water imported from outside City limits for construction purposes.

14.02.060 Level 2 Water Supply Shortage – Mandatory Reductions

A. The City Council, or in the event prompt action is necessary, the City Manager, may recommend and declare a Level 2 Water Supply Shortage condition (a "Level 2 Condition") when there is a reasonable probability, due to a projected imbalance in available water supply and projected peak demand, that there will be a supply shortage and that a consumer demand reduction of up to 20 percent is required in order to ensure that sufficient supplies will be available to meet anticipated demands. Upon the declaration of a Level 2 Condition, the City Manager or his designee shall take the necessary actions to notify the public and implement the mandatory Level 2 Condition conservation practices identified in this Chapter. In the event a Level 2 Condition has been declared by the City Manager, the City Council shall consider the ratification of such declaration at its next regularly scheduled meeting or at a special meeting called for such purpose.

B. During the period of a declared Level 2 Condition, all water customers shall be required to comply with all Level 1 Condition measures, set forth in Section 14.020.050, and also shall comply with the following conservation measure:

1. All landscape irrigation shall be limited to no more than three assigned days per week and on an every other day schedule established and posted by the City.

C. At its discretion, the City may suspend the issuance of new hydrant meters and/or recall all outstanding meters in accordance with the City's existing Hydrant Meter Rental Agreement.

D. The City Manager may recommend and, upon resolution of the City Council, implement a water allocation per customer account served by the City of El Paso de Robles, and a schedule of per unit penalty surcharges for use exceeding the water allocation. If the City Council adopts or modifies water allocations, the City Manager will post notice of the water allocation prior to the effective date(s). Following the effective date(s) of the water allocation as established by the City Council, any customer that uses water in excess of the allocation will be subject to a penalty surcharge for each billing unit of water in excess of the allocation. The per unit penalty surcharge for excess water usage will be in addition to any other remedy, penalty, or fine that may be imposed for violation of this Chapter. At the City's discretion, the water conservation measures required under Level 1 and Level 2 conditions may be suspended during the period a water allocation is in effect.

14.02.070 Level 3 Water Supply Shortage - Critical Condition

A. The City Council or, in the event prompt action is necessary, the City Manager, may recommend and declare a Level 3 Water Supply Shortage condition (a "Level 3 Condition") when there is a reasonable probability, due to a projected imbalance in available water supply and projected peak demand, that there will be a supply shortage and that a consumer demand reduction of up to 30 percent is required in order to ensure that sufficient supplies will be available to meet anticipated demands. Upon declaration of Level 3 Water Supply Shortfall, the City Manager or his designee shall take the necessary actions to implement the mandatory Level 3 Condition conservation practices identified in this Chapter. In the event a Level 3 Condition has been declared by the City Manager, the City Council shall consider the ratification of such declaration at its next regularly scheduled meeting or at a special meeting called for such purpose.

B. During a the period of a declared Level 3 Condition, all water customers shall comply with all Level 1 Condition and Level 2 Condition water conservation measures and shall also comply with the following additional mandatory conservation measures:

1. All landscape irrigation shall be limited to no more than two assigned days per week on a schedule established and posted by the City Manager or his designee.

2. Filling or re-filling of ornamental lakes or ponds is prohibited except to the extent needed to sustain plants or animals that have been actively managed within the water feature prior to the declaration of a Level 3 Condition.

3. All water leaks, breaks or other plumbing malfunctions shall be repaired upon discovery or within forty-eight hours of notification by the City of El Paso de Robles, with the exception of rental properties, which shall have up to seventy-two hours to repair interior unit leaks, in order to comply with state laws regarding the provision of notice to tenants.

4. Using water to wash vehicles, whether motorized or not, is prohibited except at commercial car washing facilities.

5. Washing down hard or paved surfaces, including but not limited to sidewalks, walkways, driveways, parking areas, tennis courts, patios or alleys, is prohibited except under the following conditions:

a. To alleviate safety or sanitary hazards, and then only by use of a hand-held bucket or similar container, a hand-held hose equipped with a positive self-closing water shut-off device, a low-volume, high-pressure cleaning machine or a low-volume high-pressure water broom.

C. Upon the declaration of a Level 3 Condition, new potable water services, temporary or permanent water meters, and statements of immediate ability to serve or provide potable water service (including, but not limited to, will serve letters, certificates, or letters of availability) will be allowed only under the circumstances listed below. This provision does not preclude the resetting or turn-on of meters to provide continuation of water service or to restore service that has been interrupted.

1. A valid building permit has been issued for the project; or

2. The project is necessary to protect the public's health, safety, and welfare; or

3. The applicant provides substantial evidence satisfactory to the City Manager or his designee of an enforceable commitment that the new water demands for the project will be offset prior to the provision of new water meter(s). The applicant's offset program must be approved by the City's Water Manager. Such offsets may be in the form of additional water conservation measures, the provision of recycled water use in place of existing potable water demands (if available), or other such offsets developed and approved by the City Manager or his designee. To obtain approval, the applicant's plan must demonstrate that the development will not increase the demand on the City's water system.

During the period of a Level 3 Condition, the expiration dates of approved tentative maps and related entitlements for such development projects shall be tolled until such time as the Level III Condition has improved to a Level II Condition or better. Notwithstanding the foregoing, an applicant with an approved tentative map and related entitlements may choose to proceed with development under the conditions set forth in subsection c.3., above.

D. Upon the declaration of a Level 3 Condition, the City will suspend consideration of any annexations to its service area. This subsection does not apply to boundary corrections and annexations that will not result in any increased use of water.

E. At its discretion, the City may suspend the issuance of new hydrant meters and/or recall all outstanding meters in accordance with the City's existing Hydrant Meter Rental Agreement.

F. The City Manager may recommend and, upon resolution of the City Council, implement a water allocation per customer account served by the City of El Paso de Robles, and a schedule of penalty surcharges for exceeding the water allocation. If the City Council adopts or modifies water allocations, the City Manager will post notice of the water allocation prior to the effective date(s). Following the effective date(s) of the water allocation as established by the City Council, any customer that uses water in

excess of the allocation will be subject to a penalty surcharge for each billing unit of water in excess of the allocation. The penalty surcharge for excess water usage will be in addition to any other remedy, penalty, or fine that may be imposed for violation of this Chapter. At the City's discretion, the water conservation measures required under Level 1, Level 2, and Level 3 conditions may be suspended during the period a water allocation is in effect.

14.02.080 Level 4 Water Supply Shortage – Emergency Condition

A. The City Manager may declare a water shortage emergency pursuant to California Water Code section 350 and declare a Level 4 Water Supply Shortage condition (a :Level 4 Condition") when there is a reasonable probability, due to a projected imbalance in available water supply and projected peak demand, that there will be a supply shortage and that a consumer demand reduction of up to 50 percent is required in order to ensure that sufficient supplies will be available to meet anticipated demands. Upon declaration of Level 4 Condition, the City Manager or his designee shall take all necessary actions to implement the mandatory Level 4 conservation practices identified in this Chapter and on the grounds provided in California Water Code section 350. In the event a Level 4 Condition has been declared by the City Manager, the City Council shall consider the ratification of such declaration at its next regularly scheduled meeting or at a special meeting called for such purpose.

B. During the period of a declared Level 4 Condition, all water customers shall be required to comply with all Level 1 Condition, Level 2 Condition and Level 3 Condition water conservation measures and shall also comply with the following additional mandatory conservation measures:

1. All landscape irrigation, except crops and landscape products of commercial growers and nurseries, shall be prohibited. This restriction does not apply to:

a. Watering of livestock; and

b. Essential Public Works projects and actively irrigated environmental mitigation projects.

2. All water leaks, breaks of other plumbing malfunctions shall be repaired upon discovery or within twenty-four hours of notification by the City of El Paso de Robles, with the exception of rental properties, which shall be have up to seventy-two hours to repair interior unit leaks, in order to comply with state laws regarding the provision of notice to tenants.

3. Filling or refilling of residential pools and spas is prohibited.

C. The City shall not enter into any new commitments or agreements to provide water to customers or agencies either inside or outside of the City of El Paso de Robles.

14.02.090 Procedures for Determination and Notification of Water Supply Shortage Level

A. The existence of a Level 1 Condition may be declared upon recommendation by the City Manager along with a written determination of the existence of the facts and circumstances supporting the determination. A copy of the written determination will be filed with the City Clerk. The City Manager or his designee will publish a notice of the determination of existence of a Level 1 Condition in the City's official newspaper. The City may also post notice of the Condition on its website or include it in its regular billing statement..

The Water Department will monitor the projected supply and demand for water during periods of emergency or *drought* and will recommend to the City Manager the extent of the conservation required. The City Manager will recommend to the City Council the implementation or termination of the appropriate level of *water conservation* in accordance with this Chapter.

B. The existence of a Level 2 or Level 3 Condition may be declared upon recommendation by the City Manager and notification of the City Council. The

mandatory conservation measures applicable to Level 2 or Level 3 Condition, as applicable, will take effect on the tenth day after the date the shortage level is declared. Within five days following the declaration of the applicable Condition, the City Manager or his designee will publish a notice providing the extent, terms and conditions respecting the use and consumption of water. The notice shall be published, at a minimum, for three consecutive days in the newspaper used for official City notices. The City may also post notice of the Condition on its website or include it in its regular billing statement.

C. The existence of Level 4 Condition may be declared upon recommendation by the City Manager. The mandatory conservation measures applicable to Level 2, Level 3, or Level 4 Conditions will take effect on the fourth day after the date the shortage level is declared. Within 24 hours following the declaration of the shortage level, the City Manager or his designee will publish a notice giving the extent, terms and conditions respecting the use and consumption of water. The notice shall be published, at a minimum, for three consecutive days in the newspaper used for official City notices. The City may also post notice of the Condition on its website or include it in its regular billing statement.

D. The City Council may declare an end to a particular Condition upon the recommendation of the City Manager by the adoption of a resolution at any regular or special meeting of the City Council.

14.02.100 Hardship Variance

A. If, due to unique circumstances, a specific requirement of this Chapter would result in undue hardship to a customer using City of El Paso de Robles water or to property upon which water is used, that is disproportionate to the impacts to water users generally or to similar property or classes of water uses, then the customer may apply for a variance to the requirements as provided in this Section 14.02.100.

B. The variance may be granted or conditionally granted only upon a written finding of the existence of facts demonstrating an undue hardship to a customer or to property upon which water is used, that is disproportionate to the impacts to water users generally or to similar property or classes of water user due to specific and unique circumstances of the user or the user's property.

1. Application. Application for a variance will be in written form prescribed by the City Manager or his designee and will be accompanied by a non-refundable processing fee in an amount set by resolution of the City Council.

2. Supporting Documentation. The written application will be accompanied by photographs, maps, drawings, or other pertinent information as applicable, including a written statement of the applicant.

3. Approval Authority. The City Manager or his designee will exercise approval authority and act upon any completed application after submittal and may approve, conditionally approve, or deny the variance. The applicant requesting the variance will be promptly notified in writing of any action taken. The decision of the City Manager or his designee is final unless the applicant files a written appeal to the City Council within 10 days. Unless specified otherwise at the time a variance is approved, the variance applies to the subject property during the term of the applicable Condition.

4. Required Findings for Variance. An application for a variance will be denied unless the approving authority finds, based on the information provided in the application, supporting documents, or such additional information as may be requested, and on water use information for the property as shown by the records of the City of El Paso de Robles, all of the following:

a. That the variance does not constitute a grant of special privilege inconsistent with the limitations upon other City of El Paso de Robles *customers*.

b. That because of special circumstances applicable to the property or its

use, the strict application of this Chapter would have a disproportionate impact on the property or use that exceeds the impacts upon customers generally.

c. That the authorizing of such variance will not be of substantial detriment to adjacent properties, and will not materially affect the ability of the City of El Paso de Robles to effectuate the purpose of this Chapter 14.02 and will not be detrimental to the public interest.

d. That the condition or situation of the subject property or the intended use of the property for which the variance is sought is not common, recurrent or general in nature.

5. No relief will be granted to any customer for any reason in the absence of a showing by the customer that the customer has achieved the maximum practical reduction in water consumption in the customer's residential, commercial, industrial, institutional, agricultural or governmental water consumption.

14.02.110 Violations and Penalties

It is unlawful for any *customer* to violate the mandatory provisions of this Chapter. Violations are subject to criminal, civil, and administrative penalties and remedies as provided in Chapter 1 of this Code. In addition, service of water may be discontinued or appropriately limited through the installation of flow-restricting devices to any *customer* who willfully uses water in violation of this Chapter. {Editors Note: As specified in Chapter 1.02 Penalties, Section 1.02.010, following the issuance of two warnings, a fine not exceeding one hundred dollars shall be assessed for a first violation, a fine not exceeding two hundred dollars shall be assessed for a second violation of this ordinance within one year, and a fine not exceeding five hundred dollars shall be assessed for a third violation of this ordinance within one year.}

SECTION 3. Section 14.04.180 of the Municipal Code of the City of El Paso de Robles is hereby repealed.

SECTION 4. Severability

If any action, subsection, sentence, clause or phrase of this ordinance is, for any reason, held by a court of competent jurisdiction to be invalid or unconstitutional, such decision shall not affect the validity of the remaining portions of this Ordinance which can be given effect without the invalid provisions or application, and to this end the provisions of this Ordinance are declared to be severable.

SECTION 5. Publication

The City Clerk will certify to the passage of this Ordinance by the City Council of the City of El Paso de Robles, California, and cause the same to be published once in a newspaper of general circulation, published and circulated in the City of El Paso de Robles.

SECTION 6. Effective Date.

Based on the preceding, and having received no less than four affirmative votes of the City Council, this Ordinance is declared to be an urgency measure necessary for the immediate protection of the public health, safety and general welfare of the community, and shall be effective immediately upon its adoption, pursuant to Government code Section 36937, subdivision b.

INTRODUCED, ADOPTED AND APPROVED at a regular meeting of the City Council of the City of El Paso de Robles held on June 2, 2009 by the following vote:

AYES: Gilman, Hamon, Steinbeck, Strong and Picanco
NOES:
ABSTAIN:
ABSENT:

Duane Picanco, Mayor

ATTEST:

Cathy David, Deputy City Clerk

Appendix D

Efficient Landscape Ordinance

ORDINANCE NO. 964 N.S.

AN ORDINANCE OF THE CITY OF EL PASO DE ROBLES
ADDING SECTION 21.22.B,
WATER EFFICIENT LANDSCAPE ORDINANCE

WHEREAS, The Water Conservation in Landscaping Act of 2006 (Assembly Bill 1881) requires cities to adopt landscape water conservation ordinances by January 1, 2010; and

WHEREAS, in accordance with this law, the California Department of Water Resources prepared a Model Water Efficient Landscape Ordinance (MWELO); and

WHEREAS, all cities and counties have until January 1, 2010, to either adopt the state's MWELO or their own local water efficient landscape ordinance; and

WHEREAS, a draft local ordinance has been prepared and provides requirements that:

- Are as effective at achieving water savings as the MWELO; and
- Reduces the costs for new homes compared to the State's requirements; and.
- Reduces the City's administrative costs compared to the State's MWELO approach.

and

WHEREAS, this Zoning Ordinance Amendment would include a new Section 21.22B, Water Efficient Landscape Regulations; and

WHEREAS, at its meeting on November 10, 2009, the Planning Commission took the following actions regarding this ordinance:

a. Considered the facts and analysis, as presented in the staff report prepared for this project;

b. Conducted a public hearing to obtain public testimony on the proposed ordinance;

c. Recommended that the City Council approve the proposed ordinance; and

WHEREAS, based on consideration of information received at its meeting of December 1, 2009, the City Council took the following actions regarding this ordinance:

a. Considered the facts and analysis, as presented in the staff report prepared for this project;

b. Conducted a public hearing to obtain public testimony on the proposed ordinance;

c. Considered the recommendation from the Planning Commission meeting on November 10, 2009;

d. Introduced said ordinance for the first reading; and

WHEREAS, on December 15, 2010, the City Council held a second reading of said ordinance.

NOW, THEREFORE, the City Council of the City of El Paso de Robles does hereby ordain as follows:

SECTION 1. Council Findings.

The Council finds that:

a. It is necessary to amend the Zoning Ordinance in order to comply with the Water Conservation in Landscaping Act of 2006 (Assembly Bill 1881);

b. The proposed code amendment would meet the City's policy to promote the conservation and efficient use of water and to prevent waste of this valuable resource;

c. Consistent with California Law, the purpose of this ordinance is to promote the values and benefits of landscapes while recognizing the need to invest water and other resources as efficiently as possible;

d. Consistent with California Law, the purpose of this ordinance is to establish a structure for planning, designing, installing, maintaining, and managing water efficient landscapes in new construction and rehabilitated projects.

e. The proposed ordinance will achieve an overall water use reduction of approximately 19 percent compared to development without the landscape restrictions.

f. The 19 percent reduction is estimated to be at least as effective as the States Model Water Efficient Landscape and Irrigation Ordinance as a result of the turf limitations and limitations on overhead spray irrigation for all projects including single family residential.

SECTION 2: A new Chapter 21.22B, Water Efficient Landscape Ordinance will be added to Title 21, Zoning Code, as shown in Exhibit A.

SECTION 3: A revision to Chapter 21.16. E.340. Landscape Requirements for Front Yards (R-1 Zone), **see bold language below**:

A. Within one year of issuance of a certificate of occupancy, the holder of a building permit for a single-family dwelling shall have installed front yard landscaping in all nonpaved portions of the area between the front of the home and the street upon which the home faces. The landscaping may consist of lawn, ground cover, flowers, gravel, bark or other equivalent decorative materials. Bare ground and/or weeds are not acceptable landscaping treatments. **Please refer to Chapter 21.22B, Water Efficient Landscape Ordinance for rules and regulations regarding landscape and irrigation, including limitations on the percentage of turf/lawn that can be placed in the front yard.**

B. In order to ensure enforcement of this provision, if required landscaping is not completed prior to issuance of a certificate of occupancy, a security deposit, in a form and an amount to be established by city council resolution, shall be submitted prior to issuance of the certificate of occupancy. The costs of inspecting the landscaping, as required by this section, shall be charged against the security deposit. The remaining deposit shall be refunded upon compliance with the requirements of this section.

C. Upon completion of landscaping installation, the holder of the building permit shall request a building inspection; upon approval of the installed landscaping, the permit holder is released from further responsibility regarding the landscaping. Following approval of landscaping installation, it shall thereafter be the responsibility of the property owner to ensure that the installed landscaping is adequately maintained. Inadequately maintained landscaping may be grounds for public nuisance abatement. Judgment of the adequacy of installed and/or maintained landscaping shall be the responsibility of the city planner, who shall use reasonable discretion. Exceptions from the requirements to landscape front yard areas may be granted by the development review committee upon demonstration that such landscaping would not be reasonable or appropriate based on property size or location.

SECTION 4: A revision to Chapter 21.16.I.290.C Landscape Requirements (Multi-family Residential Zones):

A. Landscaping. Landscape plans shall be approved by the Development Review Committee to meet the standards listed below.

1. Protection and Use of Existing Vegetation. Development on hillside lots shall, to the maximum extent possible, protect and use existing vegetation. Existing groundcover and shrubs should not be removed from lands with steep slopes (thirty percent or greater) unless necessary for weed abatement to remove fire hazards. Existing groundcover

should not be removed from lesser slopes unless replaced with other vegetation. Existing groundcover shall be protected from damage during construction.

2. New Landscaping. All development on hillside lots shall provide new landscaping as follows:
   a. Erosion Control. All graded or cleared slopes shall be landscaped with groundcover designed to hold the slope and to mitigate the visual impacts associated with the bare ground. Groundcover on slopes with vertical heights greater than eight feet shall be irrigated.

   b. Architectural Enhancement. Trees and shrubs shall be planted to provide screening under decks, along walls, and where required as a condition of site plan or development plan review to assist in providing visual relief.

   c. Street Trees. Street trees shall be planted as required by Title 10 of this code.

   d. Irrigation. All landscaping required for erosion control, street trees and architectural enhancement shall be irrigated except where the development review committee explicitly approves otherwise.

   e. Plant Species. New landscaping shall incorporate plant species which meets the following criteria:
      i. New vegetation should be compatible with natural vegetation and that on surrounding properties.
      ii. All planting within thirty feet of buildings should be fire-retardant.
      iii. For water conservation purposes, drought-tolerant species are encouraged.

   f. Completion of Landscaping. All landscaping and irrigation required for erosion control, street trees and architectural enhancement shall either be completed prior to issuance of a certificate of occupancy or security such as a performance bond be posted.

   g. **Please refer to Chapter 21.22B, Water Efficient Landscape Ordinance for rules and regulations regarding landscape and irrigation, including limitations on the percentage of turf/lawn that can be placed in the landscape areas.**

SECTION 5. Publication. The City Clerk shall cause this ordinance to be published once within fifteen (15) days after its passage in a newspaper of general circulation, printed, published and circulated in the City in accordance with Section 36933 of the Government Code.

SECTION 6. Severability. If any section, subsection, sentence, clause, or phrase of the Ordinance is, for any reason, found to be invalid or unconstitutional, such finding shall not affect the remaining portions of this Ordinance.

The City Council hereby declares that it would have passed this Ordinance by section, subsection, sentence, clause, or phrase irrespective of the fact that any one or more sections, subsections, sentences, clauses, or phrases are declared unconstitutional.

SECTION 7. Inconsistency. To the extent that the terms or provisions of this Ordinance may be inconsistent or in conflict with the terms or conditions of any prior City ordinance(s), motion, resolution, rule, or regulation governing the same subject matter thereof, such inconsistent and conflicting provisions of prior ordinances, motions, resolutions, rules, and regulations are hereby repealed.

Introduced at a regular meeting of the City Council held on December 1, 2009, and passed and adopted by the City Council of the City of El Paso de Robles on the 15th day of December, 2009 by the following vote:

AYES: Gilman, Hamon, Steinbeck, Strong, and Picanco
NOES:
ABSTAIN:
ABSENT:

Duane Picanco, Mayor

ATTEST:

Lonnie Dolan, Deputy City Clerk

Exhibit A

Chapter 21.22B

LANDSCAPE and IRRIGATION ORDINANCE

Sections:

21.22B.010 Purpose

Consistent with California State Law, it is the purpose of this ordinance to: (a) promote the values and benefits of landscapes while recognizing the need to use water resources as efficiently as possible; (b) establish a structure for planning, designing, installing, maintaining, and managing water efficient landscapes in new construction and rehabilitated projects.

21.22B.020 Definitions (Definitions related to the technical information of the Landscape Documentation Package are provided as Attachment 5, of the Landscape and Irrigation Design Guide.)**:**

"Certificate of Completion" means the document required under Section 21.22B.050.B.4.

"Landscape Architect" means a person who holds a license to practice landscape architecture in the State of California as described in the Business and Professionals Code, §5615.

"Landscaped 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 nonirrigated areas designated for non-development (e.g., open spaces and existing native vegetation).

"Landscape contractor" means a person licensed by the state of California to construct, maintain, repair, install, or subcontract the development of landscape systems.

"Landscape Documentation Package (LDP)" means the documents required under Section 21.22B.050.B.3.

"Landscape project" means total area of landscape in a project as defined in "landscape area" for the purposes of this ordinance.

"Multi-family Residential" means two or more attached residential units. Landscape areas for multiple detached units on one parcel will be considered single family units for the purposes of this Ordinance.

"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.
"Permit" means an authorizing document issued by local agencies for new construction or rehabilitated landscapes.

"Pervious" means any surface or material that allows the passage of water through the material and into the underlying soil.

"Project applicant" means the individual or entity submitting a Landscape Documentation Package required under Section 21.22B.050.B.3, 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.

"Rehabilitated landscape" means any re-landscaping project that requires a permit, plan check, or design review.

"Runoff" means water which is not absorbed by the soil or landscape to which it is applied and flows from the landscape area. For example, runoff may result from water that is applied at too great a rate (application rate exceeds infiltration rate) or when there is a slope.

"Single Family Residential" one home on one lot, or multiple detached units on one lot (not attached).

"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.

"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.

"Valve" means a device used to control the flow of water in the irrigation system.

"Water conserving plant species" means a plant species identified as having a low plant factor.

21.22B.030 Applicability

The requirements within this Chapter apply to new construction and rehabilitated landscapes for commercial, industrial and residential projects that are subject to the development review process and/or a building permit.

A. Development Review Process

In conjunction with the submittal of a project for development review (tentative parcel map, tentative tract, development plan or conditional use permit), conceptual landscape plans shall be provided that demonstrate that the design of the landscaping complies with the standards within this Ordinance. These plans shall be reviewed by City Staff during the development review process.

B. Building Permit

In conjunction with the submittal of a project for building plan check, final landscape and irrigation plans, in compliance with this Ordinance, shall be submitted with the project. After a plan check review by the Planning and/or Public Works Departments for compliance with this Ordinance, a Building Permit may be issued. Fees consistent with the fees established for building plan check will be applied for staff review of the landscape and irrigation plan.

C. Certificate of Completion

Once the landscape and irrigation plans and necessary documentation has been provided in substantial compliance with the LDP, a Certificate of Completion may be issued. A Certificate of Completion shall be issued prior to the project receiving a Certificate of Occupancy by the Building Division.

D. Landscape and Irrigation Installation

For both projects less than or greater than 1 acre, the landscape and irrigation shall be installed per the approved plans prior to the issuance of a Certificate of Occupancy or "final" of the building/project.

E. Landscape Bond

For projects that have a landscape area of 1-acre or greater and require a LDP, a bond may be posted which would allow a building to be finaled and a Certificate of Occupancy to be issued prior to the site landscape and irrigation being completed. The bond shall be based on an estimate for labor and materials to complete the landscape and irrigation project per the approved plans, plus an additional 25-percent. The applicant shall fill out the Landscape Bond Security Bond Agreement along with the necessary bonding information, to the Public Works Department for review and approval to determine the specific bond amount.

For projects that have a landscape area of less than 1-acre which does not require the LDP, the Community Development Director or his or her designee may approve a bond to be posted which would allow a building to be finaled and a Certificate of Occupancy to be issued prior to the site landscape and irrigation being completed.

21.22B.040 Turf Limitations for New Construction and Rehabilitated Landscapes.

A. All new construction projects (residential, commercial, industrial) shall comply with the following limitations:

1. Turf areas less than 8 ft. in width in any direction are prohibited, unless subsurface irrigation is used and maximum turf areas do not exceed the percentages outlined in this ordinance.
2. Turf shall be prohibited within the public right-of-way, including parkways.
3. Developments shall be graded to maximize the on-site distribution of runoff to planted areas.
4. For non-turf areas, drip irrigation methods and low water use plants are recommended.
5. Covenants, Conditions and Restrictions (CCRs) shall not require turf landscaping nor have the effect of prohibiting low-water use landscaping and shall include by reference and/or attachment a copy of Chapter 21.22B, City of Paso Robles Landscape Ordinance.

B. Commercial and Industrial projects:

1. The area planted in turf grass and irrigated with spray irrigation shall be limited to 10 percent of the development's landscaped area.

2. Exceptions: This section does not apply to Cemeteries, plant collections as part of botanical gardens and arboretums open to the public, City parks, and school sports fields.

C. Single Family Residences

1. Turf grass installed with spray irrigation in residential front yards shall be limited to 25 percent of the landscapable area.

2. The common areas in residential subdivisions planted in turf (including landscape and lighting district areas) shall be limited to 10 percent of the landscaped area. (Excluding active play areas such as ball fields, playgrounds, and picnic areas).

D. Model Homes

1. Turf grass shall be prohibited in the front yards of model homes, and shall be limited to 50 percent of the landscaped area in back and side yards.

2. Model homes shall be used to educate future home owners about water efficient landscape and irrigation techniques. Education features for Model homes shall include:

   (a) The installation of interpretive landscape information signs that describe the principles of water efficient landscapes including features such as hydrozones, appropriate irrigation equipment and others techniques that contribute to the overall water efficient irrigation theme.
   (b) Information shall be provided to new home owners that include techniques on designing, installing, managing, and maintaining water efficient landscapes.

E. Multi-family Residential Projects

1. Turf grass shall be limited to 20 percent of the landscaped area. The 20 percent limitation shall be exclusive of areas designed as active play surfaces (e.g. ballfields, playgrounds, picnic areas).

F. Rehabilitated Landscapes

1. Rehabilitated landscapes shall comply with the turf limitations outlined in Sections A-E above, as appropriate to the property type.

21.22B.050 Landscape and Irrigation System Design and Information Requirements

A. All project landscaping and irrigation plans/designs shall comply with the following standards:

1. Utilize rain sensors, either integral or auxiliary, that suspend irrigation during and after rainfall events, shall be required on all irrigation control systems.

2. Prohibit turf on slopes greater than 20% where the toe of the slope is adjacent to an impermeable hardscape. (where 20% means 1 foot of vertical elevation change for every 5 feet of horizontal length rise divided by run X 100 = slope percent).

3. Water features shall use recirculating water systems.

4. Prohibit overhead spray irrigation within 24 inches of a non-permeable surfaces such as but not limited to concrete sidewalks and driveways. Subsurface irrigation may be used as long as other requirements of this ordinance are met. Allowable irrigation within the setback from non-permeable surfaces may include drip, drip line, or other low-flow non-spray type of systems. The setback area may be planted or non-planted. The surfacing of the setback may be mulch, gravel, cobles, or other porous material. These restrictions may be modified if the landscape area is adjacent to permeable surfacing, and no runoff occurs or the adjacent non permeable surface drains entirely to landscaped areas.

5. Irrigation systems shall be designed and constructed to achieve a minimum efficiency of 71 percent.

6. Apply a minimum two inch (2") layer of mulch on all exposed soil surface of planting areas.

7. The architectural guidelines and Covenants, Conditions, and Restrictions of common interest developments shall not have the effect of prohibiting the use of low-water use plants or requiring turf grass in landscaped areas.

B. Projects that have a landscape area <u>equal to or greater than 1 acre</u> need to submit the flowing information:

Please note that the landscape area for new residential subdivisions will be calculated on an individual lot basis as each lot develops, not a total of landscape areas prior to subdivision. Therefore, generally a residential subdivision will not require an LDP for individual lot landscaping, however if there are common areas, or areas within a Landscape and Lighting District that have landscape areas 1 acre or greater, there will be a requirement for an LDP for those areas to be completed prior to the recordation of the final map.

1. All of the items identified in Section A above.

2. Weather-based irrigation controllers, soil moisture-based controllers, or other self-adjusting irrigation controllers shall be required for irrigation scheduling.

3. The following documents and plans need to be submitted prior to the issuance of a Building Permit for the associated project (Please refer to the Landscape & Irrigation Design Guide for specific forms and criteria):

   Compliance with Landscape Documentation Package which includes completion of the following items:
   - Project Information
   - Water Efficient Landscape Worksheet
   - Soil Management Report
   - Landscape Design Plan
   - Irrigation Design Plan
   - Grading Design Plan

4. The following documents and plans need to be completed and the landscape and irrigation project shall be installed prior to the issuance of a Certificate of Occupancy for the

associated project (Please refer to the Landscape & Irrigation Design Guide for specific forms and criteria):

Certificate of Completion which includes documentation of the following items:

- Irrigation Scheduling
- Landscape and Irrigation Maintenance Schedule
- Irrigation Audit, Irrigation Survey and Irrigation Water Use Analysis
- Irrigation Efficiency
- Stormwater Management

Appendix E

Residential Assistance Program Survey

CITY OF EL PASO DE ROBLES

"The Pass of the Oaks"

Home Water Audit Worksheet

Customer Information & Water Consumption

Cust ID: _____ Apt. Date: ___/___/___ Time: _____ Cancelled: O No Show: O Reschedule to: _____

Customer Name: _____ Water Bill Acct #: _____

Service Address: _____ Apt/Unit: ___ Retailer: _____

Mailing Address (if different): _____ Day Ph: _____Other Ph: _____

Type of Dwelling Single Family O Multi Family O # of Units: ____ Own O Rent O

Residence Year Constructed: _____ Years at Site: _____ # of Residents: _____ #of Bathrooms: _____

How heard about program: Water Insert O Website O Newspaper O Radio O Friend O Other O

Landscape Controller Yes O No O Okay to Modify Irrigation Schedule? O Landscape Svc? O

Irrigation Automatic In-Ground O #of Stations: _____ Manual In-Ground O Hose O None O

Consumption

This Month Last Year: _____ units

Low Month Last Year: _____units

High Month Last Year: _____ units

5 Minute Leak Check

Meter Second Reading _____

Meter First Reading - _____

Total hcf = _____

Conversion to (gpd) (hcf x 215,568) = _____

Leak Rate (gpd) = _____

House Leak? Yes O No O

Showers

Location	gpm	Leak Rate	Diverter Leak	Shower Head Installs	Adaptor	Old Shower Heads Recycled
		gpd	Yes O No O	I,P,R, N,U	Yes O	Yes O No O
		gpd	Yes O No O	I,P,R, N,U	Yes O	Yes O No O
		gpd	Yes O No O	I,P,R, N,U	Yes O	Yes O No O

Faucets

Location	gpm	Leak Rate	Aerator Installs	Location	gpm	Leak Rate	Aerator Installs
		gpd	I,P,R, N,U			gpd	I,P,R, N,U
		gpd	I,P,R, N,U			gpd	I,P,R, N,U
		gpd	I,P,R, N,U			gpd	I,P,R, N,U

Installation Legends:

I = Installed, **P** = Provided, **R** = Refused, **N** = Not Compatible (didn't fit, brass fixture), **U** = Unable (frozen on)

Toilets

Location	Type of Toilet gallons per flush (gpf)	Leaks?	Brand/Yr	Bowl Clnr?	Flapper Installs *Type Code*	Flapper Brand
	<=1.6 O Over 1.6 O Not Sure O	Yes O		Yes O	I,P,R, N,U	
	<=1.6 O Over 1.6 O Not Sure O	Yes O		Yes O	I,P,R, N,U	
	<=1.6 O Over 1.6 O Not Sure O	Yes O		Yes O	I,P,R, N,U	
	<=1.6 O Over 1.6 O Not Sure O	Yes O		Yes O	I,P,R, N,U	

Installation Legends:
I = Installed, **P** = Provided, **R** = Refused, **N** = Not Compatible (didn't fit, brass fixture) **U** = Unable (frozen on)

Appliances

Item	Use Patterns	Characteristics	Item		Characteristics	
Clothes Washer	_____# Loads	Energy Star Yes O No O	**Softener**	Yes O No O Timer based O	Leased O	Own O DIR O
Coin Operated	_____# Loads	_____# Machines	**Reverse Osmosis**	Yes O No O	On/Off Switch	Yes O No O
Dish Washer	_____# Loads		**Pool**	Yes O No O	Cover?	Yes O No O
Water Heater		Leak? Yes O No O	**Hot Tub/Spa**	Yes O No O	Cover?	Yes O No O

Preset Irrigation Schedule

This schedule is for: Spring O Summer O Fall O

Location	Type*	Total Minutes	Days/Week	Cycles/Day	Minutes/Cycle

*Sprinkler Type: P=Pop-up R=Rotor I=Impact B=Bubbler D=Drip MS=Microspray H=Hose w/Sprinkler

Modified / Suggested Irrigation Schedule

Controller Start Time: _____ AM O PM O

This irrigation controller schedule has been modified: Yes O No O

Location	Station Number	Minutes/Week			Days/Week			Cycles/Day			Minutes/Cycle			Action Taken
		Sp	Sum	Fall	Sp	Sum	Fall	Sp	Sum	Fall	Sp	Sum	Fall	M, U, S/Pgm

Sp = Spring Sum = Summer M = Modified U = Unchanged S = Suggested Pgm=Programmed

ORIGINAL: Customer; Yellow: Water Conservation Office

Customer Priority Action Plan

Landscape Priorities:

Priority #____ Recommended Watering Schedule: Early morning is the best time to water!

Priority #____ Tune-up your watering system and check it monthly during the summer.

Item	Area/Action Needed
O Clogged heads/emitters	_____
O Broken heads/emitters	_____
O Mismatched heads	_____
O Spray pattern blocked	_____
O Broken pipe/tube	_____
O Misdirected/overspray	_____
O Ponding/run-off	_____
O Sunken/not vertical	_____
O Pressure problems	_____
O Other	_____

Priority #____ Put plants with similar watering needs on the same water circuit or station.

You have a watering station/area where high water use plants are mixed with plants that need much less water. In your case we recommend the following:

O Modify your irrigation system so that plants with common water needs are watered on the same circuit or station.
O Transplant some of our plants so they are grouped by common water needs.

Priority #____ Consider converting unused, narrow and/or tiny grass areas to low water-use plants and/or mulch.

These areas cannot be watered efficiently without run-off. Any strip less than 8 feet wide should not be planted in turf.

Priority #____ Mulch garden.

Mulch is the cornerstone of water management because it can reduce water use by 25 to 50 percent. Mulch with at least a 2 inch layer.

Priority #____ Aerate your soil-it is compacted.

Little water can penetrate compacted soil and get to the grass roots. Aeration is usually done by a machine that can be rented, or a landscape service.

Priority #____ De-thatch your turf.

Thatch (living and dead grass stems) forms a layer above the soil surface. If greater than ½ inches, it doesn't allow water to penetrate. De-thatch this fall. You can rent a power thatcher or use a sturdy steel rake to remove it.

Indoor Priorities:

Priority #____ Change-out your old water guzzling toilet. Your toilet(s) appear to be flushing over 1.6 gallons per flush (gpf).

Replace older toilets with high-efficiency toilets which use 1.6 gallons of water per flush or less. A family of four (4) can save an average of 15,000 gallons each year!

Priority #____ Your 1.6 gallons per flush (gpf) toilets are flushing more than 2.0 gallons per flush.

The primary reasons this occurs are because the flapper is either the wrong one for the unit (flappers for 1.6 gpf toilets are quite specific), or the flapper is adjusted incorrectly to let more water flush out before closing. Please refer to your manufacturer's instructions, or talk to a reputable toilet dealer about the appropriate flapper and adjustments.

Priority #____ Wow! Fix those leaks! We found an estimated _____ gallons per day in leaks in the following areas:

_____

Priority #____ Replace your old showerheads and/or faucet aerators.

We found the flow rates on your existing fixtures were _____. New model showerheads use 2.5 gpm or less and faucet aerators use 1.5 gpm or less and perform excellently. O Installed O Offered, but declined.

Priority #____ Install a pressure reducing valve/Reduce your valve setting.

Your water pressure at the house is high (_____psi.) and puts additional strain on your water-using appliances and irrigation system. Consult with a plumber to install a pressure reducing valve at your home or reduce your pressure.

Comments:

For additional information, please call the City of Paso Robles Water Conservation Office at (805) 227-7250. Thank you for participating in the Home Water Audit Program. Implementing these recommendations should help you in reducing your household water consumption.

Appendix F

California Urban Water Conservation Council

BMP Reports

The fields in red are required.

Agency name: City of Paso Robles

Reporting unit name (District name): City of Paso Robles

Reporting unit number: 7051

Primary contact:

First name: Keith

Last name: Larson

Email: klarson@prcity.com

You must enter the reporting unit number that we have on record for your agency. Click here to open a table to obtain this number.

Base Year Data

Link to FAQs

Reporting Unit Base Year

Base Year: 2008

What is your reporting period? Calendar

BMP 1.3 Metering

Number of unmetered accounts in Base Year: 0

BMP 3.1 & BMP 3.2 & BMP 3.3 Residential Programs

Number of Single Family Customers in Base Year: 8,722

Number of Multi Family Units in Base Year: 2,439

BMP 3.4 WaterSense Specification (WSS) Toilets

Number of Single Family Housing Units constructed prior to 1992: 5000

Number of Multi Family Units prior to 1992: 1375

Average number of toilets per single family household: 1.75

Average number of toilets per multi family household: 1.5

Five year average resale rate of single family households: 200

Five-year average resale rate of multi family households: 50

Average number of persons per single family household: 2.66

Average number of persons per multi family household: 2.66

BMP 4.0 & BMP 5.0 CII & Landscape

Total water use (in Acre Feet) by CII accounts: 2393

Number of accounts with dedicated irrigation meters: 347

Number of CII accounts without meters or with Mixed Use Meters: 818

Number of CII accounts: 1,165

Comments:

The fields in red are required.

Agency name: City of Paso Robles

Reporting unit name (District name): City of Paso Robles

Reporting unit number: 7051

Primary contact:

First name: Keith

Last name: Larson

Email: klarson@prcity.com

You must enter the reporting unit number that we have on record for your agency. Click here to open a table to obtain this number.

Link to FAQs

2009

BMP 1.1 Operations Practices

Comments:

See the complete MOU: View MOU

See the coverage requirements for this BMP:

Conservation Coordinator

Conservation Coordinator (•) Yes ( ) No

Contact Information

First Name	Keith
Last Name	Larson
Title	Water Conservation Manager
Phone	805-227-7238
Email	klarson@prcity.com

Note that the contact information may be the same as the primary contact information at the top of the page. If this is your case, excuse the inconvenience but please enter the information again.

Water Waste Prevention

Water Agency shall do one or more of the following:

a. Enact and enforce an ordinance or establish terms of service that prohibit water waste
b. Enact and enforce an ordinance or establish terms of service for water efficient design in new development
c. Support legislation or regulations that prohibit water waste
d. Enact an ordinance or establish terms of service to facilitate implementation of water shortage response measures
e. Support local ordinances that prohibit water waste
f. Support local ordinances that establish permits requirements for water efficient design in new

To document this BMP, provide the following:

a. A description of, or electronic link to, any ordinances or terms of service
b. A description of, or electronic link to, any ordinances or requirements adopted by local jurisdictions or regulatory agencies with the water agency's service area.
c. A description of any water agency efforts to cooperate with other entities in the adoption or enforcement of local requirement
d. description of agency support positions with respect to adoption of legislation or regulations

You can show your documentation by providing files, links (web addresses), and/or entering a description.

File name(s): Email files to natalie@cuwcc.org: See link provided on 2010 BMP 1.1 Report

Web address(s) URL: comma-separated list:

Enter a description: We have a Water Conservation and Water Shorage Contingency Plan Ordinance No. 956, adopted in June of 2009. A copy of the ordnance may be found at pasowater.com. This ordnance is detailed in the City's 2010 Urban Water Management Plan.

The fields in red are required.

Agency name: City of Paso Robles

Reporting unit name (District name): City of Paso Robles

Reporting unit number: 7051

Primary contact:

First name: Keith

Last name: Larson

Email: klarson@prcity.com

You must enter the reporting unit number that we have on record for your agency. Click here to open a table to obtain this number.

Link to FAQs

2010

BMP 1.1 Operations Practices

See the complete MOU: View MOU

See the coverage requirements for this BMP:

Comments:

Conservation Coordinator

Conservation Coordinator (•) Yes ( ) No

Contact Information

First Name	Keith
Last Name	Larson
Title	Water Conservation Manager
Phone	805-227-7238
Email	klarson@prcity.com

Note that the contact information may be the same as the primary contact information at the top of the page. If this is your case, excuse the inconvenience but please enter the information again.

Water Waste Prevention

Water Agency shall do one or more of the following:

a. Enact and enforce an ordinance or establish terms of service that prohibit water waste
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e. Support local ordinances that prohibit water waste
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To document this BMP, provide the following:

a. A description of, or electronic link to, any ordinances or terms of service
b. A description of, or electronic link to, any ordinances or requirements adopted by local jurisdictions or regulatory agencies with the water agency's service area.
c. A description of any water agency efforts to cooperate with other entities in the adoption or enforcement of local requirement
d. description of agency support positions with respect to adoption of legislation or regulations

You can show your documentation by providing files, links (web addresses), and/or entering a description.

File name(s): Email files to natalie@cuwcc.org

http://www.prcity.com/government/departments/publicworks/water/pdf/2009_CC_ORD_956.pdf

Web address(s) URL: comma-separated list

Enter a description:

We have a Water Conservation and Water Shortage Contingency Plan Ordinance No. 956, adopted in June of 2009. A copy of this ordinance can be found at pasowater.com at the link above. This ordinance is detailed in the city's 2010 Urban Water Management Plan. This is a comprehensive ordinance to prevent water waste at all times and during shortage conditions.

The fields in red are required.

Primary contact:

Agency name: City of Paso Robles

First name: Keith

Reporting unit name (District name): City of Paso Robles

Last name: Larson

Reporting unit number: 7051

Email: klarson@prcity.com

You must enter the reporting unit number that we have on record for your agency. Click here to open a table to obtain this number.

Link to FAQs

View MOU

2009 BMP 1.2 Water Loss Control

AWWA Water Audit

Agency to complete a Water Audit & Balance Using The AWWA Software ◉ Yes ○ No

Email to natalie@cuwcc.org - Worksheets (AWWA Water Audit). Enter the name of the file below:

CityofPasoRobles-AWWA-WaterAudit(2009)

Water Audit Validity Score from AWWA spreadsheet: 51

Agency Completed Training In The AWWA Water Audit Method ○ Yes ◉ No

Agency Completed Training In The Component Analysis Process ○ Yes ◉ No

Completed/Updated the Component Analysis (at least every 4 years)? ○ Yes ○ No

Component Analysis Completed/Updated Date

Water Loss Performance

Agency Repaired All Reported Leaks & Breaks To The Extent Cost Effective ○ Yes ○ No

Recording Keeping Requirements:

Date/Time Leak Reported	Leak Location
Type of Leaking Pipe Segment or Fitting	Leak Running Time From Report to Repair
Leak Volume Estimate	Cost of Repair

Agency Located and Repaired Unreported Leaks to the Extent Cost Effective ○ Yes ○ No

Type of Program Activities Used to Detect Unreported Leaks

Annual Summary Information

Complete the following table with annual summary information (required for reporting years 2-5 only)

Total Leaks Repaired	Economic Value Of Real Loss	Economic Value Of Apparent Loss	Miles Of System Surveyed For Leaks	Pressure Reduction Undertaken for loss reduction	Cost Of Interventions	Water Saved (AF/Year)

Comments:

AWWA WLCC Free Water Audit Software: Reporting Worksheet

WAS v4.2

Back to Instructions

Click to access definition

Water Audit Report for: City of Paso Robles

Reporting Year: 2009 | 1/2009 - 12/2009

Please enter data in the white cells below. Where available, metered values should be used; if metered values are unavailable please estimate a value. Indicate your confidence in the accuracy of the input data by grading each component (1-10) using the drop-down list to the left of the input cell. Hover the mouse over the cell to obtain a description of the grades

All volumes to be entered as: MILLION GALLONS (US) PER YEAR

WATER SUPPLIED

<< Enter grading in column 'E'

Volume from own sources:	6	2,170.756	Million gallons (US)/yr (MG/Yr)	
Master meter error adjustment (enter positive value):	6	0.100	under-registered	MG/Yr
Water imported:	n/a	0.000	MG/Yr	
Water exported:	n/a	0.000	MG/Yr	
WATER SUPPLIED:		2,170.856	MG/Yr	

AUTHORIZED CONSUMPTION

Click here: for help using option buttons below

				Pcnt:	Value:
Billed metered:	6	1,986.539	MG/Yr		
Billed unmetered:	n/a	0.000	MG/Yr		
Unbilled metered:	n/a	0.000	MG/Yr		
Unbilled unmetered:		27.136	MG/Yr	1.25%	

Default option selected for Unbilled unmetered - a grading of 5 is applied but not displayed

Use buttons to select percentage of water supplied OR value

AUTHORIZED CONSUMPTION:		2,013.675	MG/Yr

WATER LOSSES (Water Supplied - Authorized Consumption)

157.181 MG/Yr

Apparent Losses

				Pcnt:	Value:
Unauthorized consumption:		5.427	MG/Yr	0.25%	

Default option selected for unauthorized consumption - a grading of 5 is applied but not displayed

Customer metering inaccuracies:	2	104.555	MG/Yr	5.00%	
Systematic data handling errors:	5	0.100	MG/Yr		
Apparent Losses:		110.082			

Choose this option to enter a percentage of billed metered consumption. This is NOT a default value

Real Losses (Current Annual Real Losses or CARL)

Real Losses = Water Losses - Apparent Losses:	47.099	MG/Yr
WATER LOSSES:	157.181	MG/Yr

NON-REVENUE WATER

NON-REVENUE WATER:	184.317	MG/Yr

= Total Water Loss + Unbilled Metered + Unbilled Unmetered

SYSTEM DATA

Length of mains:	7	160.0	miles
Number of active AND inactive service connections:	6	10,800	
Connection density:		68	conn./mile main
Average length of customer service line:	10	5.0	ft (pipe length between curbstop and customer meter or property boundary)
Average operating pressure:	3	70.0	psi

COST DATA

Total annual cost of operating water system:	3	$5,000,000	$/Year
Customer retail unit cost (applied to Apparent Losses):	6	$1.32	$/100 cubic feet (ccf)
Variable production cost (applied to Real Losses):	3	$300.00	$/Million gallons

PERFORMANCE INDICATORS

Financial Indicators

Non-revenue water as percent by volume of Water Supplied:	8.5%
Non-revenue water as percent by cost of operating system:	4.3%
Annual cost of Apparent Losses:	$194,249
Annual cost of Real Losses:	$14,130

Operational Efficiency Indicators

Apparent Losses per service connection per day:	27.93	gallons/connection/day
Real Losses per service connection per day*:	11.95	gallons/connection/day
Real Losses per length of main per day*:	N/A	
Real Losses per service connection per day per psi pressure:	0.17	gallons/connection/day/psi
Unavoidable Annual Real Losses (UARL):	65.47	million gallons/year
From Above, Real Losses = Current Annual Real Losses (CARL):	47.10	million gallons/year
Infrastructure Leakage Index (ILI) [CARL/UARL]:	0.72	

* only the most applicable of these two indicators will be calculated

WATER AUDIT DATA VALIDITY SCORE:

*** YOUR SCORE IS: 51 out of 100 ***

A weighted scale for the components of consumption and water loss is included in the calculation of the Water Audit Data Validity Score

PRIORITY AREAS FOR ATTENTION:

Based on the information provided, audit accuracy can be improved by addressing the following components:

1: Volume from own sources

2: Customer metering inaccuracies

3: Total annual cost of operating water system

For more information, click here to see the Grading Matrix worksheet

The fields in red are required.

Agency name: City of Paso Robles

Reporting unit name (District name): City of Paso Robles

Reporting unit number: 7051

Primary contact:

First name: Keith

Last name: Larson

Email: klarson@prcity.com

You must enter the reporting unit number that we have on record for your agency. Click here to open a table to obtain this number.

Link to FAQs

2010 BMP 1.2 Water Loss Control

View MOU

AWWA Water Audit

Agency to complete a Water Audit & Balance Using The AWWA Software ⊙ Yes ○ No

Email to natalie@cuwcc.org - Worksheets (AWWA Water Audit). Enter the name of the file below:

Water Audit Validity Score from AWWA spreadsheet: 51

Agency Completed Training In The AWWA Water Audit Method ○ Yes ⊙ No

Agency Completed Training In The Component Analysis Process ○ Yes ⊙ No

Completed/Updated the Component Analysis (at least every 4 years)? ○ Yes ⊙ No

Component Analysis Completed/Updated Date:

Water Loss Performance

Agency Repaired All Reported Leaks & Breaks To The Extent Cost Effective ⊙ Yes ○ No

Recording Keeping Requirements:

Date/Time Leak Reported	Leak Location
Type of Leaking Pipe Segment or Fitting	Leak Running Time From Report to Repair
Leak Volume Estimate	Cost of Repair

Agency Located and Repaired Unreported Leaks to the Extent Cost Effective ⊙ Yes ○ No

Type of Program Activities Used to Detect Unreported Leaks

Annual Summary Information

Complete the following table with annual summary information (required for reporting years 2-5 only)

Total Leaks Repaired	Economic Value Of Real Loss	Economic Value Of Apparent Loss	Miles Of System Surveyed For Leaks	Pressure Reduction Undertaken for loss reduction	Cost Of Interventions	Water Saved (AF/Year)

Comments:

AWWA WLCC Free Water Audit Software: Reporting Worksheet

WAS v4.2

Back to Instructions

? Click to access definition

Water Audit Report for: City of Paso Robles

Reporting Year: 2009 | 1/2009 - 12/2009

Please enter data in the white cells below. Where available, metered values should be used; if metered values are unavailable please estimate a value. Indicate your confidence in the accuracy of the input data by grading each component (1-10) using the drop-down list to the left of the input cell. Hover the mouse over the cell to obtain a description of the grades

All volumes to be entered as: MILLION GALLONS (US) PER YEAR

WATER SUPPLIED

<< Enter grading in column 'E'

Volume from own sources:	?	6	2,061.437	Million gallons (US)/yr (MG/Yr)	
Master meter error adjustment (enter positive value):	?	6	0.100	under-registered	MG/Yr
Water imported:	?	n/a	0.000	MG/Yr	
Water exported:	?	n/a	0.000	MG/Yr	
WATER SUPPLIED:			2,061.537	MG/Yr	

AUTHORIZED CONSUMPTION

Click here: ? for help using option buttons below

					Pcnt:	Value:
Billed metered:	?	6	1,873.268	MG/Yr		
Billed unmetered:	?	n/a	0.000	MG/Yr		
Unbilled metered:	?	n/a	0.000	MG/Yr		
Unbilled unmetered:	?		25.769	MG/Yr	1.25%	

Default option selected for Unbilled unmetered - a grading of 5 is applied but not displayed

Use buttons to select percentage of water supplied OR value

AUTHORIZED CONSUMPTION:	?		1,899,037	MG/Yr

WATER LOSSES (Water Supplied - Authorized Consumption)

162,500 MG/Yr

Apparent Losses

					Pcnt:	Value:
Unauthorized consumption:	?		5.154	MG/Yr	0.25%	

Default option selected for unauthorized consumption - a grading of 5 is applied but not displayed

Customer metering inaccuracies:	?	2	98.593	MG/Yr	5.00%	
Systematic data handling errors:	?	5	0.100	MG/Yr		
Apparent Losses:	?		103.847			

Choose this option to enter a percentage of billed metered consumption. This is NOT a default value

Real Losses (Current Annual Real Losses or CARL)

Real Losses = Water Losses - Apparent Losses:	?		58.653	MG/Yr
WATER LOSSES:			162.500	MG/Yr

NON-REVENUE WATER

NON-REVENUE WATER:	?		188.269	MG/Yr

= Total Water Loss + Unbilled Metered + Unbilled Unmetered

SYSTEM DATA

Length of mains:	?	7	160.0	miles	
Number of active AND inactive service connections:	?	6	10,800		
Connection density:			68	conn./mile main	
Average length of customer service line:	?	10	5.0	ft	(pipe length between curbstop and customer meter or property boundary)
Average operating pressure:	?	3	70.0	psi	

COST DATA

Total annual cost of operating water system:	?	3	$5,000,000	$/Year
Customer retail unit cost (applied to Apparent Losses):	?	6	$1.32	$/100 cubic feet (ccf)
Variable production cost (applied to Real Losses):	?	3	$300.00	$/Million gallons

PERFORMANCE INDICATORS

Financial Indicators

Non-revenue water as percent by volume of Water Supplied:	9.1%
Non-revenue water as percent by cost of operating system:	4.2%
Annual cost of Apparent Losses:	$183,247
Annual cost of Real Losses:	$17,596

Operational Efficiency Indicators

Apparent Losses per service connection per day:	26.34	gallons/connection/day
Real Losses per service connection per day*:	14.88	gallons/connection/day
Real Losses per length of main per day*:	N/A	
Real Losses per service connection per day per psi pressure:	0.21	gallons/connection/day/psi
? Unavoidable Annual Real Losses (UARL):	65.47	million gallons/year
From Above, Real Losses = Current Annual Real Losses (CARL):	58.65	million gallons/year
? Infrastructure Leakage Index (ILI) [CARL/UARL]:	0.90	

* only the most applicable of these two indicators will be calculated

WATER AUDIT DATA VALIDITY SCORE:

***** YOUR SCORE IS: 51 out of 100 *****

A weighted scale for the components of consumption and water loss is included in the calculation of the Water Audit Data Validity Score

PRIORITY AREAS FOR ATTENTION:

Based on the information provided, audit accuracy can be improved by addressing the following components:

1: Volume from own sources

2: Customer metering inaccuracies

3: Total annual cost of operating water system

For more information, click here to see the Grading Matrix worksheet

Grading											
	n/a	1	2	3	4	5	6	7	8	9	10
Improvements to attain higher data grading for "Number of Active and Inactive customer service connections" component:		to qualify for 2: Draft new policy and procedures for permitting and billing. Research and collect paper records of installations & abandonments for several years prior to audit year.	to qualify for 4: Refine policy and procedures for permitting and billing. Research computerized recordkeeping system (Customer Information System or Customer Billing System) to improve documentation format for service connections.		to qualify for 6: Refine procedures to ensure consistency with permitting policy to establish new service connections or decommission existing connections. Improve process to include all totals for at least five years prior to audit year.		to qualify for 8: Formalize regular review of permitting policy and procedures. Launch random field checks of limited number of locations. Develop reports and auditing mechanisms for computerized information management system.		to qualify for 10: Close any procedural loopholes that allow installations to go undocumented. Link computerized information management system with Geographic Information System (GIS) and formalize field inspection and information system auditing processes. Documentation of new or decommissioned service connections encounters several levels of checks and balances.		to maintain 10: Continue with standardization and random field validation to improve knowledge of system.
Average length of customer service line:	Note: if customer water meters are located outside of the customer building next to the curbstop or boundary separating utility/customer responsibility, follow the grading description for 10(a). Also see the Service Connection Diagram worksheet.	Gradings 1-9 apply if customer properties are **unmetered**, if customer meters exist and are located inside **the customer building premises, or if the water utility owns and is responsible for the entire service connection piping from the water main to the customer building**. In any of these cases the average distance between the curbstop or boundary separating utility/customer responsibility for service connection piping, and the typical first point of use (ex: faucet) or the customer meter must be quantified. Gradings of 1-9 are used to grade the validity of the means to quantify this value. (See the "Service Connection Diagram" worksheet)									Either of two conditions can be met to obtain a grading of 10: a) The customer water meter is located outside of the customer building adjacent to the curbstop or boundary separating utility/customer responsibility for the service connection piping. In this case enter a value of zero in the Reporting Worksheet with a grading of 10. b). Customer water meters are located inside customer buildings, or the properties are unmetered. In either case the distance is highly reliable since data is drawn from a Geographic Information System (GIS) and confirmed by routine field checks.
		Vague policy exists to define the delineation of water utility ownership and customer ownership of the service connection piping. Curbstops are perceived as the breakpoint but these have not been well-maintained or documented. Most are buried or obscured. Their location varies widely from site-to-site, and estimating this distance is arbitrary due to the unknown location of many curbstops.	Policy requires that the curbstop serves as the delineation point between water utility ownership and customer ownership of the service connection piping. The piping from the water main to the curbstop is the property of the water utility; and the piping from the curbstop to the customer building is owned by the customer. Curbstop locations are not well documented and the average distance is based upon a limited number of locations measured in the field.	Conditions between 2 and 4	Good policy requires that the curbstop serves as the delineation point between water utility ownership and customer ownership of the service connection piping. Curbstops are generally installed as needed and are reasonably documented. Their location varies widely from site-to-site, and an estimate of this distance is hindered by the availability of paper records.	Conditions between 4 and 6	Clear policy exists to define utility/customer responsibility for service connection piping. Accurate, well-maintained paper or basic electronic recordkeeping system exists. Periodic field checks confirm piping lengths for a sample of customer properties.	Conditions between 6 and 8	Clearly worded policy standardizes the location of curbstops and meters, which are inspected upon installation. Accurate and well maintained electronic records exist with periodic field checks to confirm locations of service lines, curbstops and customer meter pits. An accurate number of customer properties from the customer billing system allows for reliable averaging of this length.	Conditions between 8 and 10	
Improvements to attain higher data grading for "Average Length of Customer Service Line" component:		to qualify for 2: Research and collect paper records of service line installations. Inspect several sites in the field using pipe locators to locate curbstops. Obtain the length of this small sample of connections in this manner.	to qualify for 4: Formalize and communicate policy delineating utility/customer responsibilities for service connection piping. Assess accuracy of paper records by field inspection of a small sample of service connections using pipe locators as needed. Research the potential migration to a computerized information management system to store service connection data.		to qualify for 6: Establish coherent procedures to ensure that policy for curbstop, meter installation and documentation is followed. Gain consensus within the water utility for the establishment of a computerized information management system.		to qualify for 8: Implement an electronic means of recordkeeping, typically via a customer information system or customer billing system. Standardize the process to conduct field checks of limited number of locations.		to qualify for 10: Link customer information management system and Geographic Information System (GIS), standardize process for field verification of data.		to maintain 10: Continue with standardization and random field validation to improve knowledge of system.
Average operating pressure:		Available records are poorly assembled and maintained paper records of supply pump characteristics and water distribution system operating conditions. Average pressure is guesstimated based upon this information and ground elevations from crude topographical maps. Widely varying distribution system pressures due to undulating terrain, high system head loss and weak/erratic pressure controls further compromise the validity of the average pressure calculation.	Limited telemetry monitoring of scattered sites provides some static pressure data, which is recorded in handwritten logbooks. Pressure data is gathered at individual sites only when low pressure complaints arise. Average pressure is determined by averaging relatively crude data, and is affected by significant variation in ground elevations, system head loss and gaps in pressure controls in the distribution system.	Conditions between 2 and 4	Effective pressure controls separate different pressure zones, moderate pressure variation across the system, occasional open boundary valves are discovered that breech pressure zones. Basic telemetry monitoring of the distribution system logs pressure data electronically. Pressure data gathered by gauges or dataloggers at fire hydrants or buildings when low pressure complaints arise, and during fire flow tests and system flushing. Reliable topographical data exists. Average pressure is calculated using this mix of data.	Conditions between 4 and 6	Reliable pressure controls separate distinct pressure zones, only very occasional open boundary valves are encountered that breech pressure zones. Well-covered telemetry monitoring of the distribution system logs extensive pressure data electronically. Pressure gathered by gauges/dataloggers at fire hydrants and buildings when low pressure complaints arise, and during fire flow tests and system flushing. Average pressure is determined by using this mix of reliable data.	Conditions between 6 and 8	Well-managed, discrete pressure zones exist with generally predictable pressure fluctuations. A current full-scale SCADA System exists to monitor the water distribution system and collect data, including real time pressure readings at representative sites across the system. The average system pressure is determined from reliable SCADA System data.	Conditions between 8 and 10	Well-managed pressure districts/zones, SCADA System and hydraulic model exist to give very precise pressure data across the water distribution system. Average system pressure is reliably calculated from extensive, reliable, and cross-checked data.

Grading											
	n/a	1	2	3	4	5	6	7	8	9	10
Improvements to attain higher data grading for "Average Operating Pressure" component:		to qualify for 2: Employ pressure gauging and/or datalogging equipment to obtain pressure measurements from fire hydrants. Locate accurate topographical maps of service area in order to confirm ground elevations. Research pump data sheets to find pump pressure/flow characteristics	to qualify for 4: Formalize a procedure to use pressure gauging/datalogging equipment to gather pressure data during various system events such as low pressure complaints, or operational testing. Gather pump pressure and flow data at different flow regimes. Identify faulty pressure controls (pressure reducing valves, altitude valves, partially open boundary valves) and plan to properly configure pressure zones. Make all pressure data from these efforts available to generate system-wide average pressure.		to qualify for 6: Expand the use of pressure gauging/datalogging equipment to gather scattered pressure data at a representative set of sites, based upon pressure zones or areas. Utilize pump pressure and flow data to determine supply head entering each pressure zone or district. Correct any faulty pressure controls (pressure reducing valves, altitude valves, partially open boundary valves) to ensure properly configured pressure zones. Use expanded pressure dataset from these activities to generate system-wide average pressure.		to qualify for 8: Install a Supervisory Control and Data Acquisition (SCADA) System to monitor system parameters and control operations. Set regular calibration schedule for instrumentation to insure data accuracy. Obtain accurate topographical data and utilize pressure data gathered from field surveys to provide extensive, reliable data for pressure averaging.		to qualify for 10: Obtain average pressure data from hydraulic model of the distribution system that has been calibrated via field measurements in the water distribution system and confirmed in comparisons with SCADA System data.		to maintain 10: Continue to refine the hydraulic model of the distribution system and consider linking it with SCADA System for real-time pressure data calibration, and averaging.

	Grading											
	n/a	1	2	3	4	5	6	7	8	9	10	
COST DATA												
Total annual cost of operating water system:		Incomplete paper records and lack of documentation on many operating functions making calculation of water system operating costs a pure guesstimate	Reasonably maintained, but incomplete, paper or electronic accounting provides data to estimate the major portion of water system operating costs.	Conditions between 2 and 4	Electronic, industry-standard cost accounting system in place. Gaps in data known to exist, periodic internal reviews conducted but not a structured audit.	Conditions between 4 and 6	Reliable electronic, industry-standard cost accounting system in place, with all pertinent water system operating costs tracked. Data audited periodically by utility personnel, not a Certified Public Accountant (CPA).	Conditions between 6 and 8	Reliable electronic, industry-standard cost accounting system in place, with all pertinent water system operating costs tracked. Data audited at least annually by utility personnel, and periodically by third-party CPA.	Conditions between 8 and 10	Reliable electronic, industry-standard cost accounting system in place, with all pertinent water system operating costs tracked. Data audited annually by utility personnel and by third-party CPA.	
Improvements to attain higher data grading for "Total Annual Cost of Operating the Water System" component:		<u>to qualify for 2</u>: Gather available records, institute new procedures to regularly collect and audit basic cost data of most important operations functions.	<u>to qualify for 4</u>: Implement an electronic cost accounting system, structured according to accounting standards for water utilities		<u>to qualify for 6</u>: Establish process for periodic internal audit of water system operating costs; identify cost data gaps and institute procedures for tracking these outstanding costs.		<u>to qualify for 8</u>: Standardize the process to conduct routine financial audit on an annual basis.		<u>to qualify for 10</u>: Standardize the process to conduct a third-party financial audit by a CPA on an annual basis.		<u>to maintain 10</u>: Maintain program, stay abreast of expenses subject to erratic cost changes and budget/track costs proactively.	
Customer retail unit cost (applied to Apparent Losses):		Antiquated, cumbersome water rate structure is use, with periodic historic amendments that were poorly documented and implemented; resulting in classes of customers being billed inconsistent charges. The actual composite billing rate likely differs significantly from the published water rate structure, but a lack of auditing leaves the degree of error indeterminate.	Dated, cumbersome water rate structure, not always employed consistently in actual billing operations. The actual composite billing rate is known to differ from the published water rate structure, and a reasonably accurate estimate of the degree of error is determined, allowing a composite billing rate to be quantified.	Conditions between 2 and 4	Straight-forward water rate structure in use, but not updated in several years. Billing operations reliably employ the rate structure. The composite billing rate is derived from a single customer class such as residential customer accounts, neglecting the effect of different rates from varying customer classes.	Customer population unmetered. Fixed fee charged; single composite number derived from multiple customer classes.	Clearly written, up-to-date water rate structure is in force and is applied reliably in billing operations. Composite customer rate is determined using a weighted average residential rate using volumes of water in each rate block.	Conditions between 6 and 8	Effective water rate structure is in force and is applied reliably in billing operations. Composite customer rate is determined using a weighted average composite consumption rate, including residential, commercial, industrial and any other customer classes within the water rate structure.	Conditions between 8 and 10	Third party reviewed weighted average composite consumption rate (includes residential, commercial, industrial, etc.)	
Improvements to attain higher data grading for "Customer Retail Unit Cost" component:		<u>to qualify for 2</u>: Formalize the process to implement water rates, including a secure documentation procedure. Create a current, formal water rate document and gain approval from all stakeholders.	<u>to qualify for 4</u>: Review the water rate structure and update/formalize as needed. Assess billing operations to ensure that actual billing operations incorporate the established water rate structure.		<u>to qualify for 6</u>: Evaluate volume of water used in each usage block by residential users. Multiply volumes by full rate structure.	<u>Meter customers and charge rates based upon water volumes</u>	<u>to qualify for 8</u>: Evaluate volume of water used in each usage block by all classifications of users. Multiply volumes by full rate structure.		<u>to qualify for 10</u>: Conduct a periodic third-party audit of water used in each usage block by all classifications of users. Multiply volumes by full rate structure.		<u>to maintain 10</u>: Keep water rate structure current in addressing the water utility's revenue needs. Update the calculation of the customer unit rate as new rate components, customer classes, or other components are modified.	
Variable production cost (applied to Real Losses):	Note: if the water utility purchases/imports its entire water supply, then enter the unit purchase cost of the bulk water supply in the Reporting Worksheet with a grading of 10	Incomplete paper records and lack of documentation on primary operating functions (electric power and treatment costs most importantly) makes calculation of variable production costs a pure guesstimate	Reasonably maintained, but incomplete, paper or electronic accounting provides data to roughly estimate the basic operations costs (pumping power costs and treatment costs) and calculate a unit variable production cost.	Conditions between 2 and 4	Electronic, industry-standard cost accounting system in place Electric power and treatment costs are reliably tracked and allow accurate calculation of unit variable production costs based on these two inputs only. All costs are audited internally on a periodic basis.	Conditions between 4 and 6	Reliable electronic, industry-standard cost accounting system in place, with all pertinent water system operating costs tracked. Pertinent additional costs beyond power and treatment (ex: liability, residuals management, etc.) are included in the unit variable production cost. Data audited at least annually by utility personnel.	Conditions between 6 and 8	Reliable electronic, industry-standard cost accounting system in place, with all pertinent variable production costs tracked. Data audited at least annually by utility personnel, and periodically by third-party.	Conditions between 8 and 10	Either of two conditions can be met to obtain a grading of 10: 1) Third party CPA audit of all primary and secondary cost components on an annual basis. <u>or</u> 2) Water supply is entirely purchased as bulk imported water, and unit purchase cost serves as the variable production cost.	
Improvements to attain higher data grading for "Variable Production Cost" component:		<u>to qualify for 2</u>: Gather available records, institute new procedures to regularly collect and audit basic cost data and most important operations functions.	<u>to qualify for 4</u>: Implement an electronic cost accounting system, structured according to accounting standards for water utilities		<u>to qualify for 6</u>: Formalize process for regular internal audits of production costs. Assess whether additional costs (liability, residuals management, etc.) should be included to calculate a more accurate variable production cost.		<u>to qualify for 8</u>: Formalize the accounting process to include primary cost components (power, treatment) as well as secondary components (liability, residuals management, etc.) Conduct periodic third-party audits.		<u>to qualify for 10</u>: Standardize the process to conduct a third-party financial audit by a CPA on an annual basis.		<u>to maintain 10</u>: Maintain program, stay abreast of expenses subject to erratic cost changes and budget/track costs proactively	

The fields in red are required.

Agency name: City of Paso Robles

Reporting unit name (District name): City of Paso Robles

Reporting unit number: 7051

Primary contact:

First name: Keith

Last name: Larson

Email: klarson@prcity.com

You must enter the reporting unit number that we have on record for your agency. Click here to open a table to obtain this number.

BMP 1.3 Metering with Commodity

Link to FAQs

2009

See the complete MOU: View MOU

See the coverage requirements for this BMP:

Implementation

Does your agency have any unmetered service connections? ○ Yes ◉ No

If YES, has your agency completed a meter retrofit plan? ○ Yes ○ No

Enter the number of previously unmetered accounts fitted with meters during reporting year:

Are all new service connections being metered? ◉ Yes ○ No

Are all new service connections being billed volumetrically? ◉ Yes ○ No

Has your agency completed and submitted electronically to the Council a written plan, policy or program to test, repair and replace meters? ○ Yes ◉ No

Please Fill Out The Following Matrix

Account Type	# Metered Accounts	# Metered Accounts Read	# Metered Accounts Billed by Volume	Billing Frequency Per Year	# of estimated bills/yr
Single-Family	8,610	8,610		Monthly	0
Multi-Family	378	378		Monthly	0
Commericial	752	752		Monthly	0
Industrial	70	70		Monthly	0
Dedicated Irrigatic	376	376		Monthly	0
Other	80	80		Monthly	0
Other				Other	
Other				Other	
Other				Other	
Other				Other	

Number of CII Accounts with Mixed-use Meters: 0

Number of CII Accounts with Mixed-use Meters Retrofitted with Dedicated Irrigation Meters during Reporting Period: 0

Feasibility Study

Has your agency conducted a feasibility study to assess the merits of a program to provide incentives to switch mixed-use accounts to dedicated landscape meters? ○ Yes ◉ No

If YES, please fill in the following information:

A. When was the Feasiblity Study conducted

B. Email or provide a link to the feasibility study (or description of):

File name(s): Email files to natalie@cuwcc.org Enter the file name here e.g. WaterWastePreventionOrdinan

Web address(s) URL: comma-separated list Enter the URL to your documentation.

General Comments about BMP 1.3:

The fields in red are required.

Agency name: City of Paso Robles

Reporting unit name (District name): City of Paso Robles

Reporting unit number: 7051

Primary contact:

First name: Keith

Last name: Larson

Email: klarson@prcity.com

You must enter the reporting unit number that we have on record for your agency. Click here to open a table to obtain this number.

BMP 1.3 Metering with Commodity 2010

Link to FAQs

See the complete MOU: View MOU

See the coverage requirements for this BMP:

Implementation

Does your agency have any unmetered service connections? ○ Yes ◉ No

If YES, has your agency completed a meter retrofit plan? ○ Yes ○ No

Enter the number of previously unmetered accounts fitted with meters during reporting year:

Are all new service connections being metered? ◉ Yes ○ No

Are all new service connections being billed volumetrically? ◉ Yes ○ No

Has your agency completed and submitted electronically to the Council a written plan, policy or program to test, repair and replace meters? ○ Yes ◉ No

Please Fill Out The Following Matrix

Account Type	# Metered Accounts	# Metered Accounts Read	# Metered Accounts Billed by Volume	Billing Frequency Per Year	# of estimated bills/yr
Single-Family	8,661	8,661	8,661	Monthly	0
Multi-Family	401	401	401	Monthly	0
Commericial	752	752	752	Monthly	0
Industrial	71	71	71	Monthly	0
Dedicated Irrigatic	379	379	379	Monthly	0
Other	12	12	12	Monthly	0
Other				Other	
Other				Other	
Other				Other	
Other				Other	

Number of CII Accounts with Mixed-use Meters: 0

Number of CII Accounts with Mixed-use Meters Retrofitted with Dedicated Irrigation Meters during Reporting Period: 0

Feasibility Study

Has your agency conducted a feasibility study to assess the merits of a program to provide incentives to switch mixed-use accounts to dedicated landscape meters? ○ Yes ◉ No

If YES, please fill in the following information:

A. When was the Feasiblity Study conducted

B. Describe, upload or provide an electronic link to the Feasibility Study Upload File

File name(s): Email files to natalie@cuwcc.org

Web address(s) URL: comma-separated list

Comments:

The fields in red are required.

Agency name: City of Paso Robles

Reporting unit name (District name): City of Paso Robles

Reporting unit number: 7051

Primary contact:

First name: Keith

Last name: Larson

Email: klarson@prcity.com

You must enter the reporting unit number that we have on record for your agency. Click here to open a table to obtain this number.

CUWCC

2009

BMP 1.4 Retail Conservation Pricing

Link to FAQs

View MOU

If you are reporting more rate structures than this form allows, add the structures to a spreadsheet and send the file to natalie@cuwcc.org.

Implementation (Water Rate Structure)

Enter the Water Rate Structures that are assigned to the majority of your customers, by customer class

Rate Structure	Customer Class	Total Revenue Commodity Charges	Total Revenue Customer Meter/Service (Fixed Charges)
Uniform	Other	3,505,657.10	2,190,456.00
Select a Rate Struc	Other		
Select a Rate Struc	Other		
Select a Rate Struc	Other		
Select a Rate Struc	Other		
Select a Rate Struc	Other		
Select a Rate Struc	Other		

Implementation Option (Conservation Pricing Option)

- (•) Use Annual Revenue As Reported
- ( ) Use Canadian Water & Wastewater Association Rate Design Model

If CWWA is select, enter the file name and email the spreadsheet to natalie@cuwcc.org

Retail Waste Water (Sewer) Rate Structure by Customer Class

Agency Provide Sewer Service (•) Yes ( ) No

Select the Retail Waste Water(Sewer) Rate Structure assigned to the majority of your customers within a specific customer class.

Rate Structure	Customer Class	Total Revenue Commodity Charges	Total Revenue Customer Meter/Service (Fixed Charges)
Non-Volumetric Fla	Single-Family		
Uniform	Commercial		
Uniform	Industrial		
Select a Rate Struc	Other		
Select a Rate Struc	Other		
Select a Rate Struc	Other		
Select a Rate Struc	Other		

Comments:

The fields in red are required.

Agency name: City of Paso Robles

Reporting unit name (District name): City of Paso Robles

Reporting unit number: 7051

Primary contact:

First name: Keith

Last name: Larson

Email: klarson@prcity.com

You must enter the reporting unit number that we have on record for your agency. Click here to open a table to obtain this number.

CUWCC 2010

Link to FAQs

View MOU

BMP 1.4 Retail Conservation Pricing

If you are reporting more rate structures than this form allows, add the structures to a spreadsheet and send the file to natalie@cuwcc.org.

Implementation (Water Rate Structure)

Enter the Water Rate Structures that are assigned to the majority of your customers, by customer class

Rate Structure	Customer Class	Total Revenue Commodity Charges	Total Revenue Customer Meter/Service (Fixed Charges)
Uniform	Other	3,305,854.00	2,246,000.00
Uniform Seasonal	Other		
Uniform	Other		
Uniform	Other		
Uniform	Other		
Uniform	Other		
Uniform	Other		

Implementation Option (Conservation Pricing Option)

- (•) Use Annual Revenue As Reported
- ( ) Use Canadian Water & Wastewater Association Rate Design Model

If CWWA is select, enter the file name and email the spreadsheet to natalie@cuwcc.org

Retail Waste Water (Sewer) Rate Structure by Customer Class

Agency Provide Sewer Service (•) Yes ( ) No

Select the Retail Waste Water(Sewer) Rate Structure assigned to the majority of your customers within a specific customer class.

Rate Structure	Customer Class	Total Revenue Commodity Charges	Total Revenue Customer Meter/Service (Fixed Charges)
Non-Volumetric Fla	Single-Family		
Uniform	Commercial		
Uniform	Industrial		
Select a Rate Struc	Other		
Select a Rate Struc	Other		
Select a Rate Struc	Other		
Select a Rate Struc	Other		

Comments:

The fields in red are required.

Agency name: City of Paso Robles

Reporting unit name (District name):

Reporting unit number: 7051

Primary contact:

First name: Keith

Last name: Larson

Email: klarson@prcity.com

Click here to open a table that displays your agency name reporting unit name and reporting unit number. Please ensure that you enter the correct information.

Link to FAQs

2009

BMP 2.1 Public Outreach - Retail Reporting

View MOU

Is a Wholesale Agency Performing Public Outreach?

Are there one or more wholesale agencies performing public outreach which can be counted to help your agency comply with the BMP? ○ Yes ◉ No

Enter the name(s) of the wholesale agency (comma delimited)

Is your agency performing public outreach?

Report a minimum of 4 water conservation related contacts your agency had with the public during the year.

Public Information Programs List

Did at least one contact take place during each quarter of the reporting year? ☑

Number of Public Contacts	Public Information Programs
100,000	Newsletter articles on conservation
1	Landscape water conservation media campaigns
2,500	Website
10,000	Newsletter articles on conservation
	Select a public contact

Contact with the Media

Are there one or more wholesale agencies performing media outreach which can be counted to help your agency comply with the BMP? ○ Yes ○ No

Enter the name(s) of the wholesale agency (comma delimited)

OR Retail Agency (Contacts with the Media)

Media Contacts List

Did at least one contact take place during each quarter of the reporting year? ☐

Number of Media Contacts	Did at least one contact take place during each quarter of the reporting year?	Media Contact Types
12		Radio contacts
3		Articles or stories resulting from outreach
4		Newspaper contacts
2		Television contacts
1		Written editorials
		Select a type of media contact

Is a Wholesale Agency Performing Website Updates?

Did one or more CUWCC wholesale agencies agree to assume your agency's responsibility for meeting the requirements of and for CUWCC reporting of this BMP? ○Yes ◉No

Enter the name(s) of the wholesale agency (comma delimited)

Is Your Agency Performing Website Updates?

Enter your agency's URL (website address): www.prcity.com/government/departments/publicworks/water/conservation/index.asp

Describe a minimum of four water conservation related updates to your agency's website that took place during the year: Made several changes to the website in 2009, added significant content on Level 2 water use restrictions and water conservation techniques.

Did at least one Website Update take place during each quarter of the reporting year? ◉Yes ○No

Public Outreach Annual Budget

Enter budget for public outreach programs. You may enter total budget in a single line or brake the budget into discrete categories by entering many rows. Please indicate if personnel costs are included in the entry.

Category	Amount		Personnel Costs Included? If yes, check the box.	Comments	
Outreach	$50,000				

Comments:

The fields in red are required.

Agency name: City of Paso Robles

Reporting unit name (District name):

Reporting unit number: 7051

Primary contact:

First name: Keith

Last name: Larson

Email: klarson@prcity.com

Click here to open a table that displays your agency name reporting unit name and reporting unit number. Please ensure that you enter the correct information.

Link to FAQs

2009

BMP 2.1 Public Outreach Cont'd

View MOU

Public Outreach Expenses

Enter expenses for public outreach programs. Please include the same kind of expenses you included in the question related to your budget (Section 2.1.7, above). For example, if you included personnel costs in the budget entered above, be sure to include them here as well.

Expense Category	Expense Amount	Personnel Costs Included?
		☐ If yes, check the check box.
		☐
		☐
		☐

Additional Public Information Program

Please report additional public information contacts. List these additional contacts in order of how your agency views their importance / effectiveness with respect to conserving water, with the most important/ effective listed first (where 1 = most important).

Were there additional Public Outreach efforts? ○ Yes ○ No

Public Outreach Additional Information

Public Information Programs	Importance

Social Marketing Programs

Branding

Does your agency have a water conservation "brand," "theme" or mascot? ◉ Yes ○ No

Describe the brand, theme or mascot. We have a water conservation logo we use in all outreach materials

Market Research

Have you sponsored or participated in market research to refine your message? ○ Yes ○ No

Market Research Topic	
Brand Message	
Brand Mission Statement	

Community Committees

Do you have a community conservation committee? ○ Yes ◉ No

Enter the names of the community committees:

Training

Training Type	# of Trainings	# of Attendees	Description of Other
Waterwise Landscape	$2	$60	

Social Marketing Expenditures

Public Outreach Social Marketing Expenses

Expense Category	Expense Amount	Description

Partnering Programs - Partners

Name	Type of Program
☑ CLCA?	Speak at meetings
☐ Green Building Programs?	
☐ Master Gardeners?	
☐ Cooperative Extension?	
☐ Local Colleges?	
☑ Other	San Luis Obispo County Parners in Water Conservation

☐ Retail and wholesale outlet; name(s) and type(s) of programs:

Partnering Programs - Newsletters

Number of newsletters per year

Number of customers per year

Partnering with Other Utilities

Describe other utilities your agency partners with, including electrical utilities

Conservation Gardens

Describe water conservation gardens at your agency or other high traffic areas or new

Landscape contests or awards

Describe water wise landscape contest or awards program conducted by your agency

Comments:

The fields in red are required.

Agency name: City of Paso Robles

Reporting unit name (District name): City of Paso Robles

Reporting unit number: 7051

Primary contact:

First name: Keith

Last name: Larson

Email: klarson@prcity.com

Click here to open a table that displays your agency name reporting unit name and reporting unit number. Please ensure that you enter the correct information.

Link to FAQs

View MOU

2010 BMP 2.1 Public Outreach - Retail Reporting

Is a Wholesale Agency Performing Public Outreach?

Are there one or more wholesale agencies performing public outreach which can be counted to help your agency comply with the BMP? ○ Yes ◉ No

Enter the name(s) of the wholesale agency (comma delimited)

Is your agency performing public outreach?

Report a minimum of 4 water conservation related contacts your agency had with the public during the year.

Public Information Programs List

Did at least one contact take place during each quarter of the reporting year? ☑

Number of Public Contacts	Public Information Programs
100,000	Flyers and/or brochures (total copies), bill stuffers, messages printed on bill, information packets
1	Landscape water conservation media campaigns
2,500	Website
10,000	Newsletter articles on conservation
	Select a public contact

Contact with the Media

Are there one or more wholesale agencies performing media outreach which can be counted to help your agency comply with the BMP? ○ Yes ◉ No

Enter the name(s) of the wholesale agency (comma delimited)

OR Retail Agency (Contacts with the Media)

Media Contacts List

Did at least one contact take place during each quarter of the reporting year? ☑

Number of Media Contacts	Did at least one contact take place during each quarter of the reporting year?	Media Contact Types
12		Radio contacts
3		Articles or stories resulting from outreach
4		Newspaper contacts
2		Television contacts
1		Written editorials
		Select a type of media contact

Is a Wholesale Agency Performing Website Updates?

Did one or more CUWCC wholesale agencies agree to assume your agency's responsibility for meeting the requirements of and for CUWCC reporting of this BMP? ○Yes ◉No

Enter the name(s) of the wholesale agency (comma delimited)

Is Your Agency Performing Website Updates?

Enter your agency's URL (website address): www.prcity.com/government/departments/publicworks/water/conservation/index.asp

Describe a minimum of four water conservation related updates to your agency's website that took place during the year: Totally revamped the Conservation website this year, adding many screens and links to documents, pictures, etc.

Did at least one Website Update take place during each quarter of the reporting year? ◉Yes ○No

Public Outreach Annual Budget

Enter budget for public outreach programs. You may enter total budget in a single line or brake the budget into discrete categories by entering many rows. Please indicate if personnel costs are included in the entry.

Category	Amount		Personnel Costs Included? If yes, check the box.	Comments	
Outreach	$50,000				

Comments:

The fields in red are required.

Agency name: City of Paso Robles

Reporting unit name (District name): City of Paso Robles

Reporting unit number: 7051

Primary contact:

First name: Keith

Last name: Larson

Email: klarson@prcity.com

Click here to open a table that displays your agency name reporting unit name and reporting unit number. Please ensure that you enter the correct information.

Link to FAQs

2010

BMP 2.1 Public Outreach Cont'd

View MOU

Public Outreach Expenses

Enter expenses for public outreach programs. Please include the same kind of expenses you included in the question related to your budget (Section 2.1.7, above). For example, if you included personnel costs in the budget entered above, be sure to include them here as well.

Expense Category	Expense Amount	Personnel Costs Included?	
			If yes, check the check box.

Additional Public Information Program

Please report additional public information contacts. List these additional contacts in order of how your agency views their importance / effectiveness with respect to conserving water, with the most important/ effective listed first (where 1 = most important).

Were there additional Public Outreach efforts? ⊙ Yes ○ No

Public Outreach Additional Information

Public Information Programs	Importance	

Social Marketing Programs

Branding

Does your agency have a water conservation "brand," "theme" or mascot? ⊙ Yes ○ No

Describe the brand, theme or mascot. We have a water conservation program logo that we use in all our outreach materials.

Market Research

Have you sponsored or participated in market research to refine your message? ○ Yes ⊙ No

Market Research Topic	
Brand Message	
Brand Mission Statement	

Community Committees

Do you have a community conservation committee? ○ Yes ◉ No

Enter the names of the community committees:

Training

Training Type	# of Trainings	# of Attendees	Description of Other
Waterwise Landscape	$2	$60	

Social Marketing Expenditures

Public Outreach Social Marketing Expenses

Expense Category	Expense Amount	Description

Partnering Programs - Partners

Name	Type of Program
☑ CLCA?	Speak at meetings
☐ Green Building Programs?	
☐ Master Gardeners?	
☑ Cooperative Extension?	
☐ Local Colleges?	
☑ Other	San Luis Obispo County Partners in Water Conservation

☐ Retail and wholesale outlet; name(s) and type(s) of programs:

Partnering Programs - Newsletters

Number of newsletters per year

Number of customers per year

Partnering with Other Utilities

Describe other utilities your agency partners with, including electrical utilities

Atascadero Mutual Water Company, Templeton CSD partners in putting on Waterwise Landscape Workshops

Conservation Gardens

Describe water conservation gardens at your agency or other high traffic areas or new

Landscape contests or awards

Describe water wise landscape contest or awards program conducted by your agency

Comments:

The fields in red are required.

Agency name: City of Paso Robles

Reporting unit name (District name): City of Paso Robles

Reporting unit number: 7051

Primary contact:

First name: Keith

Last name: Larson

Email: klarson@prcity.com

Click here to open a table that displays your agency name reporting unit name and reporting unit number. Please ensure that you enter the correct information.

Link to FAQs

2010

BMP 2.2 School Education Programs, Retail Agencies

View MOU

School Programs

Is your agency implementing school programs which can be counted to help another agency comply with this BMP? ○Yes ◉No

Enter Wholesaler Names, separated by commas:

☑ Materials meet state education framework requirements?

Description of Materials: Interactive presentation with worksheet and take home activity.

☐ Materials distributed to K-6 Students?

Description of materials distributed to K-6 Students: Presentation made to grades 3-6

Number of students reached: 780

☐ Materials distributed to 7-12 Students?

Description of materials distributed to 7-12 Students:

Number of Distribution:

Annual budget for school education program: $4,000.00

Description of all other water supplier education programs:

School Program Activities

Classroom presentations:

Number of presentations: 26

Number of attendees: 780

Large group assemblies:

Number of presentations:

Number of attendees:

Children's water festivals or other events:

Number of presentations:

Number of attendees:

Cooperative efforts with existing science/water education programs (various workshops, science fair awards or judging) and follow-up:

Number of presentations:

Number of attendees:

Other methods of disseminating information (i.e. themed age-appropriate classroom loaner kits):

Description

Number distributed

Staffing children's booths at events & festivals:

Number of booths: 2

Number of attendees: 1000

Water conservation contests such as poster and photo:

Description: Festival of the Arts Booth - Rain barrel painting activity
Earth Day Booth in Atascadero

Number distributed

Offer monetary awards/funding or scholarships to students:

Number Offered

Total Funding

Teacher training workshops:

Number of presentations

Number of attendees

Fund and/or staff student field trips to treatment facilities, recycling facilities, water conservation gardens, etc.:

Number of tours or field trips

Number of participants

College internships in water conservation offered:

Number of internships

Total funding

Career fairs/workshops:

Number of presentations

Number of attendees

Additional program(s) supported by agency but not mentioned above:

Description

Number of events (if applicable)

Number of participants

Total reporting period budget expenditures for school education programs (include all agency costs): $3640

Comments

Education consulting firm conducts classroom presentations.

The fields in red are required.

Primary contact:

Agency name: City of Paso Robles

First name: Keith

Division name (Reporting unit): City of Paso Robles

Last name: Larson

Reporting unit number: 7051

Email: klarson@prcity.com

WATER SOURCES

2009

Service Area Population: 29949

Potable Water

Own Supply Source Name	AF/YEAR	Water Supply Type	Water Supply Description
Wells	6,661.81	Groundwater	
		Other	
		Other	
		Other	
		Other	
		Other	
		Other	
		Other	
		Other	
		Other	
		Other	

Imported Supply Source Name	AF/YEAR	Water Supply Type	Water Supply Description
		Other	
		Other	
		Other	
		Other	
		Other	
		Other	
		Other	
		Other	
		Other	
		Other	
		Other	

Exported Water Name	AF/YEAR	Where Exported?

The fields in red are required.

Agency name: City of Paso Robles

Division name (Reporting unit): City of Paso Robles

Reporting unit number: 7051

Primary contact:

First name: Keith

Last name: Larson

Email: klarson@prcity.com

Service Area Population: 29949

2009

Non- Potable Water

Own Supply Source Name	AF/YEAR	Water Supply Type	If you select Other for type, enter Water Supply Description
	0.00	Select a water type.	
		Select a water type.	
		Select a water type.	
		Select a water type.	
		Select a water type.	
		Select a water type.	
		Select a water type.	
		Select a water type.	
		Select a water type.	
		Select a water type.	
		Select a water type.	

Imported Supply Source Name	AF/YEAR	Water Supply Type	Water Supply Description
	0.00	Select a water type.	
		Select a water type.	
		Select a water type.	
		Select a water type.	
		Select a water type.	
		Select a water type.	
		Select a water type.	
		Select a water type.	
		Select a water type.	
		Select a water type.	
		Select a water type.	

Exported Water Name	AF/YEAR	Where Exported? such as groundwater recharge, retail,
	0.00	

The fields in red are required.

Agency name: City of Paso Robles

Division name (Reporting unit): City of Paso Robles

Reporting unit number: 7051

Primary contact:

First name: Keith

Last name: Larson

Email: klarson@prcity.com

Water Uses

2009

Potable Water Billed

Make sure to enter numbers in AF/Year.

Customer Type	Meter Accounts	Metered Water Delivered	Un-metered Accounts	Un-metered Water Delivered	Description
Single-Family	8,610.00	3,751.69			
Multi-Family	378.00	543.07			
Commercial	627.00	790.13			
Industrial	70.00	148.18			
Institutional	80.00	26.53			
Dedicated Irrigation	391.00	836.88			
Other					
Other					
Other					
Other					
Other					
Other					
Other					

Potable Water Un-Billed

Customer Type	Meter Accounts	Metered Water Delivered	Un-metered Accounts	Un-metered Water Delivered	Description
Other	0.00	0.00	0.00	0.00	
Other					
Other					
Other					
Other					
Other					
Other					
Other					
Other					
Other					
Other					
Other					
Other					

The fields in red are required.

Agency name: City of Paso Robles

Division name (Reporting unit): City of Paso Robles

Reporting unit number: 7051

Primary contact:

First name: Keith

Last name: Larson

Email: klarson@prcity.com

WATER SOURCES

2010

Service Area Population: 30,072

Potable Water

Own Supply Source Name	AF/YEAR	Water Supply Type	Water Supply Description
Wells	6,326.32	Groundwater	
		Other	
		Other	
		Other	
		Other	
		Other	
		Other	
		Other	
		Other	
		Other	

Imported Supply Source Name	AF/YEAR	Water Supply Type	Water Supply Description
		Other	
		Other	
		Other	
		Other	
		Other	
		Other	
		Other	
		Other	
		Other	
		Other	

Exported Water Name	AF/YEAR	Where Exported?

The fields in red are required.

Agency name: City of Paso Robles

Division name (Reporting unit): City of Paso Robles

Reporting unit number: 7051

Primary contact:

First name: Keith

Last name: Larson

Email: klarson@prcity.com

Water Uses

2010

Potable Water Billed

Make sure to enter numbers in AF/Year.

Customer Type	Meter Accounts	Metered Water Delivered	Un-metered Accounts	Un-metered Water Delivered	Description
Single-Family	8,661.00	3,435.00	0.00	0.00	
Multi-Family	401.00	573.00	0.00	0.00	
Commercial	676.00	656.00	0.00	0.00	
Industrial	71.00	154.00	0.00	0.00	
Institutional	76.00	91.00	0.00	0.00	
Dedicated Irrigation	391.00	840.00	0.00	0.00	
Other					
Other					
Other					
Other					
Other					
Other					
Other					

Potable Water Un-Billed

Customer Type	Meter Accounts	Metered Water Delivered	Un-metered Accounts	Un-metered Water Delivered	Description
Other	0.00	0.00	0.00	0.00	
Other					
Other					
Other					
Other					
Other					
Other					
Other					
Other					
Other					
Other					
Other					
Other					

The fields in red are required.

Agency name: City of Paso Robles

Division name (Reporting unit): City of Paso Robles

Reporting unit number: 7051

Primary contact:

First name: Keith

Last name: Larson

Email: klarson@prcity.com

Water Uses

2010

Non-Potable Billed

Customer Type	Meter Accounts	Metered Water Delivered	Un-metered Accounts	Un-metered Water Delivered	Description
Other	0.00	0.00	0.00	0.00	
Other					
Other					
Other					
Other					
Other					
Other					
Other					
Other					
Other					
Other					
Other					
Other					

Non-Potable Un-Billed

Customer Type	Meter Accounts	Metered Water Delivered	Un-metered Accounts	Un-metered Water Delivered	Description
Other	0.00	0.00	0.00	0.00	
Other					
Other					
Other					
Other					
Other					
Other					
Other					
Other					
Other					
Other					
Other					
Other					

The fields in red are required.

Agency name: City of Paso Robles

Division name (Reporting unit): City of Paso Robles

Reporting unit number: 7051

Primary contact:

First name: Keith

Last name: Larson

Email: klarson@prcity.com

Service Area Population: 30,072

2010

Non- Potable Water

Own Supply Source Name	AF/YEAR	Water Supply Type	If you select Other for type, enter Water Supply Description
	0.00	Select a water type.	
		Select a water type.	
		Select a water type.	
		Select a water type.	
		Select a water type.	
		Select a water type.	
		Select a water type.	
		Select a water type.	
		Select a water type.	
		Select a water type.	
		Select a water type.	

Imported Supply Source Name	AF/YEAR	Water Supply Type	Water Supply Description
	0.00	Select a water type.	
		Select a water type.	
		Select a water type.	
		Select a water type.	
		Select a water type.	
		Select a water type.	
		Select a water type.	
		Select a water type.	
		Select a water type.	
		Select a water type.	
		Select a water type.	

Exported Water Name	AF/YEAR	Where Exported? such as groundwater recharge, retail,
	0.00	

California Urban Water Conservation Council

TARGETS / COMPLIANCE
(SBx7-7)

Input cells:
Calculated cells:

Target Summary	2020	2015
Method 1	192.9	217.0
Method 2	N/A	N/A
Method 3	N/A	N/A
Method 4	0.0	0.0
	Min Value	Max Value

GPCD in 2010	
Base daily per capita water use (10-15yr baseline)	241.1
Base daily per capita water use (5yr baseline)	238.2
Max. allowable GPCD target in 2020 (95% x 5yr baseline)	226.3

Method 1: Baseline per Capita Water Use

80% x Base daily per capita water use (10-15yr baseline): 192.9

2015 Target: 217.0
2020 Target: 192.9

Method 2: Performance Standards

TM 2 Indoor Water Use allowance: 0.0
TM 6 Landscaped Area Water Use: 0.0
TM 7 Baseline CII Water Use: 0.0

2015 Target: N/A
2020 Target: N/A

Method 3: Hydrologic Region Targets

Enter the percentage of your service area population in each hydrologic region

Region	Region Name	% Population	GPCD Target
1	North Coast		137
2	San Francisco Bay		131
3	Central Coast		123
4	South Coast		149
5	Sacramento River		176
6	San Jacinto		174
7	Tulare lake		188
8	North Lahontan		173
9	South Lahontan		170
10	Colorado River		211
		0.0%	

2015 Target: N/A
2020 Target: N/A

Method 4:

To be Developed

California Urban Water Conservation Council

TARGETS / COMPLIANCE
(CUWCC MOU)

Baseline / Initial GPCD
(Use option buttons to select)

GPCD in 2006 ○	228.5
Baseline GPCD (1997 to 2006) ◉	241.2
GPCD in 2010	
GPCD Target for 2018	197.8

Potable Water GPCD for each Year in the Baseline Period

Year	GPCD
2006	228.5
2005	236.4
2004	244.9
2003	248.3
2002	253.9
2001	238.0
2000	235.5
1999	244.0
1998	
1997	

Biennial GPCD Compliance Table

Year	Report	Target		Highest Acceptable Bound	
		% Base	GPCD	% Base	GPCD
2010	1	96.4%	232.5	100%	241.2
2012	2	92.8%	223.8	96.4%	232.5
2014	3	89.2%	215.1	92.8%	223.8
2016	4	85.6%	206.5	89.2%	215.1
2018	5	82.0%	197.8	82.0%	197.8

Monthly GPCD Data for Weather Normalization

Year	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
2010												
Baseline avg*	124.1	116.3	147.8	194.7	290.1	347.5	386.8	378.5	331.3	269.6	168.5	138.9

* The average for each month is based on the baseline period 1997 to 2006

California Urban Water Conservation Council

GPCD Matrix

Year	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	ANNUAL GPCD
2010													
2009													
2008	120.8	112.7	174.5	224.5	292.2	328.5	353.1	353.8	311.0	267.4	169.9	127.2	236.3
2007	142.4	111.9	174.9	241.2	311.3	339.6	374.1	352.9	305.4	246.4	194.6	144.6	244.9
2006	114.1	129.5	116.8	124.3	269.6	336.8	393.0	364.4	321.6	239.7	190.3	142.3	228.5
2005	117.9	100.8	120.3	192.4	261.1	333.6	388.3	387.7	320.0	280.3	195.8	137.9	236.4
2004	125.3	118.8	184.1	260.7	321.0	348.5	368.6	366.2	346.2	236.4	130.6	132.4	244.9
2003	119.7	121.0	156.8	175.6	266.2	353.5	424.7	394.1	364.0	311.0	160.4	133.3	248.3
2002	115.4	132.7	174.6	231.3	300.8	366.1	402.6	389.8	357.4	277.4	170.3	128.0	253.9
2001	125.8	108.7	151.2	192.5	309.0	356.2	365.9	377.8	311.3	284.2	155.4	118.0	238.0
2000	135.6	105.0	137.0	212.1	289.7	337.0	361.9	372.0	315.7	241.0	161.0	157.5	235.5
1999	139.1	114.1	141.6	168.6	303.2	348.5	389.5	375.6	314.6	287.1	183.9	161.8	244.0
1998													
1997													
1996													
1995													
1994													
1993													
1992													
1991													
1990													

Recycled water accounts for 0 % of 2008 deliveries, therefore select a a 10 year baseline period using the selection buttons below

Baseline Ending In...		Baseline 10-years	N/A	N/A	N/A	N/A	N/A
		◉	○	○	○	○	○
2010	○	241.4					
2009	○	240.8					
2008	◉	**241.1**					
2007	○	241.6					
2006	○	241.2					
2005	○	243.0					

	Ending in...	Baseline 5-years
○	2010	236.6
○	2009	236.5
◉	2008	238.2
○	2007	240.6

User selection buttons:

Base daily per capita water use (10-15yr baseline)	241.1
Base daily per capita water use (5yr baseline)	238.2


2004
244.1
Min Value
Max Value
User selection buttons:
Use the buttons to indicate the chosen baseline period

California Urban Water Conservation Council

This worksheet can be used as a calculator to generate an annual total for each year of input to the Main Data worksheet: (see here)

Annual Deductable Volume of Indirect Recycled Water Entering Distribution System

Data Entry in acre-feet unless otherwise noted

Input cells:
Calculated cells:

Surface Reservoir Augmentation	N/A	N/A	Volume Discharged from Reservoir for Distribution System Delivery	Recycled Water Blend %	Recycled Water Delivered to Treatment Plant	Use Default ☐ 3% Transmission / Treatment Loss %	Transmission / Treatment Losses	Volume entering Distribution System
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
Source 1			0.000		0.000	0%	0.000	0.000
Source 2								
Source 3								
Source 4								
Source 5								

Subtotal Reservoir Augmentation (A): 0.000

Groundwater Recharge	5-Year Annual Average Recharge	Use Default ☐ 90% Recharge Recovery Factor	Recycled Water Pumped from Basin	Utility Pumping as % of Basin Total	Recycled Water Pumped by Utility	Use Default ☐ 3% Transmission / Treatment Loss %	Transmission / Treatment Losses	Volume entering Distribution System
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
Basin 1	0.000	0.000	0.000	0%	0.000	0%	0.000	0.000
Basin 2								
Basin 3								
Basin 4								
Basin 5								

Subtotal Groundwater Recharge (B): 0.000

Deductable Volume of Indirect Recycled Water Entering Distribution System (A+B): **0.000**

Transfer this value back to the Main Data worksheet

California Urban Water Conservation Council

Population

Input cells:
Calculated cells:

Enter population data for the service area.

YEAR	POPULATION	
2010		
2009		
2008	29,813	
2007	29,618	
2006	29,027	
2005	28,000	
2004	27,200	
2003	26,856	
2002	25,800	
2001	25,200	
2000	24,450	
1999	22,500	
1998		
1997		
1996		
1995		
1994		
1993		
1992		
1991		
1990		

Please note:

The GPCD calculation is very sensitive to errors in population. Please review the guidance document ***Methodologies for Calculating Baseline and Compliance Urban Per Capita Water Use*** for additional information and direction in order to acquire the most accurate population estimates.

Population data are only required for years that contain water use data.

If you see "<--Enter Population" this indicates you have entered water use data for this timeframe but not population. Please add population data to enable a calculation of GPCD and associated targets.

26,846 Average population, for the baseline period selected, in the GPCD Matrix worksheet

California Urban Water Conservation Council

Main Data

Input cells:
Calculated cells:

Data Entry in acre-feet unless otherwise noted

* = Sum of Monthly data and Annual Total are not equal; monthly data will be used

Volume from Own Sources

Year	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC		ANNUAL TOTAL (INPUT)	METER ADJUST-MENT (%)	CALCULATED TOTAL
2010																0.000
2009																0.000
2008	336.119	313.568	485.519	624.775	813.161	914.115	982.531	984.668	865.433	744.272	472.821	353.941	*	7,890.922	0%	7,890.922
2007	393.652	309.443	483.682	666.731	860.633	938.758	1,034.197	975.759	844.358	681.296	538.145	399.759	*	8,126.413	0%	8,126.413
2006	309.276	350.859	316.396	336.801	730.582	912.702	1,064.878	987.364	871.301	649.561	515.557	385.527	*	7,430.805	0%	7,430.805
2005	308.233	263.581	314.426	502.770	682.533	872.040	1,014.982	1,013.310	836.324	732.728	511.878	360.300	*	7,413.103	0%	7,413.103
2004	318.195	301.604	467.493	661.898	814.977	884.901	935.784	929.802	879.083	600.219	331.639	336.218	*	7,461.812	0%	7,461.812
2003	300.159	303.360	393.131	440.180	667.228	886.157	1,064.622	987.945	912.543	779.537	402.024	334.094	*	7,470.979	0%	7,470.980
2002	277.971	319.533	420.392	557.150	724.472	881.673	969.508	938.773	860.691	668.128	410.123	308.205	*	7,336.617	0%	7,336.617
2001	295.807	255.789	355.564	452.919	726.863	837.858	860.801	888.759	732.286	668.628	365.646	277.636	*	6,718.555	0%	6,718.556
2000	309.574	239.735	312.787	484.178	661.253	769.214	826.009	848.934	720.618	549.981	367.502	359.542	*	6,449.328	0%	6,449.328
1999	292.189	239.680	297.498	354.150	636.825	732.022	817.981	788.950	660.670	603.006	386.220	339.757	*	6,148.945	0%	6,148.946
1998																0.000
1997																0.000
1996																0.000
1995																0.000
1994																0.000
1993																0.000
1992																0.000
1991																0.000
1990																0.000

Volume from Imported Sources

Year	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	ANNUAL TOTAL (INPUT)	METER ADJUST-MENT (%)	CALCULATED TOTAL
2010	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000		0.000
2009	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000		0.000
2008	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000		0.000
2007	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000		0.000
2006	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000		0.000
2005	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000		0.000
2004	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000		0.000
2003	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000		0.000
2002	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000		0.000
2001	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000		0.000
2000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000		0.000
1999	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000		0.000
1998	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000		0.000

1997	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000		0.000
1996	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000		0.000
1995	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000		0.000
1994	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000		0.000
1993	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000		0.000
1992	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000		0.000
1991	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000		0.000
1990	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000		0.000

Volume of Water Exported to Another Water Utility or Jurisdiction

Year	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	ANNUAL TOTAL (INPUT)	METER ADJUST-MENT (%)	CALCULATED TOTAL
2010	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000		0.000
2009	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000		0.000
2008	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000		0.000
2007	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000		0.000
2006	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000		0.000
2005	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000		0.000
2004	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000		0.000
2003	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000		0.000
2002	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000		0.000
2001	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000		0.000
2000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000		0.000
1999	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000		0.000
1998	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000		0.000
1997	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000		0.000
1996	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000		0.000
1995	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000		0.000
1994	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000		0.000
1993	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000		0.000
1992	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000		0.000
1991	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000		0.000
1990	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000		0.000

Recycled Water Delivered

NOTE: Only 2008 recycled water delivered is required; other years are optional

Year	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	ANNUAL TOTAL (INPUT)	METER ADJUST-MENT (%)	CALCULATED TOTAL
2010	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000		0.000
2009	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000		0.000
2008	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000		0.000
2007	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000		0.000
2006	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000		0.000
2005	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000		0.000
2004	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000		0.000
2003	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000		0.000
2002	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000		0.000
2001	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000		0.000

2000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
1999	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
1998	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
1997	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
1996	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
1995	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
1994	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
1993	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
1992	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
1991	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
1990	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000

0.000		0.000
0.000		0.000
0.000		0.000
0.000		0.000
0.000		0.000
0.000		0.000
0.000		0.000
0.000		0.000
0.000		0.000
0.000		0.000
0.000		0.000

Change in Distribution System Storage

Year	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
2010	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
2009	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
2008	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
2007	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
2006	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
2005	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
2004	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
2003	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
2002	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
2001	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
2000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
1999	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
1998	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
1997	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
1996	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
1995	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
1994	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
1993	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
1992	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
1991	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
1990	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000

Year	ANNUAL CHANGE IN STORAGE	CALCULATED Net Change in Storage
2010	0.000	0.000
2009	0.000	0.000
2008	0.000	0.000
2007	0.000	0.000
2006	0.000	0.000
2005	0.000	0.000
2004	0.000	0.000
2003	0.000	0.000
2002	0.000	0.000
2001	0.000	0.000
2000	0.000	0.000
1999	0.000	0.000
1998	0.000	0.000
1997	0.000	0.000
1996	0.000	0.000
1995	0.000	0.000
1994	0.000	0.000
1993	0.000	0.000
1992	0.000	0.000
1991	0.000	0.000
1990	0.000	0.000

Indirect Recycled Water Use

(use this calculator to help generate values)

Year	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
2010	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
2009	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
2008	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
2007	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
2006	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
2005	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
2004	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000

Year	ANNUAL TOTAL (INPUT)	CALCULATED TOTAL
2010	0.000	0.000
2009	0.000	0.000
2008	0.000	0.000
2007	0.000	0.000
2006	0.000	0.000
2005	0.000	0.000
2004	0.000	0.000

2003	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
2002	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
2001	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
2000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
1999	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
1998	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
1997	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
1996	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
1995	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
1994	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
1993	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
1992	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
1991	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
1990	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000

Water Delivered for Agricultural Use (values entered will be subtracted from base daily GPCD water use)

Year	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	ANNUAL TOTAL (INPUT)	METER ADJUST-MENT (%)	CALCULATED TOTAL
2010	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000		0.000
2009	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000		0.000
2008	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000		0.000
2007	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000		0.000
2006	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000		0.000
2005	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000		0.000
2004	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000		0.000
2003	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000		0.000
2002	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000		0.000
2001	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000		0.000
2000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000		0.000
1999	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000		0.000
1998	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000		0.000
1997	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000		0.000
1996	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000		0.000
1995	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000		0.000
1994	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000		0.000
1993	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000		0.000
1992	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000		0.000
1991	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000		0.000
1990	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000		0.000

Industrial Process Water Delivered (values entered will be subtracted from base daily GPCD water use and baseline CII GPCD)

Year	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	ANNUAL TOTAL (INPUT)	METER ADJUST-MENT (%)	CALCULATED TOTAL
2010	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000		0.000
2009	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000		0.000
2008	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000		0.000
2007	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000		0.000

2006	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
2005	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
2004	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
2003	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
2002	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
2001	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
2000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
1999	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
1998	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
1997	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
1996	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
1995	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
1994	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
1993	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
1992	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
1991	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
1990	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000

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0.000		0.000
0.000		0.000

Gross Water Use

Year	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	ANNUAL TOTAL USAGE
2010	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
2009	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
2008	336.119	317.568	486.519	624.775	819.161	914.115	982.531	984.668	865.433	744.272	472.847	353.941	7,851.922
2007	393.652	409.443	483.682	606.751	860.639	938.758	1,034.197	975.759	844.458	681.296	518.545	389.759	8,125.413
2006	409.276	350.859	316.396	396.901	730.583	912.902	1,064.879	997.364	871.301	648.561	515.557	385.527	7,451.865
2005	308.224	263.581	314.426	502.770	682.531	872.840	1,014.982	1,013.310	836.324	732.728	511.878	360.300	7,413.103
2004	318.196	301.614	467.484	661.898	814.977	884.981	935.784	979.802	879.083	680.219	531.639	396.218	7,461.812
2003	300.159	303.360	393.131	448.182	667.228	886.157	1,064.622	987.645	912.543	779.537	482.024	534.094	7,470.980
2002	277.971	319.533	430.492	557.150	724.472	881.673	959.508	938.773	860.681	668.128	416.123	508.295	7,346.617
2001	295.807	255.789	355.564	452.919	726.863	837.858	860.901	888.759	792.286	668.628	365.645	277.636	6,778.556
2000	309.574	239.745	312.787	484.178	684.253	769.114	826.009	848.934	736.618	540.981	367.502	358.542	6,449.328
1999	292.185	329.680	297.498	354.159	646.825	751.022	817.981	788.959	660.670	621.006	386.220	339.757	6,148.946
1998	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
1997	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
1996	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
1995	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
1994	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
1993	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
1992	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
1991	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
1990	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000